Trial by Fire:

The Impact of Natural Disaster on Attitudes toward the Government in Rural Russia[*]

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Draft, January 25, 2011

Abstract

This study aims to explore the impact of natural disaster, in particular the enormous wildfires, occurred in rural Russia in the summer of 2010, on political attitudes of local population. The research exploits a natural experiment methodology. Since the wildfire spreads due to a direction of wind, i.e. by the Nature, the targets of it are totally random – a village may be burned and the neighboring one has no damage at all. We test the effects of this exogenous variation by a survey of almost 800 respondents in 4 most suffered regions of Russia in randomly selected 34 burned and 36 unburned villages. Contrary to the conventional scholarly wisdom which suggests that natural disasters lead to blaming politicians, our study finds that in the burned villages there is a higher support for the government at all levels, namely for the United Russia Party, a village head, a governor, Prime Minister Putin and President Medvedev. This finding is robust even for the models with control for the generous governmental aid provided for the villages, which were damaged by the fires. The rise of paternalistic attitudes in the aftermath of the disaster is explained by the impact of political regime features and emotional, behavioral and cognitive experience of the people. Substantially, this research has a potential theoretical contribution to the debates on the political economy of natural disasters, political attitudes and legitimacy under non-democratic regimes.

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1 Introduction

How do natural disasters affect political attitudes toward the government? What is the impact of the exogenous shocks on legitimacy under the non-democratic regimes?

There is an interesting and controversial debate on the impact of natural disasters on politics (Abney and Hill, 1966, Achen and Bartels, 2004, Healy, Malhotra, 2009, Gasper and Reeves, 2011). In a nutshell, most of the authors argue that people who suffered from the natural disaster tend to blame the incumbent government and vote for the opposition. Some studies consider this behavior as "blind" and disrespectful for the actual role of politicians, while others explain it by the effectiveness of the government in preventing disasters and combating their consequences. However, the debate is in the most cases limited to the US material and based on the descriptive evidence, which remains fragile to the problem of confounding variables.

This study aims to explore the impact of natural disaster on political attitudes toward the government under the authoritarian regime using a natural experiment methodology. In particular we study the impact of the enormous wildfires, occurred in rural Russia in the summer of 2010, on support for different levels of government.

Wildfires of the summer of 2010 in Russia were the most disastrous in the recorded history. The fires burned more than 500 thousands of hectares of land. More than 50 people died and more than 1200 houses were destroyed. President of Russia Dmitry Medvedev declared the state of emergency in 7 regions and Prime Minister Putin personally participated in the fire-fighting operation.

The main reason for the fires was the abnormally high temperatures. However, many observers and citizens also blamed the authorities for the poor performance in preventing and combating fires. Therefore, the fires challenges the "power vertical" – authoritarian system of government build by Vladimir Putin. The system, which pretends to be an effective administrative mechanism, has shown its rigidity, inefficiency and incompetence. This challenge should be recognized as a crucial one, if one considers that rural areas are the strongholds of Putin and his party "United Russia". Therefore, analysis of the impact of the natural disaster on political attitudes of the suffered villagers has a solid explanatory power for the broader problems such as the causes of sustainability of Putin's regime and popular support for autocracies in general.

The wildfires of 2010 have already attracted a scholarly attention. David Szakoniy (2011) explored their effect on voting for the ruling United Russia Party on regional elections which were held in October of 2010 just two months after the disaster. He found that in the areas that experienced greater fire damage the electoral results of the party were lower than the averages

and based on this result he claimed that voters punished the United Russia for the disaster. Moreover, the author also found evidence for the government responsiveness – anticipating the public anger, the United Russia altered their electoral strategy and put forth candidates with less legislative experience that was interpreted by the author as a sign of accountability. Thus Szakoniy's study shows that there are no big differences in blaming patterns of citizens under authoritarian and democratic regimes and Russian voters behave like their American counterparts. Although this study has a coherent logical structure and solid empirical supports for its claims, it suffers from several methodological and substantial problems. First, the regions that are included in the study were not among the most suffered areas, actually in the majority of them the fires did not reach the level of disaster and have only a marginal effect. Second, the author used the indirect measure of fire damage derived from the satellite imagery of heat, instead of looking at the number of destroyed houses or a level of economic losses. Finally, the author was not able to control for the possible omitted variables that drive the relationship. Our study hopes to overcome the highlighted problems and test the validity of Szakoniy's results that serve as point of departure for our research.

The main innovation of our study is the use of research design of the natural experiment. Since the wildfire spreads due to a direction of wind, i.e. by the Nature, the targets of it are totally random – a village may be burned and the neighboring one has no damage at all. We test the effects of this exogenous variation by a survey of almost 800 respondents in 4 most suffered regions of Russia, namely Nizhny Novgorod, Ryazan, Lipetsk and Voronezh oblast, in randomly selected 34 burned and 36 unburned villages. Thus we seized the opportunity presented by naturally occurring randomized assignment.

