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Elections in Modern Russia

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Abstract:

The paper studies the long run effect of Soviet forced labor camp system, known as Gulag, on political outcomes in Russia. We test the hypothesis that in districts where the camps were located the rate of support for communist party is lower as compared to other districts. Regression analysis suggests that the effect is significant and negative for the presidential elections of 1996. The effect is also negative onto 1991 March Referendum voting for the preservation of USSR. The possible explanation for this relationship is that communist regime was largely discredited by the Gulag system. We show, that individuals being more affected by the past in districts of camps allocation today exhibit less support for communist ideas. The effect becomes stronger with the higher wages and the higher level of education. In general the result seems to be pretty robust and consistent with the hypothesis.

Introduction

The collapse of the USSR has been one of the central events that marked the end of the twentieth century. Russian society experienced large and persistent shocks through 1920s, 1930s, and during the war and postwar era. These are Stalinist Purges of the 1930s, collectivization of agriculture and great famine of 1932, grain restriction policies, and of course, penal labor system of Gulag, which became the “narcotic for the economy”¹. Can these dramatic events, Gulag camps in particular, have a substantial effect on political outcomes after the collapse of Union of Soviet Socialist Republics (USSR)?

A large body of evidence suggests the enduring effects of negative shocks and crises. For example, Nunn (2006) finds strong negative causal relationship between the slave trade in Africa between 1400 and 1900 and subsequent economic performance of the countries. Nunn, Wantchekon (2009) explore the historical origins of mistrust within Africa and report the evidence for the fact that individuals whose relatives were heavily raided during the slave trade exhibit less trust in neighbors, relatives and their local government².

The question we are going to answer touches upon the literature about elections. This is the political science literature which offers a wide generalization of the factors that can influence the voting behavior. The factors and their influence differ from country to country and even from election to election, but generally they are political attitudes and party identification, economic conditions, and social structure (White, Rose, McAllister (1997)). The voting behavior during the elections in post-communist countries is of special interest because most of the voters lived under two regimes and their political preferences may be influenced by the past experience more

¹ Gregory and Lazarev (2007), Ch. 3, p.65

² For further references of the literature about the enduring effects of negative shocks or crises one can read Acemoglu et al. (2009).

than in any other country. Winston Churchill argued even if the performance of the new democracy may be unsatisfactory, it can nonetheless be preferable if it appears as a lesser evil when compared with other alternatives³. In the case of Russia, in the 90s people were facing the choice whether to preserve the communist regime or to try to build a new democratic society and give way to market reforms. It is possible that past was taken into serious consideration when Russians compared these two “evils” and made their choices. In support of this view, Rose, Tikhomirov and Mishler (1997) consider to be naive focusing exclusively on current events, current personalities and current politics when assessing how people in Russia evaluate parties. Russians, as they argue, lacking stable political preferences in 90s, had a stable view about pre-perestroika past. That is why people from families that suffered from penal labor system Gulag in Soviet Union may have had strong anti-communist preferences during the 90s and even today.

Still, to our knowledge, no research was done about the long-run effects of Gulag system persisting today. The papers about Russian penal system of those years have mostly descriptive character; this especially applies to those published before the collapse of the USSR⁴. As far as we are concerned, there are two main projects about Gulag running at the moment. The first is conducted by non-profit organization “Memorial”, which offers to the public the handbook of Gulag with information about the location of penal institutions and number of prisoners. The other one is done by the school of geography and the environment of Oxford University. It is called “Women in the Russian Penal System: The role of distance in the theory and practice of imprisonment in late Soviet and post-Soviet Russia”. To date they managed to collect data about the distribution of penal institutions and penal populations for the period 1929 to 1961 and from

³ For an exposition see Rose and Mishler (1996), pp. 29-58.

⁴ For example, Harris (1997) gives a detailed description, Blyth (1995) applies Bayesian framework for analyzing available data in order to recover the probability distribution of the number of deaths, Rosefield (1981) is a good example of debatable article about forced labor in early 80s.

1998 to the present day and draw them on the map. As we are aware, the hypothesis that the Gulag may have enduring and quantifiable effect on political or economic outcomes of present Russia appears not to have been tested previously⁵.

In this paper we explore a statistical association between the Soviet penal labor system Gulag and long-run political outcomes in Russia. In particular, we examine how the system of Gulag may affected the presidential and parliamentary election outcomes in Russia throughout the years 1995, 1996, 1999 and 2003 and 1991 March Referendum voting for the preservation of USSR.

The paper is organized as follows. First, we give the historical background. Second, we formulate the hypotheses and set the basic framework. In the next part we describe the data and their sources. Then, we test the hypothesis and discuss the results. The last section concludes.

Historical Background

The system of Gulag lasted as long as the Soviet Union itself. First this term was used for administrative organ “Chief Administration of Camps”, but then it was extended to stand for the whole system of penal labor including ITLs (Corrective Labor Camps), labor colonies, camps for political prisoners, women and children, transit camps. In 1918, after the revolution, Lenin ordered to imprison those who opposed the regime in special camps near big cities. By the year 1921, there existed 84 forced labor camps in 34 provinces, whose aim was to re-educate “the enemies” (Eplbaum, 2006). But historians usually trace the origins of Gulag to the Politburo resolution of June 27, 1929 “On the Use of the Labor of Convicted Criminals”, which aim was to

⁵ Acemoglu et al. (2009) notes, that political scientists have investigated the role of various historical factors in post-transition Russia. They refer to the essays in Ekiert and Hanson, 2003, Wittenberg, 2006 and Pop-Eleches, 2007, but the idea of Gulag’s long run effects appears to be not discussed.

supplement Solovestky camp of Special destination (SLON), established in 1920, with other camps in order to form the system of penal labor. Gulag flourished under Stalin's ruling during the years 1929 – 1953 and was liquidated soon after the death of the leader by Beria. The maximal number of inmates of Gulag's ITLs and Correctional labor colonies for whole period of existence was about 2.5 million at the beginning of the year 1950⁶. Some of the divisions were not liquidated until 90s. Today we know that there were organized at least 476 separate forced labor camps, some of them comprising hundreds, even thousands of camp units on the territory of former USSR⁷. There were also several camps located outside of the Soviet Union in Czechoslovakia, Hungary, Poland and Mongolia under the direct control of Gulag⁸. In this paper we study forced labor camps allocated on the territory of Russia only.

Hypothesis

The main hypothesis we are going to test here is whether in districts⁹ where the Gulag camps existed the rate of support for communist candidates is lower since the collapse of the Soviet Union as compared to other districts. The rate of support can be measured as the percentage of votes for communists. To identify the effect of camps we employ the geographical variation of camps allocation on the territory of modern Russia. The main independent variable can be either a dummy on Gulag camps, or the number of camps in the district.

⁶ Земсков В.Н. (1991), p.3-16

⁷ Eplbaum (2006), p 13. We further document a smaller number of camps. There is no contradiction, because we do not count for the reorganization of forced labor camps and the newly camps inside the old ones to avoid double counting.

⁸ <http://www.knowledgerush.com/kr/encyclopedia/Gulag/>

⁹ Under the district we imply "район" (район) or city (город)

What is the possible channel of camps' effect on distribution of political votes? The literature suggests that trust of people to each other and to their government may be dependent on the previous history of development. In their paper Nunn and Wantchekon (2009) find negative effect of slavery on trust between people in Africa. Similarly, the voting process is by large the issue of political trust. It may be possible, that those Russians, whose relatives and friends suffered from the communist regime, may be opposed to communist ideas and vote against communist party and its representatives. In other words, the memory about Gulag undermines the trust in communist party. So, people do not vote for communists because they do not want the reversal of market reforms and the return to communist regime, largely discredited by the Gulag system. If it is the case, then we should expect that electorate vote less for the communist party and its representatives in districts of former forced labor camps allocation, i.e. in districts where the memory of Gulag is more vivid.

There are several reasons why Gulag might still have the impact on electorate preferences. In Soviet Union those people who were set free could not move far from the place where their forced labor camp was allocated. Many former inmates received "wolf tickets" (volchiy bilet¹⁰) and were only allowed to live a minimum of 101 km away from the large urban centers¹¹. Besides, the level of migration in USSR was small (mainly forced or labor migration). This gives us the reason to suggest that people who lived in districts with camps carried forward the memory about Gulag and shaped the views about the communist regime. The guards of Gulag are another important source of information about camps, because they were usually local citizens and lived there for life, as well as their ascendants. Besides, the remains of camps' infrastructure are a good reminder of the past events to people living in these districts today.

¹⁰ It is a document issued in place of a passport to persons released from imprisonment. Usually this kind of document restricted the rights of a citizen in terms of place of residence, occupation, etc.

¹¹ This was true only for big cities and not for all Gulag inmates.

The effect of camps on political preferences may also vary across the country. For example, people with high education have better knowledge of the history, Gulag in particular, they might have more independent thinking and their personal judgements about the communist past. The effect of camps might increase with the level of education. Then, when people are better-off, they see the former regime as a greater evil because they managed to adjust to the new environment. But if the new regime induces more dissatisfaction, worse social and economic conditions with high level of criminality, then voters might put less weight to the past mistakes of the communist regime such as Gulag. As a result, the effect of camps might be larger in economically and socially better places. To address these questions, we use three interaction terms and try to identify the source of variation of the camps' effect.

Our hypothesis can be tested on the official election data. The more ideological the elections were the stronger effect of Gulag we should expect.

For our main purpose we can also use the percentage of votes in favor of the preservation of the Soviet Union in the 1991 March Referendum. The data is available on the region-level. All in all, there are 32 regions out of 86 in the sample without forced labor camps. This makes the check for referendum voting feasible.

We also consider another set of data describing elections of middle 90s and early 2000s. The great advantage of this data is that it is more detailed being represented on the level of TIKs (local electoral commissions). Though the referendum data may give more precise estimates of the effect of Gulag through the resistance to reforms channel, the communist politicians were inexorably associated with an antidemocratic authoritarian regime and their vote share is likely to be correlated with the anti-reform and anti-communist sentiment throughout 90s. An important feature that we demand from these elections is a high level of ideological component, the confrontation of market reformers and communists. We do not insist that this is necessarily

true for the elections of 2003. Moreover, we keep in mind that the effect we are trying to measure is very long-run and the shock should be very persistent for the effect to be seen after a long period of time. In fact, we estimate the effect of what had happened in the middle of the twentieth century on the last decade of the century. The persistence of the shocks plays the primary role in this case.

The evidence we present here is based on historical correlations. Although we cannot prove that this statistical magnitude is not ruled by other factors, the overall pattern appears generally robust across many specifications and different sets of data.

The Data

Forced Labor Camps Data

The data about Gulag camps, its prisoners and projects were secret information before the collapse of the Soviet Union. The source of information available at the moment is the Government Archives of Russia – the funds NKVD-MVD and Gulag fund. All the data we use here is taken from the handbook of Gulag, comprised by non-government organization “Memorial”¹² on the basis of archive data. It classifies the objects of Gulag into *glavki*, administration of NKVD-MVD (*управление в непосредственном подчинении НКВД–МВД*), *glavk administration* (*управление на правах главка*), Corrective Labor Camps (called *ITLs*), Special Camps (*Osoblagi*), Camp Departments (*lagernoe otделение*, called *LO*), Camp Settlement (*otdelny lagerny punkt*, *OLP*), territorial department of corrective labor colonies (*OITK*), territorial administration of corrective labor camps and colonies (*территориальное управление исправительно-трудовых лагерей и колоний*, *UITLK*). We know that almost all prisoners were confined either in Corrective Labor Camps (*ITLs*), or in labor colonies also

¹² all the information is available through their site in the Internet

known as general places of confinement¹³. Hence, we use all types of camps from the group “Camp administrations and camp departments of central subordination” (“*Управления лагерей, лагерные отделения центрального подчинения*”), which includes ITLs of different subordination, *Osoblagi*, *LO*, *OLP*. We will not use administrations and *glavki*, because they contained the same ITLs by structure we already counted for and they were just a regulatory organ responsible for the number of tasks. All in all, there are 259 units in our sample¹⁴¹⁵. “Memorial” gives the postal address of the camp which allows us to identify the district where the camp was allocated. Thus, every camp is ascribed to one district. The summary statistics for camps (not grouped) is presented in Table 2 in the end of the paper. Since the large number of camps (maximum is 7 in Krasnoyarsk) is rare, we identify three groups with one (camps=1), two (camps=2) and more than two (camps=3) camps in a district. Here we make an important assumption that all kinds of camps (ITLs, LOs, OLPs, Osoblagi) have the same effect, since we do not separate them in a sample. The fact that one camp could have had several OLPs and LOs, arranged not far away from the head department, makes it not correct to count for them as equivalents, but is another argument for making one group of camps “more than two camps”.

In total, we have data for 2240 districts¹⁶, 185 of which had at least one camp. We also have 86 regions¹⁷ and the number of camps aggregated by regions for 1991 March Referendum data.

¹³ Gregory and Lazarev (2007) Ch. 1, p. 8

¹⁴ We see it as a sample because we are not sure that there were no camps we do not know about.

¹⁵ Sometimes the types are not strictly separated, for example GRANITNYY ITL I SPEZIAL'NOE UPR includes both administration and corrective labor camp. In this case we see it as one camp.

¹⁶ That is the maximal sample we have, for the year 1996.

¹⁷ These include republics, autonomous oblasts, okrugs and krays.

