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ABSTRACT

Stalin and the Origins of Mistrust*

We show that current differences in trust levels within former Soviet Union countries can be traced back to the system of forced prison labor during Stalin's rule, which was marked by high incarceration rates, repression, and harsh punishments. We argue that those exposed to forced labor camps (gulags) became less trusting and transferred this social norm to their descendants. Combining contemporary individual-level survey data with historical information on the location of forced labor camps, we find that individuals who live near former gulags have low levels of social and institutional trust. Our results are robust to a battery of sensitivity checks, which suggests that the relationship we document is causal. We outline several causal mechanisms and test whether the social norm of mistrust near gulags developed because of political repression or due to fear that inmates bring criminality. As such, we provide novel evidence on the channels through which history matters for current socio-economic outcomes today.

JEL Classification: D02, H10, N94, Z13

Keywords: social trust, institutional trust, trustworthiness, forced labor, economic history, former Soviet Union

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1. Introduction

A growing scholarship in economics has examined how past events and circumstances affect current socio-economic outcomes and institutions. Explanations on why history matters have focused on factors such as geography, institutions, culture, human capital and technology, and path dependence (Becker, Boeckh, Hainz, & Woessmann, 2016; Nunn, 2009). This paper substantively contributes to this literature by furnishing novel evidence on how history matters for the development of cultural norms and beliefs related to trust. Specifically, combining present-day individual-level geo-coded survey data with historical information on the location of forced labor camps (gulags) in the former Soviet Union (FSU), we examine whether the gulag system caused a culture of mistrust to develop within the countries of the FSU. Created in the 1920s and peaking during Stalin's rule (1929-1953), the gulag system resulted in the forced deportation and coercion to the penal labor of millions of men, women, and children. The actual number of Stalin's victims is still subject to debate, but the evidence suggest that the regime incarcerated about 20 million people between 1921 and 1953 (Markevich, 2016).[1] While the Soviets largely closed down the forced labor camps by the 1960s, remnants of these camps (watch towers, barracks, as well as construction and infrastructure projects built by prisoners) actively remind about the past (Kapelko & Markevich, 2014).

The Soviet system under Stalin relied on harsh punishments and criminalized aspects of economic and social life, which would hardly constitute crimes in a modern democracy, such as small workplace violations and mistakes (Belova & Gregory, 2009; Gregory, Schröder, & Sonin, 2011; Miller & Smith, 2015). Most victims were indiscriminately sent to gulags based on accusations of anti-Soviet activity or sabotage or failure to report such activity in others, which made the gulag an institution of totalitarian repression (Gregory, 2003; Khlevniuk & Belokowsky, 2015). In addition to relying on professional police agents and informants, Soviet authorities encouraged and incentivized citizens to spy on one another and report any potential "enemies of the people" who were typically interrogated, tried, and then either executed or sent to gulags or labor colonies.[2]

Individuals often had the incentive to report others—typically, neighbors, teachers, colleagues, and even spouses—both to avoid becoming victims themselves and to signal party loyalty (Fitzpatrick, 1996; Gregory, 2013; Lskavyan, 2007; Zhukov & Talibova, 2018). Under torture, interrogated individuals also gave lists of "accomplices", which contained the names of colleagues, neighbors, or friends (Gregory et al., 2011). Given that the smallest suspicion could result in an arrest, Stalin's political repression apparatus raised the cost of engaging in public life and trusting others. In other words, avoiding incarceration amidst this mass terror and repression, therefore, likely involved mistrusting others to ensure self-preservation. We hypothesize that and test whether this behavioral norm may have persisted until today. In Section 3, we also detail channels and mechanisms related to mistrust due to the fear of criminality and increased trust of state institutions for those loyal to the Soviet regime.

[1] This figure excludes the executions of about 1 million people, the exile of another 6 million, and the sentences to correctional works of another 20 million. Another source (Hosford, Kachurin, & Lamont, 2006) notes that between 1929 and Stalin's death in 1953, gulags had imprisoned about 18 million people.

[2] A 1935 report by the Communist Party Central Committee Secretary documents a network of 27,650 resident police agents and an informant network of 270,777 (Shearer, 2004).

Like Nunn and Wantchekon (2011), our research builds on the cultural anthropology literature suggesting that if information is imperfect or its acquisition is costly, individuals develop culturally transmitted decision-making shortcuts to guide their behavior (Boyd, Richerson, & Henrich, 2011). These "rules of thumb" may persist over time through the intergenerational transmission of trust norms from parents to children and the prevailing attitudes in the region (Dohmen, Falk, Huffman, & Sunde, 2012). In this paper, we are unable to distinguish between trust norms developed through intergenerational transmission vs. the influence of the local environment itself. Rather, we explore whether the mistrust that the system of forced prison labor camps created still persists more than 50 years after they have been closed down.

To test our main proposition, we rely on geo-coded individual-level data from the latest wave of the Life in Transition (LiTS) survey and information on the location and size of former gulag camps. The geo-coded information allows us to calculate each respondent's distance to the nearest gulag camp. We find that individuals who live within 10 kilometers of a former gulag have lower social trust. Like a recent study by Booth et al. (2018) on the inter-generational trust consequences of the Chinese Cultural Revolution, we interpret these findings as evidence that those exposed to political repression that the gulag symbolized became less trusting and transmitted this social norm to their descendants.

We perform a number of sensitivity checks and address the concern that Stalin may have placed gulags in relatively low-trust areas. Specifically, our results are insensitive to including potentially endogenous controls, using regressions using entropy balancing weights (Hainmueller, 2012), relying on alternative measures of trust and exposure to gulags, and placebo tests using fake locations of gulags. Based on a check proposed by Oster (2016), we calculate that the influence of any omitted variables needs to be 132 times higher than that of the observed factors in our regressions to explain away the consequences of living in proximity to a former gulag on trust that we document.

Furthermore, while scholars disagree whether the construction of gulags was exogenous or not, Lankina and Libman (2017) empirically demonstrate that Russian localities with a gulag were in fact relatively economically developed in the pre-communist period (i.e., pre-1917). The literature shows, moreover, that relatively more prosperous regions tend to have higher trust levels (Tabellini, 2010), suggesting that gulag regions may have had, on average, relatively high and not low trust levels before camps emerged. This implies that any negative consequences of proximity of gulags on trust we document are likely to be a lower bound of the effects.

Our research contributes to five strands of economic and historical literature. First, we add to the scholarship on the socio-economic consequences of socialism (Alesina & Fuchs-Schündeln, 2007; Ivlevs & Hinks, 2018; Lippmann & Senik, 2018; Rainer & Siedler, 2009). Second, we contribute to the literature on how history determines current trust levels (Becker et al., 2016; Booth, Fan, Meng, & Zhang, 2018; Guiso, Zingales, & Sapienza, 2008; Lichter, Loeffler, & Siegloch, 2015; Nunn & Wantchekon, 2011). Third, we substantively extend the scholarship on exposure to gulags in the past and current socio-economic and political outcomes (Ciravegna, Toews, & Vezina, 2016; Kapelko & Markevich, 2014; Lankina & Libman, 2017; Toews & Vezina, 2018; Zhukov & Talibova, 2018) by examining social and institutional trust and by

proposing a novel channel explaining our findings. While previous studies have examined gulags as proxies for human capital or political repression, we also explore to what extent they could have also generated a fear due to the untrustworthiness of the inmates or the criminality of the gulag.

Studying the determinants of trust is important for at least two reasons. First, social capital and trust matter for economic development and trade (Algan & Cahuc, 2010; Guiso, Sapienza, & Zingales, 2009; Helliwell & Putnam, 1995; Knack & Keefer, 1997; Tabellini, 2010), the quality of government and economic-judicial governance (Bjørnskov, 2010; La Porta, 1997), and subjective well-being and health (Borgonovi, 2008; d'Hombres, Rocco, Suhrcke, & McKee, 2010; Helliwell & Wang, 2013; Meier & Stutzer, 2008). Second, because trust is a fundament of social cohesion and a marker of the quality of the social fabric that underpins various forms of exchange, understanding what factors promote or hinder its formation is relevant for academics, policymakers, and society at large.

The rest of this paper is organized as follows. In the next section, we detail historical background on the system of gulags. Section 3 discusses the channels through which gulags might affect trust, while Section 4 reviews the existing literature. Sections 5 and 6 describe data and methodology, respectively. Section 7 presents the results and robustness checks. Section 8 concludes.

2. Historical Background

The acronym GULag, which in English stands for the Main Administration of Camps, described an agency subordinate to USSR's Ministry of the Interior (Gregory, 2003). More broadly, the term gulag refers to the system of corrective labor camps, psychiatric hospitals, and secret scientific research institutes, which housed forced laborers and inmates (Gregory, 2003). The gulag system existed from 1922 until Stalin's Death in 1953 (Applebaum, 2004). While most camps closed down by 1960, some remained in existence until the 1980s and some are still operating as regular prisons (Pallot, 2005).

Importantly, there is disagreement among historians and economists about whether the Soviets carefully planned the location of camp sites or not (Applebaum, 2004). According to some, the construction of the gulag sites was random as a side effect of the policies of industrialization and collectivization. Specifically, while Stalin utilized the forced labor camps as a means to industrialize remote areas (Markevich & Mikhailova, 2012), labor camps also existed in industrialized centers such as Moscow and the Ural region.

According to other scholars, camp construction was non-random. Some historians point out that local elites pushed for gulags in particular locations (Applebaum, 2004). According to Mikhailova (2012) and Lankina and Libman (2017), gulags emerged non-randomly near urban centers experiencing labor shortages.

Mikhailova (2012) estimates that two out of three camps were within 35 kilometers from a city with 100,000 residents in 1939. Moreover, four out of five camps are within 35 km of a present-day city (Mikhailova, 2012). Nevertheless, not all scholars agree that Soviets were more likely to

build gulags near urban centers. For instance, Zhukov and Talibova (2018) empirically demonstrate that Soviets placed gulags in railroad-accessible rural areas in Russia (as measured by the urbanization rate in 1926). Reconciling the evidence from both Zhukov and Talibova (2018) and Mikhailova (2012) would imply that the Soviets initially placed gulags in rural areas, which became and remained urbanized. Lankina and Libman (2017) empirically demonstrate, moreover, that even before 1917, localities with a gulag had higher literacy rates and shares of nobility and clergy compared to non-gulag localities. They argue that the location of gulags is therefore not orthogonal to pre-development characteristics.[3]

About 20 million people were at some point inmates of gulag camps (Markevich, 2016). In 1953, the year of Stalin's death, the incarcerated population totaled more than 2.5 million, implying an incarceration rate of 1,558 per 100,000 population, which was more than 10 times higher than the corresponding figures for the US for that year (Belova & Gregory, 2009).[4]

Soviet repression under Stalin's rule concentrated in three mass imprisonment campaigns – dekulakization (1930-1932), the Great Terror (1937-138), and the persecution of different nationalities in various years (Gregory, 2009a; Gregory et al., 2011). First, in 1930, after collectivizing agriculture, Stalin issued an order to eliminate the peasantry (*kulaks*) as a "class" (Gregory et al., 2011). The goal was to incarcerate 3-5 percent of the *kulak* population and each region had a minimum and maximum target. About 290,000 persons were sent to gulags, an additional 35,000 were executed, and about 420,000 were resettled or deported (Gregory, 2009a). Second, the "Great Terror" targeted many social classes, including party members, the political elite and their subordinates, *kulak* returnees (from gulags and deportations), regular criminals, and alleged spies. Since the arrest targets were set very high, ordinary people were taken from factories and the streets to fulfill the quotas. The Great Terror affected about 1.4 million victims, of which 720,000 were sent to gulags or exiled and the rest were executed (Gregory, 2009a). Finally, "national operations" started concurrently with the "Great Terror" and targeted ethnic USSR citizens and "socially dangerous" nationalities including Germans, Latvians, Poles, Koreans, Romanians, Estonians, Finns and others. Anyone who had any remote or proximate contact with foreigners was also a target. After WWII broke out, that category included any soldier who had fought or was captured abroad, and anyone who might be deemed a spy, a traitor, or a saboteur (Gregory, 2009a). Figure 1 portrays the number of gulag prisoners in camps based our calculations from Smirnov (1998) and demonstrates the peaks in the prison population coinciding with the timing of the three campaigns.