The natural experiment methodology allows us to claim for unbiased causal inferences from the relationships of the interest of study. Moreover, experimental framework provides a unique opportunity to study out-of-equilibrium phenomena, i.e. the problems that seldom occur and have substantial effect on social organization. Natural disaster can be considered as one of them. First, it provides an exogenous shock to a social organization, second it causes the collective action of suffered population and finally, it leads to the intervention of government in the community affairs with relief and aid. All these features may have profound impact on the social organization, attitudes of the people and their behavior.

The main hypothesis of the study is that in the burned villages there is a less support for the government, due to the anger from poor performance of authorities during the natural disaster. Alternative hypothesis if that in the burned villages there is a higher support for the government due to the dependency from it.

Substantially, this research has a potential theoretical contribution to the debates on the political economy of natural disasters, political attitudes and legitimacy under non-democratic regimes.

2. Related Literature

Natural disasters have been treated as a political variable since the pioneering work of Abney and Hill (1966), who showed the effect of the hurricanes on the results of urban elections. However, the theme has not attracted the serious scholarly attention until the path-breaking work of Achen and Bartels (2004), who presented the evidence that citizens blame the incumbent government for different natural disasters. The most striking case is the voting against Woodrow Wilson in the shore counties of New Jersey that suffered from unprecedented shark attacks just couple of months before the elections of 1916. Achen and Bartels also provide numerous examples from the ancient Egypt where pharaohs were occasionally overthrown for the failures of making the Nile flood and murders of the Jews in the Medieval Europe during the plague years to voting for the opposition party in the modern America as a result of exposure to draught. These results challenge conventional scholarly wisdom on the democratic responsiveness and rational choice model of retrospective voting (Fiorina, 1981) that dominated the discipline for al long time. They stress that actually voters are irrational or "blind" in the attribution of blame to politicians.

In contrast, Gasper and Reeves (2011) found that voters are not "blind" and their behavior is not absurd: they punish politicians for severe weather damage only if responsible officials performed badly. In line with this finding Healy and Malhotra (2009) report that voters neglect politicians' preventative actions, but punish them for evident misgovernment in fighting the disaster and organizing relief.

Malhotra and Kuo (2008) studied the public responses to Hurricane Katrina and found that the attribution of blame to different levels of government has partisan bias.

The issue of the blame attribution in the Russian context was profoundly analyzed by Debra Javeline (2003a; 2003b), who has shown how specificity of blame attribution increased the probability of protest against the unpaid wages in the end of 1990-s.

This study also speaks to the literature on Russian politics and the problem of the popular support for the non-democratic government (Colton and McFaul, 2003). In general public support for Vladimir Putin and his political system depends on the perceptions of economic performance, which, in turn, reflected objective economic indicators (Treisman, 2011; Ross at. al. 2011). Other important factors include control over media and political sphere (Wilson, 2005)

and imposition of high formal barriers for the entrance to political market that eliminate serious challengers. A study of the impact of the natural disasters on the attitudes toward the government allow to explore the more obscure and deeper foundations of the legitimacy of the regime that are rooted in individual and collective psychology and the cost and benefits of being politically loyal.

3 Theory and Hypotheses

In our study we follow a standard definition of attitude elaborated in political psychology. According to it an attitude is "a psychological tendency that is expressed by evaluating of particular entity with some degree of like or dislike" (Eagly and Chaiken, 1998; see also Allport, 1935). Attitude is a mental disposition, which is formed by a personal experience or an observational learning. The processes of attitude formation and attitude change are driven by affect, behavior and cognition (Eagly and Chaiken, 1998). The affective part is an emotional response that expresses preferences toward an object. The behavioral component is caused by an experience. And the cognitive element is based on rational evaluation of an object.

We use the concept of attitude change to test and explain the attribution of blame and political responsibility that are among the most important issues on the agenda of political psychology. The literature on blame attribution distinguishes between two types of blame: blame for causing a problem and blame for failing to treat or rectify a problem (Iyengar 1989, 1991, Javeline 2003). In our study we test the impact of both types, asking about the blame of the government in occurrence of the fires and asking for an evaluation of the relief and reconstruction programs.

Our main hypothesis that is in line with the previous research on political economy of disasters, assume that exposure to the natural disaster lead to blaming the government and thus to negative attitudes toward it. In general this hypothesis can be expressed as follows:

H(1): People from the burned villages are less likely to support the government then those from unburned.

We test this general hypothesis on the attitudes toward particular governmental bodies on the all levels of power:

H (1.1): There is a lower level of support for a head of a village in the burned villages.

H (1.2): There is a lower level of support for a governor in the burned villages.

H (1.3): There is a lower level of support for the United Russia Party in the burned villages.

H (1.4): There is a lower level of support for the Prime Minister Putin in the burned villages.

H (1.5): There is a lower level of support for the President Medvedev in the burned villages.

This set of tests on attitudes allows us to differentiate the blaming effect and check its sustainability.