The political outcomes

First we employ the presidential election which took place in Russia in summer 1996. After the first round on June, 16 two main candidates were identified - Boris Yeltsin (gained 35% of votes in the first round) and communist challenger Gennady Zyuganov (gained 32% of votes). These candidates met in the runoff round on July, 3. As we know, Boris Yeltsin won this election with 54% of votes. We have the distribution of the second round for each district of Russia, which gives us in total 2240 observations for the year 1996. It is important to emphasize, that Boris Yeltsin did not have any nominating party as compared to Gennady Zyuganov, the communist candidate. This fact is particularly important for estimating the effect of Gulag on the election's outcome, because little time passed since the collapse of USSR and Zugarov was viewed as an apparent heir of the communist regime. The choice in favor of one of the candidates could be definitely formulated as the ideological one. The electorate was confronted with the choice of directions in economic policy – capitalist system or return to communism. This election was the real competition between regimes, it is often called as “the most ideological” one. Those, who were against Zugarov, anticipated that if the communists gain the power, they will restore the former principles of governance they used for almost seventy years before. This view is supported by the results of social survey conducted on the eve in the fall of 1995. It showed that most of the respondents treated CPRF party as “the party of labor origins” and distinguished its socialistic inclination compared to other parties¹⁸. The distribution of votes across districts and the allocation of camps are mapped on Figure 12 in the Appendix.

In December of the year 1995 Russia held the Duma election. In the middle of the 90s Communists were still a highly ardent communist party and its electorate sought for the soviet order. We have 1816 observations of the Communists of USSR party, Communist Party of the

¹⁸ Based on FOM (The Fund of Social Opinion), <http://bd.fom.ru/report/map/of19954203>

Russian Federation and other parties that took part in the elections and the number of camps. Concerning the fairness of 1995 election we know that international observers pronounced the contest free and the counting of votes fair.

The year of the next legislative election is 1999. A lot has changed in the country, the communist party has changed for the past 5 years and won the majority of votes this time. All in all there are 2109 observations with camps (the units of observation are the same).

More distant from the collapse of USSR are legislative elections of 2003. The communist party lost its spirit of ardent communists, only the flavor remained. Thus, we do not expect great magnitude of the effect of camps on voting if any at all.

The results of Referendum about the future of the Soviet Union held on March, 17 in 1991 are publicly available¹⁹. The question put to voters was: “Do you consider necessary the preservation of the Union of Soviet Socialist Republics as a renewed federation of equal sovereign republics in which the rights and freedom of an individual of any nationality will be fully guaranteed?”²⁰ The alternatives were: “For preservation of USSR” and “Against preservation of USSR”. More than 71% of Russians voted in favor²¹. The answers against the preservation of USSR we interpret as the positive attitude towards political and economic reform. So, it is expected that in districts with camps people more willingly vote for the collapse of Soviet Union and the end of communist order. This outcome differs from the elections as the driving reason for voting against the preservation of USSR was the desire for market reforms.

¹⁹ <http://www.electoralgeography.com/new/ru/countries/r/russia/russia-march-referendum-1991.html>

²⁰ <http://soviethistory.org/index.php?page=subject&SubjectID=1991march&Year=1991&Theme=4e6174696f6e616c6974696573&navi=byTheme>

²¹ Stephen White (2010), Soviet nostalgia and Russian politics, *Journal of Eurasian Studies*

The election results we use for the years 1996-2003 are raw data. The distribution of votes is presented on the Figure 11 in the end of the paper. So, following the standard procedure when working with similar data, we deleted from the sample 1% of the votes from the top and 1% from the bottom of votes distribution. This clears our data from possible mistakes and outliers.

Control variables

We have several control variables for each year of elections. One set is the population structure, which may determine the voting preferences in the district. It includes the number of voting population, the percentage of urban and rural population, the number of retirees. All of them except for the last come from election data statistics. The number of retirees is taken from the social statistics of the Ministry of Finance. Geographical controls are the longitude and the latitude of the district centre, the size of the area. Since the large body of evidence suggests that economic indicators influence the voting results, we also employ economic outcome variables at the district level originating from municipality budget statistics of the Ministry of Finance. In particular, we use data on average wages, the number of unemployed population, the number of crimes. But this data is not full as it contains a lot of missing values and has sometimes unbelievable numbers. Region-level data originate from Census of 1989 and Statistics Committee Library. The important control is modern prisons dummy, as we will see later, because in fact Gulag camps were prisons too. Its correlation with camps is 0.17. The information about modern prisons is taken from the Reference book 'Vse Turmy Rossii'. In addition, a control for city (Gorod dummy) might be an important regressor. One of the tasks of Gulag was capital construction, so some of the camps were city forming or they were strategically allocated near big cities, as shown on Figure 13 of the Appendix (for ex., near Archangelsk, Murmansk, Chelyabinsk, Sverdlovsk, Omsk, Novosibirsk, Tomsk, Kemerovo,

Krasnoyarsk, Mosow, Leningrad, Yaroslavl and others²²). The effect of camps could be biased by city effect if we do not control for it.

Descriptive statistics

Tables 1.1 and 1.2 provide descriptive statistics for all variables. For the comparison, the sample is separated into two parts – districts (or regions in case of Referendum data) where camps were allocated and the ones where Gulag's departments never existed. Table 12 in the Appendix provides the description of the variables, while Table 3 gives their pair wise correlations.

The fact that the support of communists is lower in districts where camps existed suggests that these districts differ in political preferences, but we cannot state any causal relationship at this stage. To deal with this we use a variety of strategies. First, we attempt to control for social characteristics, the size of camps and modern prisons in our main specifications. Second, we exploit Referendum data to check for the evidence on region level. Third, we use interactions to look how the effect of camps varies across the country.

The Impact of Gulag Camps on Election Outcomes

To test our hypothesis about the effect of Gulag on long-run political outcomes we compare electorate support for the communist party and its representatives between districts and regions that had and did not have Gulag camps on its territory controlling for different available characteristics of districts and regions.

As a first step we look at the potential effect of Gulag camps on the share of votes for communists. Under the “communists” here we mean either parties (KPRF, Communists of

²² М.Б. Смирнов (1999)

USSR, and Stalin's block - for USSR) or KPRF representative on presidential elections Zupanov. For that purpose we estimate the following econometric model:

$$Comm_i = \beta \cdot Camps_i + \gamma \cdot Controls_i + \delta \cdot D_i + \varepsilon_i,$$

where i denote the unit of observation – district or region in case of Referendum and $Comm_i$ denote communists' votes shares. This specification is run separately for the years 1995, 1996, 1999, 2003 and 1991 March Referendum year. $Camps$ denote either number of Gulag camps (0, 1, 2 or 3) or dummy for camps. $Controls$ denote other control variables in corresponding years and D denote dummies for the region (fixed effects) or for federal district. The coefficient of interest is β , it measures the potential impact of Gulag on the support for communists of population. If the hypothesis we state is true, then the sign of β is expected to be negative. The error term ε captures all omitted influences, including any deviations from linearity, although there is the reason to suggest that the dependence is linear (see Figures 1-4, 9 in the Appendix). Throughout, all standard errors are robust against arbitrary heteroscedasticity. The main specification includes region fixed effects. The percentage of votes for the preservation of USSR is the dependent variable for the 1991 March Referendum. Since the data is region-level, we cannot use here fixed effects, but as for the rest of specification details, it is the same.

Our second interest, however, is whether the effect of camps on support for communists depends on district's social and institutional environment. Thus, as a second step, we introduce interaction effects between camps and variables measuring the income, judicial institutions and human capital. These interaction terms are simply added as an additional regressor to the basic specification. The coefficients on the interaction terms show the variation of the effect across the country.

The Impact of Camps on Presidential Election Outcomes in 1996

Table 4 reports estimates of equation for the second round of Presidential elections, 1996, where two candidates Yeltsin and Zuginov competed. Most importantly, we find that both camps and dummy for camps are good predictors of support for communist representative. In districts with former Gulag camps Zuginov had on average 1.06 percentage points of votes less than in other districts controlling for other factors (see Table 4, Column 6), and one extra camps decreases the support for Zuginov by 0.6 percentage points. The inclusion of dummy for modern prisons eliminates the significance of the coefficient on Camps – standard error changes slightly, but the absolute size of the coefficient goes down and becomes insignificant. However, the coefficient on dummy remains significant even after the inclusion of important control on modern prisons. Since the residence of the voter matters, we control for the share of rural population and there is no need to control for city as we discussed above. We find that rural population is an important regressor and rural people vote more willingly for communist's representative controlling for other factors²³. This is the effect of city we discussed in the previous section.

Table 5 reports the same estimation additionally controlling for social factors such as logarithm of average wages, logarithm of population of retirement age and the number of crimes per 10000 of district population. Although the number of observations is smaller here (because the social data source does not contain the information about some of the districts), we can run the same specification with Federal Okrug dummies. The negative and significant sign on camps and on camps' dummy proves the hypothesis we are testing. The magnitude of the effect appears to be

²³ This is in accord with the work of Slider, Gimpel'son and Chugrov (1994), p. 718, where they argue that voters from rural areas are politically more conservative in post-communist countries than urban voters. Wyman, White, Miller and Heywood (1995) explain the success of the opposition in rural districts by the persistence of the traditional communist nomenklatura that preserved their control over political developments in rural areas.

larger in this sub-sample (the coefficient on camps is -1.7), probably due to omitted variable bias as we include dummies on larger regions – Federalnye Okrug instead of regions. Nevertheless, the data supports the main result about the negative effect of Gulag camps on political trust in the communists. It turns out to be the case that criminality of the district measured in logarithm of the number of crimes is a good predictor for Zuganov’s votes share. This is not surprising because the large part of lucrative crimes (75%) in Russia are situational crimes²⁴ and the number of such crimes increases as the socio-economic situation becomes worse. In the 90s we saw a sharp increase of crimes. Compared to USSR crime rate (number of crimes per 100 thousand of population), which was 700 in 1985, in 1991 this rate reached 1115 growing further to 1755 in 2003. This evidence supports the idea that people sympathized communists not because they read Lenin, Marks and Engels and enjoyed repressions, but largely because they were disillusioned by the new regime, the “new democracy” was a greater evil for them as they saw what was happening around. The correlation of crimes and logarithm of wages is positive and rather high, and if we did not include crimes into regression, the coefficient on wages would be negative and significantly different from zero. As we see from the Table 5, even after the inclusion of crimes, it is still negative. In development of the story about confrontation of the two regimes, the positive and significant coefficient on logarithm of retirees suggests that old population, controlling for other factors, felt nostalgic about the Soviet Union on average and voted for Zuganov. The size of the district appears insignificant, but the inclusion of it reduces the standard errors and increases the explained variation, so we do not omit it from the model.

We view the Presidential election of 1996 as the main elections for testing the hypothesis because it was the real competition between regimes. White, Rose, McAllister (1997) wrote:

“The 1996 presidential election offered voters a choice between candidates offering competing regimes. President Boris Yeltsin was not so much the defender of the 1993 constitution as he was its

²⁴ On-line encyclopedia Krugosvet, sociology section

author. As author, he reserved the privilege of interpreting the constitution as he wished, with or without rewriting it. His chief opponent, Communist Party leader *Gennadii Zyuganov*, was heir to the tradition in which the end justified the means; the party had created Soviet-style "socialist legality" in which millions of Russians had been killed or imprisoned in Siberia on political grounds."

So, the ideological component of voting was very high, and our hypothesis is proved by this data.

The absolute magnitude of the effect of camps is rather large, especially if we take into account the time distance to the events we are looking at. As a matter of fact, it is an interesting question to know who would have won the elections in 1996 if there were no camps at all given all other controls equal. It is especially interesting because we saw that the distance between Yeltsin and Zugarov was not large. Given that we know the size of the effect and the number of voting population in every district, we could count the total percentage of votes for every candidate with the assumption that people who voted for Yeltsin would have voted for Zugarov instead if there was no camps in their district. It turns out, that the difference is not large, less than 0,5% if we take the size of the coefficient of dummy for camps equal to -1.75 (see Table 7). It can be calculated that to change the results of the 1996 election the effect of camps should be at least 14 times larger!

The Impact of Camps on March Referendum 1991

The next dataset we use for testing the main hypothesis is March Referendum voting results in 1991. Since we employ the variation of camps across Russia, we exercise results of Russian Referendum only. Here the dependent variable 'camps' is the number of camps in a region with variation from zero to 23. The nonparametric relationship between the referendum votes for the preservation of USSR and camps is presented on the Figure 9 and it looks negative and linear.

Table 15 reports the regression results with the region as the unit of observation. The dependent variable is the percentage of population who voted for the preservation of the USSR. The coefficient on camps is negative and significant across all specifications at 5% level of significance. The bold coefficient in Column 4 of the Table 6 means that one additional camp in the region results in decrease of support for preservation of USSR by 0.36 percentage points, controlling for other factors included in specification. Interestingly, the social and economic factors that were important for president election voting seem to be not important here, when we explore the variation on the region level. The share of urban population is negative and significant, meaning that rural population exhibits more support for communist regime as found previously. The coefficient on the dummy for camps is insignificant and negative, but it is very close to 10% significance level on the whole. The high level of aggregation does not allow the dummy for camps to catch the effect.

Overall, the referendum data show that people have less sympathy for communist regime in regions of former Gulag camps allocation. This is the pure effect of camps free from socio-economic factors we control for.

The Impact of Camps on Parliamentary Election Outcomes in 1995, 1999 and 2003

Tables 8-10 report regression results for the parliamentary (Duma) election of 1995, 1999 and 2003. Throughout, the effect of camps is very small and insignificantly different from zero as standard errors of the coefficients are larger than the coefficients themselves. As for the other controls, they remain to serve as the important determinants of voting preferences.

The possible explanation why we do not see the effect of camps here is that these elections were different – they were parliamentary. The elections of 1995 had little ideological component.

Perhaps, after the *putch* in August, 1991 and the first legislative elections of 1993, people wanted stability which they associated with the soviet times. In 1999 the effect of camps is similar to their effect on the 1995 election, as well as in 2003.