In addition to the arrest and imprisonment campaigns, the criminalization of ordinary behavior and guilt by association for the relatives of those deemed "enemies of the state" provided another source of "recruitment" for the gulags. Laziness, poor discipline, absenteeism, unauthorized leaving of the workplace, tardiness, and mistakes at work were criminalized (Sokolov, 2003). Article 58 of the criminal code further defined a range of "counter-revolutionary" acts such as espionage, anti-Soviet agitation, contacts with foreigners, treason, and others. Failing to report

[3] This endogeneity, therefore, likely explains the rather surprising finding by Toews and Vezina (2018) that proximity to gulags among individuals and firms is positively correlated with economic prosperity and educational attainment.

[4] Including the exiled "special settlers" would yield an incarceration rate of 2,605 per 100,000 population (Belova & Gregory, 2009).

these was also a crime, which incentivized neighbors, colleagues, and family members to inform on one another. Similarly, the wives and children of enemies of the people—typically former high-level officials but also regular citizens—were also punished via execution, exile, or imprisonment (Gregory, 2009b).

The gulag inmates thus comprised peasants and workers, as well as common criminals and political prisoners. Despite popular misconception, in part informed by the work of famous camp inmate Solzhenitsyn, the majority of prisoners were therefore not political revolutionaries (Getty, Rittersporn, & Zemskov, 1993). In fact, the percentage of politicals or counter-revolutionaries, i.e., those sentenced under the Article 58 of the Criminal Code, exceeded 10 percent only in the years of mass arrests in the 1937-8, during WWII, and in 1946, when the Soviets amnestied criminal prisoners (Applebaum, 2004).[5] Similarly, Getty et al. (1993) document that the share of politicals exceeded 50 percent in only a few years. Meanwhile, based on data from Getty et al. (1993), the share of common criminals was about a quarter to a third.[6]

In terms of socio-demographic composition, gulags typically had a minority female prisoner population, whose share was under 9 percent until 1940 but reached almost a quarter by 1945 (Getty et al., 1993; Mason, 2001).[7] Women in gulags comprised both political prisoners (often, the wives of those deemed to be counter-revolutionaries) or common criminals (Mason, 2001). The majority of inmates were relatively young—between 19 and 40 years of age—and had at most elementary education (Getty et al., 1993; Toews & Vezina, 2018). Nevertheless, the share of inmates with higher or secondary education was greater and that of the illiterate was smaller in the gulag than in the general population in 1937 (Getty et al., 1993). Within the gulags, the percentage increase in prisoners with higher and secondary education grew faster than the share of inmates with elementary education and less.

Finally, while the frequently used metaphor for the gulag is that of disconnected islands or an "archipelago" devoid of contact with the rest of society (Solzhenitsyn, 2007), new historical evidence seriously challenges this view (Alexopoulos, 2005; Bell, 2013; Khlevniuk & Belokowsky, 2015; Shearer, 2015). Frequent contact between the inmates and the general population occurred for several reasons. First, between 1934 and 1952, about 7 million camp

[5] The percentage of political prisoners was as high as 60 percent in 1946 (Applebaum, 2004, p. 271). According to our calculations based on data from Smirnov (1998) and available on Memorial.de and Memorial.ru, the share of political prisoners was 0.21 in 1938; 0.10 in 1942; 0.29 in 1943; 0.02 in 1946; 0.0009 in 1947; 0.02 in 1951; 0.06 in 1952; 0.01 in 1953; 0.007 in 1955; 0.001 in 1958. Using the same source as us, Toews and Vezina (2018) only report political prisoners in 1938, 1939, and 1942/1943.Their calculations are based on the median number of politicals divided by the median number of prisoners by camp in the respective year, while we calculate the total number of political prisoners and divided it by the total number of gulag prisoners in the respective year. We do not observe political prisoners in our dataset in before 1937, and in 1939, 1940, 1941, 1945, 1948-1950, 1954, and 1959-1960.

[6] Since many of ordinary daily activities were criminalized, calculating the share of common criminals is non-trivial. Based on Table 7 in Getty et al. (1993), we added the percentages of offenses of gulag population failing under "banditry", "hooliganism," crimes against persons, and crimes against property (excluding theft of public property). We cannot directly identify criminals vs. non-criminals in the data from Smirnov (1998).

[7] Applebaum (2004) and Mason (2001) document special gulags for female criminals and the wives of counter-revolutionaries but we are unable to identify such camps in the Smirnov (1998) data. For example, the Akhtyubinsk camp had only female inmates (Mason, 2001). Nevertheless, our data source documents 1,824 women out of 15,205 prisoners in Akhtyubinsk in 1943.

prisoners were released (some more than once) (Khlevniuk & Belokowsky, 2015). The data in Getty et al. (1993) corroborate this fact by showing that about 20 percent prisoners were released each year. In addition, more than 600,000 prisoners, or 40 percent of the gulag population, was amnestied or had their sentences reduced in 1945 (Alexopoulos, 2005). Second, gulag prisoners and free laborers often worked side-by-side in different enterprises.[8] Third, gulags were often located near residential buildings and prisoners on a light regime could mingle with the non-institutionalized population (Khlevniuk & Belokowsky, 2015). Some prisoners also worked on different sites or construction projects outside the gulag and could move in and out of the camp unsupervised.

A final important point concerns the mobility of released prisoners. Due to complex residential mobility laws, labor market discrimination, and lack of funding, the majority of former prisoners remained in the region of incarceration upon their release, often working in the same industry (Alexopoulos, 2005; Barnes, 2011; Pallot, 2005; Shearer, 2015). According to anecdotal evidence, about a third to a half of the released inmates stayed in the same location upon their release (Barnes, 2011). The release of prisoners was often associated with an increase in criminality perceptions among ordinary citizens (Alexopoulos, 2005; Barnes, 2011). Local communities often refused to help with former inmate integration with employers failing to offer them jobs and police authorities not issuing residency documents (Barnes, 2011).

3. Channels

Behavioral shortcuts or "rules of thumb" often emerge when information acquisition is costly or imperfect. These shortcuts evolve based on their relative payoff and may not be optimal in every case, but help individuals save time (Nunn & Wantchekon, 2011). In our paper, we explore whether the exposure to gulags created a culture of mistrust that contemporaries of the gulag passed on to their offspring and others in their community.

A lack of trust may have in part persisted because those most affected by the gulag may have developed high levels of mistrust resulting in a permanent movement to a mistrust equilibrium. According to a theoretical model by Guiso et al. (2008), parents try to protect their offspring from costly mistakes by transmitting conservative rules of thumb. Therefore, if the net benefits of cooperation are not high enough, then the community gets stuck in a mistrust equilibrium trap. In addition, our results could arise because the shocks induced by the gulag have not yet fully subsided (Nunn & Wantchekon, 2011). Specifically, given that culture is slow-moving (Roland, 2004) and that some of the gulag victims are still alive, the effects of the shock may be felt now but disappear in the future. Like Nunn and Wantchekon (2011), we are unable to distinguish between the intergenerational (Bisin & Verdier, 2000; Guiso et al., 2008) and direct shock (Nunn & Wantchekon, 2011) transmission mechanisms but our aim is to document the long-term effects of gulags on trust. We suggest that gulag-induced culture of mistrust may persist today both because the trauma of the gulag has not dissipated (direct transmission) or because parents and grandparents transmitted mistrust norms to future generations.

[8] At the same time, the state tried to limit the information about gulags. First, prisoner's letters were censored, visits by relatives were controlled and limited, and released prisoners were forbidden to move to big cities (Khlevniuk & Belokowsky, 2015).

Furthermore, we expect that exposure to gulags could affect generalized and institutional trust through three different channels. First, it is possible that both for those who lived through the horrors of the camps themselves and for those residing in the vicinity, gulags epitomized the regime's repressiveness. The criminalization of many ordinary activities, the harshness of the punishments, and the incentives to report even innocuous behaviors, severely increased the cost of trusting others. Given that one could land in a gulag for the smallest suspicion or accusation, mistrust was there therefore a coping strategy to avoid incarceration and ensure self-preservation. Those living in the proximity of the gulag may have developed mistrust both through the memories of released relatives or detainees who settled locally or through interacting with gulag prisoners who worked alongside free laborers or roamed across towns.

In addition to *scaring effect* due to mass terror, we explore a second channel through which gulags may have caused the evolution of a culture of mistrust. Specifically, the inmate population comprised not just political prisoners, peasants, and ordinary people incarcerated for minor offenses but also dangerous professional criminals – murderers, rapists, and thieves (Applebaum, 2004). Therefore, those exposed to knowledge about the gulags may have developed mistrust due to the fear of criminality and the untrustworthiness of the inmates. Specifically, we argue that in addition to the fear of repression, those living near gulags may have mistrusted others due to the fear of criminality. Specifically, amnestied or released prisoners often resorted to crime given lack of funds, labor market discrimination, and the inability to move due to strict residency laws. Therefore, those living near a gulag may have developed mistrust because they feared the crime and disorder associated with the inmates.

A third, and related, channel through which exposure to gulags could have affected trust concerns those who were loyal to the state. For those who believed in Soviet propaganda, exposure to information about the gulag may have increased the suspicion and mistrust of fellow citizens because of perceived fear of anti-Soviet threat or sabotage. The salience of the gulag may have therefore increased suspicion of fellow citizens in and may have caused the impression that the enemies and saboteurs are indeed everywhere. We expect that these individuals would have mistrusted others in general but trusted state institutions. In addition, individuals who benefited from the gulags without being victims or perpetrators, e.g., those who appreciated the infrastructure and industrial complexes built by the gulag, as well as former prisoners who became loyal to the state as part of their camp experiences (Adler, 2010), may have strengthened their support for the state, which, paradoxically, may have translated into higher trust for state-related institutions.

While we interpret our findings in light of the proposed channels, our analysis is unable to assess the relative strength each mechanism, which is a limitation we acknowledge. Instead, our main contribution is to empirically quantify the long-term causal impact of exposure to gulags on trust.

4. Related Literature

We build on and substantively extend the existing studies in economics, economic geography, and political science on the socio-economic and political consequences of gulags. Mikhailova (2012) was the first to collect and make publicly available information from Smirnov (1998) to study population growth in cities. She finds that the location of gulags within 20 or 50 km of a

city had a positive and lasting effect on city population growth. Nevertheless, Mikhailova's data, and subsequent contributions relying on her information such as Ciravegna et al. (2016); Lankina and Libman (2017); Toews and Vezina (2018), omit two camps, report the location of only 460 out of 476 camps, and have some typos regarding the number of prisoners and the economic activity.

Second, Kapelko and Markevich (2014) link the location of 352 gulags with voting patterns at the district level in present-day Russia. They find that districts with a gulag were more likely to vote anti-communist in the 1991 referendum regarding the preservation of the Soviet Union and the first democratic election in 1996. The authors interpret these findings causally and argue that citizens living in former gulag districts are more informed about Stalin's terror than those living in non-gulag localities and as such voted for a democratic future in the 1990s. A related study by Zhukov and Talibova (2018) relies on victim-level information from Memorial and documents that communities with a larger number of residents deported to gulags were less likely to vote in recent elections in Russia and the Ukraine. Interestingly, even after controlling for pre-revolutionary trends, Lankina and Libman (2017) find that localities with a gulag were more likely to vote against the communist party and have greater voting competitiveness in the 1996 and 2012 elections than non-gulag localities. Nevertheless, the indirect effect of gulags on voting outcomes is small compared to the direct effect of pre-communist legacies. This implies that while the location of gulags in specific regions matters for voting outcomes, the effects of pre-revolutionary trends matter much more.