Alternative hypotheses that stress that exposure to the natural disaster lead to increase in support of authorities are grounded on system justification theory (Jost et al. 2004), which argues that people are motivated to see their authorities as relatively fair and just to defend existing social arrangements even when doing so is not necessary in their own interest. According to the theory, this effect is more pronounces when a) the system is threatened; b) the system is perceived to be inevitable; c) one feels dependent on (or controlled by) the system. It is also supposed that, if people justify social system in part because they are dependent on those systems, they should also justify the position of groups and individuals who control those systems. The more people feel dependent on an authority figure, the more they should be motivated to perceive him or her as legitimate. In general, legitimacy contributes to power, but power can also lead to legitimacy through the process of system justification.

Noteworthy, in case of attitudes the null results can be attributed not only to the absence of the statistically significant relationship, but also to the ambivalence that is a simultaneous possession of both positive and negative attitudes toward the object.

In general our theoretical assumptions can be raised to the problem of legitimacy of the regime, because they provide a comprehensive aggregate assessment of people's support for the basic institutions of political power.

4 Social Context

Our theoretical predictions are tested on the very specific and interesting empirical material. Contemporary rural Russia is almost absent from the social sciences inquires, however, being a mixture of traditionalism, ruins of the communism and the sprouts of modern capitalist relations, it poses an excellent soil for doing social research.

From the most part of its history Russia was an agrarian country with the predominant rural population, but the Great Reforms of 1860-es, and especially collectivization and active industrialization provided by the Soviet authorities led to the rapid urbanization and decrease in significance of the village. Several developmental lags inherited in the past caused the huge gap in economic prosperity and the social norms between urban and rural areas of Russia (Fitzpatrick, 1994; Gaechter and Herrmann, 2011).

After the collapse of the Soviet Union the agricultural sector lost its heavy state subsidies and in result, things fall apart and population became "the rural proletariat in the Potemkin village" (Allina-Pisano, 2008). Massive migration to the cities was the dominant trend. In the majority of the cases, only old population and inveterate drunkards remained in the villages. "I have been drinking since 1994 when the last kolkhoz was closed in this area" – these words of one of the respondents of our study perfectly illuminates the depressive picture of the post-soviet Russian village. Economic recovery of 2000-es has slightly changed the situation. In some villages businessmen organized large agro-farms, somewhere people themselves started small-scale farming. In addition urban dwellers, who have houses for seasonal living in the rural areas, invested their resources to the local communities. But overall demographic and economic crisis is still in place.

In political terms, the Russian village is considered to be conservative. In the 1990-es the rural population supported the communists, but in the 2000-es switched the loyalty to Vladimir Putin and his party "the United Russia". Moreover, along with national republics, the rural areas became the stronghold of Putin's regime.

Unprecedented wildfires of the summer of 2010 in central Russia were probably the biggest natural disaster in the recent history. Started due to the abnormally hot weather, the fires rapidly spread to the large areas, destroying everything on its way. Many observers criticized the government for inefficient response to the disaster. In addition, people blamed the government for the elimination of the special agency, which was responsible for the prevention of the forest fires. However, the critique of the government was translated primarily via the Internet, which remains a rare communication facility in the rural Russia. In contrast, on state-controlled TV the leaders of the state were presented as the principal figures in fighting against fires and all blame for inefficient performance was attributed to the local and regional levels of government. As a result, 77% of our respondents stated that the primary cause of the fires was the hot weather and about a half (51%) agreed that it was also the failure of the government.

After the fires were extinguished, the government organized a large-scale aid provision to the suffered population and reconstruction works in the burned villages. To all villagers who lost their houses, in the short period of time the government built the new ones. In addition the burned villages received such public goods as the new roads and gas. The reconstruction process was under the direct control of the Prime Minister Putin and organized pretty efficiently. However, many people complained about the egalitarian way of the reconstruction process – all families irresponsible of the value of the lost property received the same typical new houses. All in all, about 70 % of our respondents said that they are more or less satisfied with the reconstruction process.

5 Research Design

5.1 Methodology

By the widely shared definition, an experiment in social sciences is a random assignment of observations to treatment and control conditions such that every unit has the same ex ante probability of receiving the treatment (Gerber and Green, forthcoming). Comparison of means and statistical tests described later in the text show that there are no significant differences between pre-fire parameters of the burned and unburned villages that is consistent with our assumption that our study fits in the experimental framework.

However, our study is not a perfectly controlled experiment, but rather a use of naturally occurred experimental conditions. Because of it, the study suffers from several methodological problems.

The most important problem is that we have two sources of exogenous variation – exposure to the wildfires and the governmental aid to the burned villages. Although it violates the requirement of excludability of the treatment effect, this problem should not be overemphasized because in the modern world natural disasters are always accompanied with some kind of aid, which of course varies from country to country. In addition, we try to exclude the effect of aid by using of the relevant variables as the proxies in our empirical analysis.

Another fundamental requirement to the experimental research, which in the professional jargon is called SUTVA (stable unit treatment value assumption), is fulfilled by the special methodological tools. First, we test the assumption that natural disaster may have a spillover effect, in other words that exposure to the treatment group of one unit may affected a neighboring one. We test it by controlling for the distance to the closest burned village for all unburned villages in our sample. Second, our study is vulnerable to the attrition problem that is a non-random loss of observations. The problem arises due to some people from burned villages left them after the fires, therefore comparison between treatment and control group may be invalid. We partially solve this problem by the survey of one of the resettled villages. However, those people who left the rural area and receive their aid in form of apartments in the cities are not represented in our study.