Despite the zero effect of camps on Duma elections, the hypothesis is not disproved. There are plenty of reasons why we would not see the effect of Gulag here. The first and the most important argument is that voters on Duma's elections were simply disoriented by the huge number of parties. In contrast, in the second round of 1996 presidential election there were only two candidates, so the voters had to decide only whether they want to support communist regime and reverse the reforms or not. Moreover, during the 90s the party system of Russia was very unstable, most of new parties were short-lived and unknown to people. Thus, out of the 43 parties on the party-list in 1995, 35 did not fight the Duma election two years previously. Next, the new parties also has vague ideology, they were hard to differentiate. The turnover between parties was huge. Between the December 1996 Duma election and early 1996 when the Duma was organised 100 members changed their party affiliation (White, Rose, McAllister, 1997). In addition, KPRF party in 2003 was different from their predecessors of the early 90s. As argued by Sakwa (2005), since the 1999 election the traditional 'red belt' of communist-governed regions had been eroding, and this election signaled that the KPRF was gradually withering away and neither its leadership nor its program offered long-term prospects for the country when it became evident that Russia will not return to the past. The Duma election of 2003 is not a good test for our main hypothesis after all.

In general, we consider the fact that camps did not effected voting for communist on parliamentary elections to be not crucial for our hypothesis.

The variation of the camps' effect

The final step of our analysis is aimed at exploring what are the determinants of the magnitude of the effect. For this purpose we interact camps with logarithm of wages, logarithm of crimes and logarithm of higher school students to find out how the effect varies with income, institutions and education as the measure of human capital across districts. The result is summarized in the Table 14.

On the whole, there is no unique explanation of Gulag effect's variation. It looks like in 1996 the socio-economic channel was important, and for people who lived in relatively unsecure districts, with a high level of crimes, Gulag camps had smaller effect because voters valued their security more and could tolerate the past events. We see that the effect of camps grows in absolute terms as the average wages increase in 1996.

Since the sign of the coefficient on interaction with higher school students is negative, we suggest that another possible channel of the effect is the awareness of the people about Gulag, which comes through educating in this district²⁵. This is proved by the 2003 election data: the coefficient on the interactions of camps with logarithm of higher school students is negative and significant, whereas the interaction with wages is almost zero. Besides, the sign of interaction with students is also negative in 1999. So, we see that personal experience, which proves the stories about forced labor camps known from other sources, together with education negatively affect the level of trust in communists and makes the effect of Gulag larger in size.

So, it seems that variation in higher education and wages explains the difference in the size of camps' effect best of all. And the variation in wages better explains the effects' variation in 1996.

²⁵ Thought

Discussion of the results

We accept that there could be other unobservable characteristics of districts that could drive the observed differences in voting behavior. The endogeneity problem inevitably arises in such kind of research. But we try to control for many parameters and still find the persistence of the camps' effect in most of the cases.

The magnitude of the impact of camps may be subject to biases, especially to omitted variable bias. For example, we do not control for television and mass media in 1996. There is a work of Enikolopov, Petrova, Zhuravskaya (2009) that report the increasing role of political technologies on elections since 1996 in Russia²⁶. It may be the case that the choice of people was driven mainly by mass media effect rather than by the level of trust to communists. To minimize the bias we include as much controls as possible and use fixed effects for regions in the basic specifications.

One issue we do not deal with in our analysis is the possibility that the results reported here represent falsification and not the actual preferences of voters. There is no evidence of the literature about the falsification of referendum results and the president election of 1996 is considered to be fair. As for the other elections, this may be another explanation why we do not find the negative effect of camps on other elections. Since we can do nothing with this issue, we leave it as it is.

²⁶ Enikolopov, Petrova, Zhuravskaya (2009) report that presence of NTV channel increased the combined vote for major opposition parties and decreased the aggregate vote for the government party. They find no significant effect of NTV signal for Communist KPRF and nationalist LDPR parties, as they got the same coverage by NTV and the state channels. We also do not find the effect of NTV in our specifications for 1999 Duma election, so these are the reasons why we do not control for it.

Conclusion

Our results report the existence of the long run effect of Gulag camps on political election outcomes in post-Soviet Russia. The identification of the effect is based on geographical variation of Gulag camps. At the district-level analysis we show that Gulag camps have significant impact on the distribution of votes in the second round of presidential elections of 1996 controlling for different geographical and socio-economic factors. Communist representative Zuganov got 1.75 percentage points less in an average district where forced labor camps were allocated. This amounts to 0.3 percentage points of the combined vote. We show that better well-being and higher education increase the size of the Gulag's effect.

At the region-level analysis we show that Gulag camps affected March Referendum voting on the preservation of USSR in 1991. This amounts to a decrease in 1.6 percentage points of the combined vote. Although these votes were not decisive for the outcome, it is still amazing that such long standing events have the impact on Referendum results.

More generally, this study emphasizes the existence of long lasting effects of repressions in Russia and proves that past really matters.

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TABLE 1
DESCRIPTIVE STATISTICS

VARIABLES	Full Sample					Gulag Sample					No-Gulag Sample				
	# obs.	Mean	SD	Min	Max	# obs.	Mean	SD	Min	Max	# obs.	Mean	SD	Min	Max
Elections															
Zuganov votes '96	2,240	48.89	15.60	5.580	81.12	185	39.57	15.07	12.82	75.81	2,055	49.73	15.37	5.580	81.12
Yeltsin votes '96	2,240	45.55	14.96	15.76	93.58	185	53.96	14.58	18.99	82.69	2,055	44.79	14.76	15.76	93.58
Longitude	2,240	59.96	29.84	19.85	187.3	185	65.69	34.21	28.26	180.8	2,055	59.44	29.37	19.85	187.3
Latitude	2,240	54.12	4.932	41.44	72.51	185	57.25	5.339	43.40	70.61	2,055	53.84	4.795	41.44	72.51
Log of area	2,240	21.21	1.686	15.20	26.94	185	22.04	1.602	18.08	25.85	2,055	21.13	1.674	15.20	26.94
Log Voters '96	2,240	3.533	0.875	-0.105	7.243	185	4.048	1.136	0.262	7.243	2,055	3.487	0.832	-0.105	7.188
Log Rural '96	2,240	2.452	1.142	0	4.785	185	2.542	1.074	0	4.570	2,055	2.444	1.148	0	4.785
Log of retirees '96	1,508	8.918	1.446	0.788	12.80	101	8.985	2.120	2.230	12.80	1,407	8.913	1.386	0.788	12.68
Crimes '96	1,407	207.2	250.8	9.300	3,411	104	230.0	195.5	63.80	1,686	1,303	205.3	254.7	9.300	3,411
Retired people, % 1998	1,909	25.40	10.62	0	75.80	142	22.83	12.41	0	66.38	1,767	25.61	10.44	0	75.80
Unemployed, % 1998	1,913	1.785	1.774	0	20.46	142	1.987	1.576	0	8.491	1,771	1.769	1.789	0	20.46
Crime rate, per 10000 1998	1,913	166.7	223.9	0	3,334	142	185.1	184.1	0	1,540	1,771	165.3	226.8	0	3,334
Camps	2,240	0.113	0.419	0	3	185	1.373	0.631	1	3	2,055	0	0	0	0
Communists '99	2,109	20.88	8.180	0.733	67.32	159	15.95	6.235	4.685	34.68	1,950	21.28	8.190	0.733	67.32
Communists '95	1,816	22.89	9.638	1.823	66.99	123	18.21	9.170	4.825	55.89	1,693	23.23	9.585	1.823	66.99
KPRF Votes '03	2,079	24.46	11.25	0.557	85.28	154	21.06	9.960	2.475	53.33	1,925	24.74	11.31	0.557	85.28
Log Voters '95	1,816	10.03	0.794	6.465	15.11	123	10.39	1.006	6.653	13.90	1,693	10.00	0.770	6.465	15.11
Log of Voters '99	2,109	10.00	0.830	6.351	13.89	159	10.34	1.025	6.534	13.89	1,950	9.976	0.806	6.351	13.55
log wage '96	1,699	8.698	3.356	4.844	15.12	120	8.671	3.156	5.644	14.47	1,579	8.700	3.372	4.844	15.12
Log of retirees '03	1,584	9.125	0.922	2.219	12.79	126	9.719	1.202	6.753	12.79	1,458	9.073	0.875	2.219	12.71
Log unemployed '03	1,604	5.744	1.066	1.386	9.110	126	6.323	1.145	2.639	8.873	1,478	5.695	1.044	1.386	9.110
Log wage '03	1,659	8.090	0.478	6.997	10.16	131	8.367	0.443	7.324	9.681	1,528	8.067	0.474	6.997	10.16
log of pension '98	1,760	-0.931	0.142	-1.687	-0.226	131	-0.862	0.169	-1.048	-0.226	1,629	-0.936	0.138	-1.687	-0.261
Log of avg wage '98	1,920	-0.372	0.519	-1.917	2.246	145	-0.0607	0.524	-1.013	1.364	1,775	-0.397	0.511	-1.917	2.246
modern prisons dummy	2,240	0.180	0.384	0	1	185	0.389	0.489	0	1	2,055	0.161	0.368	0	1
Log of population '03	1,663	3.422	0.928	-0.357	7.253	131	4.020	1.286	-0.105	7.253	1,532	3.371	0.873	-0.357	7.196
Log of higher stud '03	1,044	0.143	0.586	0	5.100	81	0.457	1.055	0	5.100	963	0.117	0.520	0	4.290
Log of higher stud '96	1,058	0.0834	0.441	0	4.388	73	0.267	0.843	0	4.388	985	0.0698	0.392	0	3.561
Log of higher stud '98	1,058	0.0920	0.469	0	4.575	73	0.291	0.897	0	4.575	985	0.0773	0.418	0	3.768

VARIABLES	Full Sample					Gulag Sample					No-Gulag Sample				
	# obs.	Mean	SD	Min	Max	# obs.	Mean	SD	Min	Max	# obs.	Mean	SD	Min	Max
1991 Referendum															
Camps	86	3.058	4.449	0	23	54	4.870	4.770	1	23	32	0	0	0	0
1991 Referendum	86	75.19	8.127	49.34	91.90	54	73.90	7.854	49.34	91.41	32	77.36	8.241	50.54	91.90
Percentage high education	70	7.513	1.802	5.145	17.32	44	7.330	1.321	5.145	11.90	26	7.823	2.410	5.447	17.32
Percentage of retirees '89	70	17.71	4.477	4.976	24.64	44	18.01	3.709	4.976	24.08	26	17.19	5.587	6.697	24.64
Share of urban pop	70	68.86	11.66	38.33	100	44	70.98	9.497	46.77	91.96	26	65.28	14.11	38.33	100
Log of Population '89	70	14.14	0.840	10.60	15.71	44	14.40	0.642	12.64	15.71	26	13.71	0.966	10.60	15.42
Log of Crimes '90	66	7.100	0.279	6.540	8.059	44	7.095	0.286	6.548	8.059	22	7.110	0.270	6.540	7.503
Log of avg wage '90	70	5.719	0.235	5.236	6.460	44	5.722	0.201	5.468	6.460	26	5.714	0.287	5.236	6.378
Correctional institutions	84	26.65	15.67	1	80	54	31.26	15.98	1	80	30	18.37	11.21	3	51

Note: Descriptive statistics for the main variables across Russian districts in the first part and across regions in the second part of the table. The number of observations for some variables is smaller because of the missing values. See Data Description in Appendix for further details.

TABLE 2
DESCRIPTIVE STATISTICS FOR GULAG CAMPS

Number of Gulags	Number of districts and cities
0	2055
1	131
2	39
3	11
4	1
5	2
7	1
Total Number of Camps	263

Notes: The table shows the distribution of gulags across districts and cities of Russia. The maximal number of camps in a region is 7 in Krasnoyarsk. 91,42% of districts and cities did not allocate gulag on its territory. The number of Russian Gulag camps in our sample is 263. Since there are only four districts with more than 3 camps, it looks sensible to make four groups of districts: 1) no camps; 2) 1 camp; 3) 2 camps 4) 3 or more camps. Another possible solution is to make a dummy on districts with camps. The new variable is called Camps and its descriptive statistics is presented in Table 1.

