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**“LiveJournal Libra!” The influence of the political blogosphere on political mobilisation in Russia in 2011-12**

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**Abstract**

This study explores relationship between the Internet and the Russian national election of 2011-2012. In contrast to other studies, we focus on the blogosphere as a political factor. Our conclusions are based on a study of the LiveJournal blogging platform represented by a sample of political posts from the top 2000 bloggers for 13 week-long periods. Sampling from the population of about 180,000 posts was performed automatically with a topic modelling algorithm, while the analysis of the resulting 3690 texts was carried out manually by five coders with calculation of agreement between them. We found that the most influential Russian blogs perform the role of a media “stronghold” of the political opposition. Moreover, we established a relationship between the weekly pre-election ratings of the opposition parties and presidential candidates and the indicators of political activity in the blogosphere. Our results cautiously suggest that political activity on the Internet is not simply an online projection of offline political activity: it can itself provoke activity in offline political life.

Keywords: Russia, elections, opposition, blogosphere, LiveJournal, topic modelling

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## **Introduction**

The 2011-12 election campaign in Russia brought with it unexpected results in the form of a quite significant reduction in the popularity of the ruling party - from 64% of votes in 2007 to 49% in 2011, as well as a sharp increase in protest activity in large cities, raising interesting questions about the causes of these political changes. One of the reasons that has been identified by researchers is the emergence of the Internet as a political factor in the social process.

The few studies dedicated to the link between the Internet and recent Russian elections have mostly been focused on social networks, which have presented themselves to opposition parties, oppositional movements and simply groups of “angered townsfolk” as a convenient and effective means of communication outside of the regime's control. Much less attention was given to blogs: It was considered at the time of the 2011-2012 elections that blogs had yielded their significance to social networks. We found no evidence in the literature that has been able to quantitatively demonstrate the significance of blogs during the election campaign of 2011-12. This study fills that gap. We show that the role of the political blogosphere needs to be reviewed.

Our conclusions are based on the study of the leading blogging platform of the Russian blogosphere, LiveJournal, represented by a sample of posts from the top 2000 bloggers (according to LiveJournal ratings). Analysis was carried out on three periods associated with the 2011-12 electoral cycle; in total around 160,000 texts. With the aid of an algorithm of topic modelling, the thematic structure of these periods was automatically retrieved from this corpus, relevant themes (elections and protests) were identified, and a series of weekly text samples most likely dealing with these themes was formed. In total, 3690 texts dealing with 123 themes representing 13 weeks were entered into the final corpus; texts were coded manually according to their attitudes to the opposition and the government, after which averaged measurements of these attitudes were compared with the ratings of relevant political parties and presidential candidates, obtained by the leading Russian polling company, the Public Opinion Fund.

In our article we draw two important conclusions. Firstly, the quantitative confirmation of the fact that the most influential Russian blogs perform the role of a “stronghold” of political opposition in the media is an important empirical finding. The analysis of posts over this thirteen week period demonstrates the absolute political domination of oppositional bloggers; this is the first empirically substantiated contribution to the public discussion about who has a larger presence on the Russian Internet: pro-Kremlin bloggers or their opponents. Secondly, we were able to establish a relationship between the weekly pre-election ratings of the opposition parties and presidential candidates and the indicators of political activity in the blogosphere. Thus, on the theoretical level, our results cautiously suggest that political activity on the Internet is not simply an online projection of offline political activity: it can itself provoke activity in real political life.

The article consists of five sections. The first section includes a brief theoretical overview of the relationship between the political Internet and protests. The second section introduces the Russian socio-political context and presents an overview of literature about the role of the Internet and information technologies during the 2011-12 elections. The third section describes the data and methodology used, while the fourth section addresses the results of analysis. Finally, the fifth section presents the conclusions.

### **The political Internet and protests**

New information technologies are constantly creating new possibilities for political communication in both democratic and authoritarian regimes, but especially in the latter; in particular, the development of the Internet and social networks decreases the control of the political elite over the information flow and significantly simplifies the task of collective mobilisation (Kalathil and Boas, 2003; Alexanyan et al. 2012). The most resonant demonstration of the influence of the Internet on political mobilisation was the so-called “Arab Spring”; this influence became the subject of numerous studies from small case studies (Eltantawi and Wiest,

2011) to large-scale comparative research on content from blogs, Twitter and YouTube in Egypt and Tunisia (Howard et al., 2012; Lotan et al., 2011) and a special issue of the *International Journal of Communication* on the Arab spring (Allagui and Kuebler, 2011). The prominent role of social networks, especially Twitter, has also been shown in studies of protest phenomena beyond the limits of the Arab region: post-electoral protests in both Moldova and Iran in 2009, the Indignados and Aganaktismenoi movements in Spain and Greece respectively, the Occupy movement in the USA and Great Britain in 2011, and the large peasant protest, which escalated into clashes with the police, in the Chinese village of Wukan in the same year etc. (Mungiu-Pippidi and Munteanu, 2009; Theocharis et al., 2013; Gonzales-Bailon et al., 2013; Liao, 2012), as well as the Russian protests at the time of the 2011-12 electoral cycle (Greene, 2012; Panchenko, 2012; Maslinsky et al., 2013; Kolstova and Koltcov, 2013). Overall in 2011 the phenomenon of protests associated with the Internet was noted in more than eighty countries (Theocharis et al., 2013: 1). In China over the last decade tens of thousands of protest actions have been reported yearly; their frequency is consistently increasing, as is the role of the Internet in them (Yang, 2009).