Finally, since unfortunately natural disasters occur pretty often this study won't have a big problem with external validity. Contrary, it opens a wide perspective for comparative analysis. Earthquakes, tsunamis, typhoons, draughts and other disasters that happen in other parts of the world also ultimately affects politics and therefore provide a material for replication of the logic of the present study.

5.2 Sampling

We build our sample by the procedure of blocked randomization. The treatment group was formed by 34 villages from the total sample of 43 villages from the 4 most suffered regions of Russia, namely Nizhny Novgorod, Ryazan, Lipetsk and Voronezh oblast. Villages that are not represented in the study are either too small or belong to the other administrative units. The control group was formed by the random choice of 36 villages from the pool of 160. The randomization was blocked by region, population size, and distances from the oblast capital and rayon center. What is more, half of the control group was chosen from the terrain, which is prone to wildfires (coniferous forest areas) and half from the territories with the small risk of wildfire (deciduous forest areas). We did so to create a variation in the risk of wildfire and distance form the burned villages that is used to control for the spillover effect.

In every village we surveyed from 10 to 16 people. In the burned villages we surveyed both those households that suffered from the fires and those who did not in almost equal proportion (50.7% of our respondents lost all their property in fires and 41.1% of them have not suffered at all). The response rate was over 90%.

5.3 Survey

The survey was conducted by the authors and a group of research assistants in July and August of 2011, i.e. exactly one year after the fires. Survey included the various questions on trust, participation in local governance, events related to the fires and damage from it, political awareness (knowledge of the names of politicians), satisfaction with different levels of government and individual information. In general the survey had 35 questions.

6 Variables and Data

Dependent variables of the study are drawn from the answers for the questions of the survey which ask to evaluate a respondent's satisfaction with the work of the governmental bodies, namely a head of a village, a governor, the Prime Minister (Putin) and the President (Medvedev). The answers on these questions are based on the Likert scale and include such positions as 1 - fully dissatisfied, 2 - rather dissatisfied than satisfied, 3 - rather satisfied then dissatisfied and 4- fully satisfied. The questions also include the point for those who find difficulty to answer. Another outcome of interest - political preferences are measured by the

responses on the question "what party are you going to vote for in December[††]?" We coded this variable as binomial that receive value of 1 if a respondent supports the United Russia party and 0 for all other answers. This choice is justified by the nature of Russian politics and the 2011 Duma campaign in particular, where all political forces were more or less clearly divided into two camps: for the UR and against.

The main independent variable of the study that shows the exposure to treatment is coded as binomial and receive a value of 1 if the village was burned and a value of 0 if not. A village is considered to be burned, if there is at least one burned house. The data that we used for this variable come from the Russian Ministry of Regional Development.

The analysis also includes a set of covariates that are used as controls. They are drawn from two levels – village and individual.

The variables on the village level include population size, distance from the oblast center, distance form the rayon center, municipal revenues and expenditures from the 2009 – the year prior to the fires. These data for these variables come from the municipal statistics of the Russian Federation Federal State Statistics Service (ROSSTAT).

The variables on the individual level are measured primarily from the responses to the survey and include personal or family victimization from the fire, residence status (permanent/temporary season residence), sex, age, the level of education, and occupational status. We also measure the indicators of communication facilities by asking the respondents about the availability and use of radio, TV, telephone and the Internet in their households.

In addition, we test the variables on the political awareness of the respondents, i.e. their knowledge who occupied the political offices to the moment of the study that may have crucial impact of the political attitudes toward the institutions that are represented by this people. These variables are based on simple binary opposition: 1 – the right answer and 0 – the wrong one.

To catch the regional fixed effects we create dummies for all four regions that are presented in the study.

Finally, we calculated variables on the distance from the closest burned village for all units that constitute the control group. All units in treatment group received zero values. We also reckoned a proxy for the governmental aid that is the number of reconstructed houses that is borrowed from the official data of the Russian Ministry of Regional Development. These variables are used to solve the methodological problems of spillovers and excludability of the treatment effect.

[††] December 4, 2011 – elections of Russian State Duma

7 Empirical Analysis

The first part of the empirical analysis checks the integrity of randomization. For this purpose we use differences in means and F-test, which basically shows the equality of variances and thus the probability of rejecting the null hypothesis. The results of these tests for village-level variables are presented in Table 1 and for individual-level variables in Table 2. The results confirm that the assignment to treatment and control groups bears no systematic relationship to the observables. There are no differences on average between burned and unburned villages in population size, territory, distances from the oblast capitals and rayon centers, revenues and expenditures and no differences in age, gender, residence status, education, occupation and access to communications between their inhabitants. The only variable that has significant F-test score is the access to radio and this fact can be neglected, because it can be attributed to the post-fire public goods provision.

After the confirmation of the reliability of our basic methodological assumption we turn to the testing of the hypotheses. The logic behind this process is very simple – we regress our dependent variables on the independent variable and by this means obtain an average treatment effect. Since out unit of analysis is individual and randomization was provided on the village level, we use robust clustered regression to exclude possible bias in standard errors.