TABLES OF CORRELATIONS

TABLE 3.1

	Zuganov votes '96	Camps	Log Rural '96	Log Voters '96	Log of area	modern prisons dummy	log wage '96	Crimes '96	Log of retirees '96
Zuganov votes '96	1.0000								
Camps	-0.1863	1.0000							
Log Rural '96	0.3053	0.0072	1.0000						
Log Voters '96	-0.2107	0.1733	-0.1448	1.0000					
Log of area	-0.0034	0.1456	0.5544	-0.3552	1.0000				
modern prisons dummy	-0.1353	0.1701	-0.1527	0.4233	-0.1136	1.0000			
log wage '96	-0.1286	0.0105	-0.1213	0.0161	-0.0496	0.1037	1.0000		
Crimes '96	0.0225	0.0179	-0.0298	0.0123	-0.0384	-0.0047	0.1965	1.0000	
Log of retirees '96	0.0501	0.0230	-0.0903	0.5528	-0.2350	0.2900	-0.0078	0.0101	1.0000

TABLE 3.2

	Communists '99	Camps	Log of area	modern prisons dummy	Retired people, % 1998	Unemployed, % 1998	Crime rate, per 10000 1998	log of pension '98	Log of avg wage '98	Log of Voters '99
Communists '99	1.0000									
Camps	-0.1694	1.0000								
Log of area	-0.0833	0.1456	1.0000							
modern prisons dummy	-0.2481	0.1701	-0.1136	1.0000						
Retired people, % 1998	0.2329	-0.0530	-0.0615	-0.0523	1.0000					
Unemployed, % 1998	-0.1836	0.0286	0.1248	-0.0170	-0.0723	1.0000				
Crime rate, per 10000 1998	0.0358	0.0225	-0.0147	0.0005	0.0308	0.0116	1.0000			
log of pension '98	-0.3581	0.1372	0.3164	0.0991	-0.2817	0.2264	-0.0741	1.0000		
Log of avg wage '98	-0.5787	0.1672	0.1581	0.2318	-0.2037	0.1978	-0.0720	0.7190	1.0000	
Log of Voters '99	-0.1378	0.1088	-0.3881	0.3295	-0.0348	-0.1940	0.0038	-0.0235	0.2290	1.0000

TABLE 3.3

	Communists '95	Camps	log of area	modern prisons dummy	Log Voters '95
Communists '95	1.0000				
Camps	-0.1418	1.0000			
log of area	-0.0280	0.1456	1.0000		
modern prisons dummy	-0.1854	0.1701	-0.1136	1.0000	
Log Voters '95	-0.2194	0.1162	-0.3345	0.3700	1.0000

TABLE 3.4

	KPRF Votes '03	Camps	log of area	modern prisons dummy	Log of retirees '03	Log unemployed '03	Log wage '03	Log of population '03
KPRF Votes '03	1.0000							
camps	-0.0860	1.0000						
logarea	-0.1768	0.1456	1.0000					
modern prisons dummy	0.0077	0.1701	-0.1136	1.0000				
Log of retirees '03	0.1459	0.1879	-0.3762	0.3491	1.0000			
Log unemployed '03	0.0870	0.1483	-0.1323	0.3382	0.6918	1.0000		
Log wage '03	-0.1434	0.1709	-0.0411	0.3257	0.2921	0.3503	1.0000	
Log of population '03	0.1233	0.1895	-0.3764	0.3361	0.9593	0.7193	0.3394	1.0000

TABLE 4
IMPACT OF CAMPS IN 1996 PRESIDENTIAL ELECTION

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Zuganov votes '96					
Camps	-2.410*** (0.611)	-0.690* (0.395)	-0.604 (0.398)			
Dummy on camps				-3.499*** (1.002)	-1.178* (0.619)	-1.064* (0.622)
modern prisons dummy			-0.926* (0.484)			-0.923* (0.484)
Longitude	-0.0275** (0.0124)	-0.0425 (0.0740)	-0.0419 (0.0739)	-0.0272** (0.0124)	-0.0398 (0.0739)	-0.0394 (0.0738)
Latitude	-0.902*** (0.0824)	-1.086*** (0.183)	-1.089*** (0.183)	-0.904*** (0.0824)	-1.089*** (0.182)	-1.091*** (0.183)
Log Rural '96	3.615*** (0.407)	1.324*** (0.324)	1.286*** (0.325)	3.639*** (0.407)	1.329*** (0.324)	1.291*** (0.324)
Log Voters '96	-4.366*** (0.376)	-3.684*** (0.265)	-3.494*** (0.292)	-4.377*** (0.377)	-3.672*** (0.264)	-3.481*** (0.291)
Log of area	-1.209*** (0.317)	0.541** (0.268)	0.558** (0.268)	-1.223*** (0.317)	0.544** (0.267)	0.561** (0.267)
Observations	2195	2195	2195	2195	2195	2195
R-squared	0.266	0.734	0.734	0.265	0.734	0.734
Region Dummies	NO	YES	YES	NO	YES	YES

*** p<0.01, ** p<0.05, * p<0.1

Notes: Ordinary least squares with robust standard errors in parentheses. We deleted from the sample 1% of the votes from the top and 1% from the bottom of votes distribution in order to get rid of mistakes and outliers in the data. All Columns have dummies on regions except for the Columns (1) and (4). The constant term is included in all specifications; therefore some of the dummies on regions are excluded. Camps and Dummy on camps are significant throughout all the regressions except for Column (3). The inclusion of dummy on modern prisons affects the significance of Camps, but the Dummy on camps remain significant at 10% level of significance. Avplot of Camps for column (1) can be found below, it shows the slope of the line which is exactly the regression coefficient.

TABLE 5
IMPACT OF CAMPS IN 1996 PRESIDENTIAL ELECTION

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Zuganov votes '96					
Camps	-2.052***	-1.932**	-1.671**			
	(0.787)	(0.778)	(0.798)			
Dummy on camps				-2.587**	-2.373**	-1.833
				(1.156)	(1.148)	(1.181)
modern prisons dummy		-1.917**	-1.874**		-1.934**	-1.891**
		(0.861)	(0.904)		(0.862)	(0.906)
log wage '96		-0.107	-0.147		-0.109	-0.148
		(0.088)	(0.093)		(0.089)	(0.093)
Log of retirees '96			0.485**			0.495**
			(0.199)			(0.197)
Log of Crimes '96	2.294***	2.385***	2.618***	2.358***	2.392***	2.623***
	(0.548)	(0.568)	(0.567)	(0.573)	(0.569)	(0.567)
Longitude	-0.278***	-0.278***	-0.260***	-0.282***	-0.279***	-0.262***
	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)
Latitude	-1.179***	-1.206***	-0.985***	-1.209***	-1.211***	-0.993***
	(0.151)	(0.152)	(0.153)	(0.153)	(0.152)	(0.153)
Log Rural '96	2.703***	2.564***	2.731***	2.685***	2.595***	2.760***
	(0.518)	(0.522)	(0.540)	(0.523)	(0.522)	(0.541)
Log Voters '96	-3.385***	-3.010***	-3.175***	-3.435***	-3.044***	-3.234***
	(0.369)	(0.414)	(0.461)	(0.370)	(0.413)	(0.457)
Log of area	0.419	0.505	0.539	0.446	0.473	0.503
	(0.453)	(0.452)	(0.464)	(0.454)	(0.451)	(0.463)
Observations	1377	1365	1218	1365	1365	1218
R-squared	0.468	0.473	0.483	0.471	0.473	0.482
Federal Okrug Dummies	YES	YES	YES	YES	YES	YES

*** p<0.01, ** p<0.05, * p<0.1

Notes: Ordinary least squares with robust standard errors in parentheses. The constant term is included in all specifications. We deleted from the sample 1% of the votes from the top and 1% from the bottom of votes distribution in order to get rid of mistakes and outliers in the data. Log of area is insignificant in all specifications, but it reduces the standard errors, therefore we do not omit it in the regressions.

TABLE 6
IMPACT OF CAMPS ON REFERENDUM

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	1991 Referendum							
Camps	-0.538** (0.238)	-0.345** (0.157)	-0.394** (0.171)	-0.356** (0.166)				
Dummy on camps					-1.899 (2.233)	-2.266 (1.377)	-2.109 (1.409)	-2.246 (1.452)
High education, %		-0.936* (0.478)	-0.737 (0.615)	-0.646 (0.671)		-0.956** (0.451)	-0.883 (0.593)	-0.796 (0.635)
Share of urban pop		-0.386*** (0.078)	-0.306*** (0.103)	-0.355*** (0.110)		-0.411*** (0.081)	-0.328*** (0.119)	-0.375*** (0.123)
Correctional institutions			-0.055 (0.091)	-0.011 (0.090)			-0.071 (0.100)	-0.018 (0.093)
Log of Crimes '90		-1.994 (2.952)		-1.337 (3.122)		-1.966 (2.998)		-1.284 (3.171)
Log of avg wage '90			-8.602 (6.329)	-5.232 (6.918)			-9.612 (6.555)	-6.122 (7.210)
Log of Population '89	-2.888* (1.557)	-1.521 (1.248)	0.719 (1.801)	-1.185 (1.846)	-3.870** (1.656)	-1.922 (1.296)	0.584 (1.869)	-1.551 (1.864)
Retirees, % '89	0.254 (0.202)	-0.217 (0.177)	-0.393 (0.275)	-0.353 (0.312)	0.435** (0.182)	-0.123 (0.176)	-0.337 (0.289)	-0.302 (0.335)
Observations	70	66	69	65	70	66	69	65
R-squared	0.266	0.601	0.528	0.552	0.202	0.586	0.501	0.534

*** p<0.01, ** p<0.05, * p<0.1

Notes: Ordinary least squares with robust standard errors in parentheses. All specifications include a constant term. Variable 'camps' means the number of camps in a region, different from the district-level regressions, where the number of camps more than two corresponds to the value of camps variable 3.

TABLE 7
EXPERIMENT WITH THE DATA

	Real Votes	Hypothetical Votes $\beta=-1.75$	Hypothetical Votes $\beta=-24$
Percentage of Votes for Yeltsin (%)	51,83	51,52	47,52
Percentage of Votes for Zupanov (%)	43,28	43,59	47,58

Notes: β is the coefficient on dummy for camps. Real votes differ from those reported from the text, because our sample does not include several districts of Russia. The votes of people being abroad at the time of the election are not included either.

TABLE 8
IMPACT OF CAMPS IN 1995 PARLIAMENTARY ELECTION

VARIABLES	(1)	(2)	(3)	(4)
	Communists '95			
Camps	-0.381 (0.378)	-0.089 (0.323)		
Dummy on camps			-0.410 (0.671)	-0.350 (0.472)
Latitude	-0.903*** (0.0488)	-1.080*** (0.135)	-0.904*** (0.049)	-1.078*** (0.135)
Longitude	-0.053*** (0.0093)	0.0009 (0.066)	-0.053*** (0.009)	0.003 (0.066)
Log Voters '95	-2.590*** (0.267)	-2.356*** (0.210)	-2.594*** (0.269)	-2.345*** (0.211)
Log of area	-0.492** (0.200)	0.453** (0.203)	-0.500** (0.199)	0.459** (0.201)
modern prisons dummy	-0.125 (0.500)	-0.679** (0.319)	-0.129 (0.501)	-0.664** (0.321)
gorod dummy	-4.785*** (0.833)	-1.695** (0.776)	-4.813*** (0.831)	-1.699** (0.773)
Observations	1780	1780	1780	1780
R-squared	0.326	0.679	0.326	0.679
Region Dummies	NO	YES	NO	YES

*** p<0.01, ** p<0.05, * p<0.1

Notes: Ordinary least squares with robust standard errors in parentheses. Columns 1 and 3 report results without region dummies, Columns 2 and 4 include region dummies. The constant term is included in all specifications; therefore some of the dummies are excluded. Controls are the same for all specifications. The size of the effect of camps is almost zero, the size of coefficients' standard errors exceeds the size of the coefficients. Thus, we do not see the effect of gulag in Duma election in 1999.

TABLE 9
IMPACT OF CAMPS IN 1999 PARLIAMENTARY ELECTION

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Communists '99									
Camps	-0.102	-0.107	0.068	0.054	0.060					
	(0.262)	(0.263)	(0.280)	(0.313)	(0.284)					
Dummy on camps						-0.515	-0.516	-0.282	-0.306	-0.134
						(0.333)	(0.334)	(0.368)	(0.397)	(0.384)
Unemployed, % 1998		-0.054	-0.054	-0.031	0.076		-0.054	-0.055	-0.032	0.076
		(0.092)	(0.098)	(0.128)	(0.130)		(0.092)	(0.098)	(0.128)	(0.130)
Log of Crimes '98			-1.650***	-1.514***	-1.697***			-1.620***	-1.485***	-1.680***
			(0.371)	(0.383)	(0.382)			(0.370)	(0.382)	(0.381)
log of pension '98				-4.828*	1.897				-4.714	1.964
				(2.915)	(2.916)				(2.917)	(2.911)
Log wage '98					-5.675***					-5.671***
					(0.504)					(0.505)
Latitude	-0.518***	-0.515***	-0.503***	-0.359***	-0.093	-0.515***	-0.512***	-0.500***	-0.357***	-0.092
	(0.100)	(0.100)	(0.109)	(0.114)	(0.105)	(0.100)	(0.100)	(0.108)	(0.114)	(0.105)
Longitude	-0.062	-0.063	-0.055	-0.056	-0.027	-0.062	-0.063	-0.054	-0.056	-0.027
	(0.043)	(0.043)	(0.046)	(0.047)	(0.044)	(0.043)	(0.043)	(0.046)	(0.047)	(0.044)
Log of area	-0.217	-0.208	-0.116	-0.188	-0.237	-0.203	-0.194	-0.098	-0.173	-0.227
	(0.155)	(0.157)	(0.176)	(0.185)	(0.173)	(0.154)	(0.156)	(0.175)	(0.185)	(0.172)
Log of Voters '99	-1.328***	-1.349***	-1.286***	-1.111***	-0.195	-1.309***	-1.330***	-1.269***	-1.095***	-0.187
	(0.179)	(0.184)	(0.209)	(0.225)	(0.230)	(0.179)	(0.184)	(0.210)	(0.225)	(0.230)
gorod dummy	-2.838***	-2.788***	-2.443***	-2.514***	-1.859***	-2.833***	-2.783***	-2.425***	-2.512***	-1.856***
	(0.573)	(0.581)	(0.644)	(0.694)	(0.652)	(0.572)	(0.580)	(0.643)	(0.695)	(0.652)
modern prisons dummy	-0.897***	-0.898***	-1.016***	-0.911**	-0.843**	-0.879***	-0.880***	-0.990***	-0.886**	-0.828**
	(0.296)	(0.297)	(0.333)	(0.359)	(0.337)	(0.296)	(0.296)	(0.332)	(0.358)	(0.335)
Retired people, % 1998	0.039**	0.040**	0.090***	0.143***	0.084***	0.039**	0.039**	0.089***	0.143***	0.084***
	(0.018)	(0.018)	(0.025)	(0.035)	(0.031)	(0.018)	(0.018)	(0.025)	(0.035)	(0.031)
Observations	1873	1873	1580	1441	1434	1873	1873	1580	1441	1434
R-squared	0.689	0.690	0.699	0.705	0.732	0.690	0.690	0.699	0.705	0.732
Region Dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

*** p<0.01, ** p<0.05, * p<0.1

Notes: Ordinary least squares with robust standard errors in parentheses. All specifications include a constant. Though negative, the size of the effect of camps in all regressions is almost zero.