Many of the works mentioned above are concentrated on the study of structure, function and use of the Internet during outbursts of protest activity, however some attempts have been made to trace the causal relationship between the Internet on one hand and protest and electoral behaviour on the other, and to ascertain whether Internet use can function as a predictor of protest and electoral behaviour. Thus, in the large-scale study by DiGrazia et al. (2013) based on the contents of half a billion tweets and the results of congressional elections at 406 polling stations in the United States, a significant relationship was found between the frequency at which candidates were mentioned on Twitter and the vote share for the corresponding parties in the subsequent elections (or more precisely, "margin of victory"). Similar results were obtained based on material from the German elections and activity on Twitter (Tumasjan et al. 2010). Other studies have established a connection between certain kinds of Internet activity and election turnouts (Kruike-meier et al., 2013), between the expression of negative/positive emotions on Twitter and presidential popularity ratings (Gonzales-Bailon et al., 2012), etc. Extensive comparative results were obtained based on data from the Arab Spring, confirming the connection between media and Internet use and protest activity (Norris, 2012): a significant correlation was found between the two variables under regression analysis. A similar study on Russia (Dracheva and Shcherbak, 2012) also establishes a relationship between Internet penetration in a region and the quantity of protest actions in the 2011-12 election cycle. To our knowledge, there are no works that establish a relationship between the substantive characteristics of blogs and political public opinion or action. In our study we attempt to take a step in this direction.

In the majority of works listed above, the influence of the Internet, including blogs, is examined in isolation, without taking into account the influence of other media. The only contribution in response to this issue in Russia is introduced by the case study by Toepfl (2011), which examines roles of and interaction between the Internet and traditional mass media in the unwinding of several scandals in Russia, associated, however, not with elections, but corruption. There are more extensive quantitative studies based on data from other countries: they establish the connection between the agendas of the blogosphere and the mass media. Moreover, while the agenda of Twitter, according to a whole series of studies, proved to be dependent on the professional media (for an overview of similar studies, see Larrison and Moe, 2011), the connection between "normal" blogs and the mass media is not one-sided and not wholly determinative (Meraz, 2009; Hassid, 2012). Thus, in a study on China (Hassid, 2012), in which the agendas of blogs and the mass media were compared with the lag in the time between them, it was shown that on some events the media anticipates blogs, but on other events, above all more sensitive ones, blogs are first to put information forward, with the mass media lagging several days behind. It can be assumed that the influence of social media on the traditional media should be especially significant in those political regimes where traditional mass media is tightly

controlled by the state, Russia included. Thus, in these countries the Internet can be considered as an independent factor of influence on the political process and be studied in isolation, which is what we are doing in our work.

### **2011-12 elections in Russia: protests, the Internet and challenges for the regime**

The last thirteen years of Russian politics have been intrinsically linked with the name of Vladimir Putin. He served as President of Russia for two terms (2000-2008), and then as the prime minister for four years. After that, in accordance with article 81 of the Constitution, which forbids one person to occupy the post of president “for more than two consecutive terms”, but does not mention the occupation of this post for more than two “non-consecutive” terms, Putin once again ran for the presidency and was elected on 4th March 2012. In this context, parliamentary elections, usually considered a “rehearsal” for the presidential elections, were held in Russia on 4th December 2011. On the day of parliamentary elections there were multiple reports of alleged electoral fraud; the Internet was among the leading sources of these reports. The first spontaneous rally “for fair elections” occurred on that same day; the first officially-permitted mass protest actions took place on 10th December in almost one hundred cities; the Moscow rallies became the largest in the last decade. The protest movement proceeded strongly right up until May 2012, after which it continued on a smaller scale. In this time a series of oppositional political leaders came to the fore - above all Alexei Navalny, who had already been among the top bloggers on LiveJournal before the protests had begun, widely known for his campaign against corruption.

It should be noted that with the state exerting almost complete control over other electronic media, and in many respects over the printed press, the Internet stayed off the radar of the Kremlin for a long time. The government only turned its attention to the online space when it was already controlled by prominent Russian business groups, who had stakes in the international markets and were competing with international players in their respective fields. The latter would undoubtedly take the place of the former if the state simply attempted to “close” Russian Internet businesses. Therefore, as far as it is possible to judge, the ruling elite was forced to take on the tactic of incorporating pro-government content into online resources not otherwise under state control - in particular, as Internet analysts presuppose, through the contracting of “paid-up pro-Kremlin bloggers”, the existence of which, of course, there is no legal evidence of.

The rapid development of the Internet in Russia may be, among other factors, attributable to economic growth, Russia’s GDP having doubled in the last 10 years. This in turn has led to the expansion of the urban middle class, especially in large cities. For this group, ever-increasing consumption of new information technologies has become an integral part of life. This same urban middle class became the driving force behind the protests of 2011-12. Thus, income growth is not only important in its own right, but also leads to changes in values. According to Ronald Inglehart’s revised modernisation theory, an increase in the incomes of a population leads to the transition from “traditional” to “secular-rational values” and from “survival” to “self-expression” values. Traditional values include an emphasis on the importance of religion, respect and obedience towards authorities, negative attitudes towards divorces and abortions, and a high level of national pride. Secular-rational values correspond to the opposite characteristics (e.g., Inglehart, 1997, 2008; Inglehart, Welzel, 2010). Survival values emphasise economic and physical security and conformism. Self-expression values include such ideas as the freedom of expression, political participation, political activism, environmental protection, gender equality, and tolerance of and respect towards ethnic and sexual minorities. The more widespread self-expression values become, the more support there is to be found for the idea of individual freedom. Inglehart’s theory leads us to assume that it was the propagation of self-expression values among the urban middle class in Russia that influenced the political agenda in the run-up to the 2011-12 election cycle. This development was expressed in the demands for political changes, expansion of political rights and freedoms, and transparency in the election process. Natalia Zubarevich argues that “white collar” workers and the Russian urban middle class form

the group that is making the (unfulfilled) demand for institutional modernisation, while it is in large cities where the majority of Russia's 50 million Internet users are concentrated (Zubarevich, 2012: 143).