For all the outcomes of interest we run three models. The first one includes only dependent variable and predictor - that is the exposure to treatment effect. The second model incorporates all controls both on individual and village level and regional fixed effects. Finally, the third model comprises variables that are used for the clarification of the causal path and check for the spillover effect.

For support for the United Russia that is binomial variable we run logistic regression, the results of which are presented in Table 3. And for the ordinal outcomes on support for the governmental bodies we use ordered logistic regression. Table 4 gives the results for a village head, Table 5 for a governor, Table 6 for Prime Minister Putin and Table 7 for President Medvedev.

The results of the analysis show that the exposure to fire substantively increases support for all levels of government, however the effect differs from one level to another. For the village head we find weak and inconsistent positive increase in support in the burned villages. On the other hand, for support of the United Russia and the governors the positive effect is found to be strong and statistically significant. And for support for Prime Minister Putin and President Medvedev the positive effect of fires is very strong and robust to all specifications of the models.

These results fully contradict with our main hypothesis and confirm the alternative one. They challenge conventional scholarly wisdom that individuals tend to blame and punish politicians for the natural disasters. In our case it is particularly interesting, because the half of our respondents pointed out that the government was actually responsible for the disaster.

Even more intriguing, the treatment effect is comparable to the effects of such strong predictors of support for the government as the level of education, gender and access to the Internet. As our data shows, women, less educated and those, who have no access to the Internet, tend to support the United Russia and the governmental bodies more. And if we compare the z scores – that are standardized measures of the effects of the variables, we will see, that the exposure to fire is one of the strongest predictors of political attitudes in almost all the models.

After the establishment of the treatment effect, we turn to the exploration of the causal path that leads from the treatment to the outcomes. In general, randomized experimentation is often presented as a "black box" approach to the causal inference (Gelman and Hill, 2007), because the researches have no ability to see how exactly a treatment works.

Indeed, how does the exposure to wildfires lead to the higher support for Vladimir Putin and increase the willingness to vote for the United Russia? The most obvious explanation is that these political attitudes are caused by the generous governmental aid. But how could we test this explanation?

There are many techniques, which try to ascertain the causal path between treatment and outcomes. Most of these techniques are based on regression analysis that includes different post-treatment or mediating variables. However, this approach is heavily criticized because it is based on shaky and restrictive assumptions (Gelman and Hill, 2007; Gerber and Green, forthcoming). The main problem is that the mediator is not randomly assigned and therefore could be systematically related to unmeasured causes of the outcome. Therefore, we cannot estimate the role of aid by including in the models a measure of subsidies of 2010 or other relevant variables on post-fires public goods provision, since they can be driven by some unobserved village characteristics.

Instead, to avoid the biases of the simple mediation analysis, we try to find the impact of the governmental aid by testing a variable on the number of reconstructed houses, which serves as the proxy of the magnitude of the disaster that ultimately determines the magnitude of aid. This variable is not a post-treatment covariate, but an extension of the treatment, and therefore keeps the experimental framework. This variable isolates the direct effect of the exposure to wildfires and the effect of the losses and the provision of aid. To test this effect we run the Model 3. In addition, to check for the spillover problem, Model 3 estimates the effect of the distance from the closest burned village. In our case spillover may occur either from positive

externalities of the aid provision or, in contrast, from the envy to the villagers, who have received compensations and new houses, by the dwellers from the neighboring villages.

The results of the tests of the magnitude of the aid provision show that it is a powerful predictor of support for the governors, Prime Minister and President, however it drives out the effect of the exposure to fire only in the case of the governors. For the support of Putin and Medvedev it works as a supplement for the main treatment effect. Therefore it is possible to conclude that aid can't fully explain the difference in support for the governmental bodies and party of power between burned and unburned villages. Dwellers of the burned villages were not directly "bought" by the governmental aid and their support for the government has more complicated nature.

Spillover effects were found in the models of support for the United Russia, Putin and Medvedev. The effects are positive: the level of support for the authorities in the villages that are far away from the burned areas is significantly lower. This finding can be explained by the positive externalities of the reconstruction works and by the general psychological effects of the fires as exogenous shocks that is discussed below.

Since our empirical analysis gives support for the hypothesis based on the system justification theory, we interpret the results being guided by it. We consider the fires as the exogenous shock to the social system established in the villages. This shock and loses caused by it determine the high level of uncertainty and an increase in the dependency from the government. Thus we have two conditions of the rise of the positive attitudes toward authorities – treat and the feeling of dependency. The third condition that is the perceived inevitability of the system is fulfilled by the characteristics of the political regime. We believe that the factor of regime is able to explain the difference in findings on blame attribution and political attitudes toward the government between our research and previous studies, which were conducted on materials from democratic societies. Authoritarian regime just does not provide an option for political change. Voice against the governor, Putin or the United Russia will not harm them seriously, but can lead to the harm of those who complain. As we know from comparative politics, in conditions of the authoritarian regime blaming the government is costly, because loyalty is the main prerequisite for receiving material benefits (Magaloni, 2006). In the case of the burned villages support for the government may be interpreted as rational, because it is an expression of loyalty to the only possible source of the material assistance. The opposition has neither resources to help the suffered population, not the visible opportunity to come to power and use it for rewarding their supporters.

