

Prisons and Homophobia*

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Abstract

We evaluate whether prisons contribute to anti-gay sentiments in the population. A specific culture emerges in male where competition for resources leads to emergence of masculinity norms that include homophobia. Once the inmates leave prisons, these attitudes are spread to the population. We explore this proposition using several sources of data. First, using Australian longitudinal survey data, we establish that prison experience prompts a higher level of anti-gay sentiments among men and members of their families, even though no discernible difference exists before the incarceration. Second, to explore the transmission of anti-gay sentiments from ex-prisoners to the general population, we use the Soviet amnesty of 1953, which, after the death of Joseph Stalin, released 1.3 million prisoners. We find that the municipalities in Russia more exposed to the influx of released individuals have more incidences of anti-LGBTQ+ hate crimes, higher levels of homophobic slurs on social media, and higher levels of discriminatory attitudes expressed in representative surveys. Our results demonstrate a previously under-emphasized cost of mass incarceration: a higher level of homophobia.

Keywords: Tolerance, Homosexuals, Incarceration, Russia, Australia

JEL codes: J15, N34, Z13.

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1 Introduction

According to the latest available data, there are more than 11 million prisoners worldwide, most in the United States (more than two million).¹ One of the well-documented facts about male prisons is the prevalence of masculinity culture (Dolovich, 2012; Skarbek, 2014). Such a culture has been linked to anti-gay attitudes through its valorization of hyper-competitiveness, belligerence, and suppression of emotions (Baranov, De Haas and Grosjean, 2018). Making the next logical step, we argue that men (but not women) who go through the prison system end up more homophobic than before the incarceration, and such attitudes get transmitted to their family members and to the wider society. In short, prisons produce homophobia.

In this paper we investigate how prisons can influence changes in attitudes toward gay persons. First, using longitudinal data from Australia we find that (i) males who went to prison became more intolerant toward homosexual individuals, and (ii) that the intolerance further spreads to the members of their households. Second, we use the largest amnesty in human history — Soviet amnesty of the summer 1953 — on the nation-wide change in attitudes toward homosexuals in Russia. Caused by unexpected death of Soviet dictator Joseph Stalin, the amnesty resulted in 1.3 million people convicted for general criminal offences being released and settled in the proximity of Gulag² labor camps. We estimate exposure of each Russian city to the amnesty of 1953 as the sum of released persons weighted by the distance to Gulag camps. We show that more affected areas exhibit larger probability of hate crimes against LGBTQ+ people, greater intensity of homophobic slurs on social media, and more homophobic attitudes of the individuals measured by representative surveys.

The question on the impact of prisons on homophobia is extremely difficult to study. First, the longitudinal survey data that tracks the incarceration status of individuals as well as their attitudes towards gay persons is scarce — this complicates the study of the impact of incarceration of individual anti-gay attitudes and on the anti-gay attitudes of their family members. Second, the places where former inmates live after they leave prisons is decidedly non-exogenous for they are likely to return to their previous place of living. Third, it is hard to study cultural change when the flow of ex-prisoners is relatively small and it may be difficult to identify cultural change from the accumulation of ex-prisoners that can be confounded by other factors.

We make advances on all these fronts. First, we use Household, Income and Labour Dynamics in Australia (hereafter, HILDA) survey to explore whether people who return from prisons end up more homophobic than before. The longitudinal survey with a large sample of Australians conducted every year since 2001 allows us to observe a non-trivial number of individuals who were incarcerated during this period. Within-person variation allows us to infer if people who have been incarcerated end up having higher levels of anti-gay sentiments than before the incarceration. It also allows testing if the family members of incarcerated

¹World Prison Population List (Walmsley, 2019) is available here: www.prisonstudies.org/sites/default/files/resources/downloads/wppl_12.pdf.

²Russian acronym for the “main administration of the camps.”

individuals change their attitude towards gay persons. The survey is rich enough to allow controlling for a variety socio-demographic and heritage characteristics as well as testing for pre-incarceration differences in anti-gay attitudes.

We find that prison’s treatment decreases the probability that male respondents think that gay people should have equal rights by a 0.16-standard-deviation. At the same time, the effect on female ex-prisoners is smaller in magnitude and insignificant. We also document spread of the attitudes to the family members: having a close-family member returning from a prison decreases probability of wanting equal right for gay people by a 0.03-standard deviation.

Next, we investigate the transmission of anti-gay attitudes to the general public. To study this issue, one needs to find an episode of an exogenously determined influx of people with prison experience into the population. One of the such episodes is the Soviet amnesty of 1953, when, after the death of Joseph Stalin, around 60 percent of Gulag prisoners were released putting an end to the Stalin’s Gulag system. Many of the released prisoners stayed in nearby cities and towns contributing to the criminal activity there (Dobson, 2009).³ We hypothesize that a rapid increase in number of people with prison experience must have a long-lasting effect of anti-gay attitudes in the location most exposed to the amnesty.

To measure the impact of the 1953 amnesty on modern-day homophobia we use a set of outcomes. First, we use data on crimes against LGBTQ+ persons from Kondakov (2017), who meticulously collected the data on cases in 2010–2015 in which the motive of hate against LGBTQ+ persons was established by a court. Second, we have scraped the most popular social network in Russia, *vk.com*, for the geo-referenced public postings containing common Russian homophobic slurs. Third, we use three geo-referenced public opinion surveys — Life in Transition Survey, World Values Survey, and the Courier Survey by Levada Center — that contain questions about respondent’s attitudes towards homosexual individuals. All our outcome variables in this part of the analysis are either location-level (anti-LGBTQ+ hate crimes and homophobic slurs in vk.com) or individual-level with information about the respondent’s location (survey data).

We regress all of our three intolerance outcomes on the exposure to 1953 amnesty measured as sum of number of released individuals from all Gulag camps weighted by the distance from each camp to a location. These regressions can be interpreted as regressions in changes, because amnesty is, by definition, a change in the number of released individuals, and — as documented by a qualitative literature on the matter — Russia had no systematic homophobia until 1931 and even after male homosexuality was criminalized by Stalin’s government, there was no enforcement or public shaming until 1950s.⁴ In the estimations, we control for population, municipality type, and geographic controls including coordinates and minimum distance to nearest Gulag camps to address endogeneity in the location of camps. Our identification assumption is that, conditional on geographic proximity to Gulag labor camps, the exposure of each location to the amnesty of 1953 is exogenous because the identifying variation is driven by the variation in the number of released prisoners in each labor camp.