It is with similar factors that Alexei Makarin and Leonid Polishchuk (2012) connect the significance of the Internet for the protest movement during the elections, pointing to changes in Russian civic culture, which occurred, according to the authors, not only because of the income growth in the country, but also because of the increasing gap between income levels and the quality of public services provided by the state. Broader access to new information technologies played a role, making it possible to facilitate collective action. The expense of protest actions was reduced, and protesters could see how many people actually shared oppositional views. The use of social networks made the task of coordinating protest activity simpler. Svetlana Bodrunova and Anna Litvinenko (2013) point out not only the organisational, but also “cultivational” function of the mediated “public counter-sphere” that emerged during the elections and included social networks, some of the online media and a small fraction of the offline mass media. According to the authors, this public sphere became the space where a consensus was worked out between oppositional members of the public, thus “cultivating” and consolidating the protest movement.

It may thus be assumed that if an average blogger belongs to the dissatisfied middle class, the blogosphere must be predominantly oppositional, and this in turn can influence, or at least correlate with, general Russian public opinion about political leaders and parties. The following sections are dedicated to the testing of these hypotheses.

## **Data and methods**

The Russian blogosphere is dominated by the six blogging platforms (excluding microblogs), on which around 90% of blog daily content is published. Possibly the most comprehensive picture for our study could be obtained through the collection of data from all these platforms, but this would have required an unjustifiably expensive data collection process. It was therefore decided to limit the study to one of the leading platforms, LiveJournal, which leads both in content production (about a quarter of all posts of the blogosphere excepting microblogs) and in the amount of discussions concerning current affairs (Etling et al., 2010).

The dataset, downloaded with the Lab's BlogMiner software, included all posts by the top 2,000 bloggers rated by LiveJournal according to the number of their followers, over three time periods.

1. 15th August - 15th September 2011 (the “quiet” period).
2. 27th November - 27 December 2011 (the parliamentary election campaign and the subsequent, protest actions).
3. 1st February - 6th March 2012 (the presidential election campaign and protest actions).

To evaluate the oppositional nature of the blogosphere and relate its content to the offline political process, we needed a method for the identification of relevant - i.e. political - texts from among tens of thousands of posts. Their lexical ambiguity did not allow for a primitive keyword search. We therefore chose to apply an automatic topic extraction method. After defining the lexical composition of topics, this method assigns each text to each topic with a varying probability, thus performing a procedure akin to fuzzy clustering. We have selected a type of topic modelling algorithm known as Latent Dirichlet Allocation (LDA) with Gibbs sampling (Griffiths and Steyvers, 2004), encoded in the Stanford Topic Modelling Toolbox software (Ramage et al., 2009). This algorithm, like all approaches to topic modelling, assumes the existence of latent variables interpreted as topics in any corpus of texts. All words of the corpus are assumed to be distributed over these topics in a certain way, in this case according to the Dirichlet distribution. The algorithm attempts to assess which words could most probably constitute each topic, thus forming lists of words with descending probabilities, which can easily

be interpreted by a social scientist. For instance, if such words as “seafood”, “onion” and “cook” are found among the top words of a topic, it can be labelled “recipes”. Texts assigned by the algorithm to the topic of a researcher’s interest with the highest probabilities constitute her target sample. The advantage of this method of data selection over a keyword search lies, first and foremost, in the fact that the algorithm makes it possible to assign relevant texts to the topics in question, even if they do not feature the keywords that a researcher could think of. . Secondly, the algorithm makes it possible to reveal unexpected topics. The method is explained in more detail in our other works (Koltsova and Maslinsky, 2013; Maslinsky et al., 2013; Koltsova and Koltcov, 2013); the approach was first introduced by D. Blei (2003).

Each of the three samples was clustered into 100 topics. Two coders manually selected topics connected with the current Russian politics and coordinated their results. In total, 55 political topics were identified, after which all texts assigned to the selected topics with a probability of more than 0.1 were united into one array. As a result, the reduced sample became, to a larger degree although not absolutely, related to domestic Russian politics. This new database was divided into 13 weeks, and each weekly sample was clustered into 20 topics. These topics were manually processed by two coders, and 123 topics predominantly related to domestic Russian politics (see Figure 1) were selected; the top 30 posts were taken from each. This produced a database containing 3690 posts with an extremely high probability of being classifiable as political.

[FIGURE 1 HERE]

Finally, the posts were manually coded by five coders who had obtained an intercoder reliability Kappa coefficient of not less than 0.73 in the pilot coding. Posts were coded according to several indicators (see Table S1 in the supplementary material): “politics” (classification of the content of a post as political), “government” (attitude to the government and the ruling elite), and “opposition” (attitude to the opposition),. About 30% of posts were recognized as non-political, and in each of the political posts attitudes to the government and to the opposition were detected as two independent values: thus, a post could be both anti-government and anti-oppositional. In the case of re-posts, if the re-posted text existed alongside original text by the blog's owner, the values of variables were determined based on the text of the blog's owner. If no original text was found in the post, the position of the blog's owner was equated with the position of the author of the re-posted text.

#### *Variables*

From the data obtained we established a number of variables/indicators; they were all first calculated at the topic level and were further generalised at the week level:

1. ***The share of posts about politics*** (ratio of posts about politics to the total number of posts in the period studied); this varies from 0 to 100%;
2. ***The share of posts about the elections*** (and protests) from among all political posts; this varies from 0 to 100%;
3. ***The share of oppositional posts*** (the proportion of posts with a positive or neutral attitude to the opposition compared to the total number of political posts in the studied period); this varies from 0 to 100%;
4. ***The share of “pro-government” posts*** (the proportion of posts with positive or neutral attitude to the government compared to the total number of political posts in the studied period); this varies from 0 to 100%;
5. ***The difference between the share of oppositional and “pro-government” posts*** (difference between the previous two variables). Positive values of this variable indicate the predominance of oppositional views in the blogosphere, while negative values mean that pro-government views prevail.