Third, Ciravegna et al. (2016) link the gulag-level dataset from Mikhailova (2012) to individual- and firm-level information from the 2010 LiTS and the Business Environment and Enterprise Performance Survey (BEEPS). In a follow-up paper, Toews and Vezina (2018) also examine how the share of political prisoners in former gulags in a locality correlates with economic activity, firm productivity, wages, and education. Jointly, both papers find that firms and households located near gulags are less corrupt and more prosperous, productive, and better educated. The authors explain this paradoxical result by noting that the imprisonment of political inmates (enemies of the state) likely led to a permanent increase in human capital in the gulag regions. Nevertheless, the authors do not account for initial levels of development and human capital, which are likely driving the results. Specifically, Lankina and Libman (2017) demonstrate that localities with a gulag were more likely to be literate and have a higher share of nobility, clergy, merchants, foreigners, and urban estates, but a lower share of peasants during the imperial era. In fact, Lankina and Libman (2017) conclude that based on their results, it appears that the Soviets explicitly targeted high-human capital regions with strong development trajectories to locate gulags. These pre-gulag development trends likely explain the positive correlations of proximity to gulag and individual-level and firm-level productivity, prosperity, education, as well as the lower corruption levels documented in Ciravegna et al. (2016) and Toews and Vezina (2018).[9]

We extend these studies in a number of ways. First, we are the first to systematically examine the consequences of Stalin's gulags on social and institutional trust. Second, we propose and test, to

[9] A related working paper by Levkin (2014) documents a negative association between the share of "special settlers" (deported ethnic groups) in 1953 in regions of Russia, Kazakhstan, Kyrgyzstan, and Uzbekistan and trust of the presidency in 2006 and trust of authorities as proxied by voting in the 1991 referendum.

the extent possible, several novel mechanisms behind the effects of proximity to gulags and trust. As such, we substantively extend the literature on the long-term consequences of historical events on present-day trust.

5. Data

5.1. Individual-level data from the Life in Transition Survey

We rely on individual-level data from the 2016 Life in Transition (LiTS) survey, which is the latest available wave at the time of writing. The LiTS is a nationally-representative household survey sponsored by the European Bank for Reconstruction and Development and the World Bank (EBRD, 2016) and collects a range of self-reported socio-economic, attitudinal, and opinion data using face-to-face interviews. Between the end of 2015 and the beginning of 2016, the LiTS polled about 1,500 respondents living in 51,000 households and 34 countries. In each household with at least two adult members, a computer randomly selected a primary and secondary respondent of the opposite gender. Interviewers used a two-stage sampling procedure stratified by geographical region and rural or urban status. In the first stage, researchers updated the sampling frame and added new localities to those surveyed in 2010. In the second stage, 20 households were selected with equal probability in 75 locations (50 old and 25 new ones). These locations, or primary sampling units (PSUs), emerge from electoral registers or census enumeration areas.

We restrict our main analysis sample to former USSR countries that had a gulag on their territory – Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Mongolia, Russia, Tajikistan, the Ukraine, and Uzbekistan. [10] In robustness checks, we also include the non-FSU countries in the LiTS (such as Bulgaria, Romania, Czech Republic, Hungary, Germany, Turkey etc.) and the former USSR countries without a gulag (Armenia, Latvia, Lithuania, and Moldova).

The LiTS has several features that make it an especially opportune source for our analysis. First, the survey includes publicly-available geo-location (latitude and longitude) of the PSUs in which the respondent's household resides. This allows us to calculate the distance to the nearest former gulag camp for each respondent. Second, the LiTS collects socio-demographic characteristics, including age, height, gender, ethnicity, religion, and others. Third, the LiTS elicits information about the intensity of trust beliefs in society, institutions, and different non-state actors. For example, the wording of the generalized trust question in the LiTS is: "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" The questionnaire also probes about trust of the presidency, the national, regional, and local governments, the parliament, courts, political parties, army, police, banks, foreign investors, non-governmental organizations, trade unions, and religious institutions. In addition, the survey contains questions about trust of family, neighborhood, people met for the first time, and foreigners. The answer categories include "Complete distrust", "Some distrust", "Neither trust nor distrust", "Some trust", and "Complete trust". We code the additional answers "Difficult to say" as "Neither trust nor distrust". The availability of the 5-point Likert scale is arguably superior to the trust question in the World Values Survey (WVS) or the General Social

[10] The main regression features 814 clusters (PSUs), with all countries having 75 PSUs except Mongolia where we have 72 PSUs due to missing observations for variables used in the analysis sample.

Survey (GSS), which offers only two response categories "most people can be trusted" and "you cannot be too careful in dealing with people" (Becker et al., 2016; Fehr, 2009). Specifically, the WVS/GSS measure seems to capture belief in other people's trustworthiness and individual risk preferences (Sapienza, Toldra-Simats, & Zingales, 2013). As such, people who have social trust but are risk-averse may find both answer categories reasonable – most people can indeed be trusted and one should be careful when dealing with people.

In robustness checks, we also rely on a different measure of generalized trust, which captures the expected trustworthiness of people. Specifically, we rely on the question asking "Suppose you lost your (purse/wallet) containing your address details, and it was found in the street by someone living in this neighborhood. How likely is it that it would be returned to you with nothing missing?" The possible answers include "Not at all likely", "Not very likely", "Quite likely", and "Very likely". The correlation coefficient between the wallet and generalized trust questions in our sample is 0.16, which is similar to the 0.2 correlation coefficient that Sapienza et al. (2013) report.

5.2. Gulag-level information

We complement the LiTS data with gulag-level information on 476 camps from Smirnov (1998), which we took from the website of Memorial.de and Memo.ru, an international NGO aimed at preserving the history and memory related to the system of gulags. These data are based on documents from the State Archive of the Russian Federation collected and systematized by Smirnov (1998). Subject to archival data availability, Smirnov (1998) documents the information about each camp's location, economic activities, and the number of prisoners, including female prisoners, political prisoners, and socially dangerous elements in different years. While the data are also available in Mikhailova (2012), her dataset omits two camps – namely, Novgorod ITL and Volga ITL of the MVD. In addition, Mikhailova did not report the number of female prisoners, number of political prisoners, and socially dangerous elements, and did not code the industries of gulag operations in a detailed way, which required us to check all 476 gulag camp records, correct errors, and code the additional information. Unlike Mikhailova (2012) who reports the location of 460 camps, we have information on the location of 474 out of 476 camps.[11] Table 1 demonstrates that the majority of the camps, 418 out of 476, were on the territory of today's Russia. Kazakhstan had 20 camps, and the Ukraine – 16. The majority of prisoners were located in today's Russia, followed by Kazakhstan, and the Ukraine.

We merged the gulag-level data with the LiTS dataset using the Stata user-written program geonear (Picard, 2012). For each individual, we kept information about the nearest former camp. About 13 percent of respondents in the analysis sample lives within 10 km of a former gulag and the average respondent lives about 140 km away from a former camp site. Table A1 in the Appendix details the key summary statistics of the observable characteristics of respondents.

[11] We could not locate the geo-coordinates of two camps, "Construction 770 and ITL" and "Construction 855 and ITL" (or, in Russian, "СТРОИТЕЛЬСТВО 855 и ИТЛ" and "СТРОИТЕЛЬСТВО 770 и ИТЛ").

6. Empirical Strategy

We estimate whether living in the proximity of a former gulag has a lasting impact on trust. Specifically, we model the trust T perception of each individual i living in location l in country c as:

$$T_{ilc}=\alpha + \beta G_{ilc} + \boldsymbol{X}'_{ilc}\gamma + \eta_c + \varepsilon_{ilc} \quad (1)$$

where G is a binary indicator for whether the individual lives within 10km from a former gulag site or not, and $\boldsymbol{X}$ includes a set of exogenous controls such as age, gender, height, ethnicity, religion, geographic latitude and longitude[12], and η denotes the country of residence. In robustness checks, we also include controls that may be viewed as endogenous to living near a former gulag such as working and marital status, a wealth index, household size, education, urban or rural location, and the number of children. Like Becker et al. (2016), we cluster the standard errors ε at the level of the primary sampling unit (PSU) because the LiTS polled 20 individuals per locality l and the characteristics and responses of individuals living in the same locality may be interdependent. Because trust variables are measured on a 5-point Likert scale, like Becker et. al (2016) and Nunn and Wantchekon (2011), we estimate equation (1) using an ordered logit estimator.

We lack data on the pre-camp trust levels in the gulag localities. While some scholars (Ciravegna et al., 2016; Kapelko & Markevich, 2014; Toews & Vezina, 2018) treat gulag construction as exogenous, it appears that camp localities tended to be rural, railroad-suitable or accessible, and relatively more economically developed (Lankina & Libman, 2017; Zhukov & Talibova, 2018). Nevertheless, since economic development is positively correlated with trust, we would expect that any negative results we report are therefore a lower bound of the negative effects of gulags on trust. While we cannot completely rule out that endogeneity drives our findings, we perform a check proposed by Oster (2016), which shows that the influence of the unobservable factors must be 132 times higher than the observable factors to explain away the influence of proximity of gulags on trust we document. Therefore, it is highly unlikely that our results are solely due to omitted variables.

Another potential concern is that high-trust individuals, i.e. those who are more educated and with more financial possibilities, may have moved out of the places with a former gulag after the dissolution of the former Soviet Union. As a result, our results could be driven by the selection into staying in the gulag locales (rather than moving) of relatively low-trust individuals. However, we argue that this problem is not very likely. During communism, Soviet authorities strictly regulated and severely limited residential mobility through the system of mandatory registration of residence (*propiska*), forced resettlement programs, and passport control (Ball & Demko, 1978; Rahmonova-Schwarz, 2010; Zhukov & Talibova, 2018). Informal connections could have helped some potential migrants to resettle, however, such practices were costly and not always legal (Buckley, 1995). In general, during the Soviet period, internal migration flows tended to be from rural to urban areas, and from less to more economically developed regions, and these trends intensified after the fall of Soviet Union (Ball & Demko, 1978; Rahmonova-

[12] Robustness checks adding altitude are available in Table 9.

Schwarz, 2010; Zhukov & Talibova, 2018). Given that camp localities were relatively more economically developed and railroad-suitable or accessible (Lankina & Libman, 2017; Zhukov & Talibova, 2018) these localities are less likely to be migrant-sending. As such, these sites are likely to attract high socio-economic status individuals, who also tend to have higher trust levels, and not lose them due to out-migration. In short, we conclude that the out-migration of high-trust individuals is not a problem. Conversely, the possible in-migration of high-trust individuals to the economically developed gulag locales would potentially positively bias our estimates and as such, any negative effects of gulags on trust we document should be seen as a lower bound. To ensure that our estimates are not driven by the selection on observable characteristics, we also provide robustness checks with entropy balancing (Hainmueller, 2012) and a large battery of additional robustness checks, described in detail in Section 7.2.

7. Results

Table 2 details our main results, whereby the dependent variable is generalized trust and the key independent variable is proximity to gulags. In Model (1), this main regressor equals one for those living within 10km of a former gulag and zero otherwise; in Model (2), we define it as the actual distance to the nearest gulag, and in Model (3), as a categorical variable designating whether the respondent lives within 10 km, within 10-20 km, within 30-40 km, within 40-50 km, 50-100 km, or more than 100 km away (reference category). We estimate all regressions using ordered logit regressions and including individual-level controls for gender, age, age squared, religion, ethnicity dummies, height, country of residence dummies, and latitude and longitude.

The main finding in Table 2 is that living in proximity to former gulag camps lowers current social trust levels. In addition, Model (3) shows that the negative influence of gulags on social trust not only dissipates with distance, but also fully disappears after 40 km. We report the magnitude of the coefficient estimates in Table A2 and represent them graphically in Figures 3 and 4. The first row of Table A2 and Figures 3-4 indicate that on average, living within 10 km of a former camp decreases the probability of reporting complete distrust by 2.9 percentage points (or from 13 to 16 percent), some distrust by 2.8 percentage points (or from 23 to 25 percent), and decreases the probability of reporting some trust and complete distrust by 4.1 and 1.4 percentage points, respectively. There is no statistically significant difference in answering “neither trust nor distrust” between those who live within 10km and those living further away from a former camp. The magnitudes of the associated effects we document are similar to those found in Becker et al. (2016) and are relatively small but are economically meaningful, considering that they have persisted for over half a century.