TABLE 10
IMPACT OF CAMPS IN 2003 PARLIAMENTARY ELECTION

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	KPRF Votes '03							
Camps	0.284	0.164	-0.257	-0.264				
	(0.433)	(0.431)	(0.490)	(0.489)				
Dummy on camps					0.322	0.151	-0.297	-0.306
					(0.566)	(0.567)	(0.675)	(0.675)
modern prisons dummy		0.886**		0.0840		0.895**		0.0797
		(0.432)		(0.535)		(0.434)		(0.536)
Log of population '03			-1.091	-1.106			-1.094	-1.108
			(0.932)	(0.940)			(0.932)	(0.940)
Log of retirees '03			1.934**	1.936**			1.932**	1.934**
			(0.906)	(0.909)			(0.906)	(0.908)
Log of unemployed '03			1.427***	1.426***			1.432***	1.430***
			(0.343)	(0.343)			(0.343)	(0.343)
Log wage '03			-1.813**	-1.813**			-1.807**	-1.807**
			(0.918)	(0.918)			(0.918)	(0.917)
Longitude	0.0334	0.0357	0.256***	0.256***	0.0324	0.0351	0.256***	0.256***
	(0.0563)	(0.0561)	(0.0792)	(0.0793)	(0.0564)	(0.0563)	(0.0792)	(0.0793)
Latitude	-0.528***	-0.514***	-0.735***	-0.735***	-0.526***	-0.513***	-0.738***	-0.738***
	(0.159)	(0.158)	(0.195)	(0.194)	(0.160)	(0.158)	(0.195)	(0.194)
gorod dummy	1.746**	1.430	0.448	0.435	1.773**	1.446	0.419	0.406
	(0.886)	(0.905)	(1.109)	(1.118)	(0.883)	(0.902)	(1.106)	(1.116)
Log of area	-0.528**	-0.566**	-0.716**	-0.718**	-0.520**	-0.560**	-0.724**	-0.726**
	(0.243)	(0.244)	(0.284)	(0.286)	(0.242)	(0.242)	(0.282)	(0.284)
Observations	2032	2032	1446	1446	2032	2032	1446	1446
R-squared	0.578	0.579	0.613	0.613	0.578	0.579	0.613	0.613
Region Dummies	YES	YES	YES	YES	YES	YES	YES	YES

*** p<0.01, ** p<0.05, * p<0.1

Notes: Ordinary least squares with robust standard errors in parentheses. All specifications include a constant. We deleted from the sample 1% of the votes from the top and 1% from the bottom of votes distribution in order to get rid of mistakes and outliers in the data. The size of the sample is smaller when we include controls for number of retirees, wages and number of unemployed because we have no such data for some districts. Controlling for important regressors (Log of retirees '03, Log unemployed '03, Log wage '03) both camps and dummy on camps are negative, but insignificantly different from zero.

TABLE 11
IMPACT OF CAMPS IN 1996 PRESIDENTIAL ELECTION. INTERACTIONS

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Zuganov votes '96					
Camps*	-1.508* (0.819)	-1.406* (0.825)	-1.894** (0.936)	-1.811* (0.940)	-1.497 (1.388)	-1.350 (1.398)
Camps X log of wages '96	-0.507** (0.230)	-0.495** (0.232)				
Camps X log of Crimes '96			0.598 (1.977)	0.747 (1.950)		
Camps X Log of higher stud '96					-1.213 (0.796)	-1.077 (0.772)
log of wage '96 *	-0.158* (0.093)	-0.154* (0.093)				
Log of Crimes '96 *			2.617*** (0.579)	2.660*** (0.575)		
Log of higher stud '96 *					-0.317 (1.030)	-0.330 (0.990)
log wage '96			-0.150 (0.093)	-0.147 (0.093)	0.142 (0.129)	0.152 (0.129)
Log of Crimes '96	2.573*** (0.571)	2.606*** (0.567)			2.906*** (0.737)	2.901*** (0.732)
modern prisons dummy		-1.828** (0.899)		-1.886** (0.905)		-1.829 (1.222)
Longitude	-0.266*** (0.046)	-0.263*** (0.046)	-0.264*** (0.046)	-0.261*** (0.046)	-0.283*** (0.065)	-0.284*** (0.065)
Latitude	-0.989*** (0.154)	-0.992*** (0.153)	-0.980*** (0.154)	-0.983*** (0.153)	-0.927*** (0.203)	-0.929*** (0.201)
Log Rural '96	2.805*** (0.540)	2.732*** (0.538)	2.802*** (0.544)	2.726*** (0.541)	2.640*** (0.851)	2.542*** (0.845)
Log Voters '96	-3.502*** (0.425)	-3.144*** (0.465)	-3.539*** (0.421)	-3.168*** (0.463)	-2.470*** (0.744)	-2.192*** (0.769)
Log of area	0.531 (0.468)	0.543 (0.464)	0.531 (0.469)	0.544 (0.464)	0.792 (0.730)	0.799 (0.727)
Log of retirees '96	0.434** (0.204)	0.448** (0.204)	0.470** (0.200)	0.484** (0.200)	0.460** (0.212)	0.475** (0.210)
Observations	1218	1218	1218	1218	736	736
R-squared	0.478	0.480	0.477	0.478	0.422	0.424
Federal Okrug Dummies	YES	YES	YES	YES	YES	YES

*** p<0.01, ** p<0.05, * p<0.1

Notes: Ordinary least squares with robust standard errors in parentheses. All specifications include a constant. We deleted from the sample 1% of the votes from the top and 1% from the bottom of votes distribution in order to get rid of mistakes and outliers in the data. Asterisks after the name of variable denote that the variable is centered.

TABLE 12
IMPACT OF CAMPS 1999 PARLIAMENTARY ELECTION. INTERACTIONS

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Communists '99					
Camps*	-0.088 (0.330)	0.008 (0.329)	0.006 (0.313)	0.079 (0.316)	-0.156 (0.452)	-0.069 (0.452)
Camps * Log of wages '98	0.340 (0.527)	0.309 (0.519)				
Camps * Log of Crimes '98			-0.023 (0.529)	0.067 (0.529)		
Camps * Log of higher stud '98					-0.618 (0.487)	-0.522 (0.498)
Log of wage '98 *	-5.572*** (0.491)	-5.554*** (0.488)				
Log of Crimes '98 *			-1.929*** (0.407)	-1.916*** (0.403)		
Log of higher stud '98 *					-0.222 (0.466)	-0.247 (0.473)
Log wage '98			-5.572*** (0.492)	-5.548*** (0.488)	-4.662*** (0.686)	-4.579*** (0.682)
Log of Crimes '98	-1.926*** (0.409)	-1.916*** (0.405)			-1.497*** (0.528)	-1.485*** (0.528)
modern prisons dummy		-0.929*** (0.332)		-0.934*** (0.331)		-0.846** (0.414)
Latitude	-0.282*** (0.099)	-0.281*** (0.100)	-0.281*** (0.099)	-0.281*** (0.100)	-0.547*** (0.186)	-0.556*** (0.184)
Longitude	-0.037 (0.044)	-0.037 (0.043)	-0.036 (0.044)	-0.035 (0.043)	-0.060 (0.081)	-0.066 (0.080)
Log of area	-0.034 (0.173)	-0.026 (0.173)	-0.028 (0.173)	-0.020 (0.173)	0.081 (0.366)	0.096 (0.366)
Log of Voters '99	-0.634*** (0.210)	-0.486** (0.227)	-0.634*** (0.210)	-0.485** (0.227)	-0.592 (0.394)	-0.513 (0.400)
gorod dummy	-1.219* (0.628)	-1.115* (0.627)	-1.190* (0.627)	-1.086* (0.626)	-0.687 (2.183)	-0.458 (2.208)
Retired people, % 1998	0.062** (0.026)	0.058** (0.026)	0.063** (0.026)	0.060** (0.026)	0.088** (0.034)	0.087*** (0.033)
Observations	1601	1601	1601	1601	854	854
R-squared	0.722	0.723	0.722	0.723	0.723	0.724
Region Dummies	YES	YES	YES	YES	YES	YES

*** p<0.01, ** p<0.05, * p<0.1

Notes: Ordinary least squares with robust standard errors in parentheses. All specifications include a constant. As usual, we deleted from the sample 1% of the votes from the top and 1% from the bottom of votes distribution in order to get rid of mistakes and outliers in the data. Asterics denote that the variable is centered.

TABLE 13
IMPACT OF CAMPS 2003 PARLIAMENTARY ELECTION. INTERACTIONS

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	KPRF Votes '03							
Camps*	-0.329	-0.337	-0.310	-0.316	0.168	0.168	-0.995	-0.999
	(0.553)	(0.552)	(0.517)	(0.515)	(0.588)	(0.588)	(0.785)	(0.783)
Camps X Log of wages'03	-0.127	-0.122						
	(1.007)	(1.008)						
Camps X Log of Crimes '03			-0.333	-0.344				
			(1.505)	(1.513)				
Camps X Log of higher stud '03					-1.464***	-1.464***	-1.554**	-1.563**
					(0.480)	(0.481)	(0.670)	(0.672)
Log of wages '03 *	-2.131**	-2.130**						
	(0.937)	(0.937)						
Log of Crimes '03 *			1.985***	1.988***				
			(0.707)	(0.707)				
Log of higher stud '03 *					-0.181	-0.181	-0.792	-0.806
					(0.501)	(0.506)	(0.720)	(0.727)
Log wage '03			-2.129**	-2.128**	-1.806	-1.806	-3.710***	-3.705***
			(0.938)	(0.938)	(1.466)	(1.467)	(1.171)	(1.173)
Log of Crimes '03	2.000***	2.002***			2.193**	2.193**	4.237***	4.234***
	(0.710)	(0.710)			(0.994)	(0.994)	(0.768)	(0.770)
modern prisons dummy		0.093		0.100		0.000		0.225
		(0.530)		(0.532)		(0.687)		(1.014)
Observations	1394	1394	1394	1394	826	826	826	826
R-squared	0.624	0.624	0.624	0.624	0.608	0.608	0.222	0.222
Region Dummies	YES	YES	YES	YES	YES	YES	NO	NO
Okrug Dummies	NO	NO	NO	NO	NO	NO	YES	YES

*** p<0.01, ** p<0.05, * p<0.1

Notes: Ordinary least squares with robust standard errors in parentheses. All specifications include constant and a set of standard controls, which are gorod dummy, Longitude, Latitude, Log of area, Log of population '03, Log of retirees '03 and Log of unemployed '03. We deleted from the sample 1% of the votes from the top and 1% from the bottom of votes distribution in order to get rid of mistakes and outliers in the data. Asterics by the name of variable denote that the variable is centered.

TABLE 14
SUMMARY OF INTERACTIONS

	1996	1999	2003
	Presidential election	Parliamentary election	Parliamentary election
Camps X Log of wages	- **	+	-
Camps X Log of Crimes	+ *	0	-
Camps X Log of higher stud	-	-	- **

Notes: The sign + or - is the sign of the coefficient on the corresponding term. The ± means the ambiguous effect of interaction. Asterics denote the level of significance of the coefficient (** p<0.05, * p<0.1).