6. *Attitude towards the opposition* (average value of the variable “opposition” in the period studied); this varies from -1 to 2;
7. *Attitude towards the government* (average value of the variable “government” in the period studied); this varies from -1 to 2;
8. *The difference between attitudes towards opposition and government* (difference between the previous two variables). Interpreted in the same way as variable 5.

The political activity of bloggers at the week level was compared with the weekly indicators of offline activity. Grouping posts into weeks allowed us to correlate them with the weekly pre-election ratings, which were being carried out by the Public Opinion Fund (POF). We took the pre-election ratings of four parliamentary parties (United Russia (UR), leader: Dmitry Medvedev, Just Russia (JR), leader: Sergei Mironov, the Communist Party of the Russian Federation (CPRF), leader: Gennady Zyuganov and the Liberal Democratic Party of Russia (LDPR), leader: Vladimir Zhirinovskiy), three of the five presidential candidates (Putin, Zyuganov and Zhirinovskiy), and also data on the confidence ratings of the Russian president, Dmitry Medvedev. Seven parties were registered for participation in the Russian elections, but weekly ratings were measured only for existing parliamentary parties. No polling organization measured the ratings of the protest movement, which grew during the elections but was not institutionalised, or of its most prominent activist Alexei Navalny, (the so-called “non-systemic opposition”). Among the parliamentary parties, the CPRF and JR positioned themselves as the leading “systemic” oppositional force, the CPRF having traditionally pretended to a leading role, so by our assumption, it is they who could have benefited from the oppositional views in blogs. Our assumption about the existence of a link between indicators of the politicisation of the blogosphere and the pre-election ratings was tested using Spearman’s correlation coefficient. With such a small sample (N=13) it is hard to establish a causal relation, even with the use of other statistical methods, so only the association between the political activity of blogs and offline events will be cautiously discussed here. As a robustness check, we ran correlations with a weekly lag for all party and politician ratings (t+1)<sup>1</sup>. If such correlations proved to be significantly greater than with synchronous data, it would be possible to assert with greater confidence that the pro-protest attitude of blogs was connected with ratings in a cause-effect relationship.

### *Hypotheses*

*H1: The share of positive oppositional posts will be significantly higher than the share of positive pro-government posts.*

*H2. Attitudes towards the opposition will be significantly more positive than those towards the government.*

*H4. The higher the political activity of bloggers (share of posts about politics, the share of posts about the elections, the share of positive oppositional posts, attitude towards the opposition, the difference between attitudes towards the opposition and towards the government), the lower the ratings of pro-government party and candidate (electoral rating of UR, Vladimir Putin, the confidence rating of Dmitry Medvedev).*

*H4. The higher the political activity of bloggers (see H3), the higher the ratings of opposition (electoral ratings of the CPRF, LDPR, Gennady Zyuganov and Vladimir Zhirinovskiy).*

### **Results**

The analysis of the variable "politics" reveals a significant increase in interest among bloggers in politics as a whole, and in the elections in particular. While in the “quiet” period of August-September the share of posts about politics is 0.62 (average over 4 weeks), during the period of active campaigning it is 0.74 (average over 9 weeks). The share of posts pertaining to the

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<sup>1</sup> For the last week of December, due to the new-year holidays and the absence of measurements at the beginning of January, a two-week lag was used, taking ratings for 15.01.2012

elections in the quiet period is 0.42, in the active period it is 0.76; the t-test showed a statistically significant difference between these two periods. It is thus possible to show that the share of political posts grew precisely because of an increase in interest in the elections. In some weeks the share of posts about the elections reaches between 0.88 and 0.92 (see Figure 2). These findings confirm our earlier results about an increase in political interest in the blogosphere starting with the pre-election campaign (Maslinsky et al., 2013; Koltsova and Koltcov, 2013).

[FIGURE 2 HERE]

Our data shows that the blogosphere belongs predominantly to oppositional bloggers (Figure 3). The average share of oppositional posts for all weeks is 0.47, whereas the mean proportion of the pro-government posts is only 0.26. Another indicator - “*attitude towards the opposition*” - is yet more revealing, with its average value of 0.56 against -0.05 for “*attitude towards the government*” (all differences are statistically significant). The difference between these indicators, i.e. between the attitudes towards the government and towards the opposition, varied from 1.74 in some weeks to -0.12, with average value of 0.60 (according to the scale from -1 to 2). Overall these findings were consistent with our assumption concerning the domination of opinions of the “dissatisfied middle class” in blogs, with its unfulfilled demands for political freedom.

[FIGURE 3 HERE]

The “quiet” period of the blogosphere was the peak of its oppositionality: the average value of the indicator “difference between attitudes towards the opposition and towards the government” in the August-September period was 0.91, but from the start of the electoral campaign the government, having supposedly mobilised online, was able to close this gap to 0.48, which according to T-test is a statistically significant value. There was one time - in the week of 15th-21st February - when the blogosphere became pro-government with a gap of -0.12, although this difference was found to be statistically insignificant. This change may be connected with the wide coverage in blogs of pre-election actions in support of Putin and with the favourable attitude of bloggers towards President Medvedev's meeting with representatives of the non-systemic opposition, which took place on 20th February 2012. In any case, this trend towards pro-government bloggers was not consolidated: the final two weeks were oppositional. Hypotheses 1 and 2 are thus confirmed.

We further ran the correlations between electoral ratings (see Table S2 in the supplementary material) and all eight indicators listed in the section *Variables*; the results are in Tables 1-4.

We found two significant correlations with the variable “share of posts about the elections” and one significant correlation with the variable “share of posts about politics”: all three in relation to the ratings of either the CPRF or its leader Gennady Zyuganov (see Table 1). Furthermore, there was a marginally insignificant correlation between the share of posts about the elections and the ratings of JR ( $p=0.051$ ). The ratings of the LDPR and its leader Vladimir Zhirinovskiy and of UR, Dmitry Medvedev and Vladimir Putin were found to negatively correlate with the same indicators; these correlations, however, are insignificant.