7.1. Testing for Channels

In this section, we provide evidence regarding the channels through which gulags affected trust. As detailed in Section 3, there could be three main channels: the “scarring” effect or the fear of political repression, the fear of criminality, and the loyalty to state regime.

In Table 3, we test whether social mistrust triggered by living in proximity to former labor camps originates due to mistrust of particular groups such as family, neighbors, foreigners, or

strangers.[13] We find that proximity to gulags has a lasting impact on mistrust of neighbors, which fits with the historical anecdotal evidence that Soviet authorities relied on neighbors spying on one another and willingly or unwillingly coming up with lists of potential "enemies of the state". Interestingly, the coefficient estimate on trust of strangers is statistically insignificant, which we explain by the fact that the informants and regime-friendly citizens who reported on others were likely not strangers to their victims. Ideally, we would have wanted to include as dependent variables trust of colleagues, who were also likely to report misdemeanor to the authorities, but the LiTS lacks such information. One could also interpret the statistically insignificant coefficient estimate on trust of strangers as indirect evidence against the fear of criminality channel. As such, the results in Table 3 would imply that the political repression rather than the fear of criminality channel is behind the social mistrust finding, whereby the gulag as an epitome of political repression diminished the trust of and the perceived trustworthiness of others, and especially neighbors.

Furthermore, we show that this decreased trust of society and neighbors is also mirrored in mistrust of different state institutions. In fact, Table 4 illustrates that trust of all institutions except the presidency and the regional government declines as a result of living near a former gulag.[14] This finding is consistent with the political repression channel whereby those who experienced the gulag as inmates or as outsiders internalized feelings of suspicion and fear of the authorities, which they may have transferred these beliefs to their offspring.[15]

Our results thus far suggest that gulags symbolized political repression, which created a norm of mistrust of society, neighbors, and institutions. If this interpretation of our findings is correct and if our results are not just a data artefact, then living in proximity to former labor camps should have no effect on trust of non-state actors such as banks, foreign investors, NGOs, trade unions, and religious organizations which were largely non-existent in Stalin's time. To test this proposition, we repeat the main analyses using trust of non-state actors as the dependent variable. Indeed, Table 5 convincingly demonstrates that the coefficient estimates for trust of all actors unassociated with Stalin's terror are statistically insignificant, providing confidence in the validity of our main results and the political repression channel.

In addition to the political repression mechanism, we explore to what extent the decline in social trust due to gulags we document is due to the fear of criminality. Specifically, gulags often had common criminals among their inmates and locals typically associated amnesties and prisoner releases with a rise in criminality(Alexopoulos, 2005; Barnes, 2011).

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[13] The associated marginal effects are available in Table A2 in the appendix.

[14] The associated marginal effects are available in Table A2 in the appendix.

[15] We explain the lack of statistical significance of the trust of presidency coefficient estimate with the fact that in several of the former Soviet Union countries in our sample, respondents may associate the question regarding the trust of presidency with a trust of a particular person who runs the state and not with the presidency as the state function. Thus, this question might be measured imprecisely, as respondents may be afraid to express distrust of the President (Letki, 2018; Lühiste, 2006; Mishler & Rose, 1997; Norris, 1999). In addition, we suggest that the coefficient estimate for the trust of regional government is statistically insignificant because in many of the countries in our analysis sample, respondents may not have much contact with the regional government. Existing research acknowledges that in countries with recently established democracies, respondents may not distinguish the functions of different state institutions precisely, and, thus, trust less to institutions with which they have less day-to-day direct contact (Letki, 2018; Mishler & Rose, 1994, 2001).

In Table 6, we first investigate whether experiences of political repression in the respondent's family explain our findings. Specifically, we add to our main regression (Model (1) in Table 2) a control for whether the interviewee or their relatives were sent to a labor camp or prison for political reasons during communism. About 8 percent of respondents in our analysis sample have themselves or have family members who have been imprisoned for political reasons during communism, which appears to be quite low.[16] In addition, the LiTS asks whether during communism, the interviewee or their relatives experienced pressure to serve as informants for the secret service or faced restrictions regarding religion, internal and international migration, occupational choice, and university studies. Admittedly, these variables are imperfect proxies for within-family political repression as the imprisonment or repression could have occurred during any point in time during communism and not during Stalin's rule per se. Nevertheless, adding these variables as controls allows us to get a glimpse into the extent to which political repression may be behind our findings. About 19 percent of respondents reported at least one form of repression in the family.

Columns (1) and (2) in Table 6 suggest that the main coefficient estimate of -0.256 that we document in Column (1) in Table 2 falls to -0.194 and becomes marginally statistically significant when we control for past political repression. Therefore, about 25 percent of the mistrust effect of living in proximity to a former camp is attributable to past political repression. Consistent with the historical evidence and our expectations, those who lived through the horrors of the gulag and Stalin's terror likely passed on the norms of mistrust onto others.

We next explored to what extent the lower generalized trust could have emerged due to the fear of criminality that gulag contemporaries associated with the gulag (Alexopoulos, 2005). Specifically, in Table 6, Model (3) we control for whether the respondent believes that crime is the most important problem in the country, while in Model (4), we hold constant whether the respondent mentioned crime as being among the country's top three problems. The coefficient estimates on our key independent variable remain essentially unchanged compared to those in the main specification (Model (1) of Table 2), which implies that controlling for crime perceptions does not explain our findings. In Model (5), we test the fear of criminality channel by using a different dependent variable – namely whether the respondent lives within 10km of a gulag that had *female* prisoners. The intuition behind this exercise is that women are typically less likely to engage in criminal behavior than men (Campanello, 2014) and are more trustworthy (Buchan, Croson, & Solnick, 2008; Dollar, Fisman, & Gatti, 2001) and as such, those living near camps which had among the inmates women were less likely to develop mistrust due to the fear of criminality.

The results in Model (5) provide some suggestive evidence regarding this proposition whereby the coefficient estimate on the variable "gulag with female prisoners within 10 km" is negative but statistically insignificant. Nevertheless, this result is likely due to the lack of statistical power whereby only 478 out of the 14,530 respondents in the analysis sample live within 10 km of a former gulag with female prisoners.[17]

[16] According to a recent survey, about 20 percent of the 1,600 respondents had a family member who was repressed under Stalin (another 28 percent reported that they did not know) (Levada, 2017).
[17] Repeating the analysis with gulags within 20 or 50 km with female prisoners produces the same results.

Therefore, while we cannot rule out the fear of criminality channel, our results thus far point to the fact that the angst of political repression symbolized by the gulag created a culture of mistrust for those living near camps, which they passed onto others. Unfortunately, we cannot directly test the extent to which our results are driven by those who were loyal to the regime and developed mistrust of others because of that. Nevertheless, the fact that living near gulags is associated with mistrust rather than trust of state institutions suggests that our results are unlikely to be driven by regime-friendly people developing a social norm of mistrust due to fear of enemies of the state.

7.2. Robustness Checks

The negative association between living in proximity to a former gulag and trust provides support for the hypothesis that gulags created a culture of mistrust. Nevertheless, it is also possible that this relationship is driven by omitted variables that are correlated with the selection of less trusting people into gulag areas. For example, the relationship could be due to the fact that the least trusting respondents were most likely to settle in and stay behind in the gulag areas. In addition, our results may be driven by omitted characteristics about those live near gulags that are also correlated with their trust that we are not controlling for in our regressions. In this section, we address exogeneity concerns in three ways.

First, to explore the extent to which omitted variables are driving our results, we perform a check proposed by Oster (2016), which is a modification of Altonji, Elder, and Taber (2005). The strategy essentially relies on selection on observables to assess to what extent unobservables drive the results. Specifically, we find that the influence of any unobservable heterogeneity needs to be 132 times higher than that of the observed factors in our regressions to explain away the trust consequences of living in proximity to a former gulag that we document. In other words, omitted variables bias is not likely to be the main driver of our results.

Our second robustness check concerns controlling for additional observable characteristics. The main models include a parsimonious set of exogenous controls and exclude covariates such as income and wealth, education levels, marital status, household size and others, as these could be outcomes of living in proximity to gulags itself. As such, these endogenous variables constitute "bad controls" (Angrist & Pischke, 2009) as they may introduce selection bias. Nevertheless, as in Becker et al. (2016), as a robustness check, in Column (1) in Table 7, we introduce additional individual-level controls for education, a wealth index, urban or rural residence, marital status, household size, labor market status, and the number of young children in the household. The coefficient estimate of the key regressor—"gulag within 10 km"—declines slightly in magnitude from -0.256 in Model (1) in Table 2 to -0.214 in Model (1) of Table 7, which demonstrates that the results are substantively similar and the findings are robust to the inclusion of these additional controls. This conclusion is also confirmed by formally testing for the equality of the two coefficient estimates using seemingly unrelated estimations.[18]

Our third robustness check provides further reassurance that our results are not driven by

[18] The p-value associated with the χ^2 test for the equality of the coefficient estimates between Model (1) in Table 2 and Model (1) of Table 7 is 0.232.

selection on observables. The results in Model (2), Table 7 report a regression applied after performing entropy balancing (Hainmueller, 2012).[19] More precisely, we apply a two-step procedure whereby we first create comparable groups of respondents who live within 10 km and further away from a gulag based on entropy balancing. This step involves generating a set of entropy balancing weights which we apply to the regression. Entropy balancing is similar but superior to traditional matching methods such as propensity score matching. The magnitude of the key regressor in the entropy balancing regression is identical to that in the main model, providing further confidence in the internal validity of our findings.

Fourth, we explore an alternative measure of social trust, which measures the perceived likelihood that the respondent's neighbors will return a lost wallet. The specific wording of the question is "Suppose you lost your (purse/wallet) containing your address details, and it was found in the street by someone living in this neighbourhood. How likely is it that it would be returned to you with nothing missing?" Possible answers include "not at all likely", "not very likely", "quite likely", and "very likely". The results, reported in Model (3) of Table 7 are very similar to those using the other generalized trust question. Specifically, respondents who live within 10 km of a former gulag are less likely to believe that their neighbors will return a lost purse. Figure 5 details the magnitudes of the associated effects. Specifically, those living within 10 km of a gulag are about 6 percentage points more likely to report that neighbors returning a lost purse is not at all likely, for example. Meanwhile, interviewees living near former camps were also 5 and 3 percentage points less likely to state that neighbors are somewhat or very likely to report a lost wallet.

Our next robustness check concerns calculating the distance to the nearest gulag for a sample of non-FSU countries including Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, North Macedonia, Germany, Greece, Hungary, Italy, Kosovo, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia, and Turkey. Although some of these countries were socialist or otherwise under the influence of the USSR, none of them had a gulag on their territory and in fact, the average respondent in these countries lives more than 700 km from a former gulag. Indeed, the results in Model (5) of Table 8 demonstrates that as expected, there is no statistically significant association between distance to the nearest gulag and generalized trust for this sample of countries.

Furthermore, Table 8 features results including all 15 countries comprising the former USSR, including the four countries that never had a gulag on their territory (Armenia, Latvia, Lithuania, Moldova). Even though Armenia, Latvia, Lithuania, and Moldova never had a gulag on their territories, the average respondent in these nations lives within 235 km of a former gulag. We replicate the analysis in Table 2 using this full former USSR country list and the results remain virtually unchanged.

In Table 9, we augment Table 2 by adding an additional control for altitude (elevation). The intuition is that elevation could affect both the location of the gulag (Zhukov & Talibova, 2018) and trust levels and could, therefore, be an omitted variable. Nevertheless, controlling for altitude yields results that are virtually identical to our main findings.

[19] We implement the entropy balancing using the Stata user-written program –ebalance– (Hainmueller & Xu, 2013).

Finally, to show that our main finding in Model (1), Table 2 is not spurious, we run 10,000 simulations to randomly allocate gulags within 10 km from individuals across the sample. Specifically, we check whether the location of individuals within 10 km of a placebo gulag affects the generalized trust of individuals.[20] In other words, we test whether the impact of living in proximity to a former gulag on trust remains when we pretend that individuals who do not live near gulags did indeed live near gulags. Figure 7 presents the results. The solid vertical line corresponds to the estimated impact of gulags (i.e. -0.256) from Model (1) in Table 2. As Figure 7 demonstrates, the distribution of "fake" gulag impacts on trust is concentrated around zero. Moreover, only in 2.4% cases the impact of placebo gulags is statistically significant. This suggests that randomly allocated placebo gulags have no impact on trust, while the impact estimated in Model (1) in Table 2 is not a data artefact.