³Importantly, political prisoners, who were convicted for “counter-revolutionary activity” were not eligible for the amnesty.

⁴Section 2 explores this issue in more detail.

We find that exposure to 1953 amnesty is positively associated with all measures of present-day homophobia. Comparing two towns, one at the 25th percentile and the other at the 75th percentile of exposure to amnesty of 1953, the more exposed location would be expected to experience 8.2-percentage-point increase (12 percent of the mean) in the probability of a respondent being intolerant toward gay persons, 0.6-percentage-point increase (39 percent of the mean) in the probability of a hate crime in 2010–2015, and a 2-percent increase (80 percent of the mean) in the number of homophobic slur in social media. Overall, while from 1922 to 1991 more than 60 million Russian men went through prisons (Luneev, 1997, pp. 56–57) and affected public attitudes toward gays, the amnesty of 1953 still explains a sizeable amount of variation in current levels of homophobia.

Most immediately, we contribute to the quantitative studies on the determinants of homophobia. Studies in this literature have identified such factors as sex ratios (Baranov, De Haas and Grosjean, 2018; Chang, 2020; Brodeur and Haddad, 2021), historical religious missions (Ananyev and Poyker, 2021), modern Renewalist Christian denominations (Grossman, 2015), lack of legal recognition of same-sex marriage (Aksoy et al., 2020). We propose a new potential source of homophobic attitudes, prisons, and offer several quantitative tests for this hypothesis.

More generally, we contribute to the literature on cultural change in persistence. The relatively high level of anti-gay sentiments in Russia might seem puzzling given that, in general, Russia did not suffer from male-biased gender ratios. In fact, after the World War II, in several regions, the sex ratios were female-biased due to the war casualties (Brainerd, 2017).⁵ The sex ratios were biased, however, among the sizeable minority of Gulag prisoners. Thus, our study shows that the masculinity norms are not only persistent (as had been demonstrated by Baranov, De Haas and Grosjean, 2018 and Grosjean and Khattar, 2019), but also can *emerge* and are highly contagious. It is possible that the narratives about how “real men” ought to behave possess the quality of “memes” (Shiller, 2020). The factors of cultural changes explored in the literature include religion (Henrich, 2020; Bergeron, 2020), and historical stability of the environment (Giuliano and Nunn, 2021). We provide an argument that mass imprisonment is also a significant determinant of norms and beliefs.

Additionally, we contribute to the literature on the effects of prisons on the convicted individuals (Pager, 2003; Kling, 2006; Agan and Starr, 2018 on employment, Mueller-Smith, 2015; Dobbie, Goldin and Yang, 2018 on employment and recidivism, Aizer and Doyle Jr, 2015 on high school completion) as well as on their household members (Dobbie et al., 2018; Norris, Pecenco and Weaver, 2021 on outcomes of their children) and the larger society (Rose and Shem-Tov, 2019 on crime rates). Here we first to show effect on changes in cultural norms of prisoners, their families, and larger societies.

This paper also contributes to the literature on the long-run effects of Stalin’s repressions in Russia. Here, Nikolova, Popova and Otrachshenko (2019) showed the effects of the Gulag system on trust, Kapelko and Markevich (2014) demonstrated that the individuals located closer to a Gulag camp were more likely

⁵And before that male population either disproportionately died during World War I and the Civil War or migrated-out as the soldiers of the White Army who fled the country after their defeat in the Civil War.

to vote against a communist candidate in 1996 presidential elections.⁶ Here, we make an argument that the current level of homophobia in Russia is at least partly a Gulag legacy.

This paper proceeds as follows. Section 2 describes sociological theories on relationship between homophobia and prison culture, introduces background information about homophobia in Russia and the Amnesty of 1953. Section 3 describes our data. Section 4 introduce our individual longitudinal data specification and studies first-order effects of prisons on ex-prisoners and their household’s family members. Section 5 introduces our empirical specification, identifying assumptions, and results of the effects of Amnesty of 1953 on homophobia in Russia. Section 6 concludes.

2 Background: Homophobia, Prison Culture, and Amnesty of 1953

2.1 Homophobia and Prison Culture

Impact of prisons on anti-gay sentiments of inmates can operate through several interconnected mechanisms. Since most of the inmates are men, as Baranov, De Haas and Grosjean (2018) document, a set of masculinity norms emerge that privilege aggression, hierarchies, and competition. Such norms has been also documented for Soviet underworld (Galeotti, 2018).⁷ In such environments, qualities that are stereotyped as “feminine” are despised, and “passive” homosexuals are perceived as woman-like.⁸ It has also been documented that in many cases, homosexual acts involve violence and coercion (O’Donnell, 2004). Thus, a person who goes through such a system is more likely to be primed to ascribe low status to “passive” homosexuals and express anti-gay attitudes.

