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THESIS
THE RELATIONSHIP BETWEEN THE USE OF THE
INTERNET AND THE APPROVAL OF GOVERNMENT
BODIES IN THE RUSSIAN FEDERATION
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Introduction

Political outcomes of information and communication technologies remain a matter of debate among researchers. Despite the widespread optimistic views on the Internet as "liberation technology" that is likely to empower independent communication and strengthen civil society (Diamond & Plattner, 2012), recent research also proved that the Internet and social networks can be used as tools of disinformation (Sanovich et al., 2018) that can lower costs of surveillance. Apart from scientific sphere, people who actively use the Internet in numerous countries express their concerns about the power of Internet technologies to monitor user behaviour and to gather information about them (Dinev & Hart, 2004).

Indeed, the emergence and development of the Internet has caused major changes to the way information is spread. Moreover, given the unique structural features of the Internet that distinguish it from the so-called "old media" and the rapid increase in its penetration rates around the world, findings of recent research suggest that it has its own independent effect on politics. In fact, recent empirical findings suggest that the decline in government support (Manacorda & Tesei, 2020; Guriev et al., 2020) as well as trust in government (Im et al., 2014) are associated with the fact that the Internet provided people with a platform to exchange ideas and news.

Very little research attempted to identify the effects of Internet use on the approval of various government bodies. Moreover, the existing literature does not provide the opportunity to assess the effects of the Internet on the public approval of the government bodies in authoritarian settings. Therefore, the **research problem** can be defined in the following way: there is an unclear relationship between the spread of the Internet and people's approval of government bodies in Russian regions. The **research question** is the following:

what is the relationship between Internet use intensity and the approval of the government bodies in the Russian regions?

In order to address the identified gap with due attention, the following objectives can be defined:

1. To propose a theoretical explanation for the effect of the Internet and social media on public approval;

2. To identify the main concepts of the study: public approval, government bodies, Internet use intensity;

3. To identify the nature of the relationship between these concepts by the use of regression analysis;

4. To perform robustness checks in order to control for other variables that might affect the observed phenomenon.

Given the powerful potential of the Internet to influence the attitudes towards the government, this paper extends arguments made by other researchers that studied the political effects of increasing technological capacity on people's attitudes and beliefs. Thus, the main hypotheses that will be tested in the empirical section of the paper incorporate theoretically justified assumptions about the relationship between the Internet and social media and public approval of government bodies.

The present study is intended to capture the nature of association throughout the majority of Russian regions. Moreover, by implementing regression analysis, it is possible to consider a variety of confounding factors and thus successfully reveal the nature of relationship between particular variables.

The principal source of data on the approval of the government bodies in Russia is the data of the "Kurier" survey that has been conducted by

the non-governmental sociological research organization Levada Center in Russian regions since 1992. This source of data allows taking into account individual-level variables related to Internet usage and a range of variables on individual level. Sets of the regression models include indicators of public approval of different government bodies (the President, the Government, State Duma, Prime Minister and regional authorities) as well as aggregated measures (first principal component constructed out of all variables on the federal level and a share of positive attitudes towards government bodies) for all of the mentioned government bodies as dependent variables.

The resulting dataset contains data on 17824 individual-level observations from 64 regions in Russia. Overall, the data in the sample used un the present analysis covers the period from 2009 to 2019.

The results of the study corroborate hypotheses about the independent effect of the Internet and social media on public beliefs and attitudes. Firstly, I find that more intensive Internet use, on average, is associated with a decrease in confidence in Government bodies. Secondly, I document that access to discussion online plays the most important role with regard to shaping public opinion and attitudes towards government bodies. Finally, I show that Russian-language homegrown social networks are positively associated with public approval of the government bodies on the whole.

As stated above, the process of increasing technical capabilities gains more and more significance concerning modern political science. This research sheds light on how the erosion of government control over flows of information affects the approval of the government bodies in Russian regions. Apart from the scientific sphere, the results of the empirical investigation may find application in the sphere of public administration: in particular, the results may be important for the decision-making regarding the development of digital platforms.

The present paper is structured as follows: first, I present theoretical justification for the hypotheses illustrating political effects of the Internet, in general, and social media, in particular. After that, based on theoretical arguments, I present main hypotheses of the study. Next, I proceed with research design and data used in the analysis. Finally, after presenting the results of the analysis, I summarize and discuss them.

Theoretical Background and Literature Review

Political Effects of the Internet

Various observers and researchers in the fields of social science, political science and economics have documented radical changes in the global political environment related to voter behaviour, levels of support for governments and protest activity. As Zhuravskaya et al. (2020) demonstrate in the recent extensive literature survey, many pieces of recent research report that the Internet and social media have their own autonomous effects on political, economic and cultural spheres all around the world.

The ground-breaking potential of the Internet gained widespread appeal after the first cases of protest movements facilitated by social media garnered a great deal of attention throughout the world. Evidently, successful cases of political turnovers in autocratic regimes provided the momentum for the discussions about the Internet as a "liberation technology" (Diamond & Plattner, 2012). However, other commentators proved that this optimistic view represents only one of the aspects of the observed phenomenon. A book by Morozov (2011) marked the emergence of the pessimistic view blaming the Internet for being used as a tool of state-backed information operations, mass surveillance and propaganda dissemination that were yet to be investigated.

Today, there is a growing body of literature aimed at exploring the diverse impacts of this multifaceted phenomenon, and the review of the literature is intended to describe and analyse the effects of the Internet and the social media with regard to different outcomes related to politics in single-country as well as multi-country settings.

What is Special about the Internet and Social Media?

A huge body of literature documents that traditional media, also known as so-called old media (e. g. radio, broadcast TV, newspapers), that predominated the world for decades, have had significant consequences concerning politics. For instance, recent research demonstrates that the impact of media exposure takes place across a variety of settings including education, family choices, crime, economics and public attitudes (DellaVigna & La Ferrara, 2015). Apart from these spheres, special attention has also been given to mechanisms through which media can affect politics (Stromberg, 2015; Enikolopov & Petrova, 2015). Despite this topic being particularly interesting, the review of this literature is beyond the scope of this paper.

It is reasonable to assume that the Internet and social media are likely to mirror the effects of old media. Nonetheless, a set of distinctive features takes place when comparing new media and traditional sources of information. The first important feature can be defined as the **low entry barrier**: in essence, the Internet provides a platform for new entrants "previously sidelined by the political establishment" (Zhuravskaya et al., 2020, p. 416). Furthermore, these drastic changes in the information environment greatly contributed to the process of the diminishment of the role of gatekeepers represented by media and political elites (Im et al., 2014), which, consequently made it harder to hide any undesired content both for companies and political actors (Shirky, 2011). Overall, the revolutionary changes in information dissemination that became unconstrained by so-called gatekeepers lead to the elimination of the state's "monopoly on the collection and management of large amounts of information" (Mathews, 1997, p. 50). Another essential difference relates to the way information is disseminated online. Apart from the fact that a great variety of non-governmental actors became able to produce and propagate the information, social media provide online users with an opportunity to

copy and share any kind of content generated by other netizens as well as a vastly increased variety of online sources of information with the unprecedented speed, and this **reliance on user-generated content** enhances the likelihood of false news and misinformation dissemination (Zhuravskaya et al., 2020).