8. Discussion and Conclusion

We contribute to the growing literature on the origins of within-country differences in trust norms. Specifically, using individual-level geo-coded data from the 2016 Life in Transition Survey (LiTS) and information on the location of former camps, we document that low trust levels within former countries of the USSR can be linked to the system of forced prison labor during Stalin's regime. More precisely, individuals living in proximity of former camps mistrust society, their neighbors, and institutions. These findings are likely to have emerged due to the terror and mass repression gulags epitomized. Given the atmosphere of political repression and the incentives for citizens to spy on and report on one another, gulags were a symbol of terror that triggered mistrust of others. Those who witnessed the repressions, both inside and outside the gulag, likely internalized this mistrust and transmitted it to their offspring and others around them. While the fear of criminality channel is also plausible, our tests do not provide solid evidence for its existence.

We perform a battery of robustness checks, which suggest that our results can be interpreted as causal. Specifically, we check the extent to which unobserved heterogeneity could be driving our results, furnish results using entropy balancing, and use an alternative measure of trust. We perform two placebo tests—by assigning fake gulag locations and by relying on the non-FSU countries in the LiTS—and in both cases, as expected, we fail to document statistically significant relationships between gulags and trust, which further supports the causal interpretations of our findings.

Furthermore, any endogeneity resulting from the non-random location of gulags potentially positively biases our results and makes our results less negative than they should be. Research suggests that Soviets were more likely to put gulags in areas that even before 1917 were more developed (Lankina & Libman, 2017), which implies that these localities also had high pre-gulag trust levels. As such, our results should be seen as a lower bound of the impact of living in proximity to former gulags on trust. Our findings may also help explain the somewhat paradoxical results in Ciravegna et al. (2016) showing that people living near gulags are less likely to engage in corruption. Specifically, engaging in corruption relies on the belief that the

[20] Borjas (2017) uses a similar approach in demonstrating the counterfactual distribution of the estimated impact of Cuban immigration on the wage of locals in Miami.

other party is going to remain silent about the act of corruption (e.g., paying a bribe). In a setting of mistrust, corruption practices may be less likely to occur, therefore, which may be a finding deserving further explorations. In addition, our results are in line with those in Zhukov and Talibova (2018) who show that voter turnout tends to be lower in localities closer to gulags, likely due to the mistrust of institutions in general that we document. Nevertheless, better understanding the causal mechanisms behind our findings and how deportations affected the trust levels in the regions of origin of the victims still remain open questions and should be a priority for future research.

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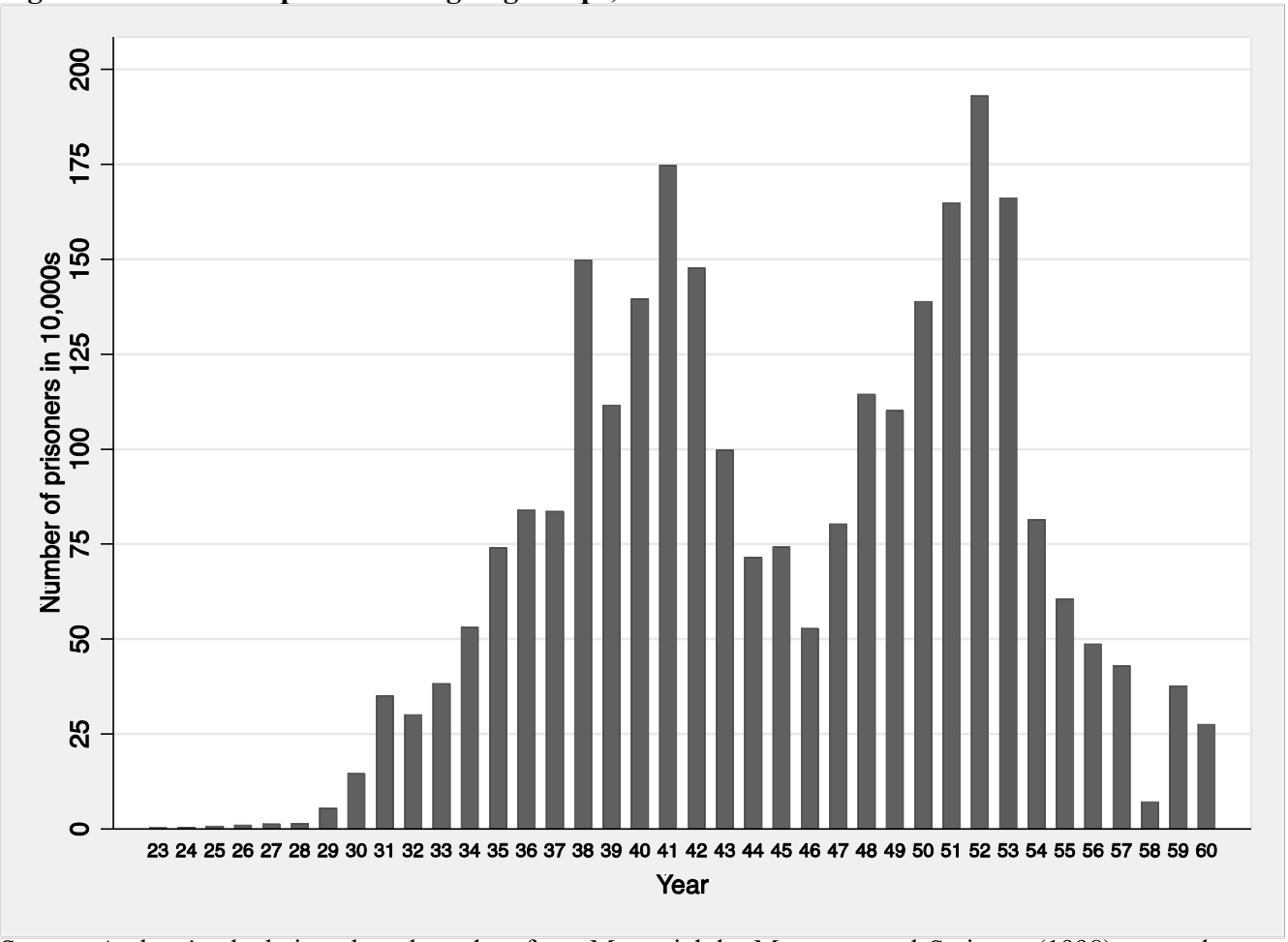
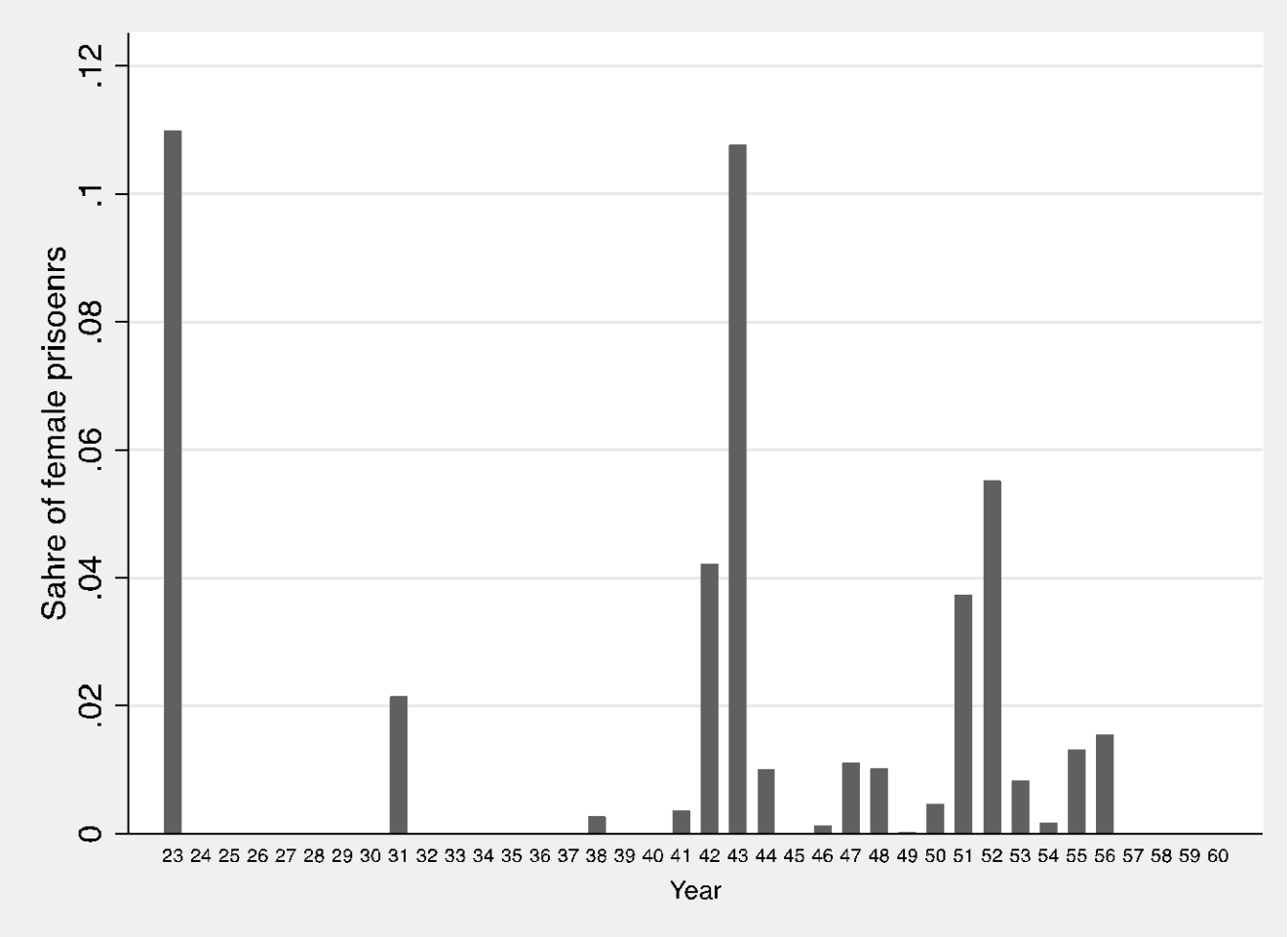
Figure 1: Number of prisoners in gulag camps, 1923-1960



Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.
Note: We lack information on the number of prisoners for 30 out of the 476 camps.