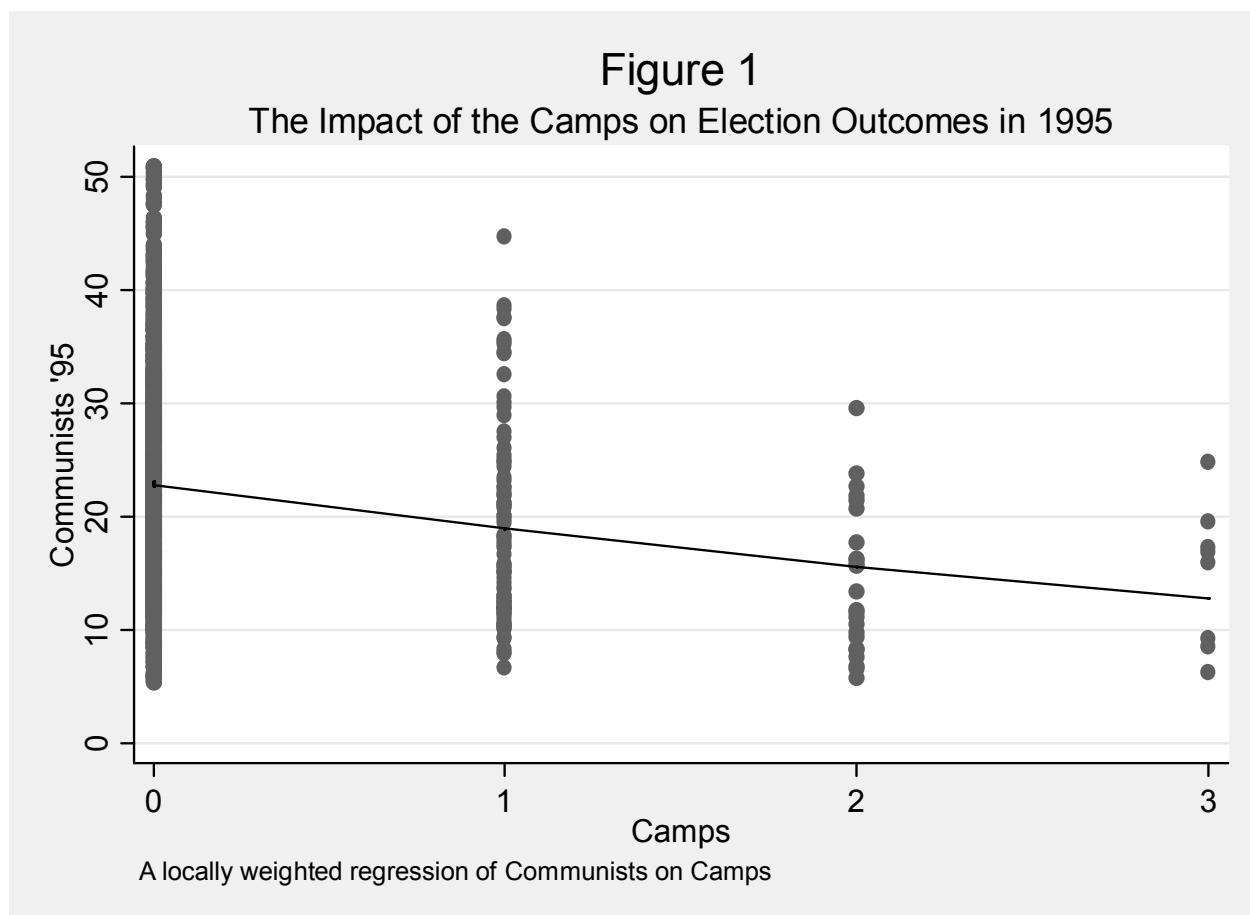
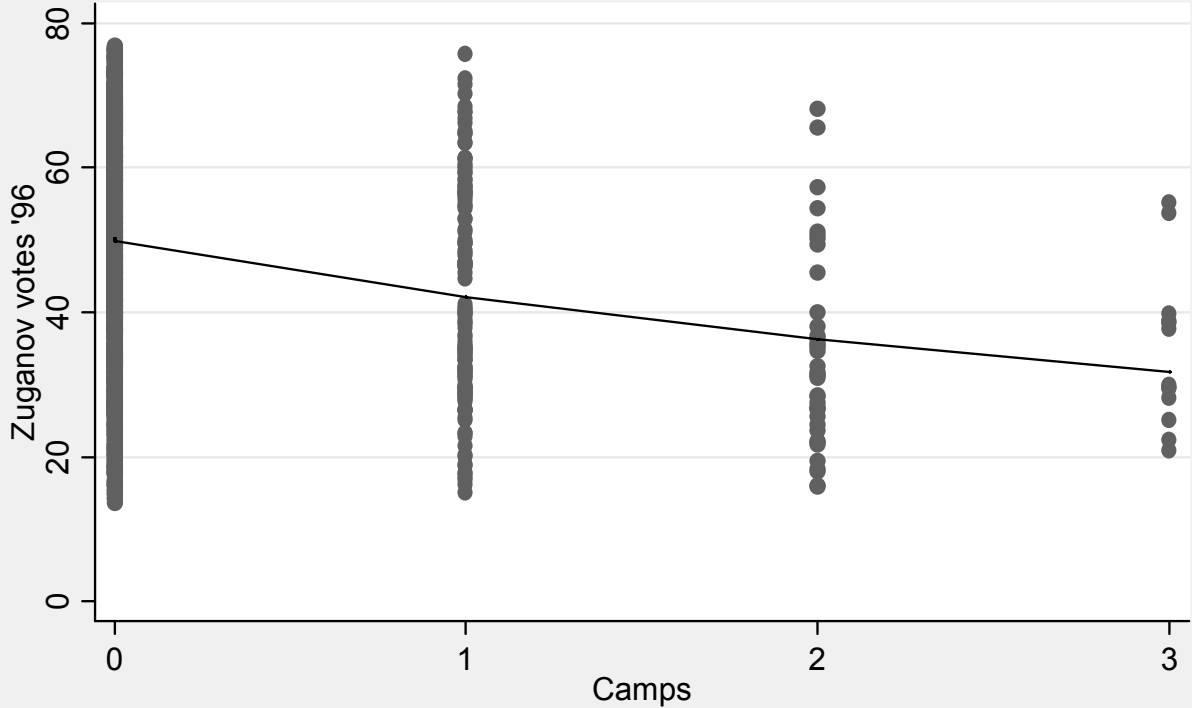


Figure 2

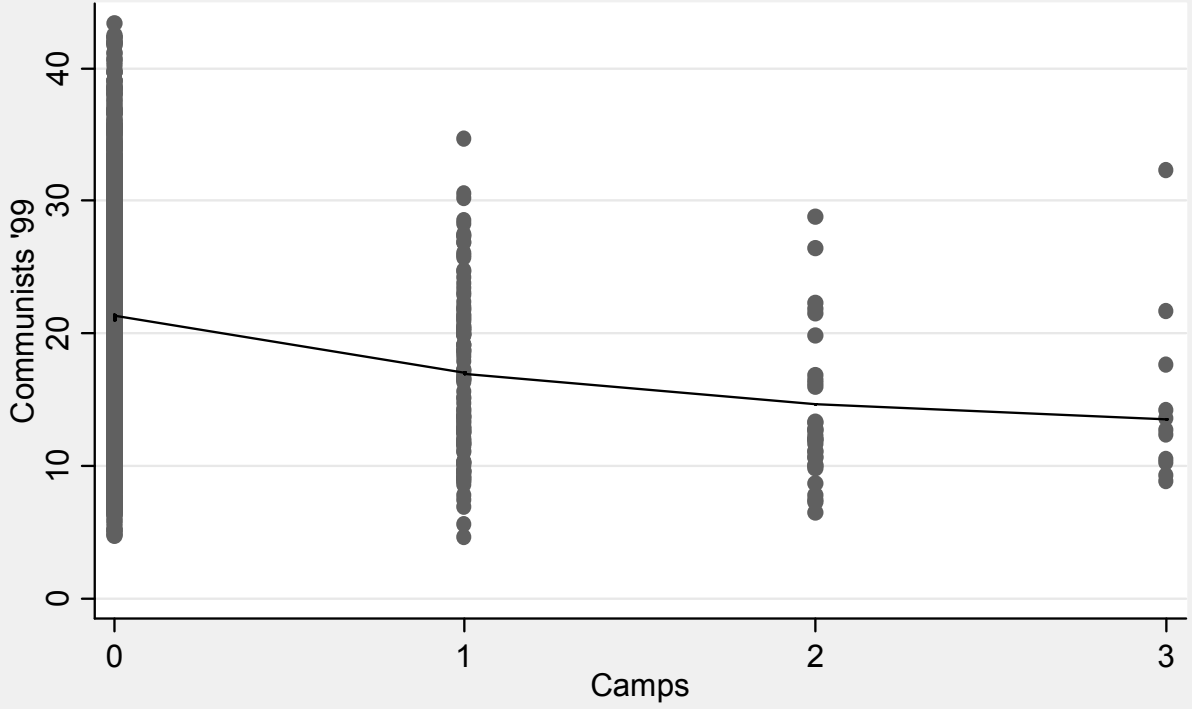
The Impact of the Camps on Election Outcomes in 1996



A locally weighted regression of Votes for Zupanov on Camps

Figure 3

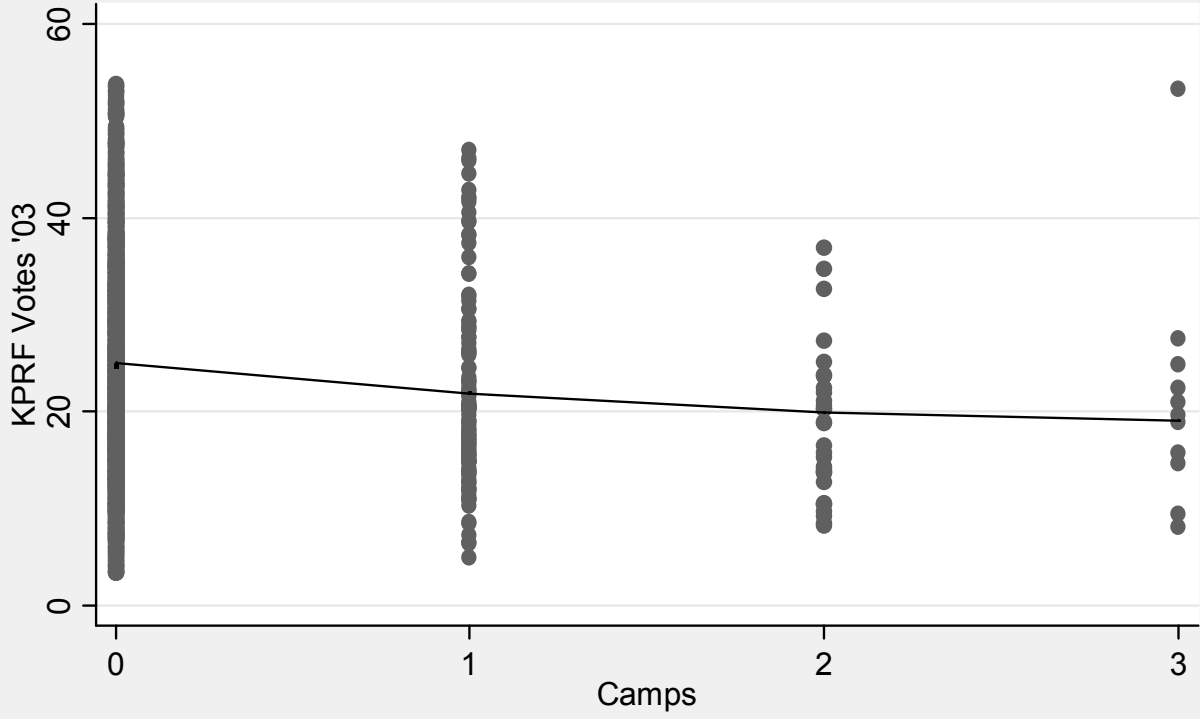
The Impact of the Camps on Election Outcomes in 1999



A locally weighted regression of Communists on Camps

Figure 4

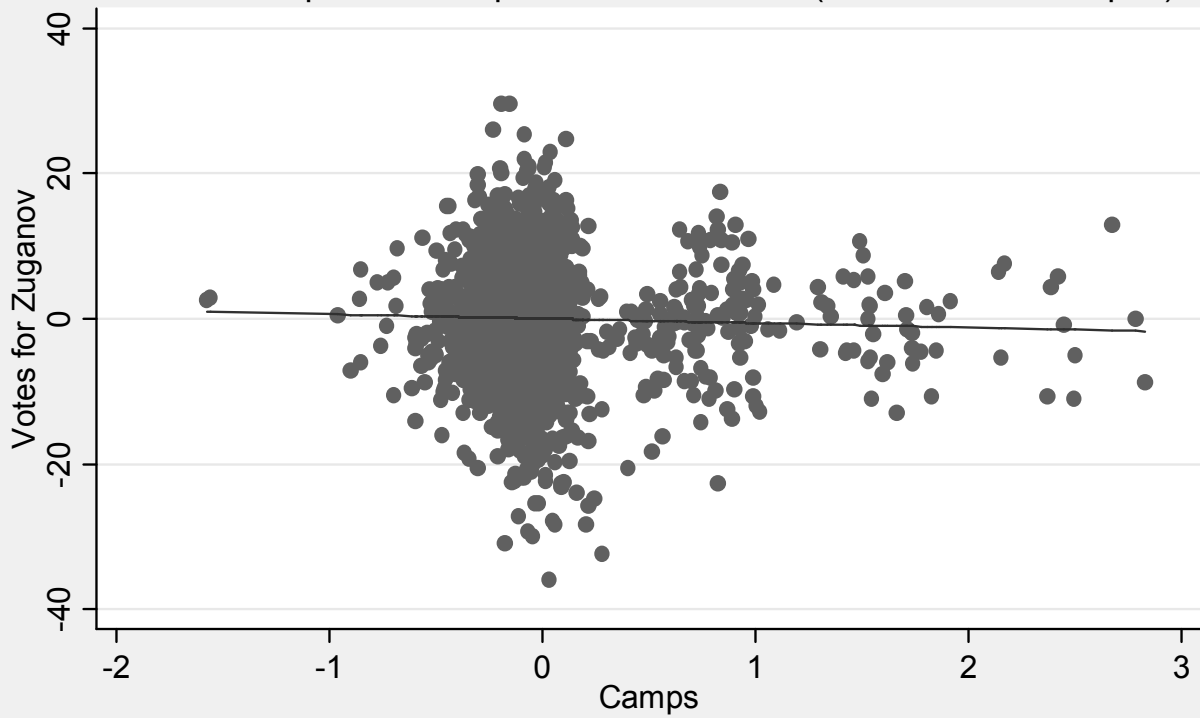
The Impact of the Camps on Election Outcomes in 2003



A locally weighted regression of Communists on Camps

Figure 5

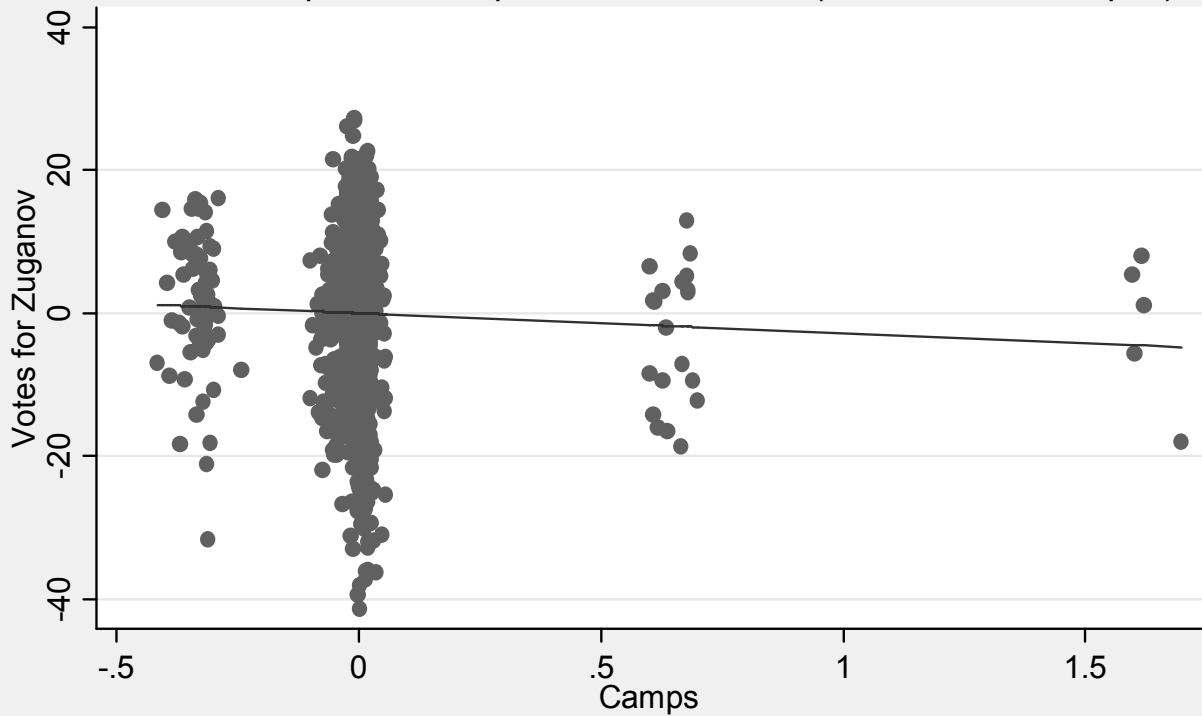
Potentail Impact of Camps on Election 1996 (conditional scatterplot)