Moreover, with regard to individuals using the Internet, Brainard (2003) highlighted the primary importance of the Internet in the process of encouraging citizens' self-empowerment. With the use of social media providing people with access to various sources of information – be it right or wrong – individuals become more likely to confront "public administration". In this context, cyber-platforms not only help to overcome collective action problem and to obliterate time and space constraints but also facilitate "constitution and reconstitution of self in relation to others" (Brainard, 2003, p. 399).

Finally, expanding access to social media has important implications concerning the interaction between people as well as citizen-state relations. The ability of the enhanced two-way online communication channels to facilitate coordination between people gained widespread appeal in recent research and demonstrated the potential of the Internet and social media to organize collective actions (Amorim & Lima, 2018; Enikolopov & Petrova, 2015).

At the same time, the Internet transforms citizen-state interactions. With the use of social media politicians and government officials can receive feedback on policy actions. Various government agencies also take advantage of rising Internet penetration rates and the rapid development of digital information systems. The primary cause of widespread efforts to digitize government services may be seen in the willingness to increase efficiency, eradicate corruption and reduce transaction costs (Garcia-Murillo, 2011). However, in reality, the development of digital network and storage technologies does not necessarily lead to better outcomes in terms of governance and the use of

technologies does not automatically result in the rise of public administration quality or the increase in political participation among citizens (Bertot et al., 2010). Nonetheless, the development of e-government websites has important implications with regard to lowering costs of information transmission on behalf of government actors and managing citizen expectations of government performance (Im et al., 2014). Tolbert and Mossberger (2006) argue that through improving two-way interactions between citizens and government bodies, the digital government can enhance trust in local government. Parent et al. (2005) document that Internet-mediated transaction services had a positive effect on political trust.

Apart from mentioned positive effects, technology diffusion also implies larger-scale usage of enhanced data storage and processing technologies. Moreover, recent literature studying citizens' perceptions of ICT shows that the development of digital technologies has paralleled the increase in concern over protecting privacy: people who actively use the Internet are becoming more and more aware of the power of Internet technologies to monitor user behaviour and to gather information about them (Dinev & Hart, 2004; Dinev et al., 2005; Turow & Hennessy, 2007).

Overall, the Internet and social media have numerous features that distinguish them from the old media. Therefore, it is particularly interesting to understand the effects of those characteristics and to build up a comprehensive picture of how they shape modern politics.

Outcomes

Voting

A considerable amount of work has been done in order to identify the impact of the Internet on electoral outcomes. With regard to elections, it is reason-

able to divide pieces of recent research in accordance with countries' regime types as the findings substantially differ in contrasting settings.

First of all, as Zhuravskaya et al. (2020) point out, a big change took place with the emergence of social media that provided political actors with a powerful tool of direct voter mobilization through the Internet that once was used mostly for entertainment purposes.

Overall, numerous studies conducted in democratic settings show that broadband Internet had a negative effect on political participation (Campante et al., 2018; Falck et al., 2014; Gavazza et al., 2019). Nonetheless, the development of social networks contributed to the emergence of online activities that changed the whole game with regard to participation. Several papers demonstrate that Internet expansion significantly affected populist vote share (Gavazza et al., 2019; Guriev et al., 2020; Schaub & Morisi, 2020). In essence, social media provided a platform for new political actors to attract new voters.

Overall, evidence suggests that in democratic regimes the Internet and social media can be used as a tool of voter mobilization contributing to the success of populist politicians. On the other hand, in autocratic settings, the Internet might become a powerful tool of political accountability informing citizens about the integrity and competence of the government.

Approval of the Government

Broadband Internet expansion in non-democratic countries often led to a significant decline in political support and approval of governments due to increased access to political information that might undermine the willingness to defer to the authorities and to vote for the ruling party.

Miner (2015) shows that Internet diffusion can undermine authoritarian incumbent power: the results suggest that the Internet accounted for a con-

siderable proportion of swing against the incumbent in Malaysia. Overall, the author argues that higher Internet penetration rates imply "preventing any single agent from monopolizing information" (Miner, 2015, p. 77) and thus impact political outcomes within a country. Expanding the discussion about broadband Internet's potential to shape people's attitudes towards governance, conducting multilevel analysis using the data from 34 developing countries, Stoycheff and Nisbet (2014) demonstrate that individual ICT use impacts citizens' perceptions about the "supply of democracy", which, in turn, constitutes an important determinant of the demand for democracy. In other words, evidence suggests that the Internet allowed for the circulation of information about government performance which led to the rise of critical attitudes about governance. Overall, these findings highlight that diverse content that becomes accessible through the Internet indeed can cause major political change within a country.

The same applies to mobile Internet. Donati (2019) demonstrates that exposure to 3G significantly affected the electoral outcomes of the ruling party ANC in South Africa. The results of the recent research by Guriev et al. (2020) conducted in multi-country settings also suggest that mobile Internet helps to expose corruption and inform voters about cases of the misgovernment of public authorities. In the case of mobile Internet, similar mechanisms are in place: the literature suggests that dissemination of messages, pictures and videos represents the main reason for the significant decline in the approval of governments around the world (Guriev et al., 2020).

Trust in Government

Various studies in the field of political science analyzed the effects of the Internet on people's political attitudes as well as behaviours.

Im et al. (2014) highlight the presence of causal relationship between mas-

sive changes in the media environment and citizens' levels of trust in government. According to the authors, so-called "new information environment" manifests itself in the emergence of non-state actors spreading all types of information. Overall, these changes result in the shift of the "existing status-quo" regarding dissemination of information (Im et al., 2014). In sum, the primary argument that is employed by researchers in this field supports the "liberation technology hypothesis" and concerns the process of enhancement of information channels used by individuals to obtain information that consequently becomes to a lesser extent biased.

Nevertheless, the statistical evidence of the opposite relationship is also present: for instance, Lu et al. (2019) document a significant positive effect of Internet use on Chinese citizens' attitudes towards government. Several other papers also report similar findings in different country-specific settings (Song & Lee, 2016).

To sum up, the empirical findings of the papers related to investigating the effects of the Internet on public attitudes towards government bodies are mixed: apart from works that report significant effects, some papers do not (Morgeson et al., 2011; Jennings & Zeitner, 2003). This fact demonstrates the importance of taking country-specific conditions into account, because they play an important role in determining the relationship between the Internet and public approval in a particular country.