Moreover, it is well known in the literature that democracy facilitates specific blame attribution by the means of competitive elections that create a "purposely informative political

environment" (Javeline, 2003 p. 109). First, campaigns and media coverage directly address the issue of culpability for problems and thereby provides the population with shortcuts to information gathering. Second, elections structure the information and public opinion toward the blame in the finite amount of time. Third, voting gives limited options for the expression of blame that include only politicians running for office. Thus in the absence of democratic mechanisms of political competition the question who is to be blamed does not receive the level that is required to lead to the negative attitudes toward the incumbent government.

This idea can also explain the difference in our findings and the results of Szakoniy's study. He explores the effect of blaming in the context of electoral campaign that occurred just two months after the fires. So it is plausible that in his case elections produced the necessary information space that led to blaming the government and voting for opposition. In addition, he studies the population from the large and diverse areas where many people have an access to the Internet that was the main source of critique of the government and we study the population in the homogeneous rural areas that rely on the state-controlled TV as the primary source of information.

Another possible explanation of our results is that the positive attitudes toward the government are the product of emotional, behavioral and the cognitive experience of the people who for the first time faced the authorities as a result of the disaster. Before the fires occurred the dwellers of the villages saw all the government officials only on TV. And after the fires they received enormous governmental attention. This is especially true for the leaders of the state. For instance, Vladimir Putin himself visited two burned villages and met with the people. Moreover, the relief of the damage of the disaster was organized pretty much efficiently: all the people who lost their houses were given the new ones in the short period, the suffered areas were provided with additional public goods and all public officials paid a special attention to the needs of the locals.

All in all, in conditions of uncertainty and anxiety from the disaster paternalism and loyalty for the government increases rather then fall. And this outcome probably incorporates all the components of the attitudinal structure: emotions, including fear from the disaster and enthusiasm from the receiving of the governmental aid, behavioral experience and cognitive rational calculations of the costs and benefits of the support for the government. Taken together these components yielded the positive attitudes toward the authorities.

8 Conclusion

"Who is to be blamed?" and "what is to be done?" are the two everlasting Russian questions. The population of the villages burned by the wildfires in the summer of 2010 had to answer both of them. The disaster thereby created a unique opportunity to study blame attribution and political attitudes formation in the out-of-equilibrium circumstances.

The main finding of our study that the natural disaster increases support for the government even controlled for the aid for relief illuminates an interesting feature of the political attitudes formation. We stress that in conditions of uncertainty, dependency from the government and the absence of political pluralism the demand for paternalism raises. This idea enriches system justification theory by adding to the individual characteristics a factor of political regime. We argue that it may be helpful for understanding of the sustainability of Putin's rule in Russia and the legitimacy of the authoritarian governments in general.

In addition, our study shows the benefit of exploiting of the methodology of the natural experiment that allows us to provide the causal inference from the relationships of the interest.

Finally, this study establishes a new agenda for the comparative research on the political economy of natural disasters.

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Table 1. Means and F-test for basic village-level variables

Fire	Population	Territory	Distance from the oblast capital	Distance from the rayon center	Revenues	Expenditures
0 N=?	673.2	146616.4	56.7	18.6	6144486.7	5915200.5
1 N=?	586.8	16513.6	62.3	17.9	6211278.9	5883892
F-test (Sig)	0.183	0.104	0.104	0.276	0.861	0.922

Table 2. Means and F-test for basic individual-level variables

Fire	Residence	Sex	Age	Education	Occupation	Radio	TV	Cell Phone	Interne
0 N=394	2.2	0.39	53.1	5.1	1.42	0.6	1.1	1.5	1.1
1 N=375	2.8	0.4	55	4.3	1.4	2.2	2.2	2.4	2.1
F-test (Sig)	0.295	0.852	0.100	0.349	0.982	0.05	0.09	0.121	0,21

Table 3. Logistic Regression Analysis of Factors of Support for the United Russia