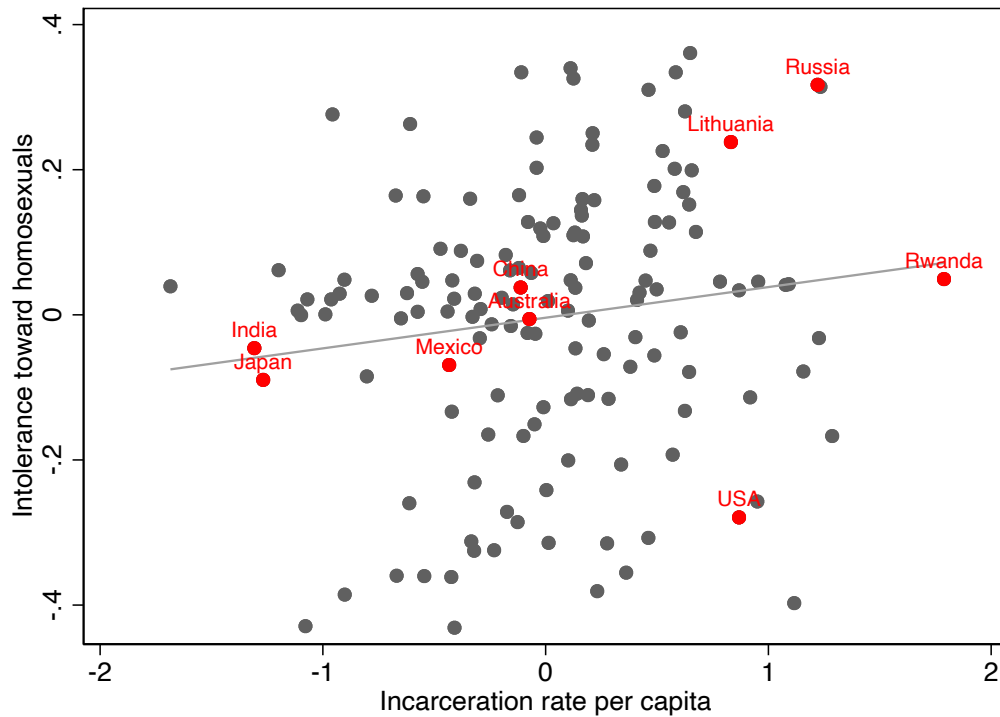
To demonstrate a suggestive evidence that mass incarceration might be linked to homosexual attitudes, in Figure 1, we show a cross-country correlation between the incarceration rates per capita from World Prison Brief and the respondents’ evaluation of how welcoming their locations are for gay and lesbian individuals from Gallup World Poll data. We find that in the countries with higher incarceration rates, Gallup respondents are more likely to say that their locations are “not a good place” for gay persons. While such a graph, presented here for the illustrative purposes, can suffer from a number of sources of endogeneity (such as economic development, history, and other aspects of culture), in the following sections we present a set of tests — with Australian and Russian data — that arguably permit more definitive causal conclusions.

⁶Although, our identification strategy is different: instead of using the distance to the camps as a “treatment,” we use exposure to the 1953 amnesty conditional on the distance to the camps.

⁷Galeotti (2018) documents that an aspiring member of a criminal organization had to undergo a set of highly risky, but largely performative acts, such as stealing a coat from a Chechen restaurant.

⁸Varlam Shalamov writes in *Swindler’s Blood*: “The criminals [blatari] are all pederasts. Each of them in the camp is surrounded by young people with swollen and muddy eyes ‘Zoikas,’ ‘Man’kas,’ ‘Verkas,’ whom the criminal is feeding and with whom he sleeps” (Kuntsman, 2009).

Figure 1: Countries With Larger Prison Population Are More Homophobic



Notes: This Figure shows residual plot from the country-level regression of incarceration per capita on intolerance toward homosexuals. The regression coefficient is 0.053, robust standard errors are 0.026, and p-value is 0.035. Prison population for the latest available year is from World Prison Brief (accessible at [PrisonStudies.org](https://www.prisonstudies.org)). Intolerance toward homosexuals is from the Gallup World Poll. The question used in the Gallup survey is as follows: “Is the city or area where you live a good place or not a good place to live for gay or lesbian people?” The variable is constructed as the share of people that answered “Not a good place.” Russia (together with Belarus) is in the upper-right corner. Australia is on the linear fit line in the center.

2.2 Attitudes Toward Gays in Russia

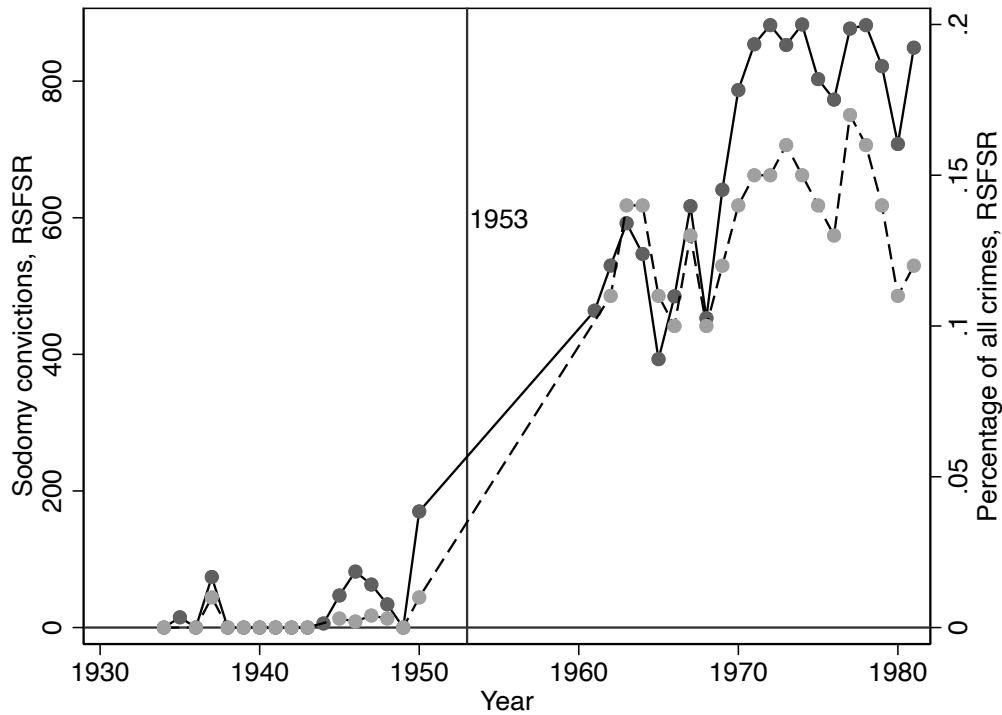
According to representative surveys, the level of anti-gay attitudes in Russia is one of the highest in the world: 67 percent of World Values Survey respondents of the 2017–2020 wave in Russia stated that they would not like to have homosexual individuals as neighbors, only 12 percent agree that homosexual parents are as good as the heterosexual ones, and 58 percent of individuals say that homosexuality is never justifiable.⁹ According to the human rights watchdog “SOVA Center,” 16 people were beaten in 2020 for the reasons of anti-LGBT hate, while in 2019, 7 people were beaten and one person was killed. The LGBTQ+ persons are routinely publicly insulted by politicians and celebrities.

How deep are the roots of such attitudes? Recent historical research suggests that, even though Orthodox Christianity considers homosexuality sinful, before Stalin’s time it was not particularly stigmatized.