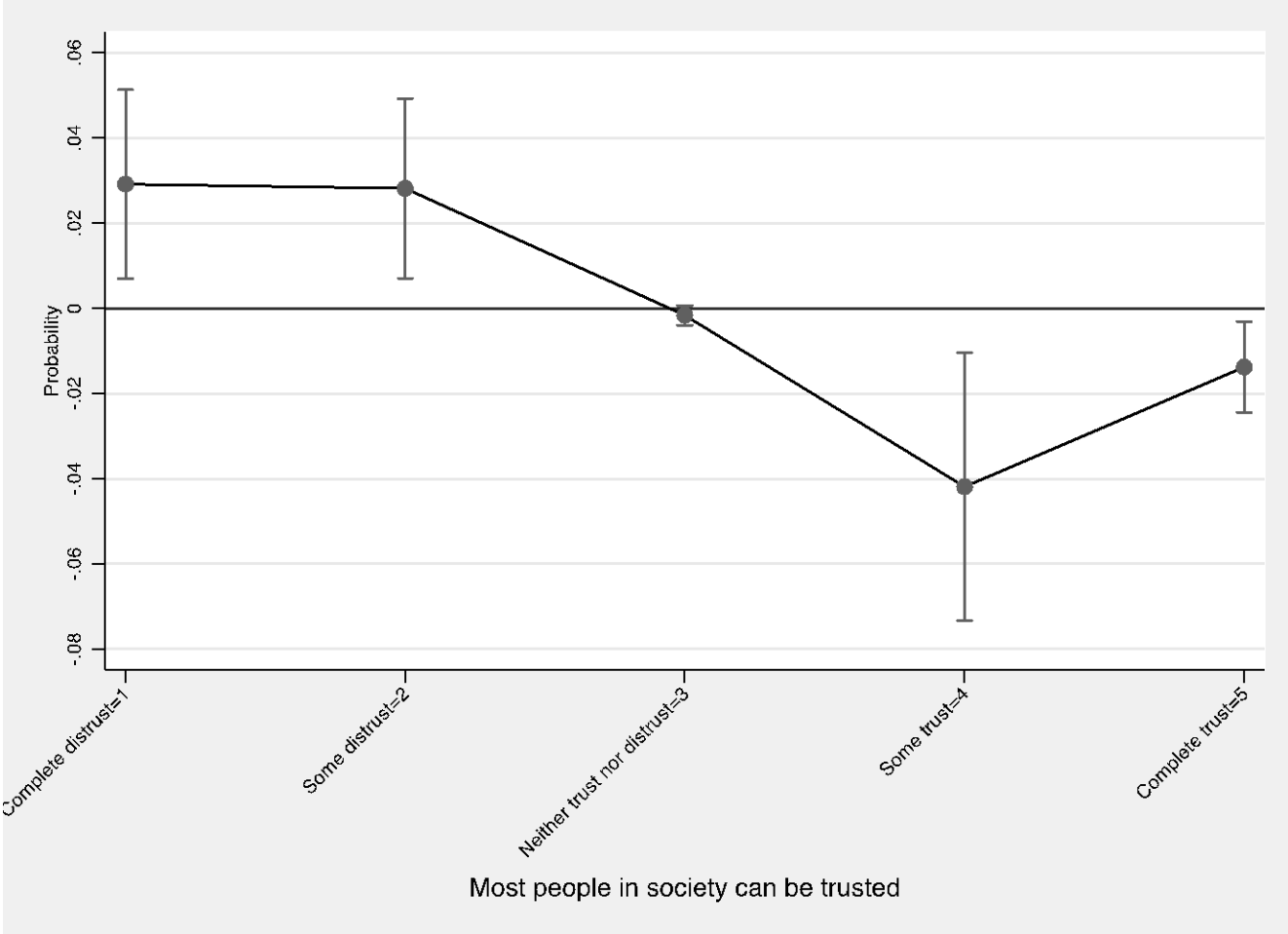
Figure 2: Female gulag prisoners as a share of the total gulag prison population, 1923-1960



Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Note: We have information about the number of female prisoners in 137 camps and lack the data on female prisoners in years 1922, 1924-1930, 1932-1937, 1939, 1940, 1945, and 1957-1960.

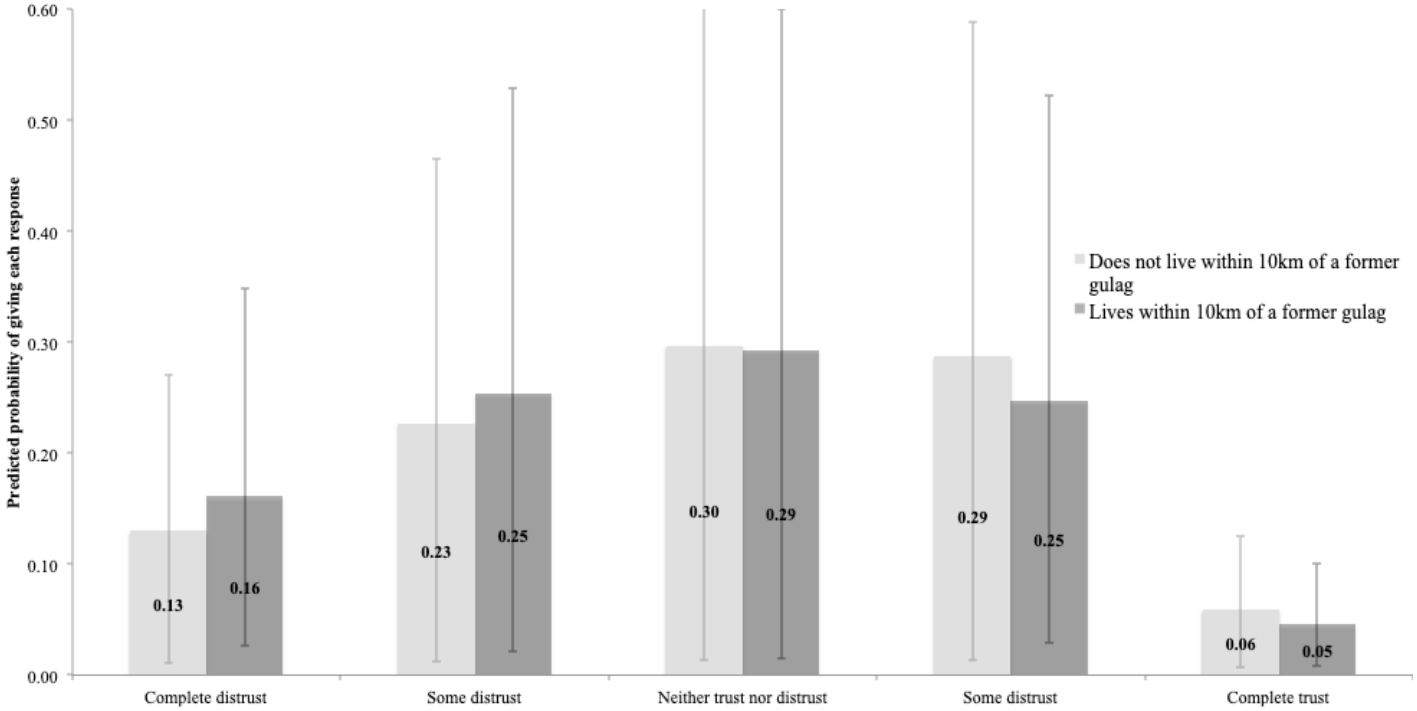
Figure 3: Average marginal effects of living within 10km of a former gulag on trust, with 95 Confidence Intervals



Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Note: The figure shows the average marginal effects for each category of generalized trust, which is measured using the question "Generally speaking, would you say that most people can be trusted, or you can't be too careful in dealing with people?"

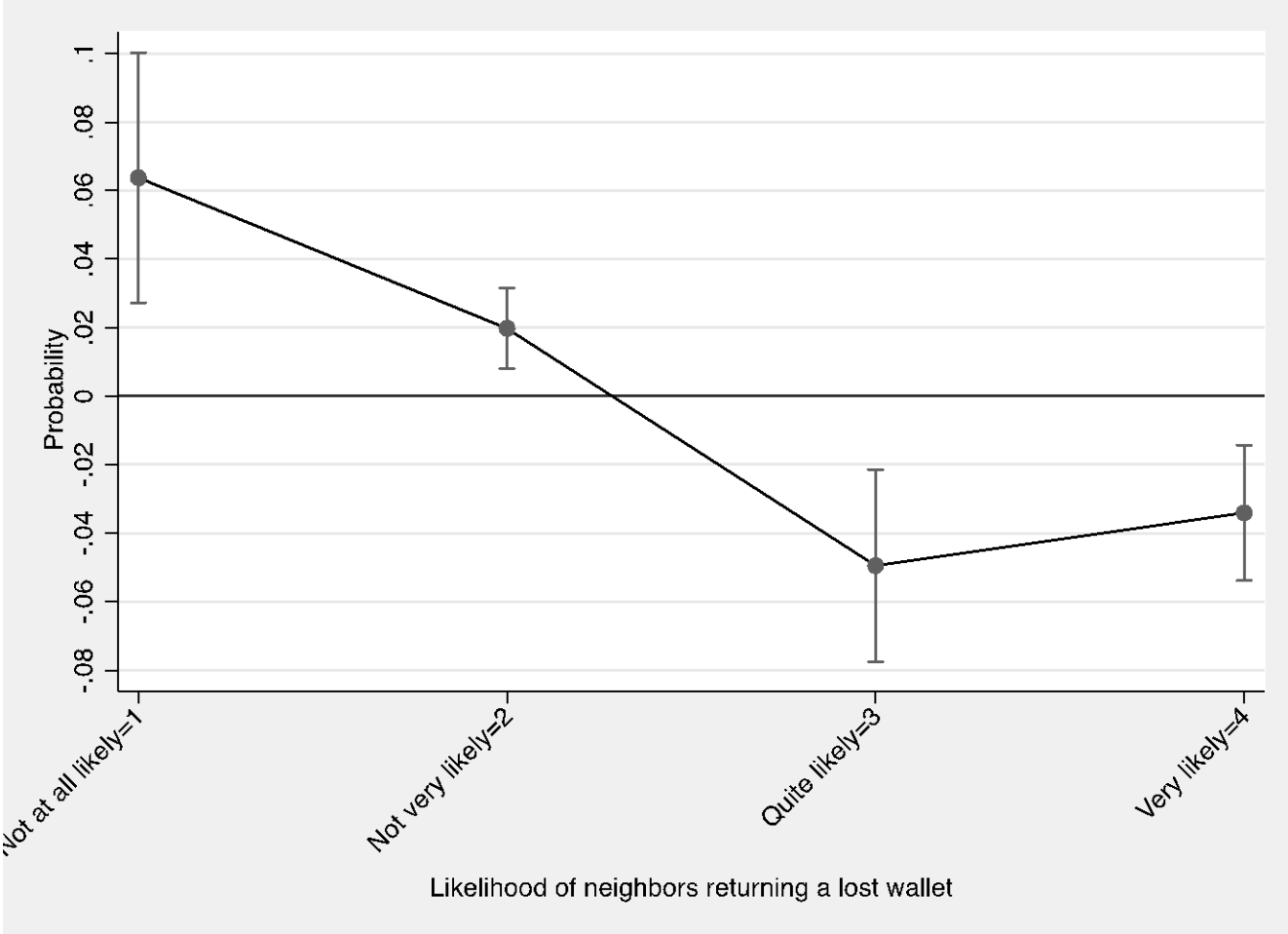
Figure 4: Effect of living within 10 km of a former gulag on generalized trust, average adjusted predictions with 95% Confidence Intervals



Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

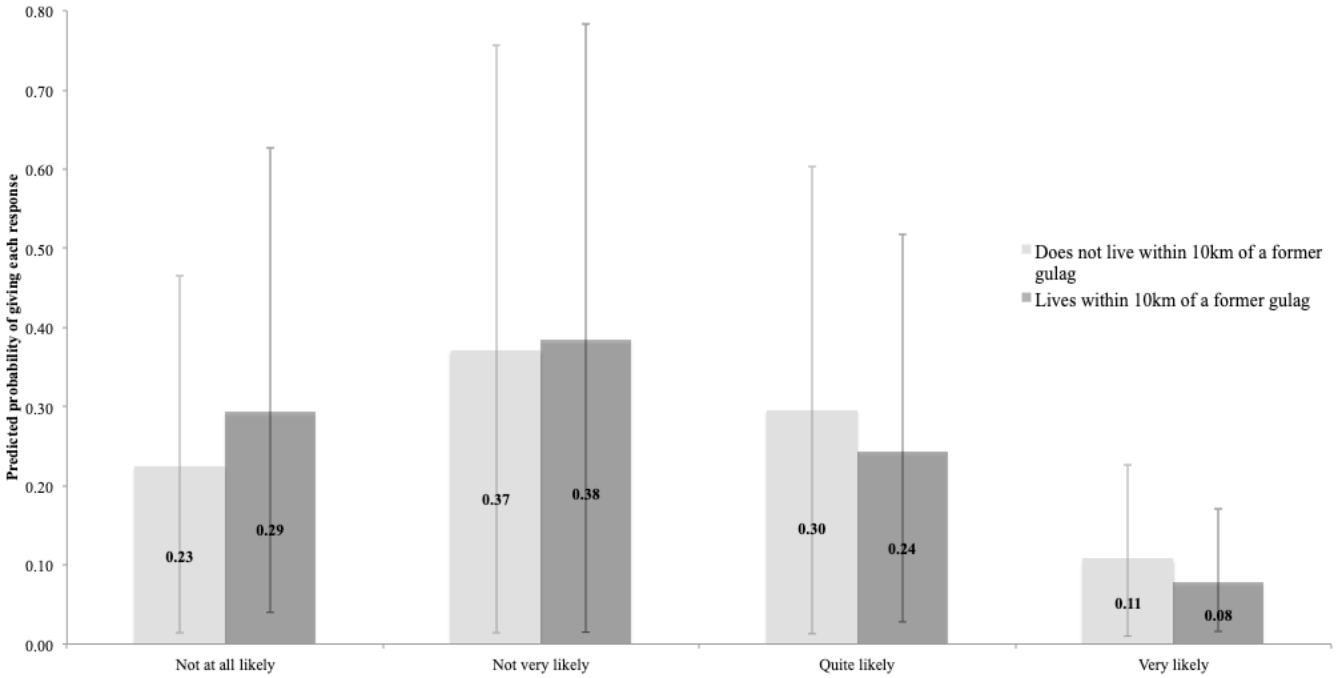
Note: The figure shows the average adjusted probabilities for each category of generalized trust, which is measured using the question "Generally speaking, would you say that most people can be trusted, or you can't be too careful in dealing with people?"