Independent Variables	Model 1		Model 2		Model 3	
	Coef (St. Errors)	z	Coef (St. Errors)	z	Coef (St. Errors)	z
Fire	**0.47** **(0.2)**	**2.33**	**0.54** **(0.22)**	**2.42**	**0.37** **(0.24)**	**1.52**
Distance to fire					-0.02** (0.09)	-2.11
Number of reconstructed houses					0.05 (0.02)	-0.22
Population Size			0.0003 (0.01)	0.24	0.003 (0.01)	0.19
Distance to regional capital			0.03 (0.02)	1.35	0.02 (0.02)	0.8
Distance to rayon center			0.002 (0.01)	0.14	-002 (0.01)	-0.14
Revenues			0.95 (0.71)	1.3	-0.13 (0.7)	-0.16
Expenditures			-0.14 (0.08)	-1.74	-0.62 (0.9)	-0.68
Residence Status			-0.13 (0.09)	-1.4	-0.12 (0.1)	-1.25
Sex			-0.56** (0.22)	-2.52	-0.55 (0.22)	-2.43
Age			-0.01 (0.08)	-1.64	-0.02** (0.09)	-2.39
Education			-0.26** (0.13)	-1.95	-0.3** (0.14)	-2.2
Occupation			0.49* (0.27)	1.81	0.45 (0.28)	1.6
Radio			-0.27 (0.22)	-1.2	-0.36 (0.23)	-1.56
TV			-0,47 (0.5)	-0.94	0.12 (0.33)	0.37
Internet			0.01 (0.03)	0.48	-0.42 (0.2)	-2.05
Voronezh			-0.81** (0.42)	-1.9	0.57* (0.33)	1.73
Ryazan			omitted		omitted	
N. Novgorod			-0.48 (0.45)	-1.06	0.5 (0.37)	1.34
Lipetsk			-0.39 (0.39)	-0.99	0.67** (0.31)	2.12
N	767		711		700	
Wald Chi2	5.56 (1)		49.98 (17)		75.3 (19)	
Pseudo R2	0.008		0.08		0.08	

Note: *p<.10, ** p<.05, ***p<.01; Standard Errors Adjusted for 70 clusters in village

Table 4. Ordered Logistic Regression Analysis of Factors of Support for Village Head

Independent Variables	Model 1		Model 2		Model 3	
	Coef (St. Errors)	z	Coef (St. Errors)	z	Coef (St. Errors)	z
Fire	**0.35*** **(0.2)**	**1.75**	**0.34*** **(0.2)**	**1.69**	**0.15** **(0.21)**	**0.71**
Distance to fire					-0.11 (0.09)	-1.19
Number of reconstructed houses					0.02* (001)	1.59
Population Size			-0.002 (0.002)	0.51	-0.07 (0.1)	-0.41
Distance to regional capital			0.003 (0.02)	1.48	0.003 (0.02)	`1.29
Distance to rayon center			-0.01 (0.1)	-0.08	0.003 (0.05)	0.3
Revenues			-0.24 (0.7)	-0.31	-0.54 (0.9)	-0.59
Expenditures			0.46 (0.87)	0.55	0.08 (0.1)	0.81
Residence Status			-0.03 (0.07)	-0.44	0.001 (0.7)	0.00
Sex			-0.25 (0.15)	-1.67	-0.27* (0.15)	-1.8
Age			-0.03 (0.05)	0.67	0.02 (0.05)	0.48
Education			-0.06 (0.09)	-0.57	-0.2 (0.08)	-0.33
Occupation			-0.1 (0.18)	-0.57	-0.12 (0.18)	-0.64
Radio			0.07 (0.14)	0.54	0.11 (0.14)	0.76
TV			-0.12 (0.44)	-0.29	0.2 (0.42)	0.06
Internet			-0.01** (0.004)	-2.69	-0.012** (0.004)	-2.63
Voronezh			0.11 (0.36)	0.31	0.25 (0.39)	0.64
Ryazan			omitted		omitted	
N. Novgorod			-0.77* (0.41)	-1.86	-0.75 (0.48)	-1.54
Lipetsk			0.72** (0.29)	2.5	0.82** (0.38)	2.17
N	635		583		573	
Wald Chi2	3.07 (1)		93.44 (0.17)		107.12 (19)	
Pseudo R2	0.03		0.02		0.03	

Note: *p<.10, ** p<.05, ***p<.01; Standard Errors Adjusted for 70 clusters in village

Table 5. Ordered Logistic Regression Analysis of Factors of Support for Governor

Independent Variables	Model 1		Model 2		Model 3	
	Coef (St. Errors)	z	Coef (St. Errors)	z	Coef (St. Errors)	z
Fire	**0.52** **(0.19)**	**2.65**	**0.53** **(0.21)**	**2.57**	**0.34** **(0.22)**	**1.54**
Distance to fire					-0.09 (0.08)	-1.2
Number of reconstructed houses					0.04*** (0.01)	4.25
Population Size			-0.0004 (0.001)	-0.35	-0.001 (0.001)	-0.31
Distance to regional capital			0.04 (0.03)	1.29	0.03 (0.03)	1.17
Distance to rayon center			0.02** (0.01)	1.96	0.03* (0.01)	1.85
Revenues			0.26 (0.57)	0.46	0.22 (0.59)	0.14
Expenditures			0..04 (0.06)	-0.65	-0.25 (0.62)	-0.38
Residence Status			-0.03 (0.07)	-0.47	0.01 (0.07)	0.26
Sex			-0.27 (0.2)	-1.39	-0.3 (0.2)	-1.49
Age			0.03 (0.06)	0.47	0.01 (0.06)	0.27
Education			-0.11 (0.1)	-1.07	-0.17 (0.1)	-1.64
Occupation			-0.3 (0.19)	-1.54	-0.32 (0.2)	-1.62
Radio			-0.15 (0.15)	0.96	-0.13 (0.15)	-0.9
TV			-0.31 (0.33)	-0.95	-0.17 (0.37)	-0.54
Internet			-0.02*** (0.005)	-5.32	-0.02*** (0.005)	-5.3
Voronezh			1.4*** (0.37)	3.77	1.78*** (0.41)	4.26
Ryazan			omitted		omitted	
N. Novgorod			0.49 (0.37)	1.32	0.65* (0.39)	1.66
Lipetsk			0.47* (0.26)	1.83	0.88** (0.34)	2.59
N	574		529		520	
Wald Chi2	7.03 (1)		97/6 (17)		141.6 (20)	
Pseudo R2	0.07		0.04		0.05	