Conditional Scatterlot corresponding to Table 4, Column 3

Figure 6

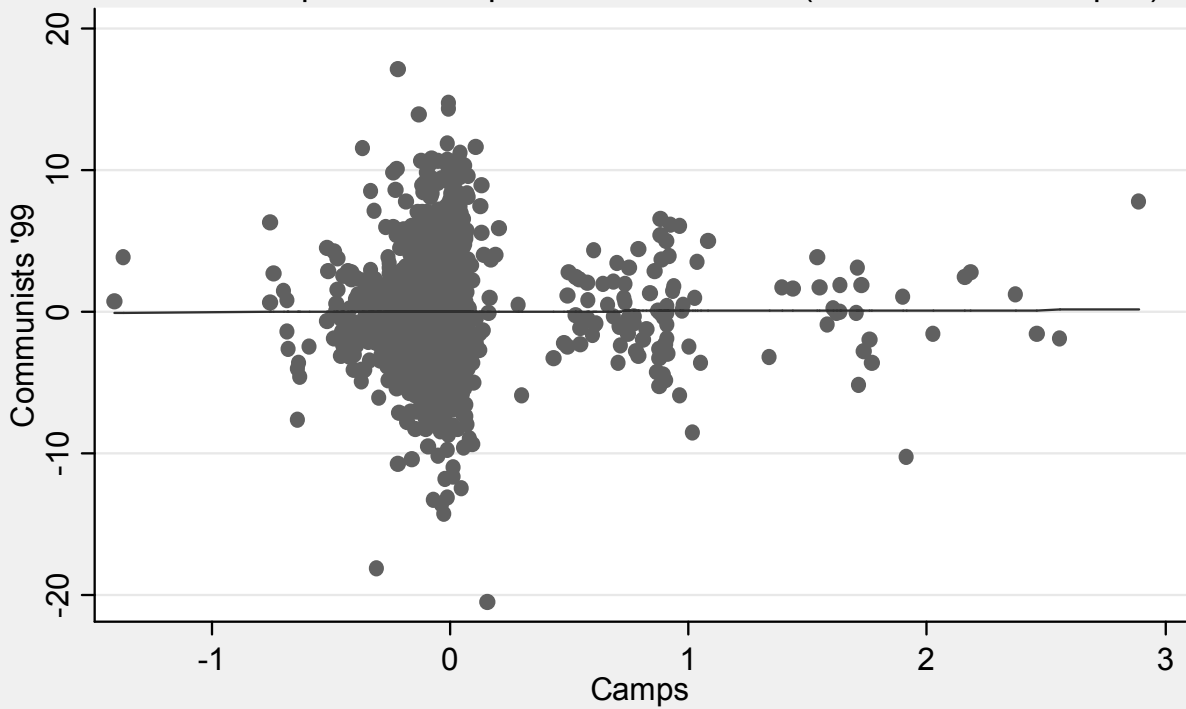
Potentail Impact of Camps on Election 1996 (conditional scatterplot)



Conditional Scatterlot corresponding to Table 5, Column 3

Figure 7

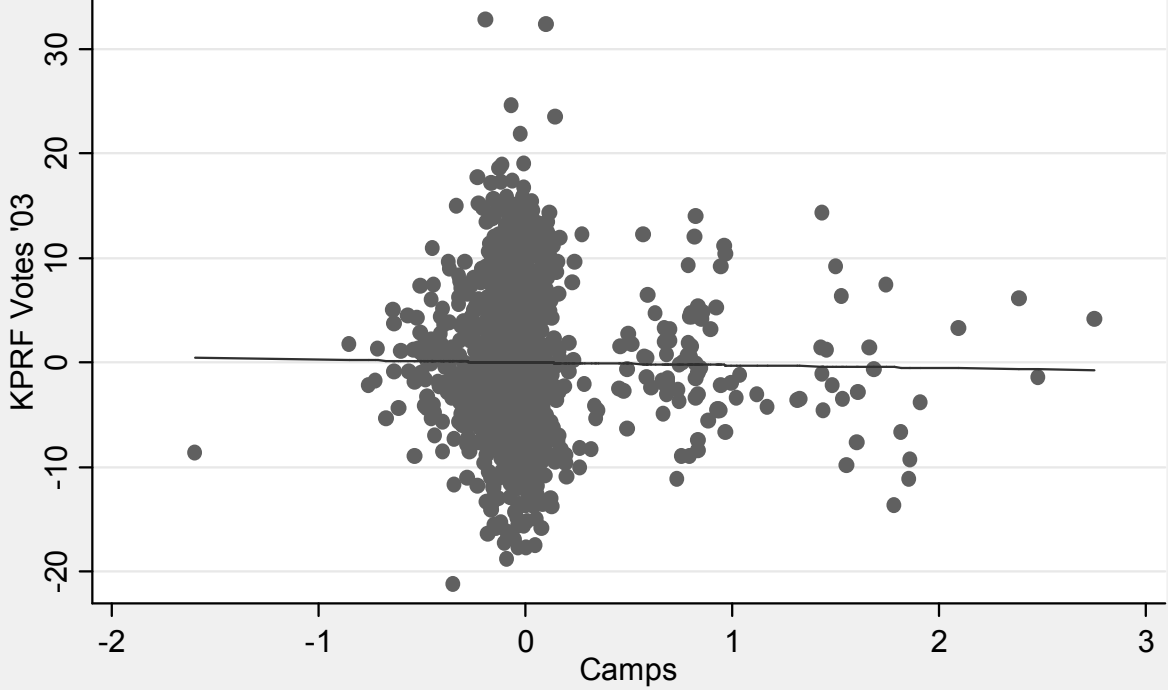
Potentail Impact of Camps on Election 1999 (conditional scatterplot)



Conditional Scatterlot corresponding to Table 9, Column 5

Figure 8

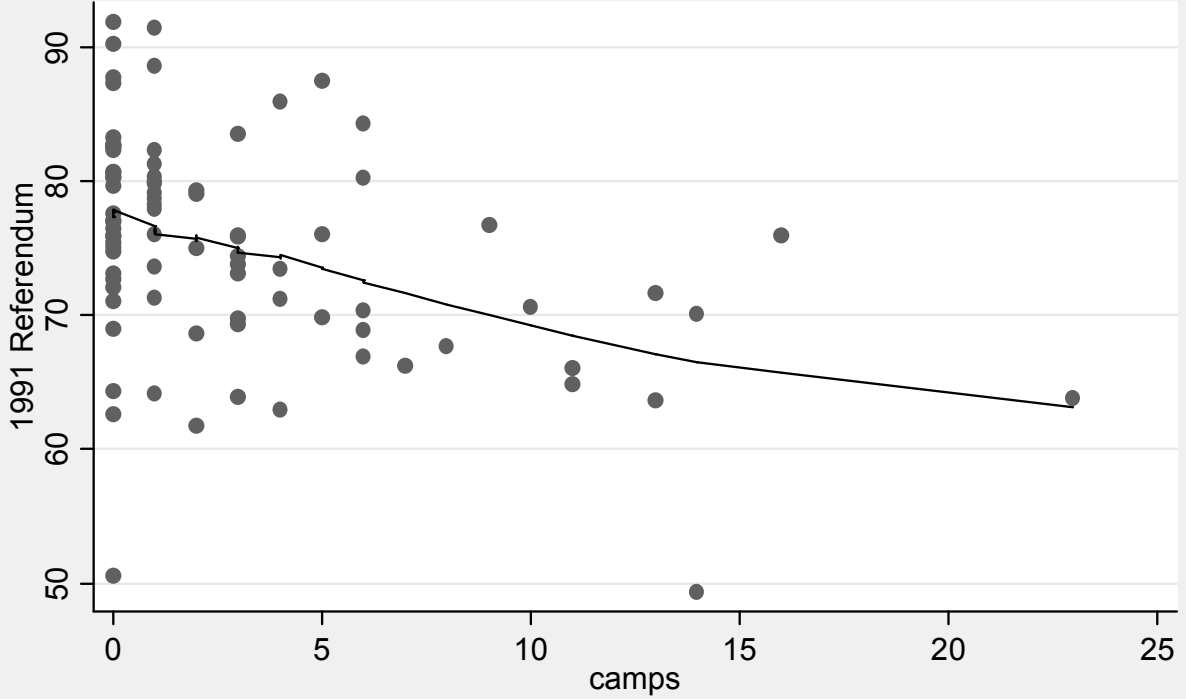
Potentail Impact of Camps on Election 2003 (conditional scatterplot)



Conditional Scatterlot corresponding to Table 10, Column 4

Figure 9

The Impact of the Camps on March Referendum



A locally weighted regression

Figure 10

Potential Impact of Camps on 1991 March Referendum (conditional scatterplot)

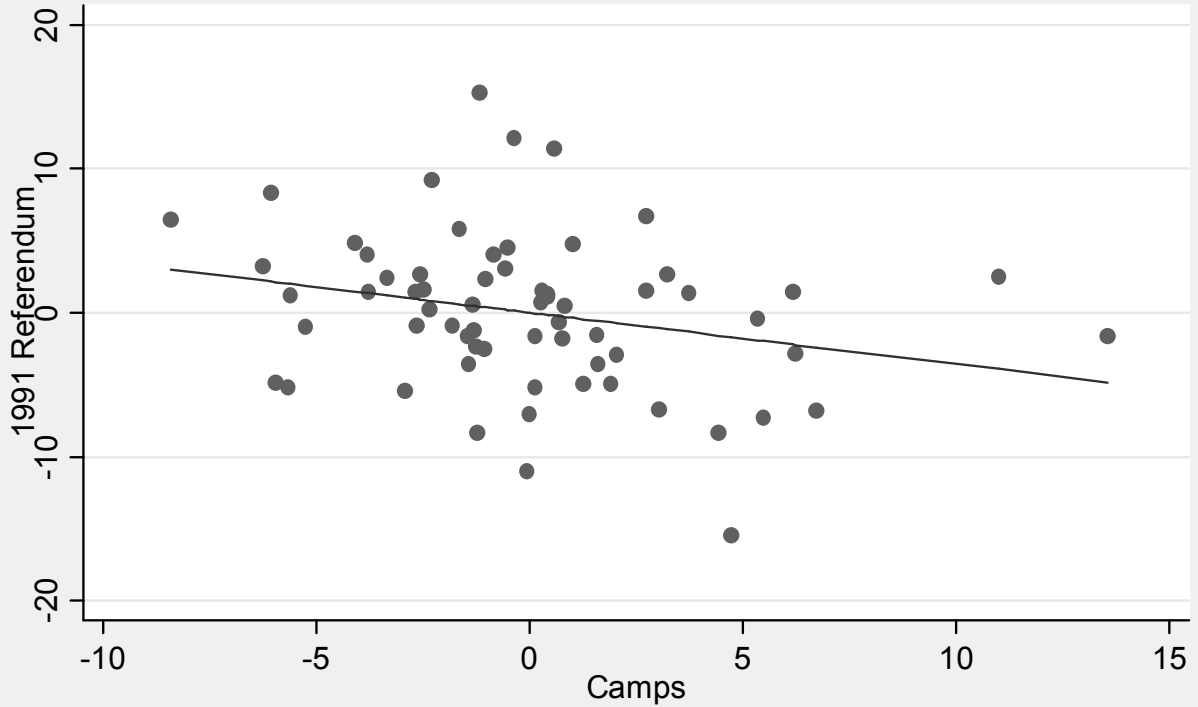
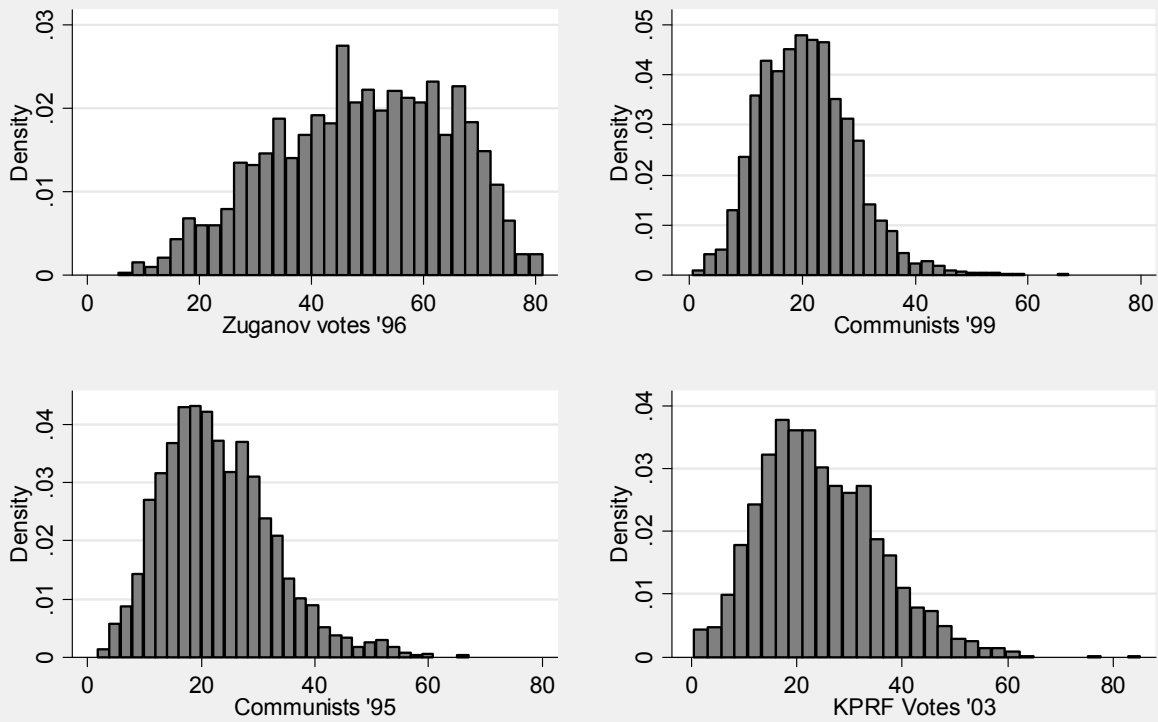