[TABLE 1 HERE]

Lagged correlations largely confirmed the obtained results (Table 2). The ratings of the CPRF, JR and Zyuganov positively correlate with the share of posts about the elections. An increase in the share of posts about the elections does not indicate that they put forward a positive attitude towards these parties.



[TABLE 2 HERE]

Our interpretation of these results is as follows: any increase in the interest of the blogosphere (i.e. the “dissatisfied middle class”) in politics, and especially in the elections, is positively associated with the electoral ratings of the systemic opposition. It can be assumed that this might also be valid for the non-systemic opposition; this assumption, however, cannot be verified. Gains made by the systemic opposition may have resulted from protest voting actively advocated by Navalny: the so-called “Navalny plan” was to vote for any party except for UR and for any candidate other than Vladimir Putin. If Navalny’s target audience, the “dissatisfied middle class”, followed his call, communists could be among the beneficiaries.

The results of the comparison between other indicators of the political activity of bloggers are somewhat contradictory, although on the whole our assumptions were confirmed (see Table 3). “*The share of positive pro-government posts*” and the indicator “*attitude towards the government*” positively correlate with the ratings of the ruling party, and are at the same time negatively linked with the ratings of the LDPR, which is not surprising, given the dual position of the LDPR in the “pro-government - opposition” spectrum,. However, oppositional posts are negatively related with the ratings of the “systemic opposition” JR; this phenomenon does not thus far yield to interpretation and requires further study.

[TABLE 3 HERE]

Lagged correlations with the ratings of the CPRF, JR and UR have been found to be significant, confirming our assumptions. The share of pro-government posts positively correlates with the rating of UR, but the share of oppositional posts correlates negatively with the ratings of JR (Table 4). Hypotheses 3 and 4 can also be considered confirmed.

[TABLE 4 HERE]

The fact that our sample consists of only 13 weeks, affects the reliability of the obtained conclusions. We cannot exclude the possibility that the results we obtained could be explained by the specific characters of both the Russian political context and the particular election campaign. To obtain more reliable results, further studies of other election campaigns are necessary, preferably with a larger number of weeks in the sample studied.

Despite these limitations, our results show that the activity of the political blogosphere was connected with a change in public opinion and possibly was able to positively influence the electoral ratings of the leading oppositional parties.

It can thus be observed that appeals to the public online are capable of bringing benefits to politicians offline. The almost total absence of censorship in the blogosphere, in comparison with TV channels, makes the Internet, and blogs in particular, an extremely accessible and inexpensive arena for the formation of alternative political communication. The “recipe for success” for the opposition proved to be simple: the main thing was not *what* to write, but *how much*. The more posts about the elections, the higher the pre-election ratings of oppositional parties. The ruling party was associated with another strategy - an attempted increase in the share of pro-government posts. In any case, although the strategies of different players varied, they were all connected by a striving to influence public opinion online.

## **Discussion and conclusion**

The results of this study cautiously suggest that the consequences of bloggers’ activity are not limited to the blogosphere. An increase in the share of posts about the elections was connected with an increase in the ratings of the leading opposition party, while an increase in the share of pro-government posts was found to be linked with an increase in the ratings of the ruling party. We are inclined to treat this as the result of the political activity of bloggers. The fact that

an increase in the share of oppositional posts does not affect the ratings of the systemic opposition is most likely explained by the favouring of LJ posts for “street” opposition, for supporters of which the CPRF and JR are a phoney opposition.

The overwhelming oppositionality of the blogosphere deserves further comprehension and interpretation. It seems that here the matter is not only in the obvious displacement of oppositional voices into the only public space available to them. We assume that the logic is as follows: income growth leads firstly to mass access to the Internet and to the increase in the number of bloggers, and, secondly, according to the Inglehart’s revised modernisation theory to the value change - from the survival values to the self-expression values. The social group with a relatively high level of income, the group with access to the Internet and the group demanding implementation of self expression values are the same social group in Russia. The oppositionality of the blogosphere could be the consequence of a growing Russian middle class, which demands a new political agenda.

Finally, this study has some theoretical and methodological implications for future research. Firstly, it demonstrates the advantages of the combination of statistical methods traditionally used in the social sciences with topic modelling. Without the automatic detection of topics, the construction of a representative sample of posts about politics from the general set of tens of thousands of texts would be impossible. As a result we were able to answer questions both about the political activity inside the blogosphere itself and beyond its limits - in the world of “real”, offline politics.

Secondly, the conclusions of this study can improve our understanding of political transformations in authoritarian and hybrid regimes. The on-going discussion about the role of the Internet in the revolutions of the Arab Spring is extremely active and diverse; most of its attention, however, is given to the issues of Internet access and the use of social networks. The role of blogs is undeservedly ignored. Of course, neither the oppositionality of the top bloggers, nor the link between the activity of blogs and the ratings of the opposition were able to influence the outcome of the elections in Russia, which in many respects was entirely independent of the media. However, in other situations, in which political elite does not control, for instance, the registration of candidates or vote counting at polling stations, the influence of blogs on public opinion might lead to entirely different outcomes in elections. The identification of new examples of the connection between online and offline politics could subsequently give us a greater understanding of the nature and causality of these relationships.