Figure 5: Average marginal effects of living within 10km of a former gulag, with 95 Confidence Intervals



Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.
Note: The figure shows the average marginal effects for each category of generalized trust, which is measured using the question "Suppose you lost your (purse/wallet) containing your address details, and it was found in the street by someone living in this neighbourhood. How likely is it that it would be returned to you with nothing missing?"

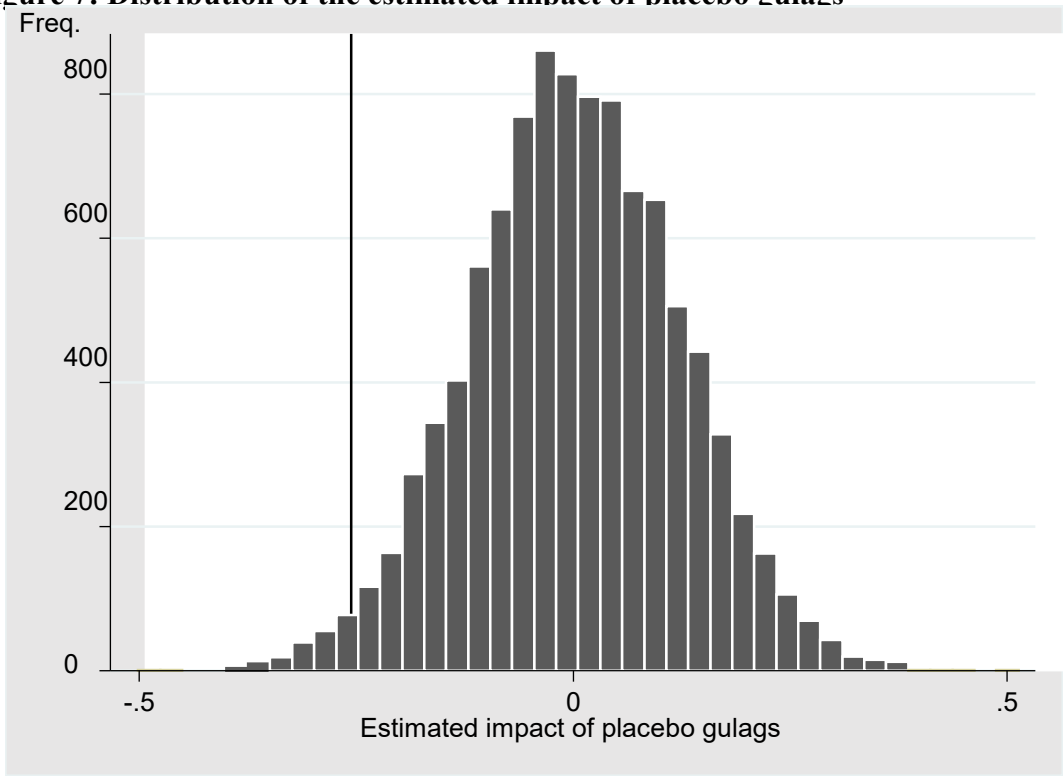
Figure 6: Effect of living within 10 km of a former gulag on perceived likelihood of neighbors returning a lost wallet, average adjusted predictions with 95% Confidence Intervals



Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Note: The figure shows the average adjusted probabilities for each category of generalized trust, which is measured using the question "Suppose you lost your (purse/wallet) containing your address details, and it was found in the street by someone living in this neighbourhood. How likely is it that it would be returned to you with nothing missing?"

Figure 7: Distribution of the estimated impact of placebo gulags



Source: Authors' calculations based on 10,000 simulations.
Note: The solid vertical line corresponds to the impact (point estimate) of living within 10 km of a former gulag on generalized trust in Model (1), Table 2. We test whether the impact of living in proximity to a former gulag on trust remains even though an individual did not live near a gulag. As shown in this figure, the most of gulag impacts are concentrated around zero, suggesting that randomly allocated placebo gulags have no impact on the individual trust.

Table 1: Number of gulag camps and prisoners per country in the former Soviet Union, 1920-1960

Country	No. camps	No. prisoners	No. camps female prisoners	No. female prisoners	No. political prisoners	No. socially-dangerous elements
Azerbaijan	4	37,727	0	0	0	0
Estonia	3	21,036	0	0	0	0
Georgia	4	8,187	0	0	0	0
Kyrgyzstan	2	5,516	0	0	39	0
Kazakhstan	20	135,871	5	20,558	25,265	2,442
Mongolia	1	16,250	0	0	0	0
Russia	418	3,981,571	128	249,230	536,125	161,642
Tajikistan	3	9,065	0	0	7	0
Turkmenistan	1	2,992	1	359	0	0
The Ukraine	16	64,014	2	2,898	31	0
Uzbekistan	4	32,224	1	3,850	6,624	6,452
Total	**476**	**4,314,453**	**137**	**276,895**	**568,092**	**170,535**

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998).
Notes: Column 4 shows the number of camps that had both female and male prisoners, while column 5 details the number of female prisoners per country.

Table 2: The effect of proximity to a former gulag on present-day generalized trust, ordered logit results

	(1) Generalized trust	(2) Generalized trust	(3) Generalized trust
Gulag within 10 km	-0.256**		
	(0.100)		
Distance to the nearest gulag (in 100s km)		0.099***	
		(0.032)	
Ref. Category: Gulag more than 100 km away			
Gulag within 10 km			-0.348***
			(0.105)
Gulag 10-20 km away			-0.223*
			(0.132)
Gulag 20-30 km away			-0.158
			(0.138)
Gulag 30-40 km away			-0.474**
			(0.216)
Gulag 40-50 km away			-0.107
			(0.195)
Gulag 50-100 km away			-0.078
			(0.112)
Individual-level controls	Y	Y	Y
Latitude and longitude controls	Y	Y	Y
Country dummies	Y	Y	Y
N. obs.	14,530	14,530	14,530
Pseudo R^2	0.020	0.020	0.020

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Notes: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates and standard errors are from ordered logit (ologit) estimations. The unit of observation is an individual. The standard errors are clustered at the PSU level. Generalized trust is based on the question "Generally speaking, would you say that most people can be trusted, or you can't be too careful in dealing with people?" Generalized trust is measured on a 5-point scale, whereby 1=complete distrust, 2=some distrust, 3=neither trust nor distrust, 4=some trust, and 5=complete trust. The key independent variable in Model (1) is coded as 1 if the respondent lives within 10 km of a former gulag and 0 otherwise. The key independent variable in Model (2) is the actual distance in km from the respondent's location to the nearest former gulag, divided by 100 for scaling purposes. The key independent variable in Model (3) is coded based on whether the respondent lives within different distances of a former gulag, 1= within 10 km, 2=within 10-20 km, 3=within 20-30 km, 4=within 30-50km, 4=within 50-100 km, and 6=more than 100 km (reference group). The individual-level controls include age, age squared, gender, height, ethnicity, and religion.

Table 3: The effect of living within 10 km of a former gulag on present-day trust of different groups, ordered logit results

	(1)	(2)	(3)	(4)
	Family	Neighborhood	People met for the first time	Foreigners
Gulag within 10km	0.021	-0.355***	-0.129	0.065
	(0.203)	(0.105)	(0.104)	(0.114)
Individual-level controls	Y	Y	Y	Y
Latitude and longitude controls	Y	Y	Y	Y
Country dummies	Y	Y	Y	Y
N. obs.	13,846	14,406	14,255	13,373
Pseudo R^2	0.0703	0.0386	0.0260	0.0439

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Notes: *** p<0.01, ** p<0.05, * p<0.1. Notes: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates and standard errors are from ordered logit (ologit) estimations. The unit of observation is an individual. The standard errors are clustered at the PSU level. All trust variables are measured on 5-point scale, whereby 1=complete distrust, 2=some distrust, 3=neither trust nor distrust, 4=some trust, and 5=complete trust. Trust of the different groups is based on the question "To what extent do you trust the following groups?"

Table 4: The effect of living within 10 km of a former gulag on present-day trust of institutions, ordered logit results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Presidency	Government	Regional government	Local government	Parliament	Courts	Political parties	Army	Police
Gulag within 10km	-0.139	-0.277**	-0.181	-0.326***	-0.374***	-0.442***	-0.275**	-0.293**	-0.393***
	(0.105)	(0.113)	(0.136)	(0.116)	(0.111)	(0.118)	(0.118)	(0.124)	(0.106)
Individual-level controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Latitude and longitude controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Country dummies	Y	Y	Y	Y	Y	Y	Y	Y	Y
N. obs.	14,082	13,935	12,536	13,863	13,669	13,328	13,226	13,918	14,013
Pseudo R^2	0.189	0.158	0.127	0.09	0.146	0.109	0.106	0.102	0.092

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Notes: *** p<0.01, ** p<0.05, * p<0.1. Notes: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates and standard errors are from ordered logit (ologit) estimations. The unit of observation is an individual. The standard errors are clustered at the PSU level. All trust variables are measured on a 5-point scale, whereby 1=complete distrust, 2=some distrust, 3=neither trust nor distrust, 4=some trust, and 5=complete trust. Trust of the different institutions is based on the question "To what extent do you trust the following institutions?" The individual-level controls include age, age squared, gender, height, ethnicity, and religion.

Table 5: The effect of living within 10 km of a former gulag on present-day trust of non-state actors, ordered logit results

	(1)	(2)	(3)	(4)	(5)
	Trust in banks/financial system	Trust in foreign investors	Trust in NGOs	Trust in trade unions	Trust in religious organizations
Gulag within 10km	-0.134	0.125	0.062	-0.086	-0.049
	(0.114)	(0.100)	(0.105)	(0.114)	(0.115)
Individual-level controls	Y	Y	Y	Y	Y
Latitude and longitude controls	Y	Y	Y	Y	Y
Country dummies	Y	Y	Y	Y	Y
N. obs.	13,780	11,904	11,911	12,064	12,481
Pseudo R^2	0.077	0.045	0.043	0.064	0.025

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Notes: *** p<0.01, ** p<0.05, * p<0.1. Notes: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates and standard errors are from ordered logit (ologit) estimations. The unit of observation is an individual. The standard errors are clustered at the PSU level. All trust variables are measured on a 5-point scale, whereby 1=complete distrust, 2=some distrust, 3=neither trust nor distrust, 4=some trust, and 5=complete trust. Trust of the different institutions is based on the question "To what extent do you trust the following institutions?" The individual-level controls include age, age squared, gender, height, ethnicity, and religion.