⁹Such a high level is not explained by the recent legislation prohibiting “homosexual propaganda,” since as early as 2005–2009 it was on the same level: 66 percent of Russian respondents said that that would not like to have homosexual persons as neighbours then.

According to Healey (2001), Russia imposed anti-sodomy laws later than Western European countries. Peter I forbade “sodomy” in 1716 but only in the army and navy. Civil anti-sodomy laws were first introduced in 1835 during the rule of Nicholas I; however, the punishment for it was only introduced in 1866.¹⁰ Female same-sex relationships had never been criminalized. The criminalization of “sodomy,” however did not change much in the culture and such offences were almost never enforced. Russian society in that period was quite tolerant to the expressions of homosexuality. Criminal charges of “sodomy” in cases involving voluntary same-sex relationships were usually dropped without a trial. When such cases did reach a trial, judges were inclined to acquit the accused or to appoint relatively lenient punishment without a jail sentence. If the homosexual acts were found to be involuntary, then the accused was charged with both “sodomy” and sexual assault.

Figure 2: Number of Sodomy Conviction and Their Share in the Total Number of Crimes in Russia (RSFSR), 1934–1981



Notes: This Figure shows with black line the number of convicted individuals under the sodomy laws in Russian Soviet Socialist Republic (RSFSR). The gray dashed line show their share in the total number of convictions in RSFSR in that year. Data for 1950–1960 are not available. Share of sodomy convictions in the total number of convictions in 1961 is also not available, but for whole USSR the total number of sodomy convictions was 705 and their share was 0.09. Source: Table 1 and Table 2 of Healey, 2001, Appendix, pp.261–262.

After the revolution of 1905, with the surge of *all* criminal convictions by 35% the number of people convicted for the sodomy also increased. In total, in 1905–1913, 96 people were convicted for voluntary

¹⁰The punishment was retracting of the titles (i.e., estates) and exile in Siberia. In 1900, the exile was replaced with 4–5 years in prison.

“sodomy” and 408 for involuntary “sodomy.” Most of such cases, however, came outside the territory of modern Russia. Instead, they came from the territory of modern Ukraine and the territory of modern republics of Caucasus and Central Asia. One of the suggested explanations was that such cases were fabricated by the police to arrest political dissidents, especially the pro-independence campaigners. The Bolshevik revolution of 1917 was followed by the Golden Age of Russian queer culture with gay weddings (although not officially recognized) and regular cross-dressing parties. Homosexuality was entirely legal during this period. Stalin criminalize homosexuality in 1935, but the enforcement, as in the pre-revolutionary period was rare. Figure 2 shows the number of “sodomy” convictions in the Soviet Union: they surged in the 1950s, strongly hinting at the role of the Gulag system in promoting homophobic attitudes.

2.3 Amnesty of 1953 and Its Aftermath

After the death of Stalin in 1953, a power struggle within the Soviet elite ensued. Soviet minister of Internal Affairs, Lavrentiy Beria, launched a campaign of reforms to Soviet law enforcement and Gulag system. A part of Beria’s proposed reform package was a sweeping amnesty. Beria’s argument was that the Ministry of Internal Affairs should be free of its “economic responsibilities” (Elie, 2013). Some suspect that Beria advocated for the amnesty for political reasons (Solzhenitsyn, 1974), while others point out that the Gulag system became bloated and unmanageable (Galeotti, 2018). While Beria himself did not survive the post-Stalin power struggle (he was arrested and executed), his idea was implemented: 1,201,738 were freed from convict labor camps in 1953.¹¹

Despite the amnesty’s ambition, its execution was poor. Uncertainty in the rules about who are supposed to be free lead to many career criminals being released. The released individuals were not offered any transportation options to their pre-conviction places of residence so they stayed in the nearby areas prompting the surge in criminality in those places. For example, by June 1, 1953, 5,500 released individuals arrived to a Siberian city of Omsk. In the weeks after that, the wave of assaults followed (70 people were admitted to hospitals with knife wounds). Similar events were happening throughout the country, and the government largely lacked the capacity to intervene (Mamin, 2018).

In this paper, we use the municipal-level exposure to the amnesty as an exogenous shock. We hypothesize that the released individual bring their networks and norms, including the anti-gay attitudes, with them. As they settle in their new homes, they gradually start to influence the attitudes of local population due to high visibility of their activity, immersion in economic and social life, and general weakness of the state.

¹¹https://urokiistorii.ru/history_days/berievskaja-amnistija.

3 Data

3.1 Household, Income and Labour Dynamics in Australia (HILDA) Survey

To investigate the impact of incarceration on the incarcerated individuals, we use Australian Household, Income and Labour Dynamics in Australia (HILDA) survey. It offers a nationally representative sample of individuals that it follows since 2001. Our primary reason for using this survey is that, unlike other longitudinal survey from other countries (such as RLMS in Russia, GSOEP in Germany, and BHPS in the UK) it offers questions on whether the respondent had been incarcerated (as well as respondent’s family members), and also the question about the attitudes towards homosexual individuals. Thus it allows us to observe the LGBTQ+ related attitudes before and after incarceration.

The question that we use for the measure of intolerance is as follows: “Please, on a scale from 0 (strongly disagree) to 5 (strongly agree), to which extent do you agree with the statement that homosexuals should have equal rights?” As a result, we use an ordinal variable varying from 0 to 5. The question was asked not in all years from 2001 to 2019; it was only asked in in 2005, 2008, 2011, and 2019. Hence, we restrict our data to only these years.

The question about incarceration asks whether person “was in prison/jail during the last year.” We assume that being in prison, is an absorbing state because that person already experienced life in prison. Thus for each of the five periods, we create dummy variable Was in Prison $_{i,t}$ equal to 1 if the person has answered that he/she was in prison in any year prior to year t (including years for which we don’t have data on gay attitudes). Similarly, we construct dummy for individuals whose family members served term in prison and returned.

3.2 Gulag Data

The data on location of Gulag camps come from [Mikhailova \(2012\)](#), who uses the data collected by Russian non-government organization “Memorial.” Researchers of “Memorial” had compiled the locations and yearly estimates of numbers of prisoners for 460 out of 475 Gulag camps located in the Soviet Union. For every camp, we take the difference between its population between 1954 and 1952 to estimate the number of pardoned prisoners from each labor camp.