Overall, the evidence is not uniform: available empirical findings of the researches conducted in different settings are not conclusive.

In addition to the findings described above, a separate strand of literature is aimed at investigating the impact of Internet-mediated government services on political trust. All in all, the empirical evidence suggests that generally, e-government website usage may induce trust in the government (Im et al., 2014; Parent et al., 2005; Tolbert & Mossberger, 2006).

Protests and Collective Action

Do new information communication technologies facilitate collective action? Empirical evidence from recent research demonstrates that the Internet and social media do impact protest activity. In the case of protest activity, the following mechanism takes place: the more citizens become informed about government performance - especially in a non-democratic context - the more they become dissatisfied with their governments and potentially ready to participate in protest movements (Zhuravskaya et al., 2020). Apart from reduced support, the Internet and social media allow people to coordinate their actions and thus increase chances of success.

Amorim and Lima (2018) demonstrate that the effect of the broadband Internet also takes place in democratic settings: according to this paper's findings, broadband Internet expansion significantly impacted protest activity in the United States. Manacorda and Tesei (2020) exploit the mechanisms of *"enhanced information"* and *"enhanced participation"* that are put in place with the expansion of mobile Internet. These mechanisms make individuals more responsive *"to both economic conditions and their neighbours participation"* (Manacorda & Tesei, 2020, p. 533).

Various studies show that social media, in particular, have the potential to increase people's ability to alleviate collective action problem. Empirical findings of the recent research by Enikolopov and Petrova (2015) suggest that city-level penetration of dominant Russian social network VK increased both the probability of having a protest and the number of protest participants by lowering coordination costs for Internet users. Another social network – Facebook – also has been proved to have a significant effect on protest activity in worldwide settings (Fergusson & Molina, 2019).

Overall, Shirky (2011) concludes that recent protest movements - both political and non-political - *"have used social media not as a replacement for*

real-world action but as a way to coordinate it" (Shirky, 2011, p. 38).

Other Outcomes

Recent research has identified a lot of other political consequences of the expansion of the Internet and social media apart from the ones mentioned above.

The first one that is important to cover is **political polarization**. Zhuravskaya et al. (2020) highlight the fact that nowadays there is a broad consensus that online users are often exposed to online news that is closer to their own views. In fact, recent research shows that both due to social media recommendation algorithms (Bakshy et al., 2015) and the nature of political communication characterized by forming links with like-minded people (Halberstam & Knight, 2016), online users tend to consume content that is ideologically close to their views and opinions. Nevertheless, when it comes to the actual impact of the Internet on offline political polarization rates, the empirical findings are mixed. In fact, several studies do find evidence on the effect of the Internet on political hostility (Allcott & Gentzkow, 2017; Lelkes et al., 2017), and at the same time a number of papers do not document any significant impact (Barbera, 2015; Allcott et al., 2020).

Recent decades also demonstrated rising concerns about the dangerous potential of the Internet and social media with regard to **false news propagation**. The literature demonstrates that so-called fake news and false political stories indeed spread through the Internet. In this respect, a strand of literature has emerged, which investigates the diffusion of false news during the 2016 US campaign. For instance, recent research has documented that the circulation of false news during elections took place on Facebook (Allcott & Gentzkow, 2017) and Twitter (Grinberg et al., 2019). However, several papers record that only a small proportion of social media users was subject

to exposure (Grinberg et al., 2019).

A closely related to false-news dissemination topic is the internet users' exposure to state-run **propaganda and information operations**. Recent literature on computational propaganda shows that aside from false information dissemination by real online users, the Internet might also serve as a platform for various information operations. Moreover, apart from other features of the Internet and social media, one of the well-recognized and widely used among various political actors is the relatively low costs of developing social media bots that "can almost be neglected" (Grimme et al., 2017). In this case, the resharing function of automated Twitter accounts makes the dissemination of false news even easier (Shao et al., 2018; Luceri et al., 2019; Shao et al., 2018). Regarding opinion manipulation, another well-recognized tool used throughout the recent decade is so-called troll farms. In order to address the challenges of online opposition and the dissemination of potentially harmful messages, authoritarian states may mobilize people to engage in online discussions (Sanovich et al., 2018). The most remarkable cases include Russian troll farms that spread messages across a great variety of platforms including Twitter, YouTube, Instagram and Facebook both in English-speaking and Russian-speaking segments of the Internet (DiResta, 2018; Linvill & Warren, 2020; Zannettou et al., 2019). Another example is the Chinese 50-cent army that is aimed at promoting pro-government discourse (DellaVigna & La Ferrara, 2015). It is important to note that democratic countries, such as the United States, also make use of so-called "sock-puppets" to promote pro-government messages and engage in conversations (Fielding & Cobain, 2011). Overall, the evidence suggests that democratic states often target foreign politics while autocracies spread misinformation across their own population (Bradshaw & Howard, 2017).

Conceptualization of Main Terms: Public Approval, Government Bodies and the Intensity of Internet Use

The key terms used in the present study that are worth describing are the following:

Public approval. Different concepts related to public attitudes towards government bodies gained widespread appeal in the field of political science. Overall, increasing interest is caused by the fact that so-called "political unhappiness" (Putnam, 2000) and dissatisfaction with the current status quo becomes prevalent among citizens of various countries. In fact, recent literature documents high levels of alienation from the government: Lipset and Schneider (1987) depict that "social scientists analyzing these surveys continue to perceive in them alienation, distrust, lack of confidence, and the attribution of low levels of legitimacy to social and political institutions" Lipset and Schneider (1987, p. 3). Nonetheless, a major problem of proper conceptualization of these terms continues to persist.

The complex concept of public approval refers to citizens' perceptions regarding the performance, integrity and ability of a particular agency providing the services. It is important that government bodies rely on public approval of their performance that helps them to gain support and establish popular legitimacy (Miller, 2016). Some researchers refer to it as public "confidence" in institutions (Guriev et al., 2020; Maerz, 2016).

The conceptual distinctiveness of public approval should be taken into consideration as well. For instance, political trust reflects a "broad orientation toward the national government as a whole", while approval "bears the imprint of individuals' partisan attachments" (Hetherington & Rudolph, 2008, p. 504). The study aimed at investigating the determinants of the approval for US Supreme court by Hitt and Searles (2018) also highlights an

important consideration: rather than representing general beliefs about the government body itself at any given time, public approval is conceptually closer to an agreement with agency's decisions at this point in time. Thus, public approval constitutes "specific support" rather than "diffuse support". Moreover, empirical distinctiveness is shown by Cook and Gronke (2005): the results of comparison of different measures suggest that different conceptualization of trust and confidence is justified by divergent underlying determinants.