Figure 10

Distribution of Votes



Appendix

TABLE 12
DATA DESCRIPTION

Variable	Description	Source
1991 Referendum	Percentage of voters who voted "yes" to the question "Do you consider necessary the preservation of the Union of Soviet Socialist Republics as a renewed federation of equal sovereign republics in which the rights and freedom of an individual of any nationality will be fully guaranteed?" in the 1991 USSR Referendum.	Electoral Geography 2.0, Mapped politics project, http://www.electoralgeography.com/new/ru/countries/r/russia/russia-march-referendum-1991.html
Camps	The number of Gulag camps. Since there are only four districts with more than 3 camps, it looks sensible to make four groups of districts: 1) no camps; 2) 1 camps; 3) 2 camps 4) 3 or more camps.	The "Memorial" project http://memo.ru/history/nkvd/gulag/
Communists '95	The sum of votes in % of total of KPRF and Communists of USSR.	Official Election Statistics
Communists '96	Votes in % of total for KPRF party.	Official Election Statistics
Communists '99	The sum of votes in % of total of KPRF, Stalin's block - for USSR and Communists - trudyashiesya of Russia- for the Soviet Union. The last party is considered to be a barnburner party (see http://www.panorama.ru/works/vybory/party/tulkin.html).	Official Election Statistics
Correctional institutions	The number of prisons located in the given region.	Reference book: Vse Turmy Rossii http://www.index.org.ru/turma/st/vsetur.htm Description: http://www.gulagmaps.org/data/
dummy on camps	The dummy variable on gulag in municipal unit. The variable equals {1} if there were camps on the territory, and {0} otherwise.	The "Memorial" project http://memo.ru/history/nkvd/gulag/
Gorod dummy	Equals 1 if the unit of observation is city (Gorod), equals 0 if it is Rayon.	Official Election Statistics
High education, %	The percentage of people with high education out of total population.	Census 1989
KPRF Votes '03	The percentage of votes for KPRF party in 2003 Legislative elections.	Official Election Statistics
latitude	The latitude of the district centre or city.	Official Election Statistics
Log of area	Log of area in sq. km the region or city occupies.	Official Election Statistics
Log of avg wage '90	Log of average wages in 1990.	Statistics Committee Library: Regions of Russia 1989
Log of Crimes '90	Log of crimes per 100 000 of population in 1990.	Statistics Committee Library: Regions of Russia 1990
Log of Crimes '96 '98 '03	The log of the number of crimes per 10000 of population in 1996, 1998 and 2003.	Ministry of Finance: municipality budget

Variable	Description	Source
Log of higher stud '96 '98 '03	Log of students studying in institutions of higher education (in thsd) in 1996, 1998 and 2003.	Ministry of Finance: municipality budget
log of pension '98	Log of average pension in the district expressed in thousands of rubles in 1998.	Ministry of Finance: municipality budget
Log of population '03	Log of population in thousands of people.	Ministry of Finance: municipality budget
Log of Population '89	Log of Population in the region in 1989.	Census 1989
Log of retirees '96 '03	Log of people on retirement in the city or district.	Ministry of Finance: municipality budget
Log of unemployed '03	Log of unemployed population.	Ministry of Finance: municipality budget
Log Rural '96	Log of the voting rural population expressed in thousands of people.	Official Election Statistics
Log Voters '95 '96 '99	Log of the voting population expressed in thousands of people.	Official Election Statistics
log wage '96 '98 '03	Log of average wages in 1996, 1998 and 2003 for the city or district expressed in rubles.	Ministry of Finance: municipality budget
longitude	The longitude of the district centre or city.	Official Election Statistics
modern prisons dummy	The dummy on modern prison. Under modern prison we mean all types of correctional institutions (Special and Strict Correctional Colonies, General Correctional Colonies, ethic camp, Isolation colonies) except sizo, where people have the right to vote on the election.	Reference book: Vse Turmy Rossii http://www.index.org.ru/turma/st/vsetur.htm
People with high educ '96	Number of people with high education per 1000 of population in 1996.	Ministry of Finance: municipality budget
Retired people, % 1998	Percentage of population of retirement age in 1998.	Ministry of Finance: municipality budget
Retirees, % '89	Percentage of retirees out of total population in 1989.	Census 1989
Share or urbain pop	The share of population living in the cities.	Census 1989
Unemployed, % '98	Percentage of unemployed population in 1998.	Ministry of Finance: municipality budget
Yeltsin votes '96	Percentage of votes received by Boris Yeltsin in the second round of 1996 presidential elections. The data are district-level, in percent of total voting population.	Official Election Statistics
Zuganov votes '96	Percentage of votes received by Gennady Zyuganov in the second round of 1996 presidential elections. The data are district-level, in percent of total voting population.	Official Election Statistics

Percentage of votes for Zyuganov

- less than 8,11
- 9,26 - 21,86
- 22,08 - 30,05
- 30,20 - 37,01
- 37,11 - 43,73
- 43,77 - 50,47
- 50,54 - 57,09
- 57,16 - 63,59
- 63,68 - 70,46
- more than 70,54

★ - camp

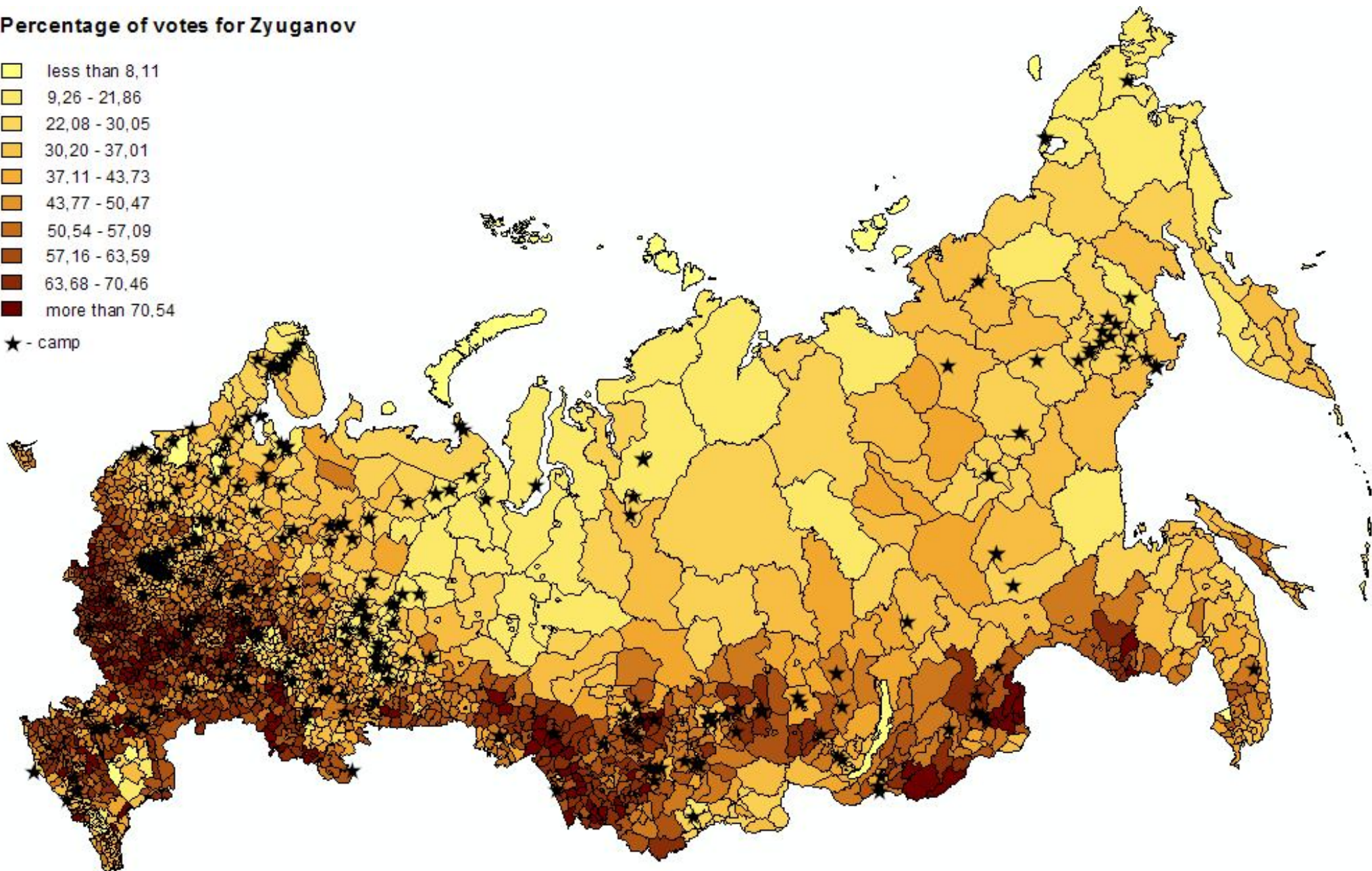


Figure 12. The Second Round of Presidential Elections, 1996

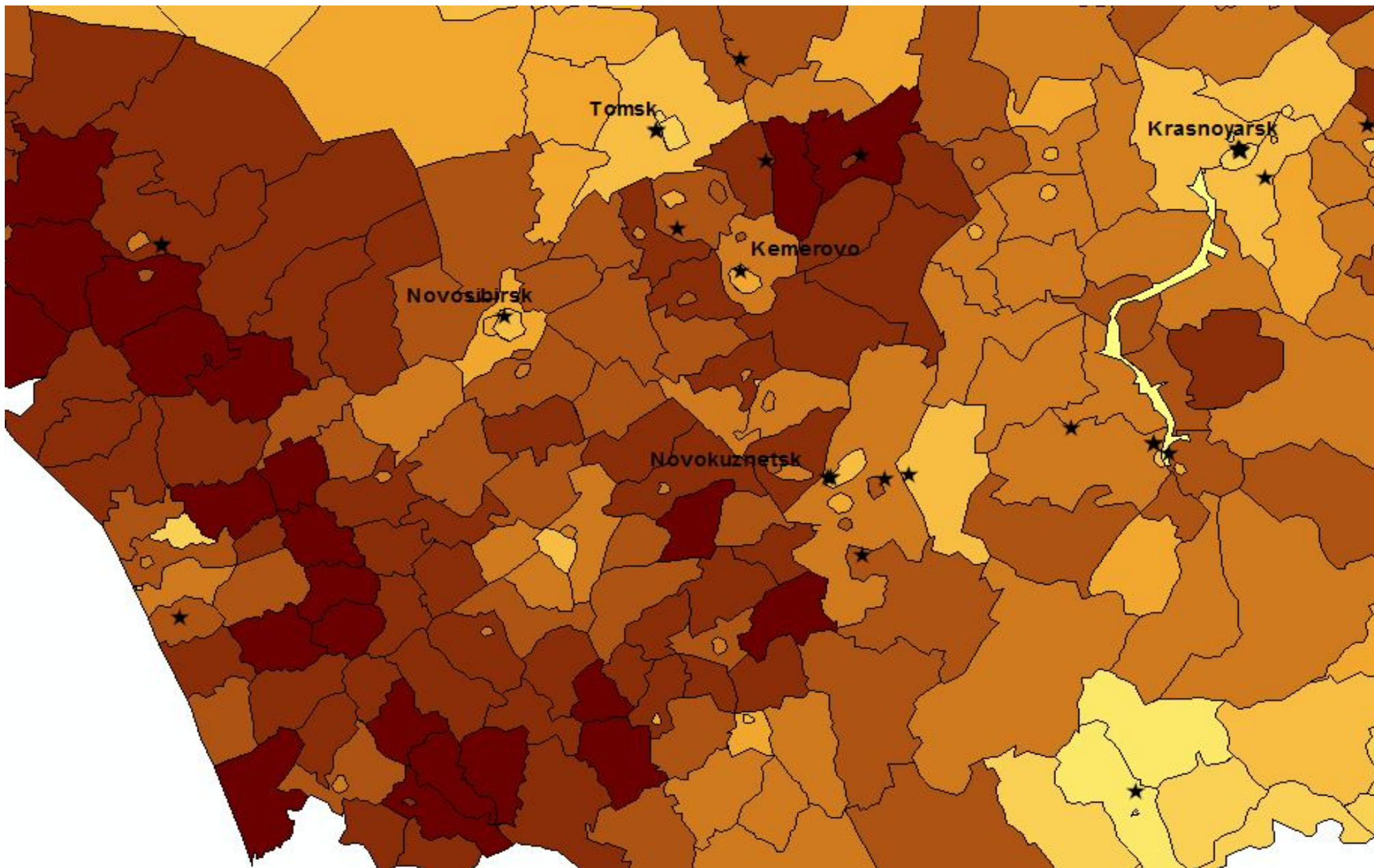


Figure 13. Extract from the map on Figure 12. Marking is the same.