3.3 Data on attitude toward homosexual individuals in Russia

We use three measures to capture attitudes toward homosexuals in Russia. All three measures are computed using recent (2006–2021) years. These measures capture different aspects of homophobia and estimating the effect of amnesty of 1953 on all three of them is important for measuring anti-gay attitudes.

Hate crimes First, we use location of hate crimes against LGBTQ+ persons collected by [Kondakov \(2017, 2019\)](#) in which the motive of hate against LGBTQ+ persons was established by a court. These data contain

all locations that had a hate crime gay persons in 2010–2015. We were able to uniquely match these locations to our sample of Russian municipalities.

The limitation of this data is that it does not include the number of hate crimes, just the incidence, thus we can only construct a dummy for a hate crime. In addition, it may have non-classical measurement error. In more homophobic areas, the court can be more homophobic and not count crime as a hate crime, or police may not register crime at all. In this case, we may underestimate the number of hate crimes in areas more affected by the amnesty of 1953, and would work against us finding positive effect of amnesty on incidence of hate crimes.

Homophobic Slurs on Social Media Another way to measure the geography of homophobia is to look at social media. The most popular social media website in Russia is vk.com (also known as vkontakte). It has more than 38 million users (more than 1/3 of Russian internet audience). It is the fourth most popular website in Russia after Yandex (local search-engine), Google, and Youtube.¹² Vk.com’s application programming interface allows scraping 1,000 latest public posts by the coordinates of the places of their authors. Thus, we have scraped those and calculated the prevalence of the three most common derogatory terms used against homosexual persons.

Survey Data We use five representative surveys of Russian population from 2006 to 2017 that has question about attitudes toward homosexuals and location of the respondent. Survey data comes from three different sources: 7th wave (2017) of the World Value Survey (WVS), 2nd (2010) and 3rd (2016) wave of Life in Transition Survey (LITS), and the Courier survey by Levada Center (the Courier) for 2013 and 2015.¹³ While all three organizations that conducted the survey are different, the surveys are representative and have the same wording of the question about the attitudes toward homosexuals.

In WVS and LITS, the question we use is asked as follows: "On this list are various groups of people. Could you please mention any that you would not like to have as neighbours?" Homosexuals is one of the groups that is proposed by the questionnaire. We construct our main variable of interest – *Intolerance_i* — as a dummy variable equal to one if the respondent mentions homosexuals, and zero otherwise. In the Courier the question is asked in a slightly different manner: "Would [you] like having people from this group [Homosexuals] as neighbours, dislike it, or not care?" If a respondent answered that they dislike having gay neighbours, we assign the value of 1 to the *Intolerance_i* and 0 otherwise.

Survey-based question asks only about residential preferences and not, for example, about labor market discrimination (whether the respondent would hire a gay person) or political preferences (whether the respondent would vote for a gay person). It is quite unlikely, however, that anti-gay sentiments this question registers are confined solely to residential preferences and do not translate to other areas. Another potential

¹²<https://popsters.ru/blog/post/auditoriya-socsetey-v-rossii>.

¹³WVS and LITS have other waves with questions about attitudes toward homosexuals but they don’t have respondent’s coordinates or city name to assign the treatment. The courier has several other surveys with locations but with different questions such as we can’t combine them other surveys.

problem is social desirability bias. Given that homosexuality is currently politicized in Russia in various ways, it is possible that people feel pressured to provide a particular answer; however, it is unlikely that this measurement errors is also correlated with the exposure to the amnesty of 1953.

Overall our three measures capture three different aspects of the attitudes toward homosexuality and while each of them is limited in scope, together they show big picture. And while each of them may have measurement error issues, they are of a different nature, thus robust results for all three measures would be indicative that these measurement errors are unlikely to be correlated with our treatment.

Sample Size Because our treatment is computed on the location level, we also compute our outcomes at the location level. Russia has more than 144,000 designated municipalities. We restrict our sample of locations to those with at least 1,000 people in it.¹⁴ The resulting sample of cities, towns, and villages is 10,137. Hence, we compute two of our outcomes — hate crimes against LGBTQ+ people and incidence of homophobic slur — for each of these locations. The third outcome — intolerance from the representative surveys — is estimated on the individual level, but the treatment is computed on the respondent’s location level, hence we use only 495 locations there.

4 Effect of Prisons on Individual Outcomes: Evidence from Longitudinal Data from Australia

To establish the link between the prison experience and anti-gay attitudes, we first turn to an individual-level, longitudinal analysis. In this Section, we use the Australian longitudinal HILDA survey, and identify the effect of prison from within-individual variation. This analysis allows us to estimate the effect of prison on anti-gay attitudes of men and women, and the effect of prison on their household members. This specification also allows to directly test whether anti-gay individuals more likely end up in prison, thereby corroborating absence of pre-existing trends in anti-gay attitudes.

4.1 Empirical Specification With The Longitudinal Survey Data

We construct a panel dataset of individuals for years five years: 2005, 2008, 2011, 2015, and 2019. We estimate the following equation:

$$\text{Equal Rights}_{i,t} = \beta \cdot \mathbb{1}(\text{Was in Prison})_{i,t} + \mu_{s,t} + \eta X_{i,t} + \varepsilon_{i,t}, \quad (1)$$

where $\text{Equal Rights}_{i,t}$ is the dependent variable measuring the level of support for homosexuals having equal right (from 0 to 5) by respondent i in year $t \in 2005, 2008, 2011, 2015, 2019$. Because our main dependent variable is categorical and varies from 0 (strongly disagree) to 6 (strongly agree), for the sake of interpretability

¹⁴We arbitrary chose 1,000 population cut-off due to complications in scraping the racial slur in social media: it would introduce measurement errors when misidentifying users in a very small Russian villages.

ity, we normalize it to have mean 0 and standard deviation of 1. In Equation (1), we set up a model of the impact of being in prison, as measured by β , on outcomes for the individual i in year t , conditional on state-specific time trends ($\mu_{s,t}$) and individual controls ($X_{i,t}$). The variable $\mathbb{1}(\text{Was in Prison})_{i,t}$ is equal to 1 if the respondent was ever in prison prior to time t .¹⁵ We cluster our standard errors on respondents' level.