Factors that can impact public approval involve a great variety of different elements. With regard to formal political institutions, recent studies have shown that public support for the political system depends on the political performance (Evans & Whitefield, 1995; Van Ryzin, 2004), government stability (Harmel & Robertson, 1986), electoral system (Anderson, 1998). However, today, as the world rapidly moves into a digital era, the Internet's relevance significantly increases. Therefore, this research is intended to capture the effect of the Internet on citizens' attitudes towards government bodies.

Government bodies. A government body can be defined as an entity (on a national or subnational level) that is authorized by law to perform executive, legislative or regulatory functions. In the present research, a set of government bodies included in the empirical analysis involves the President, the Prime Minister, the State Duma, the national government and the regional government.

Internet use intensity. As information and communication technologies become more sophisticated and diffused throughout the world, the term "Internet" becomes more and more ambiguous. Following the generally accepted definition, this study refers to the Internet as a global interconnected network that facilitates person-to-person interaction and exchange of infor-

mation through digital devices (DiMaggio et al., 2001).

Accordingly, the intensity of Internet use can be defined as frequency of Internet use or time spent on the Internet by citizens. With regard to existing literature, Internet usage has been operationalized in various ways. For instance, a common way of evaluating the intensity of Internet use is represented by hours per day (Im et al., 2014) or per week (Nie & Erbring, 2002). Another way to assess this kind of activity on an individual level is scale (Lu et al., 2019). In the present study, it is measured as the frequency of Internet use, which varies from "every day" to "less than once a week" and "never".

Theory: Why Internet Usage Might Decrease Approval of Government Bodies

An assumption that information represents one of the factors that determine and shape public opinion and behaviour finds a considerable amount of support with regard to recent research both in the field of political science and economics (Im et al., 2014). This fact has important implications concerning the information environment: as Gurri (2018) points out, "governments have worked hard to control the stories told about the status quo" (Gurri, 2018, p. 18). This becomes even more relevant when speaking about the authoritarian context. Moreover, speaking of technology adoption, one important observation has been made by Stier (2017): in reality, autocracies demonstrate levels of internet penetration that are similar to the ones in democratic countries since 2013. With regard to non-democratic countries that are often propaganda-dependent, a variety of possible ways have been developed with the purpose of controlling the circulation of information in cyberspace.

As it was highlighted above, before the emergence of the Internet and with the prevalence of traditional media, control over the information flows involved different gatekeepers that could filter stories to be published in outlets (Kettl, 2000). Now, as the situation has changed, government strategies have also evolved. An identified set of strategies includes a huge variety of measures, involving both offline- and online-responses. For instance, in the early decades marked by the rapid expansion of information and communication technologies one of the strategies highlighted by researchers involved shutting down communications grids (Shirky, 2011). Another identified way to address the emerged challenge implies employing online tools of control. Sanovich et al. (2018) place an emphasis on the capabilities of the autocratic government of restricting online content: in these conditions, although some non-governmental actors do have an ability to produce and distribute information online, state actors can put efforts into building filtering tools that can block particular web-pages or even entire segments of the Internet within a country.

The literature demonstrates that today's methods of dealing with threats of the Internet in the authoritarian context become more and more advanced: according to recent research, well-established autocracies can use ICTs to maintain their power (Christensen, 2019). With regard to so-called "online responses" of the autocratic government, the authors identify another way to address the production of unwanted content that implies direct engagement in the online conversations with the use of automated devices or hired people in order to promote a particular agenda or distract citizens from political issues (Sanovich et al., 2018). Moreover, Christensen (2019) shows that many autocrats adapt to the "cyber-world" and employ increasingly sophisticated tools to censor information and monitor user behaviour. Comprehensive analysis of electronic government platforms by Maerz (2016) also

shows that the development of e-government platforms that represent "digital facades" demonstrating modernity and transparency to the international community in authoritarian settings might be used for the purposes of enhancing legitimacy.

What explains this anxiety to control the flows of information? First of all, turning to the *informational theory of dictatorship* developed by Guriev and Treisman (2015), it can be concluded that information manipulation - both in offline and online environments - represents an extremely useful strategy concerning the survival of the regime.

A particularly interesting observation was expressed by Castells (2018), which claimed that the phenomenon of the legitimacy crisis that is the case in the modern world is caused by the so-called "politico-digital cacophony" that constitutes fragmentation of messaging and ambiguity of communication online. The author argues that such circumstances inevitably lead to the breaking of "the connection between the personal and the institutional" (Castells, 2018, p. 23), which, in turn, can undermine the legitimacy of the governments around the world (Guriev et al., 2020). Similarly, Gurri (2018) presents the concept of homo informaticus - a modern-day human that has access to different sources of information that can provide information about the world beyond his community. According to the author, the diversity of information sources contributes to the promotion of alternative values and beliefs and thus poses a serious threat to governments' legitimacy (Gurri, 2018).

From a psychological perspective, the rapid intensification of information flows plays an important role with regard to netizens' consumption of media that easily and quickly spreads through various websites and social networks. In this context, the fact that "politics is fundamentally emotional" (Castells, 2018, p. 21) assumes particular importance. Such circumstances

inevitably impact the opinion-forming potential of various types of media - stories, videos or pictures - disseminated with the use of diverse platforms. This specific feature of the Internet greatly affects the magnitude of the effects of critical messages related to government performance.

Overall, the Internet and social media help citizens to obtain information about cases of corruption and misgovernance as well as about decision-makers incompetence, and this radical shift in information provision and, consequently, the balance of power between the civil society and the state (Shirky, 2011) result in the reduction of the levels of confidence in government bodies as well as in a government as a whole.

Relatively to the "old media", the Internet and new media possess a set of features that allow researchers to treat it as technology that has the capability to raise human communication to a qualitatively new level. Given its ability to alter existing information environments (Im et al., 2014) coupled with the unique open nature and structural features that induce change in the public sphere (DiMaggio et al., 2001), the main hypothesis of this paper is the following:

Hypothesis 1: *Higher intensity of Internet use is negatively associated with the approval of government bodies.*

Overall, assessing the role of the Internet, Shirky (2011) compares the effects of the spread of information and communication technologies with the impact of the printing press that could help politically engaged people to discuss current affairs and issues. From this perspective, the dissemination of news and ideas on various websites is important, but what is more important is access to online conversation. Referring to the research conducted by Katz and Lazarsfeld, the author concludes that the primary role of the Internet constitutes the provision of the platform to "discuss the issues presented to the public" (Shirky, 2011, p. 34). Building upon this argument, I infer that

usage of the Internet to interact with other people will negatively affect the approval of the government bodies:

Hypothesis 2: *Usage of the internet with the purpose to communicate with other people online is negatively associated with the approval of government bodies.*

Moreover, this hypothesis is particularly interesting due to the recognized capacity of social media to create so-called "echo-chambers". In essence, "filter bubbles" are recognized as a potential cost of social media (Zhuravskaya et al., 2020) representing information environment preventing internet users from learning about opinions that are not similar to their own beliefs (Sunstein, 2017). Consequently, the effect of social media on public attitudes and perceptions is un-obvious.