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**Table 1. Correlations between the ratings of parties and presidential candidates and the share of posts about politics and the elections in LJ blogs.**

| <b>Ratings</b>               | <b>Posts about elections, %</b> | <b>Posts about politics, %</b> |
|------------------------------|---------------------------------|--------------------------------|
| <b>The CPRF</b>              | <b>0.872**</b>                  | <b>0.571*</b>                  |
|                              | <b>(p=0.000)</b>                | <b>(p=0.041)</b>               |
| <b>UR</b>                    | -0.172                          | 0.091                          |
|                              | (p=0.574)                       | (p=0.768)                      |
| <b>JR</b>                    | 0.551                           | 0.321                          |
|                              | (p=0.051)                       | (p=0.285)                      |
| <b>The LDPR</b>              | 0.220                           | 0.027                          |
|                              | (p=0.471)                       | (p=0.931)                      |
| <b>Vladimir Putin</b>        | -0.254                          | -0.054                         |
|                              | (p=0.402)                       | (0.860)                        |
| <b>Gennady Zyuganov</b>      | <b>0.680*</b>                   | 0.462                          |
|                              | <b>(p=0.011)</b>                | (p=0.112)                      |
| <b>Dmitry Medvedev</b>       | -0.278                          | -0.108                         |
|                              | (p=0.358)                       | (p=0.724)                      |
| <b>Vladimir Zhirinovskiy</b> | 0.106                           | -0.155                         |
|                              | (p=0.730)                       | (p=0.613)                      |

\* - significance at level 0.05; \*\* - significance at level 0.01

**Table 2. Correlations between the ratings of parties and presidential candidates (t+1) and the share of posts about politics and the elections in LiveJournal blogs.**

| <b>Ratings</b>                | <b>Posts about elections, %</b>    | <b>Posts about politics, %</b> |
|-------------------------------|------------------------------------|--------------------------------|
| <b>The CPRF (t+1)</b>         | <b>0.825**</b><br><b>(p=0.001)</b> | 0.344<br>(p=0.250)             |
| <b>UR (t+1)</b>               | 0.219<br>(p=0.473)                 | 0.223<br>(p=0.464)             |
| <b>JR (t+1)</b>               | <b>0.566*</b><br><b>(p=0.044)</b>  | 0.417<br>(p=0.156)             |
| <b>Vladimir Putin (t+1)</b>   | -0.077<br>(p=0.802)                | -0.057<br>(p=0.853)            |
| <b>Gennady Zyuganov (t+1)</b> | <b>0.801**</b><br><b>(p=0.001)</b> | 0.324<br>(p=0.280)             |

\* - significance at level 0.05; \*\* - significance at level 0.01

**Table 3. Correlations between the ratings of parties and presidential candidates and indicators of attitudes of bloggers towards the opposition and the government.**

| Ratings                          | Oppositional posts,<br>% of political posts | Attitude twd<br>opposition,<br>weakly means | Pro-government<br>posts, % of<br>political posts | Attitude twd<br>government,<br>weakly means |
|----------------------------------|---|---|--|---|
| <b>The CPRF</b>                  | 0.310<br>(p=0.302)                          | 0.026<br>(p=0.933)                          | 0.089<br>(p=0.774)                               | -0.140<br>(p=0.649)                         |
| <b>UR</b>                        | -0.042<br>(p=0.892)                         | -0.333<br>(p=0.266)                         | <b>0.733**</b><br>(p=0.004)                      | <b>0.636*</b><br>(p=0.019)                  |
| <b>JR</b>                        | <b>-0.696**</b><br>(p=0.008)                | -0.123<br>(p=0.688)                         | 0.106<br>(p=0.730)                               | 0.095<br>(p=0.758)                          |
| <b>The LDPR</b>                  | -0.085<br>(p=0.783)                         | 0.251<br>(p=0.408)                          | -0.462<br>(p=0.112)                              | -0.389<br>(p=0.188)                         |
| <b>Vladimir<br/>Putin</b>        | 0.401<br>(p=0.174)                          | 0.043<br>(p=0.889)                          | 0.196<br>(p=0.521)                               | 0.152<br>(p=0.620)                          |
| <b>Gennady<br/>Zyuganov</b>      | -0.378<br>(p=0.202)                         | 0.132<br>(p=0.667)                          | -0.053<br>(p=0.864)                              | -0.171<br>(p=0.576)                         |
| <b>Dmitry<br/>Medvedev</b>       | 0.449<br>(p=0.124)                          | 0.004<br>(p=0.989)                          | 0.158<br>(p=0.607)                               | 0.094<br>(p=0.760)                          |
| <b>Vladimir<br/>Zhirinovskiy</b> | -0.044<br>(p=0.887)                         | 0.215<br>(p=0.480)                          | <b>-0.582*</b><br>(p=0.037)                      | -0.397<br>(p=0.179)                         |

\* - significance at level 0.05; \*\* - significance at level 0.01

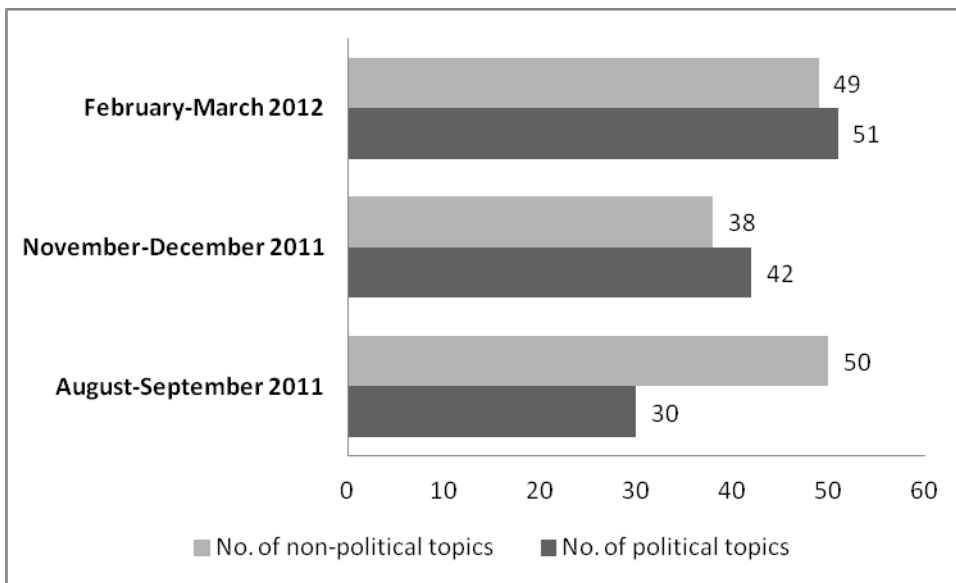
**Table 4. Correlations between the ratings of parties and presidential candidates (t+1) and indicators of attitudes of bloggers towards the opposition and the government.**