4.2 Estimates from the Longitudinal Data

Table 1 shows the results of the estimation of Equation 1. Columns I–IV estimate it for the sample of male respondents. In Column I, we only use respondent and year fixed effects. We show that being in prison is associated with 15.8-standard deviation decrease in the probability of respondent thinking that gay people should have equal rights. In Columns II–IV, we sequentially add controls for demographic and socio-economic variables. We control for year-of-birth fixed effect to address age specific trends that can make people more anti-gay and end up in prison. We also control for state-year fixed effects to address possible changes in states' legislation and public goods provision. Finally, we control on lagged income to address possible changes in income that can make person more likely to commit a crime and change his attitudes toward minorities. The coefficient estimate for the prison-experience dummy remains almost identical compared to Column I.

Columns V–VIII estimate Equation 1 on the sample of female respondents. The resulting coefficient is almost twice as small relative to the coefficient for the male respondents, and is not significant across all Columns. This suggest, that prison experience only affects anti-gay sentiments of men while women released from prison do not become more intolerant. This result is consistent with the masculinity mechanism described in Section 2.

Table 1: Men That Went To Prison Become more Anti-Gay

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	Dependent variable: Homosexuals should have equal rights											
Sample	Men				Women				All			
1(Respondent was in prison)	-0.158*** (0.058)	-0.158*** (0.058)	-0.158*** (0.059)	-0.157*** (0.059)	-0.095 (0.058)	-0.095 (0.058)	-0.094 (0.058)	-0.094 (0.058)				
1(Respondent's close family member was in prison)									-0.023* (0.013)	-0.023* (0.013)	-0.022* (0.013)	-0.022* (0.013)
Respondent FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-of-birth FEs		✓	✓	✓		✓	✓	✓		✓	✓	✓
State-Year FEs			✓	✓			✓	✓			✓	✓
Income				✓				✓				✓
Female FEs									✓	✓	✓	✓
R-squared	0.751	0.751	0.751	0.751	0.767	0.767	0.768	0.768	0.764	0.764	0.764	0.764
Observations	28,564	28,564	28,564	28,564	32,974	32,974	32,974	32,974	61,538	61,538	61,538	61,538

Notes: Standard errors clustered at the individual level, are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Finally, Columns IX–XII estimate Equation 1 on the sample of all respondents, but instead of main explanatory variable $\mathbb{1}(\text{Was in Prison})_{i,t}$ we use variable $\mathbb{1}(\text{Family member in Prison})_{i,t}$. It is equal to one if a close family member of a respondent i was ever in prison before year t . We find, that any respondent

¹⁵Our dummy for prison correctly measures respondent's prison history because while the question about attitudes to gays is asked in five times, other questions, including whether the respondent was in prison, are available for all years: 2001–2019.

(both men and women) become more anti-gay if a member of their household returns from prison.¹⁶ Family members of ex-prisoner decrease their support for equal rights for gays by 2.3 percent of a standard deviation. This effect is smaller than the direct effect of the male experienced prison by himself but is still statistically significant, consistently across all specification.

Within-person variation and rich set of controls allow us to address most likely source of unobserved trends that can possibly correlate with the higher probability of ending up in prison and developing anti-gay attitudes. The biggest concern that can invalidate our result is that anti-gay persons are just more likely to be criminals and end up incarcerated. We address this alternative explanation by estimating the following specification:

$$\mathbb{1}(\text{Incarceration})_{i,t} = \beta \cdot \text{Equal Rights}_{i,t-1} + \mu_{s,t} + \eta X_{i,t} + \varepsilon_{i,t}. \quad (2)$$

In comparison to specification in Equation 1, here we use all years from 2006 to 2019. Our dependent variable is equal to 1 if respondent i is incarcerated in year t . The main explanatory variable $\text{Equal Rights}_{i,t-1}$ measures respondent's i attitudes toward gay rights in the previous available period.¹⁷ Table A.1 presents the results. We find that men with anti-gay sentiments (Columns I–IV) and women (Columns V–VIII) are not more likely to be incarcerated. Similarly, anti-gay households also are not likely to have a family member incarcerated (Columns IX–XII).

The results in this section show men that went to prison become more anti-gay but women do not. The effect is not driven by individual or economic characteristics, or by anti-gay people being also more likely to be incarcerated. We document that homophobia spreads from ex-prisoners to other household members but the magnitude of this second-order effect is smaller.

5 Effect of Amnesty of 1953 on the Homophobia in Russia

In this section, we report the results of the regression analysis for the effect of amnesty of 1953 on homophobic attitudes in Russia. Section 5.1 introduces our empirical specification and identification. Section 5.2 reports the main results. Section 5.3 contains robustness and sensitivity checks.

5.1 Empirical Specification and Identification

We estimate the following specification:

$$y_i = \beta \cdot \text{Exposure to amnesty}_{i,1954-52} + \gamma \cdot \text{Min. distance to Gulag}_i + \eta X_i + \varepsilon_i, \quad (3)$$

¹⁶In this specification we do not know, whether returned-from-prison family member is man or woman. As a result we are attenuating our coefficient, because the more precise way to estimate the spread of the anti-gay sentiments among the family members would be to use the dummy for only returned *male* ex-prisoner.

¹⁷Thus for the periods 2006–2008, it is measured as respondent's gay rights attitude in year 2005, for the period 2009–2011 — in 2008, for 2012–2015 — in 2011, and for 2016–2019 — in 2015.

where y_i is one of our measures of intolerance toward gay persons in location i . Our main explanatory variable — Exposure to amnesty $_{i,1954-52} \equiv \sum_{g \in G} \left(\frac{\ln(\# \text{ released}_{g,1954-52})}{\ln(\text{Distance}_{i,g})} \right)$ — is the exposure to the amnesty of 1953. We compute it in a way that each location in Russia is treated by *all* released prisoners from *all* Gulag camps, but released prisoners from the camps that located farther away are counted with smaller weights than prisoners released from a nearby camp. Hence for each location i we sum released prisoners in all camps weighted by distance from each camp to the location i .