Present-day research proved that differences in media consumption might affect public attitudes and beliefs (Gerber et al., 2009; Intravia et al., 2018). Since the recent literature provides evidence that penetration of different social media might lead to different outcomes in terms of support for the Government (Enikolopov & Petrova, 2015), some model specifications include parameters related to different online media consumption proxied by the usage of different social networks: VKontakte, Odnoklassniki, Facebook and Twitter. Enikolopov et al. (2020) provide empirical evidence that VK, the dominant Russian social network, induced pro-governmental attitudes in 2011 due to the type of content that prevailed on this particular website. Moreover, Ferguson and Molina (2019) show that the increased usage of Facebook in different countries is associated with an increased protest activity. Thus, based upon the findings of the recent literature, it is reasonable to assume that usage of most popular homegrown social networks (VK and Odnoklassniki) will induce public approval, but the usage of social networks that originated in other countries (Facebook and Twitter) will reduce politi-

cal support for the government bodies.

Hypothesis 3: *In contrast with Facebook and Twitter, usage of VK and Odnoklassniki social networks is positively associated with approval of Government bodies.*

Research Design

Data Sources and the Descriptive Statistics

In this section, I describe the main variables in use, the identification strategy and methods. The study uses data of the "Kurier" survey that has been conducted by the non-governmental sociological research organization Levada Center in Russian regions since 1992[1]. "Kurier" is a repeated survey which is administered to the permanently residing adult population of Russia from 18 years and older. The survey sample includes almost all Russian regions with the exception of 12 regions that constitute areas of military conflicts and sparsely populated remote regions. Data collection method is the personal interview at the place of respondent's residence. Overall, the data on government approval as well as main variables on individual level obtained from the surveys cover the period from 2009 to 2019. Apart from information about citizens' attitudes towards government institutions, this source of data allows taking into account individual-level variables related to Internet usage and a range of socioeconomic indicators. The next principal source of data is Federal State Statistics Service that provides access to various regional-level statistical indicators to be included in particular models[2].

After combining the data sources, the resulting dataset covers 17824 respondents from 64 regions in Russia. On average, 1600 people are surveyed in a region in any particular year of the final dataset. Table 1 presents the descriptive statistics of the variables in use.

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[1]The Levada Center data are available at http://sophist.hse.ru/db/oprosy.shtml?ts=32&en=0 (accessed on April 29, 2021)

[2]The data are available at www.fedstat.ru (accessed 29 April, 2021).

Table 1: Descriptive Statistics of the Data

Statistic	N	Mean	St. Dev.	Min	Max
Public Attitudes					
Approval – Gosduma	12,608	0.427	0.495	0	1
Approval – Government	14,211	0.499	0.500	0	1
Approval – President	15,880	0.755	0.430	0	1
Approval – Prime Minister	15,813	0.566	0.496	0	1
Approval – Reg. Governor	14,173	0.586	0.493	0	1
Share of Positive Attitudes	12,358	0.561	0.384	0	1
Demographic Variables					
Age	17,824	44.611	16.774	15	95
Gender (Male)	17,824	0.452	0.498	0	1
Marital Status (Married)	17,624	0.597	0.491	0	1
Personal Income (rub.)	15,727	28,963	28,705	500	870,000
University Education	17,824	0.222	0.416	0	1
Employment Status (Unemployed)	17,824	0.550	0.497	0	1
Purpose of Internet					
Internet for communic.	8,005	0.325	0.468	0	1
VK	10,941	0.387	0.487	0	1
OK	10,941	0.406	0.491	0	1
FB	10,941	0.091	0.288	0	1
Twitter	10,941	0.041	0.198	0	1
Regional-level Variables					
GRP (per capita)	16,358	421,631	332,973	94,436	2,393,355

Dependent Variables

To operationalize approval of the government bodies, the present study employs measures of political support on the individual level from the survey described above. Questions with regard to approval start with *"Could you please tell, do you generally approve or not . . . "*, and proceed with the particular government body. The exact wording of all questions is presented in the Appendix. In the present research, a set of government bodies included in the empirical analysis involves the President, the National Government, the State Duma, the Prime Minister and the regional government. The dependent variables of the main models represent aggregated measures of approval as well as binary indicators that demonstrate the presence and the absence of the approval of a particular government body.

Following Guriev et al. (2020) empirical strategy, I use the responses to the survey questions described above as well as their 1st principal component obtained with the use of Principal Component Analysis and the share of positive attitudes towards government bodies. Thus, in contrast to binary outcomes indicating the presence of support, outcomes that represent aggregated measures are continuous.

Independent Variables

Internet use intensity. The principal independent variable used in the analysis is the intensity of Internet use. In the present analysis, it constitutes a categorical variable with 5 categories in total. Due to the fact that the higher values of the original variable mean less frequent use of the Internet, the values were reversed. Thus, the following categories of the final version of the variable characterize respondent's intensity of internet use: 1) Never 2) Less than once a week 3) About once a week 4) Several times a week 5) Every day / almost every day

In the present analysis, I assume that levels of measurement do not affect the level of ambiguity with regard to results' interpretation, so I treat intensity of Internet use as a pseudo-interval scale.

Social media variables. A set of binary variables was obtained using respondents' responses to the survey question "Do you communicate more or less regularly on social networks, and if yes, what exactly?" Variables indicate the usage of the most popular social networks in Russia: VK, Odnoklassniki, Facebook and Twitter. Covariates are labelled in accordance with social networks' original names.

Purpose of Internet use. Variables representing the purpose of Internet usage are included in the models, as well. Here, I exploit two principal covariates: E-services, continuous variable that indicates the proportion of

people using online government services through the Internet and binary Online communication variable that indicates the usage of the Internet with the purpose to communicate with other people.

Region-level variables. The additional models include variables on the regional level. I use the Gross Regional Product per capita indicator, which represents the ratio of the GRP (in current prices) to the average annual resident population.

Control Variables

Following the empirical strategies of the papers investigating public attitudes towards governments (Guriev et al., 2020; Im et al., 2014; Lu et al., 2019), the following variables are exploited as control variables on the individual level: age, age squared, gender, education (6-point scale variable treated as a pseudo-interval measure), marital status, employment status, indicators for an urban or rural place of residence.