Note: *p<.10, ** p<.05, ***p<.01; Standard Errors Adjusted for 70 clusters in village

Table 6. Ordered Logistic Regression Analysis of Factors of Support for Prime Minister Putin

Independent Variables	Model 1		Model 2		Model 3	
	Coef (St. Errors)	z	Coef (St. Errors)	z	Coef (St. Errors)	z
Fire	**0.69*** (0.18)**	**3.71**	**0.72*** (0.18)**	**3.81**	**0.42** (0.19)**	**2.13**
Distance to fire					-0.01** (0.008)	-2.08
Number of reconstructed houses					0.07*** (0.02)	3.59
Population Size			0.002 (0.01)	1.15	0.002 (0.001)	1.24
Distance to regional capital			0.02 (0.02)	0.77	0.01 (0.03)	0.47
Distance to rayon center			0.06 (0.11)	0.55	0.1 (0.1)	0.8
Revenues			-0.5 (0.4)	-0.43	-0.58 (0.54)	-1.05
Expenditures			0.39 (0.56	-0.42	0.57 (0.64)	0.9
Residence Status			-0.26*** (0.08	-3.23	-0.21** (0.08)	-2.62
Sex			-0.42** (0.14	-3.00	-0.42** (0.14)	-2.89
Age			0.01 (0.04	-0.22	-0.02 (0.04)	-0.5
Education			-0.34*** (0.08)	-4.1	-0.39*** (0.08)	-4.6
Occupation			-0.05 (0.19)	-0.28	-0.08 (0.18)	-0.43
Radio			-0.16 (0.16)	-1.03	-0.21 (0.16)	-1.28
TV			0.38 (0.33	1.13	0.42 (0.35)	1.2
Internet			.02** (0.01)	2.07	0.02** (0.009)	2.29
Voronezh			omitted		0.16 (0.46)	0.46
Ryazan			0.12 (0.3)	0.35	omitted	
N. Novgorod			0.11 (0.4)	-0.03	0.15 (0.35)	0.42
Lipetsk			-0.03 (0.2)	-0.11	0.3 (0.31)	0.97
N	699		651		641	
Wald Chi2	13.7 (1)		99.2 (17)		135.3 (19)	
Pseudo R2	0.01		0.05		0.07	

Note: *p<.10, ** p<.05, ***p<.01; Standard Errors Adjusted for 70 clusters in village

Table 7. Ordered Logistic Regression Analysis of Factors of Support for President Medvedev

Independent Variables	Model 1		Model 2		Model 3	
	Coef (St. Errors)	z	Coef (St. Errors)	z	Coef (St. Errors)	z
Fire	**0.64*** (0.17)**	**3.7**	**0.59*** (0.17)**	**3.30**	**0.38** (0.17)**	**2.16**
Distance to fire					-0.01** (0.07)	-1.92
Number of reconstructed houses					0.08** (0.01)	4.1
Population Size			0.01 (0.01)	0.94	0.01 (0.01)	0.98
Distance to regional capital			0.02 (0.02)	1.1	0.01 (0.02)	0.58
Distance to rayon center			0.01 (0.01)	0.15	0.03 (0.1)	0.24
Revenues			0.17 (0.4)	0.38	-0.14 (0.05)	-0.28
Expenditures			0.013 (0.5)	-0.27	0.09 (0.06)	0.16
Residence Status			-0.21** (0.07)	-2.75	-0.17** (0.08)	-2.15
Sex			-0.38** (0.16)	-2.39	-0.35** (0.16)	-2.22
Age			-0.01 (0.00)	-0.04	-0.003 (0.01)	-0.07
Education			-0.33*** (0.08)	-3.73	-0.37** (0.08)	-4.16
Occupation			-0.04 (0.18)	-0.24	-0.06 (0.01)	-0.39
Radio			-0.4** (0.14)	-2.9	-0.46** (0.14)	-3.26
TV			0.52 (0.36)	1.44	0.46 (0.37)	1.3
Internet			0.02* (0.01)	1.84	0.02** (0.01)	2.06
Voronezh			omitted		0.44 (0.37)	1.21
Ryazan			-0.15 (3.6)	-0.43	omitted	
N. Novgorod			-0.15 (0.4)	-0.38	0.09 (0.03)	0.3
Lipetsk			-0.25 (0.34)	-0.74	0.26 (0.29)	0.91
N	692		637		628	
Wald Chi2	13.6 (1)		87.8 (17)		144.8 (19)	
Pseudo R2	0.01		0.05		0.07	

Note: *p<.10, ** p<.05, ***p<.01; Standard Errors Adjusted for 70 clusters in village