| <b>Ratings</b>        | <b>Oppositional posts, % of political posts</b> | <b>Attitude twd opposition, weakly means</b> | <b>Pro-government posts, % of political posts</b> | <b>Attitude twd government, weakly means</b> |
|-----------------------|---|--|---|--|
| <b>UR (t+1)</b>       | -0.050<br>(p=0.871)                             | -0.339<br>(p=0.257)                          | <b>0.657*</b><br><b>(p=0.015)</b>                 | 0.479<br>(p=0.098)                           |
| <b>JR (t+1)</b>       | <b>-0.580*</b><br><b>(p=0.038)</b>              | -0.133<br>(p=0.666)                          | -0.051<br>(p=0.869)                               | -0.128<br>(p=0.677)                          |
| <b>The CPRF (t+1)</b> | -0.289<br>(p=0.338)                             | 0.039<br>(p=0.898)                           | 0.194<br>(p=0.526)                                | 0.087<br>(p=0.778)                           |

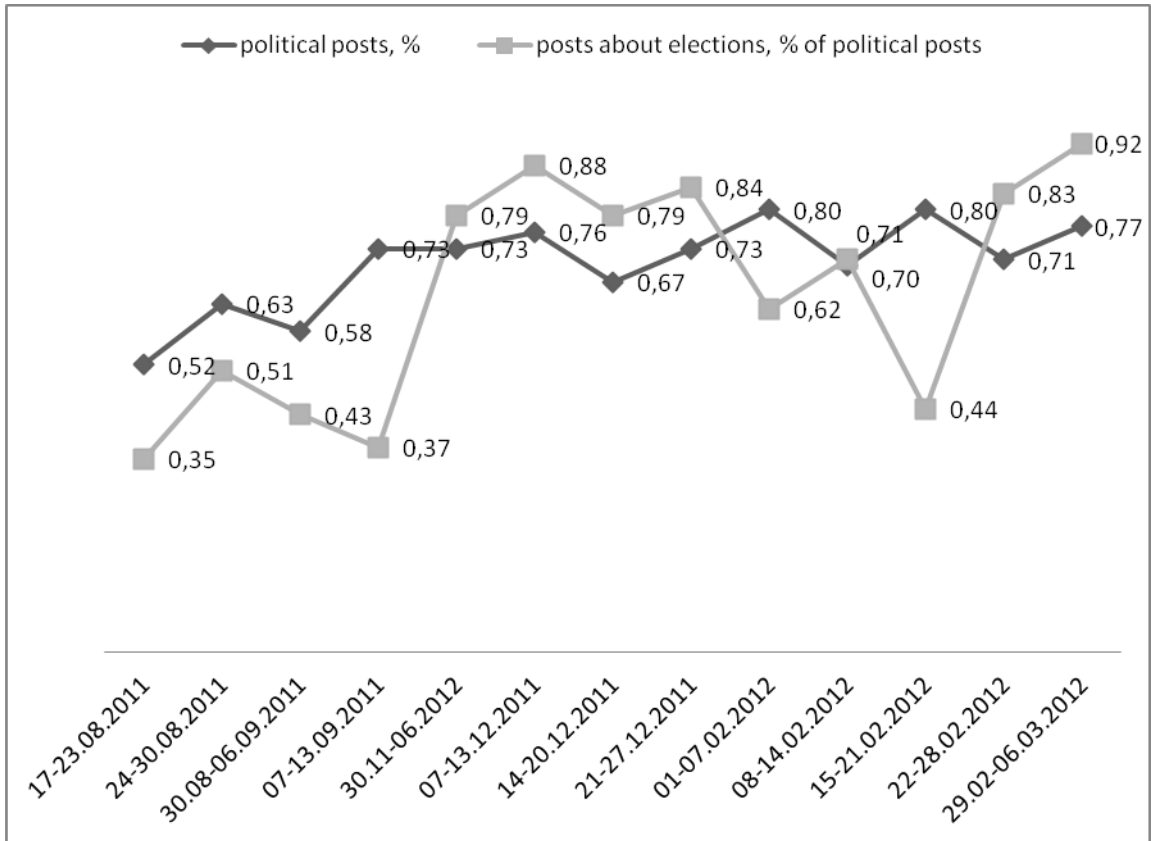
\* - significance at level 0.05; \*\* - significance at level 0.01