Analysis

Since the combined dataset has hierarchical structure, in order to identify the correct way of dealing with the data, I performed preliminary exploratory analysis. The first principal step is the calculation of *intraclass correlation coefficient (ICC)*. Essentially, this measure is based on the analysis of variance, and it indicates the proportion of variance that is explained by a grouping factor (Bartko, 1966; Nakagawa et al., 2017), in the case of the present study, regions. The obtained coefficient value for aggregated measures as dependent variables as well as for particular government bodies does not exceed the cutoff point of 0.05. It should be interpreted in the following way: the regional variable does not explain a considerable proportion of variance and

most part of variability lies within groups (Musca et al., 2011). In contrast, the time variable, which indicates the year of the survey, demonstrates great importance regarding its explanatory power. Overall, the described results suggest that the most appropriate way to analyze this data is the time fixed effects estimation. Therefore, the following sections of this paper will include specifications and results for the models with year fixed effects.

The second step of the preliminary analysis involves the examination of the continuous variables' distributions. Based upon the fact that the distributions of the following variables are significantly skewed, I include their logged versions in all of the models: **GRP per capita** and **Personal Income (rub.)**.

Method

As described in the section above, to identify the effects of Internet use on public approval of government bodies, I exploit the regression modelling method[3]. I relate public support of the government bodies to the intensity of Internet use with the use of models with year fixed effects.

The regression equation for the general fixed effects model looks as follows:

$$Approval_{it} = \beta_0 + \beta_1 InternetIntensity_{it} + X'_{it} + \epsilon_{it} \tag{1}$$

and the regression equation for the extended model with additional media variables is the following:

$$
\begin{aligned}
Approval_{it} = \beta_0 + \sum \beta InternetPurpose_{it} + \\
\sum \beta SocialMediaVariables_{it} + X'_{it} + \epsilon_{it},
\end{aligned}
\tag{2}
$$

where $Approval_{it}$ is the measure of political support that is represented by 1)

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[3]All calculations are done using R (R Core Team, 2020). The script is available on request.

aggregated variables (1st Principal Component of respondents' responses and share of positive attitudes towards Government bodies) and 2) binary indicators representing presence of approval towards particular Government body (President, National Government, Gosduma, Prime Minister and Regional Governor) in different specifications; $InternetIntensity_{it}$ represents a measure of the frequency of Internet Use on individual level; $InternetPurpose_{it}$ indicates the purpose of going online and involves binary variables indicating whether respondent uses Internet for 1) reading news and 2) communication or not. $SocialMediaVariables_{it}$ is a set of indicators related to the usage of social networks that involves 4 most used social networks: VK, Odnoklassniki, Facebook and Twitter. Finally, X'_{it} represent individual-level control variables.

Results

General Model

The regression results for the presented model specifications with 1st Principal Component of approval and share of positive attitudes are presented in the Table 2 and Table 3. Overall, the obtained features' coefficients corroborate the hypotheses that are put forward above. The baseline model - Model 1 - involves Internet Use Intensity as a main variable of interest. Models 2-3 include variables related to purpose of Internet use. Finally, indicators of social networks usage are exploited in Models 3-4 in each of the tables.

First of all, the significance of coefficients does not differ across both tables. In each table, coefficients for the Internet Use Intensity is significant at $p < 0.01$. Given the ascending scaling of the main dependent variable, more frequent use of the Internet decreases levels of approval of government bodies: according to the estimated coefficient in Model 1 in Table 2, one unit increase in the intensity of internet use is associated with 0.05 pp decrease in approval of government bodies. The variable indicating online communication also demonstrates negative association with the dependent variable. Overall, this result suggests that the hypothesis about the impact of online discussion is truthful.

Finally, the results regarding the usage of social networks are also consistent with with the hypotheses. As expected, models with both dependent variables demonstrate that Russian homegrown social networks induce confidence in government bodies: both variables indicating usage of VK and Odnoklassniki show positive and significant coefficients. Consistent with the hypothesis, coefficient of Twitter social network also is negative in both specifications. However, models with aggregated measures do not demonstrate any statistically significant effect for Facebook.

Turning to the empirical results related to particular Government bodies, Tables A1-A5 in the Appendix include models estimated with different Government bodies as dependent variables. Overall, the all models except for the one including approval of the regional governor as the dependent variable demonstrate negative significant relationship. However, when it comes to the variables related to online communication and usage of social networks, the results are not uniform in terms of significance. Overall, communication online proves its strong and negative association with the approval of the National Government and the State Duma. The same models demonstrate evidence of positive relationship between VK and confidence in these government bodies. Another result that is worth highlighting is related to usage of Facebook that demonstrates negative relationship with the approval of National Government.

Table 2: Approval of Government Bodies: 1st Principal Component

	1st Principal Component of Responses			
	(1)	(2)	(3)	(4)
Internet Use Intensity	−0.050***			
	(0.017)			
Age	−0.070***	−0.051***	−0.040***	−0.041***
	(0.008)	(0.009)	(0.010)	(0.010)
Age Squared	0.001***	0.001***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
ln Income (rub.)	−0.009	0.035***	0.034***	0.035***
	(0.014)	(0.012)	(0.012)	(0.012)
Gender (Male)	−0.302***	−0.299***	−0.292***	−0.287***
	(0.046)	(0.053)	(0.053)	(0.053)
University Education	0.072	0.010	−0.008	−0.005
	(0.054)	(0.064)	(0.064)	(0.064)
Marital Status	0.106**	0.029	0.036	0.033
	(0.049)	(0.057)	(0.057)	(0.057)
Employment Status	−0.027	−0.292***	−0.270***	−0.268***
	(0.053)	(0.059)	(0.059)	(0.059)
City/Rural Area	−0.043	0.012	0.001	0.003
	(0.055)	(0.063)	(0.064)	(0.064)
Online News		0.032	−0.023	−0.002
		(0.066)	(0.069)	(0.069)
Online communication			−0.102	−0.092
			(0.073)	(0.073)
VK			0.265***	0.290***
			(0.074)	(0.074)
Odnoklassniki			0.148**	0.152**
			(0.069)	(0.069)
Facebook				−0.164
				(0.117)
Twitter				−0.302*
				(0.161)
Year FE	Y	Y	Y	Y
Observations	7,606	6,345	6,345	6,345

Notes: *** *p<0.01,* **p<0.05,* *p<0.1.* Individual is the unit of observation. The dependent variable is the first principal component of respondents' responses about the approval of Government bodies.