Because Gulag locations were endogenous to economic geography of the Soviet Union, weighting by distance to Gulag camps may confound our results. For example, a location near Gulag’s labor camp may become industrial center with large number of low-skilled manufacturing workers who are homophobic due to socio-economic conditions rather than amnesty of 1953 but because our measure of exposure to amnesty is correlated to distance to that nearby camp we will capture the effect of gulag on economy rather than prison culture. To address this concern we always control for the Min. distance to Gulag $_i$. Thus the effect we capture is not explained by the presence of gulag and its influence of local economy but rather the magnitude of the amnesty from nearby camps. Note, that controlling for the distance to a nearest labor camp does not address the fact that amnesty may affect homophobia not through prison culture but through change in economic conditions due to inflow of large number of ex-prisoners. We show that our results are not driven by this explanation separately in Section 5.3.

We also control for a set of geographic controls (X_i) such as population, coordinates, and Russian classification of municipalities (regional capital, city, township, and big (poselok) or small (selo) village). As our treatment is on location level, we use robust standard errors for specifications where our observation is location (for crimes against LGBTQ+ and homophobic slur in VK) and cluster by location for specification with survey data.¹⁸

5.2 Results

Table 2 presents our results on location level. The dependent variable in Panel A is a dummy for crimes against gay persons. The dependent variable in Panel B is log of the number of mentions of homophobic slur in the last 1,000 posts in vk.com. To make our coefficient of interest more interpretable we normalize exposure to amnesty to have mean 0 and standard deviation of 1.

Column I of Panel A reports results of the bivariate regression. Comparing two towns, one at the 25th percentile and the other at the 75th percentile of exposure to amnesty of 1953, the more exposed location would experience a 0.6-percentage-point increase (39 percent of the mean) in the probability of a hate crime. The coefficient of interest remains stable when we add additional controls in Columns II–V. Panel B replicates Panel A but for log number of homophobic slur as the dependent variable. Comparing two locations, one at the 25th percentile and the other at the 75th percentile of exposure to amnesty of 1953, the more exposed

¹⁸Here our results also hold if we cluster all specifications by region (oblast’) or use HAC spacial standard errors. We do not have a preference for which standard errors to use but since all works we chose the most intuitive method.

location would experience a 2-percent increase (80 percent of the mean) in the number of homophobic slur in social media.

Table 2: Locations More Exposed to Amnesty of 1953 are More Homophobic Now: Hate Crimes and Homophobic Slur in Social Media

	I	II	III	IV	V
<i>Panel A:</i>					
	Dependent variable: 1(Crime against LGBTQ+)				
Exposure to 1953 Amnesty	0.0040*** (0.0015)	0.0038** (0.0015)	0.0032** (0.0015)	0.0031* (0.0018)	0.0039* (0.0023)
R-squared	0.001	0.002	0.002	0.002	0.034
Observations	10,137	10,137	10,137	10,137	10,137
<i>Panel B:</i>					
	Dependent variable: Log # homophobic slur in VK				
Exposure to 1953 Amnesty	0.0227*** (0.0053)	0.0166*** (0.0045)	0.0137*** (0.0044)	0.0117** (0.0055)	0.0114** (0.0054)
R-squared	0.008	0.101	0.102	0.103	0.112
Observations	10,137	10,137	10,137	10,137	10,137
Log population		✓	✓	✓	✓
Min. distance to Gulag camp			✓	✓	✓
Latitude & longitude				✓	✓
Location type					✓

Notes: Standard errors clustered at the province level, are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 3 presents results with the survey data on individual intolerance toward homosexuals. Column I only includes survey fixed effects. The resulting coefficient is positive but insignificant. On inclusion of the minimum distance to labor camp in Column II the coefficient increases in magnitude and becomes significant. It remains significant when we include demographic and geographical controls in Columns III–VI. The resulting interquartile difference in exposure to amnesty of 1953 suggests that the more exposed location would experience a 8.2-percentage-point increase (12 percent of the mean) in the probability of a respondent being intolerant toward gay persons.

Overall, we find that exposure to amnesty of 1953 positively affects all three measures of intolerance toward homosexuals. The effect is statistically significant and explains a large share of the variation in these variables. As these measures are based on different dimensions of discrimination of gay persons and generated by different data-generation processes we see this as a compelling evidence that amnesty of 1953 had a profound effect on cultural acceptance of homosexuality in Russia.

Table 3: Locations More Exposed to Amnesty of 1953 are More Homophobic: Survey Data

	I	II	III	IV	V	VI
	Dependent variable: 1(Dislike homosexuals)					
Exposure to 1953 amnesty	0.052 (0.035)	0.066* (0.037)	0.065* (0.038)	0.061* (0.037)	0.059* (0.037)	0.057* (0.037)
R-squared	0.090	0.091	0.093	0.099	0.106	0.107
Observations	6,522	6,522	6,522	6,522	6,522	6,522
Survey-wave FEs	✓	✓	✓	✓	✓	✓
Min. distance to labor camp		✓	✓	✓	✓	✓
Demographic controls			✓	✓	✓	✓
Ethnicity FEs				✓	✓	✓
Religion FEs					✓	✓
Coordinates						✓

Notes: Standard errors clustered at the location level, are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

5.3 Mechanisms and Alternative Explanations

In this section, we address possible alternative explanations for our effects. Then we discuss possible mechanisms of how amnesty affected attitudes toward gays.

5.3.1 Endogenous Proximity to Gulag Camps

Locations closer to Gulag camps may be different in terms of local economic composition. There is consistent evidence that gulag labor camps were strategically placed to supply coerced labor force for big industrial construction sites, timber production, mines, water channels and railroad construction (Gregory and Lazarev, 2013; Gallen, 2019). As a result it (differentially) affected long-run economic development of these locations (Mikhailova, 2012) and, because modernization is generally associated with more inclusive values (Inglehart and Welzel, 2005), could affect cultural norms such as attitudes toward gays.

Our specification, however, allows us to directly control for endogenous location of Gulag labor camps by controlling on distance to a closest labor camp and coordinates of the location.¹⁹ This is possible, because our identifying variation comes from random number of pardoned criminals of that unique amnesty rather than exposure to a labor camp itself. As a result, while existence of labor camp could affect (both, positively and negatively) attitudes toward gays directly through economic development of the region, our specification absorbs this effect. And while we can't identify it separately but it does not confound our results.