Table 6: Testing the fear of repression and fear of crime channels behind the effect of living within 10 km of a former gulag on present-day trust levels, ordered logit results

	(1) Generalized trust	(2) Generalized trust	(3) Generalized trust	(4) Generalized trust	(5) Generalized trust
Gulag within 10 km	-0.194*	-0.194*	-0.253**	-0.259***	-
	(0.109)	(0.109)	(0.100)	(0.099)	-
Gulag with female prisoners within 10 km	-	-	-	-	-0.142
	-	-	-	-	(0.217)
Respondent or relatives imprisoned for political reasons during communism	**Y**	N	N	N	N
Total number of repressions respondent or relatives during communism	N	**Y**	N	N	N
Crime most important problem	N	N	**Y**	N	N
Crime among top three problems	N	N	N	**Y**	N
Individual-level controls, latitude and longitude, and country dummies	Y	Y	Y	Y	**Y**
N. obs.	13,263	13,263	14,267	14,530	14,530
Pseudo R^2	0.021	0.021	0.020	0.020	0.0189

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Notes: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates and standard errors are from ordered logit (ologit) estimations. The unit of observation is an individual. The standard errors are clustered at the PSU level. Generalized trust is based on the question "Generally speaking, would you say that most people can be trusted, or you can't be too careful in dealing with people?" Generalized trust is measured on a 5-point scale, whereby 1=complete distrust, 2=some distrust, 3=neither trust nor distrust, 4=some trust, and 5=complete trust. Likelihood of neighbors returning lost wallet is based on the question "Suppose you lost your (purse/wallet) containing your address details, and it was found in the street by someone living in this neighbourhood. How likely is it that it would be returned to you with nothing missing?" It is measured on a 4-point scale, whereby 1=not at all likely, 2=not very likely, 3=quite likely, and 4=very likely. The key independent variable in Models (1)-(4) is coded as 1 if the respondent lives within 10 km of a former gulag and 0 otherwise. The key independent variable in Model (5) is coded as 1 if the respondent lives within 10 km of a former gulag that had both female and male prisoners. The individual-level controls include age, age squared, gender, height, ethnicity, and religion. Model (1) controls for whether the respondent or relatives were imprisoned for political reasons during communism. Model (3) controls for whether the respondent believes crime is the most important problem in society. Model (4) controls for whether the respondent believes that crime is among the top three most important problems in society. Finally, Model (5) relies on a different definition of the treatment variable.

Table 7: The effect of living within 10 km of a former gulag on present-day trust levels, ordered logit results, robustness checks

	(1)	(2)	(3)	(4)	(5)
	Generalized trust, with endogenous controls	Generalized trust, entropy balancing	Likelihood of neighbors returning lost wallet	Generalized trust, different treatment variable	Generalized trust, non-FSU LiTS countries
Gulag within 10 km	-0.214**	-0.256***	-0.369***		
	(0.108)	(0.052)	(0.109)		
Log(Nr. of former gulag prisoners within 10 km)				-0.024**	
				(0.010)	
Distance to the nearest gulag (in 100s km)					0.013
					(0.057)
Individual-level controls	Y	Y	Y	Y	Y
Additional controls	Y	N	N	N	N
Latitude and longitude controls	Y	Y	Y	Y	Y
Country dummies	Y	Y	Y	Y	Y
N. obs.	14,519	14,530	13,966	14,530	25,002
Pseudo R^2	0.022	0.026	0.0292	0.019	0.024

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Notes: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates and standard errors are from ordered logit (ologit) estimations. The unit of observation is an individual. The standard errors are clustered at the PSU level. Generalized trust is based on the question "Generally speaking, would you say that most people can be trusted, or you can't be too careful in dealing with people?" Generalized trust is measured on a 5-point scale, whereby 1=complete distrust, 2=some distrust, 3=neither trust nor distrust, 4=some trust, and 5=complete trust. Likelihood of neighbors returning lost wallet is based on the question "Suppose you lost your (purse/wallet) containing your address details, and it was found in the street by someone living in this neighbourhood. How likely is it that it would be returned to you with nothing missing?" It is measured on a 4-point scale, whereby 1=not at all likely, 2=not very likely, 3=quite likely, and 4=very likely. The key independent variable in Models (1)-(3) is coded as 1 if the respondent lives within 10 km of a former gulag and 0 otherwise. The key independent variable in Model (4) is the natural logarithm of the number of former gulag prisoners within 10 km. The key independent variable in Model (5) is the actual distance in km from the respondent's location to the nearest former gulag, divided by 100 for scaling purposes. The individual-level controls include age, age squared, gender, height, ethnicity, and religion. The additional controls include: respondent's level of education, a wealth index, urban or rural status of the locality, marital status, household size, and number of young children. The non-FSU countries in Model (5) are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, North Macedonia, Germany, Greece, Hungary, Italy, Kosovo, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia, and Turkey.

Table 8: The effect of proximity to a former gulag on present-day generalized trust, ordered logit results, all FSU countries

	(1) Generalized trust	(2) Generalized trust	(3) Generalized trust
Gulag within 10 km	-0.258***		
	(0.099)		
Distance to the nearest gulag (in 100s km)		0.106***	
		(0.029)	
Ref. Category: Gulag more than 100 km away			
Gulag within 10 km			-0.336***
			(0.104)
Gulag 10-20 km away			-0.209
			(0.131)
Gulag 20-30 km away			-0.146
			(0.137)
Gulag 30-40 km away			-0.455**
			(0.215)
Gulag 40-50 km away			-0.053
			(0.179)
Gulag 50-100 km away			-0.030
			(0.104)
Individual-level controls	Y	Y	Y
Latitude and longitude controls	Y	Y	Y
Country dummies	Y	Y	Y
N. obs.	19,993	19,993	19,993
Pseudo R^2	0.0247	0.0251	0.0253

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Notes: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates and standard errors are from ordered logit (ologit) estimations. The unit of observation is an individual. The standard errors are clustered at the PSU level. Generalized trust is based on the question "Generally speaking, would you say that most people can be trusted, or you can't be too careful in dealing with people?" Generalized trust is measured on a 5-point scale, whereby 1=complete distrust, 2=some distrust, 3=neither trust nor distrust, 4=some trust, and 5=complete trust. The key independent variable in Model (1) is coded as 1 if the respondent lives within 10 km of a former gulag and 0 otherwise. The key independent variable in Model (2) is the actual distance in km from the respondent's location to the nearest former gulag, divided by 100 for scaling purposes. The key independent variable in Model (3) is coded based on whether the respondent lives within different distances of a former gulag, 1= within 10 km, 2=within 10-20 km, 3=within 20-30 km, 4=within 30-50km, 4=within 50-100 km, and 6=more than 100 km (reference group). The individual-level controls include age, age squared, gender, height, ethnicity, and religion. The analysis sample comprises all 15 members of the former Soviet Union.

Table 9: The effect of proximity to a former gulag on present-day generalized trust, ordered logit results, with an elevation control

	(1) Generalized trust	(2) Generalized trust	(3) Generalized trust
Gulag within 10 km	-0.253**		
	(0.099)		
Distance to the nearest gulag (in 100s km)		0.099***	
		(0.032)	
Ref. Category: Gulag more than 100 km away			
Gulag within 10 km			-0.343***
			(0.105)
Gulag 10-20 km away			-0.209
			(0.132)
Gulag 20-30 km away			-0.148
			(0.138)
Gulag 30-40 km away			-0.473**
			(0.215)
Gulag 40-50 km away			-0.118
			(0.199)
Gulag 50-100 km away			-0.080
			(0.113)
Individual-level controls	Y	Y	Y
Latitude and longitude controls	Y	Y	Y
Altitude control	Y	Y	Y
Country dummies	Y	Y	Y
N. obs.	14,530	14,530	14,530
Pseudo R^2	0.020	0.020	0.0205

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Notes: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates and standard errors are from ordered logit (ologit) estimations. The unit of observation is an individual. The standard errors are clustered at the PSU level. Generalized trust is based on the question "Generally speaking, would you say that most people can be trusted, or you can't be too careful in dealing with people?" Generalized trust is measured on a 5-point scale, whereby 1=complete distrust, 2=some distrust, 3=neither trust nor distrust, 4=some trust, and 5=complete trust. The key independent variable in Model (1) is coded as 1 if the respondent lives within 10 km of a former gulag and 0 otherwise. The key independent variable in Model (2) is the actual distance in km from the respondent's location to the nearest former gulag, divided by 100 for scaling purposes. The key independent variable in Model (3) is coded based on whether the respondent lives within different distances of a former gulag, 1= within 10 km, 2=within 10-20 km, 3=within 20-30 km, 4=within 30-50km, 4=within 50-100 km, and 6=more than 100 km (reference group). The individual-level controls include age, age squared, gender, height, ethnicity, and religion. All regressions include an additional control for elevation (altitude) at the PSU level from gpsvisualizer.com/elevation.

APPENDIX

Table A1: Selected summary statistics, analysis sample

	Full sample, N=14,530		No gulag within 10 km, N=12,649		Gulag within 10 km, N=1,881	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Generalized trust	2.909	1.123	2.924	1.120	2.812	1.140
Former gulag within 10 km	0.129	0.336	0.000	0.000	1.000	0.000
Distance to the nearest former gulag in km	143.527	118.846	164.015	113.935	5.753	2.715
Age	45.757	16.516	46.141	16.574	43.177	15.888
Male	0.422	0.494	0.425	0.494	0.401	0.490
Height in cm	167.978	8.849	168.104	8.863	167.133	8.711
Ethnicity: Russian	0.157	0.364	0.133	0.340	0.320	0.466
Religion: Orthodox Christian	0.354	0.478	0.353	0.478	0.363	0.481

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998) merged with LiTS 2016.

Note: The differences of means between respondents who live and do not live within 10 km of a gulag are statistically significant at the 5 percent or lower for all variables except belonging to the Christian Orthodox religion.

Table A2: Average marginal effect of living within 10 km of a former gulag on present-day trust levels

		Complete distrust	Some distrust	Neither distrust nor trust	Some trust	Complete trust
Generalized trust	Marginal effect	0.029	0.028	-0.002	-0.041	-0.014
	z-stat	2.560	2.590	-1.370	-2.590	-2.520
Trust of family	Marginal effect	0.000	0.000	0.000	-0.001	0.002
	z-stat	-0.110	-0.110	-0.110	-0.110	0.110
Trust of neighbors	Marginal effect	0.013	0.020	0.034	0.001	-0.068
	z-stat	3.320	3.390	3.400	0.580	-3.390
Trust of people met for the first time	Marginal effect	0.025	0.005	-0.012	-0.014	-0.004
	z-stat	1.240	1.220	-1.240	-1.230	-1.230
Trust of foreigners	Marginal effect	-0.014	0.000	0.007	0.005	0.002
	z-stat	-0.580	-0.430	0.580	0.580	0.580
Trust in Presidency	Marginal effect	0.013	0.008	0.002	-0.004	-0.019
	z-stat	1.320	1.320	1.310	-1.340	-1.320
Trust in government	Marginal effect	0.033	0.017	-0.002	-0.018	-0.029
	z-stat	2.440	2.450	-2.010	-2.450	-2.430
Trust in regional government	Marginal effect	0.020	0.012	0.001	-0.012	-0.021
	z-stat	1.320	1.320	1.130	-1.320	-1.320
Trust in local government	Marginal effect	0.035	0.025	0.004	-0.027	-0.038
	z-stat	2.800	2.780	2.370	-2.780	-2.780
Trust in parliament	Marginal effect	0.047	0.022	-0.008	-0.025	-0.036
	z-stat	3.360	3.330	-3.210	-3.340	-3.320
Trust in courts	Marginal effect	0.054	0.028	0.001	-0.033	-0.051
	z-stat	3.770	3.710	0.990	-3.770	-3.700
Trust in political parties	Marginal effect	0.043	0.012	-0.012	-0.020	-0.024
	z-stat	2.340	2.320	-2.330	-2.340	-2.320
Trust in army	Marginal effect	0.019	0.019	0.017	-0.004	-0.051
	z-stat	2.360	2.350	2.360	-1.900	-2.370
Trust in police	Marginal effect	0.037	0.031	0.011	-0.027	-0.053
	z-stat	3.710	3.680	3.420	-3.680	-3.670

Source: Authors' calculations based on data from Memorial.de, Memo.ru, and Smirnov (1998).
Notes: Average marginal effects of living within 10 km of a former gulag in a model specification that includes all control variables shown in Table 2. For example, the upper left entry in the top row demonstrates that, on average, living within 10 km of a former gulag increases the probability of reporting complete distrust by 2.9 percentage points.