Table 3: Approval of Government Bodies: Share of positive attitudes

| | Share of positive attitudes | | | |
	(1)	(2)	(3)	(4)
Internet Use Intensity	−0.016***			
	(0.004)			
Age	−0.016***	−0.011***	−0.009***	−0.009***
	(0.002)	(0.002)	(0.002)	(0.002)
Age Squared	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
ln Income (rub.)	0.027***	0.053***	0.053***	0.053***
	(0.010)	(0.012)	(0.012)	(0.012)
Gender (Male)	−0.063***	−0.068***	−0.064***	−0.063***
	(0.011)	(0.014)	(0.014)	(0.014)
University Education	0.008	0.006	0.003	0.004
	(0.012)	(0.016)	(0.016)	(0.016)
Marital Status	0.004	−0.020	−0.019	−0.020
	(0.012)	(0.015)	(0.015)	(0.015)
Employment Status	0.000	−0.039**	−0.033**	−0.033**
	(0.013)	(0.016)	(0.016)	(0.016)
City/Rural Area	−0.017	−0.027*	−0.026	−0.025
	(0.013)	(0.016)	(0.016)	(0.016)
Online News		−0.007	−0.015	−0.011
		(0.017)	(0.018)	(0.018)
Online communication			−0.049***	−0.047**
			(0.019)	(0.019)
VK			0.038**	0.043**
			(0.019)	(0.019)
Odnoklassniki			0.067***	0.068***
			(0.018)	(0.018)
Facebook				−0.021
				(0.030)
Twitter				−0.071*
				(0.040)
Year FE	Y	Y	Y	Y
Observations	7,064	5,586	5,586	5,586

Notes: *** $p<0.01$, **$p<0.05$, *$p<0.1$. Individual is the unit of observation. The dependent variable is the share of positive responses among all questions about approval of Government bodies.

Summary of Findings

Overall, with the use of Levada Center data on public attitudes towards Government bodies of 17824 respondents from 64 Russian regions in 2009-2019 I find that more intensive Internet use, on average, decreases confidence in Government bodies. The obtained result is consistent with the arguments put forward by numerous researchers, analysts and psychologists. Essentially, the results of the study corroborate hypotheses about the independent effect of the Internet and social media on public beliefs and attitudes. Moreover, they demonstrate the fact that the expansion of information and communication technologies indeed made a significant contribution in the decline of the public support and the legitimacy of the Government bodies in the Russian context.

Robustness Checks and Additional Hypothesis Testing

Robustness Checks

To ensure the robustness of obtained coefficients, I implemented several robustness checks[4]. First of all, General models presented in Table 1 and Table 2 include two different aggregated measures that were calculated with the use of two non-identical methods. Secondly, all models described in the previous section include a set of control variables that account for a variety of confounding factors that could influence public attitudes towards government bodies. Finally, with regard to models' specifications, I exploit the method of fixed effects estimation that makes it possible to account for omitted variable bias caused by excluding unobserved variables that change over time but remain constant across regions.

Moreover, to ensure that obtained coefficients are not skewed by influ-

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[4]Scripts, tables and plots are available on request.

ential observations, I calculated a measure which aims to identify potential outliers. The influential data points were obtained with the use of Cook's Distance and excluded from the regression models. Overall, estimates proved to be robust to the removal of such observations, because the signs, magnitude and statistical significance of coefficients have not significantly changed.

With regard to General models, I perform a series of Wu-Hausman tests in order to compare the estimates of FE and RE specifications and identify correlation between regressors and errors. Test statistics that do not exceed the threshold of 0.05 demonstrate that the usage of Fixed Effects is preferable in all cases due to the fact that fixed effects estimation better serve to address endogeneity issues in comparison to random effects models.

Finally, In order to ensure that the way I treat variable of Internet use intensity is correct, I perform additional analyses with binary indicators of intensity of Internet use that represent dummy variables indicating everyday usage of the Internet. As expected, the results are consistent with the ones obtained with pseudo-interval measure.

Additional Hypothesis Testing

Based on the theoretical arguments of Inglehart and Welzel (2005), I exploit additional regression models to test additional hypotheses. According to the argument presented in the book "Modernization, Cultural Change and Democracy: The Human Development Sequence", favourable economic conditions along with natural reproduction of the population induce the development of post-materialist values. Consequently, these major cultural changes impact public approval of the government bodies and lead to the decrease of support of the government in the context of post-communist states (Inglehart & Welzel, 2005). Thus, building upon this argument, I test whether the effect of the Internet varies across regions and individuals with different levels

of GDP per capita and personal income, respectively. I infer that *there is a positive interaction effect between the Internet and the levels of income resulting in the presence of stronger negative effect of the Internet on approval of Government bodies in wealthier regions.*

Since the economic conditions are measurable on the regional level, in the additional regression sets I exploit Gross Regional Product per capita as a main measure of economic performance.

The exploited regression includes interaction term aimed to model moderation described above. The regression equation for the model with GRP per capita is the following:

$$Approval_{it} = \beta_0 + \beta_1 InternetIntensity_{it} + \beta_2 GRPpc_{it} +$$
$$\beta_3\ InternetIntensity_{it} * GRPpc_i + X'_{it} + \epsilon_{it}, \tag{3}$$

where $Approval_{it}$ is the measure of political support that is represented by binary indicators representing presence of approval towards particular Government body (President, National Government, Gosduma, Prime Minister and Regional Governor) in different specifications; $InternetIntensity_{it}$ represents a measure of the frequency of Internet Use on individual level; $GRPpc_{it}$ is the Gross Regional Product per capita. X'_{it} represent individual-level control variables.

The results obtained for different Government bodies as dependent variables are presented in the Table A6 n the Appendix. Overall, they demonstrate that GRP per capita indeed moderates the effect of the Internet use on the approval of Government bodies: Figure A1 shows that higher values of GRP per capita significantly increase the magnitude of the negative effect of the Internet on the approval of the President. In other words, higher values of GRP per capita are associated with more "critical" use of the Internet.

All in all, the described results are in line with the literature on the de-

velopment of post-materialist values and may shed light on the differences in the way people use the Internet with regard to different economic conditions.

Discussion and Concluding Remarks

In the present study I investigated the effect of the Internet and social media on approval of government bodies in Russia. Firstly, using the existing literature on political effects of the information and communication technologies, I developed a set of hypotheses with regard to the impact of the former on the confidence in government bodies. After that, I proved that more intensive Internet usage and engagement in online discussions is associated with decreased approval of government bodies and provided evidence on the effects related to the particular social networks used in Russia. A set of robustness checks was implemented to reassure the robustness of the estimated coefficients. Thus, I have provided valid evidence of the political effects of the Internet with regard to the impact on citizens' beliefs and attitudes.

Overall, the results suggest that online communication may be considered as an important determinant of the decline in the levels of public approval. Moreover, the conclusions are in line with recent literature: as was suggested in the research of Shirky (2011), *"access to information is far less important, politically, that access to information"* (p.35).

It is worth pointing out that this study has limitations. Firstly not every year of survey data includes variables indicating specific kinds of activities online - i. e. purpose of the Internet use. Moreover, it was not possible to control for the consumption of the information provided by traditional media. Finally, studying of such complex and multifaceted concept as approval of government bodies requires inclusion of all potential confounding factors that could influence the observed phenomenon. In the present research, I seek to address this problem by exploiting a restrictive specification of the regression models and inclusion of a variety of control variables, selection of which is based on the existing literature investigating public attitudes.