Overall, our effect is driven by the variation in amnesty rather than anything else. However, whether its effect on homophobia is driven by prison culture or through the effect of ex-prisoners on local economic condition remains, and we provide the evidence in support of the former and against the latter in the next sections.

¹⁹We use all labor camps locations when compute this minimal distance even if the camp was already closed by 1953. We do so because our intention is to absorb confounding effect of endogenous labor camp location and omitting already closed camps would introduce non-classical measurement error. Although results hold if we only measure minimal distance to the nearby existing camp, or if we use a number of labor camps within 100 kilometer radius.

5.3.2 Economic Underdevelopment as a Mechanism

Possibly, the most important concern is that amnesty itself affected local economic development as ex-convicts could devastate economic growth through criminal activities. We address this concern by showing that conditional on distance to nearest labor camp, exposure to the amnesty does not correlate with the economic outcomes. Table A.2 replicates Table 2 but uses log average salary as the main dependent variable. We see that exposure to amnesty is positively associated with wages in 2010 in a specification without any controls (Column I), but conditional on the population, the significance disappears (Column II). Adding additional controls make the resulting coefficient even smaller and magnitude and it remains insignificant. These results suggest, that the effect of amnesty on economy was not economically strong and the long-run economic development is likely to be driven only by the existence of labor camps rather than how many people were pardoned in 1953.

5.3.3 Family History and Gulag Camps as a Mechanism

In this section we provide evidence that prison culture is the mechanism behind the effect of amnesty on changes in attitudes toward gays.

The 3rd LITS survey (2016) contains the question about whether respondent's immediate family members served sentence in labor camps. We use this question to estimate the effect of having immediate family member (parents or grand-parents) in labor camps on respondent's anti-gay attitudes. Table A.3 reports the results of this regression with and without demographic and geographical controls.²⁰ We strong first positive correlation, suggesting that descendants of gulag camps prisoners are more likely to be intolerant toward gays even conditionally on such factors as income and education.²¹

Overall, our result suggest, that it was male prison culture that was the defining mechanism of the effect of amnesty of 1953 on homophobia in Russia.

6 Discussion and Conclusion

This paper makes a simple claim: prisons promote homophobia among men, and, if the incarceration rate is high enough in the country, the attitudes that emerge in prisons, get transmitted to the general population and exert a long-run influence on the hostility towards LGBTQ+ individuals.

We substantiate this claim in several ways. First, using longitudinal survey data from Australia, we confirm that men (but not women) who has been to a prison become more homophobic after they served their time than they had been before. The same empirical pattern is observed for the members of their families. Second, turn to investigating potential transmission of the anti-gay norms to the general population. To demonstrate such phenomenon takes place, we need an event in which many geographical locations in a

²⁰We use the same set of controls as in the baseline survey-data Table 3 but we do not include survey-wave-year fixed effects because we only have one wave with this question.

²¹The effect is possibly attenuated as we do not know whether imprisoned ancestors were men or women.

country are exogenously exposed to the influx of people with prison experiences. We use the Soviet amnesty of 1953 that freed 53 percent of Gulag prisoners as an example of such event. We find that places more exposed to the amnesty are more likely to have instances of hate crimes against LGBTQ+ individuals, have higher rate of homophobic slurs on social media, and higher level of anti-gay sentiments expressed in the representative surveys.

Our result demonstrate an important source of homophobia that was previously under-explored in the quantitative studies: prisons. When policy makers contemplate new reforms that can potentially increase the number of incarcerated individuals, they should take into account the long-run effect this might have on the level of anti-LGBTQ+ intolerance.

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Online Appendix
to
“Prisons and Homophobia”

A Additional Results

Table A.1: Homophobic Persons Are Not More Likely To Be Incarcerated

	I	II	III	IV	V	VI	VII	VIII	IX
	Dependent variable:								
	1(Respondent went to prison)								1(Respond
Sample	Men				Women				
Homosexuals should have equal rights	-0.0004 (0.00042)	-0.0004 (0.00042)	-0.0004 (0.00042)	-0.0004 (0.00042)	0.0001 (0.00029)	0.0001 (0.00029)	0.0001 (0.00029)	0.0000 (0.00029)	-0.0006 (0.00078)
Respondent FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year-of-birth FEs		✓	✓	✓		✓	✓	✓	
State-Year FEs			✓	✓			✓	✓	
Income				✓				✓	
Female FEs									✓
R-squared	86,873	86,873	86,873	86,873	100,122	100,122	100,122	100,122	187,005
Observations	0.233	0.233	0.234	0.234	0.194	0.194	0.194	0.194	0.301

Notes: Standard errors clustered at the individual level, are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A.2: Exposure to Amnesty 1953 Did Not Affect Local Economic Conditions in 2010

	I	II	III	IV	V
	Dependent variable: Log average monthly salary				
Exposure to 1953 Amnesty	0.8762* (0.5069)	0.8106 (0.5019)	0.7141 (0.4697)	0.2308 (0.4165)	0.2751 (0.4000)
R-squared	0.033	0.090	0.094	0.110	0.164
Observations	5,665	5,665	5,665	5,665	5,665
Log population		✓	✓	✓	✓
Min. distance to Gulag camp			✓	✓	✓
Latitude & longitude				✓	✓
Location type					✓

Notes: Standard errors clustered at the location level, are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A.3: Respondents Whose Immediate Relatives Were in Labor Camps are More Homophobic: Survey Data (LITS, 2016)

	I	II	III	IV	V	VI
	Dependent variable: 1(Dislike homosexuals)					
Parents/Grandparents sent to labor camp	0.220*** (0.064)	0.213*** (0.066)	0.201*** (0.057)	0.205*** (0.058)	0.203*** (0.056)	0.202*** (0.058)
R-squared	0.067	0.073	0.075	0.080	0.093	0.095
Observations	1,507	1,507	1,507	1,507	1,507	1,507
Min. distance to labor camp		✓	✓	✓	✓	✓
Demographic controls			✓	✓	✓	✓
Ethnicity FEs				✓	✓	✓
Religion FEs					✓	✓
Coordinates						✓

Notes: Standard errors clustered at the location level, are in parentheses. *** p<0.01, ** p<0.05, * p<0.1