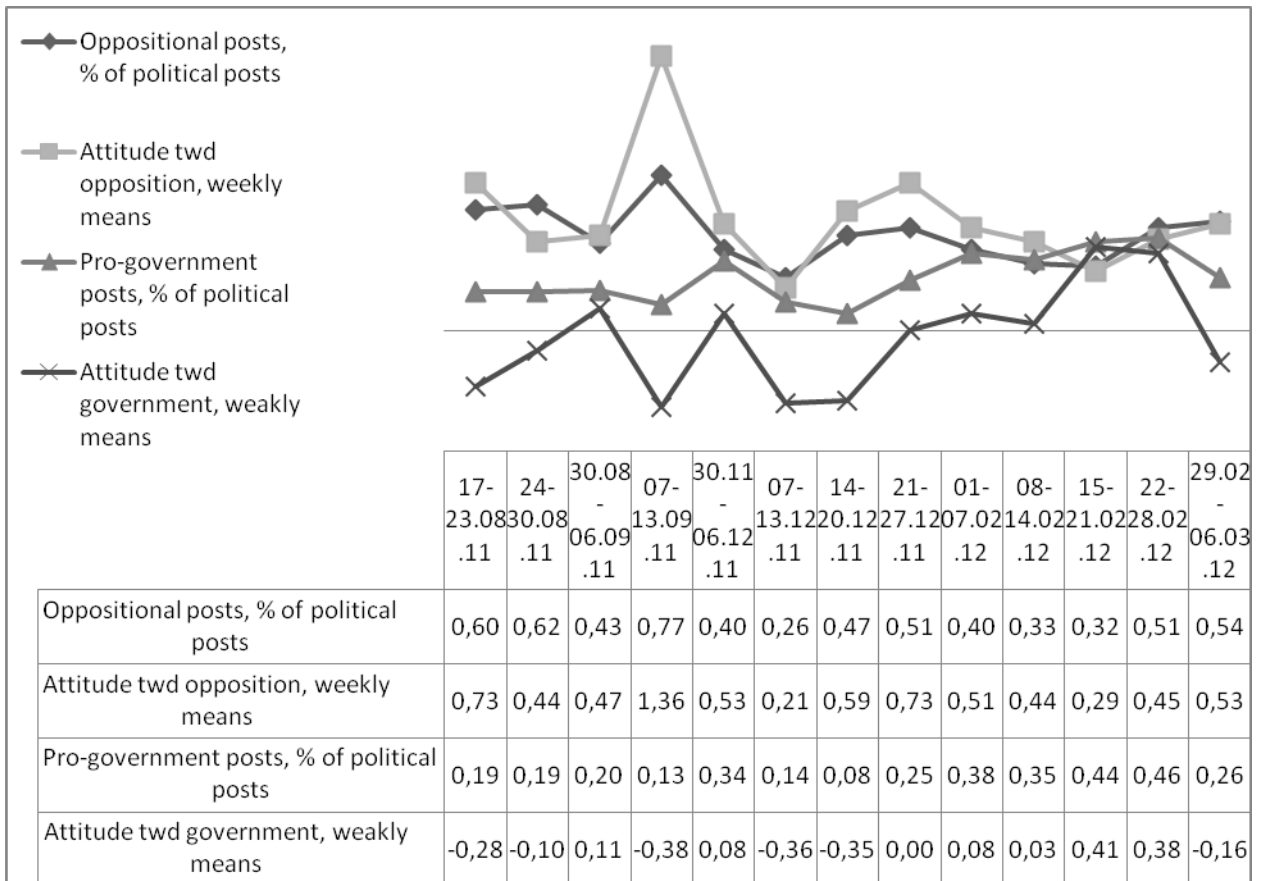
**Figure 1. Political and non-political topics in LiveJournal blogs.**



**Figure 2. Strengthening of political interest in the blogosphere**



**Figure 3. To whom does the blogosphere belong?**



## SUPPLEMENTARY MATERIAL

**Table S1. Coding of the political content in posts.**

| Indicator         | Value              | Description  |
|-------------------|--------------------|--|
| <b>Politics</b>   | 0 - Non-political  | (0) - There is no political content. If political leaders are mentioned, especially during the election campaign, then this post is political.   |
|                   | 1- Elections       | (1) - There is political content, which is concerned with the 2011-12 elections and the political activity associated with them (protests, activities of observers etc.)   |
|                   | 2 - Other politics | (2) - There is any other kind of political content, other than that coded as "1". This could include Russian domestic and foreign policy, international relations; the influence of politics on society (e.g. public health policy, social policy etc.).<br><i>Posts are considered political when there is reference to political figures or organisations in a non-political context (placed in "1" or "2").</i> |
| <b>Government</b> |                    | Evaluation of the attitude of the post's author toward deliberately pro-government:<br><br><ul style="list-style-type: none"> <li>- organisations (the State Duma, the UR party)</li> <li>- figures (Putin, Medvedev)</li> <li>- actions (rallies, decisions of any state organ or state official)</li> <li>- positions (for example, “the elections took place without major disturbances”)</li> </ul>            |
|                   | -1 – Critical      | (- 1) They are clearly criticised  |
|                   | 0 – Absence        | (0) They are not mentioned at all  |
|                   | 1 – Neutral        | (1) They are written about from a neutral or unclear position, or they partially supported and partially criticised  |
|                   | 2 – Support        | (2) They are clearly supported   |

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**Opposition**

Evaluation of the attitude of the post's author towards deliberately anti-

government:

- organisations

- figures

- actions

- positions

-1 – Critical (- 1) They are clearly criticised

0 - Absence (0) They are not mentioned at all

1 - Neutral (1) They are written about from a neutral or unclear position

2 - Support (2) They are clearly supported at least in the part of the text, even if there is simultaneous criticism of them or of other oppositional figures, organisations or ideas

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Each post (of 3690) was coded according to these indicators.

**Table S2. Pre-election ratings from the Public Opinion Fund (POF)**

| <b>Weeks/ posts</b> | <b>Days/ POF ratings</b> |
|---------------------|--------------------------|
| 17-23.08.2011       | 21.08.2011               |
| 24-30.08.2011       | 28.08.2011               |
| 30.08-06.09.2011    | 04.09.2011               |
| 07-13.09.2011       | 09.11.2011               |
| 30.11-06.2012       | 27.11.2011               |
| 07-13.12.2011       | 11.12.2011 <sup>2</sup>  |
| 14-20.12.2011       | 18.11.2011               |
| 21-27.12.2011       | 25.12.2011               |
| 01-07.02.2012       | 05.02.2012               |
| 08-14.02.2012       | 12.02.2012               |
| 15-21.02.2012       | 19.02.2012               |
| 22-28.02.2012       | 26.02.2012               |
| 29.02-06.03.2012    | 11.03.2012 <sup>3</sup>  |

<sup>2</sup> Ratings were not measured in the week before the elections

<sup>3</sup> Ratings were not measured in the week before the elections