The paper contributes to the literature on the effects of the Internet and social media. As stated above, the increasing technical capabilities gain more and more attention with regard to modern political science. This research sheds light on how the intensification of flows of information and increased engagement in online discussions affect approval of the government bodies in Russian regions. Finally, the results demonstrate the differences in the effects of the particular social networks on the approval of government bodies.

Turning to the further research, the question of the way the Internet and information communication technologies will develop in the context of citizen-state relationship, will remain a topic gaining widespread appeal in the field of political science. In particular, given the rapid development of the technologies, an exceptionally interesting issue concerns whether the Internet will remain "liberation technology" facilitating public participation and promoting democratic values or the government will accommodate to the changes in information environments and eventually appropriate the developing technologies.

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Appendix

Table A1: Approval of Government Bodies: President

	(1)	(2)	(3)	(4)
	Approval of the President			
Internet Use Intensity	−0.059***			
	(0.020)			
Age	−0.039***	−0.053***	−0.049***	−0.049***
	(0.010)	(0.011)	(0.012)	(0.012)
Age Squared	0.000***	0.001***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
ln Income (rub.)	0.167***	0.112*	0.114**	0.117**
	(0.046)	(0.057)	(0.058)	(0.058)
Gender (Male)	−0.481***	−0.397***	−0.384***	−0.383***
	(0.052)	(0.065)	(0.065)	(0.065)
University Education	0.003	−0.055	−0.063	−0.061
	(0.066)	(0.078)	(0.078)	(0.078)
Marital Status	0.043	−0.004	−0.008	−0.011
	(0.057)	(0.070)	(0.071)	(0.071)
Employment Status	0.006	−0.088	−0.068	−0.068
	(0.063)	(0.078)	(0.079)	(0.079)
City/Rural Area	−0.014	−0.012	−0.009	−0.010
	(0.060)	(0.074)	(0.075)	(0.075)
Online News		0.022	−0.016	−0.005
		(0.082)	(0.086)	(0.087)
Online communication			−0.094	−0.088
			(0.094)	(0.094)
VK			0.035	0.049
			(0.093)	(0.094)
Odnoklassniki			0.272***	0.274***
			(0.088)	(0.088)
Facebook				−0.136
				(0.145)
Twitter				−0.083
				(0.198)
Constant	0.790	0.609	0.394	0.372
	(0.508)	(0.621)	(0.627)	(0.627)
Year FE	Y	Y	Y	Y
Observations	9,666	5,737	5,737	5,737
Log Likelihood	−5,492.588	−3,605.822	−3,602.202	−3,601.569
Akaike Inf. Crit.	11,019.180	7,239.644	7,238.403	7,241.139

Notes: *** $p<0.01$, **$p<0.05$, *$p<0.1$. Individual is the unit of observation. The dependent variable is the binary indicator of approval of the President.

Table A2: Approval of Government Bodies: National Government

| | Approval of the Government | | | |
	(1)	(2)	(3)	(4)
Internet Use Intensity	−0.081***			
	(0.018)			
Age	−0.069***	−0.049***	−0.045***	−0.046***
	(0.008)	(0.010)	(0.010)	(0.010)
Age Squared	0.001***	0.001***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
ln Income (rub.)	0.105**	0.081	0.086*	0.092*
	(0.041)	(0.050)	(0.050)	(0.050)
Gender (Male)	−0.256***	−0.309***	−0.303***	−0.300***
	(0.046)	(0.056)	(0.056)	(0.056)
University Education	0.025	0.000	−0.003	0.001
	(0.055)	(0.067)	(0.067)	(0.067)
Marital Status	−0.012	−0.014	−0.013	−0.020
	(0.051)	(0.061)	(0.061)	(0.061)
Employment Status	−0.066	−0.129*	−0.111*	−0.112*
	(0.056)	(0.067)	(0.067)	(0.067)
City/Rural Area	−0.081	−0.000	−0.002	−0.002
	(0.054)	(0.064)	(0.065)	(0.065)
Online News		−0.199***	−0.217***	−0.197***
		(0.069)	(0.072)	(0.073)
Online communication			−0.215***	−0.202***
			(0.078)	(0.078)
VK			0.160**	0.183**
			(0.078)	(0.078)
Odnoklassniki			0.202***	0.207***
			(0.073)	(0.073)
Facebook				−0.227*
				(0.125)
Twitter				−0.206
				(0.169)
Constant	2.129***	1.098***	0.924***	0.944***
	(0.212)	(0.221)	(0.241)	(0.241)
Year FE	Y	Y	Y	Y
Observations	9,766	6,805	6,805	6,805
Log Likelihood	−6,518.015	−4,577.841	−4,571.108	−4,567.457
Akaike Inf. Crit.	13,068.030	9,183.681	9,176.216	9,172.913

Notes: *** $p<0.01$, **$p<0.05$, *$p<0.1$. Individual is the unit of observation. The dependent variable is the binary indicator of approval of the Government.

Table A3: Approval of Government Bodies: The State Duma

	Approval of Gosduma			
	(1)	(2)	(3)	(4)
Internet Use Intensity	−0.101***			
	(0.019)			
Age	−0.082***	−0.057***	−0.056***	−0.057***
	(0.009)	(0.010)	(0.010)	(0.010)
Age Squared	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
ln Income (rub.)	0.093**	0.069	0.076	0.080
	(0.045)	(0.050)	(0.050)	(0.050)
Gender (Male)	−0.205***	−0.211***	−0.215***	−0.212***
	(0.050)	(0.056)	(0.057)	(0.057)
University Education	0.005	−0.048	−0.045	−0.042
	(0.058)	(0.067)	(0.067)	(0.067)
Marital Status	0.098*	0.059	0.061	0.056
	(0.055)	(0.061)	(0.061)	(0.061)
Employment Status	−0.057	−0.126*	−0.123*	−0.123*
	(0.061)	(0.067)	(0.067)	(0.067)
City/Rural Area	−0.036	−0.030	−0.035	−0.034
	(0.058)	(0.065)	(0.065)	(0.065)
Online News		−0.033	−0.017	−0.003
		(0.069)	(0.072)	(0.073)
Online communication			−0.199**	−0.191**
			(0.078)	(0.078)
VK			0.113	0.129*
			(0.077)	(0.078)
Odnoklassniki			0.051	0.056
			(0.073)	(0.073)
Facebook				−0.125
				(0.126)
Twitter				−0.198
				(0.170)
Constant	1.793***	1.019***	0.932***	0.945***
	(0.252)	(0.221)	(0.241)	(0.241)
Year FE	Y	Y	Y	Y
Observations	8,191	6,782	6,782	6,782
Log Likelihood	−5,435.920	−4,553.155	−4,548.224	−4,546.250
Akaike Inf. Crit.	10,901.840	9,134.310	9,130.449	9,130.499

Notes: *** $p<0.01$, **$p<0.05$, *$p<0.1$. Individual is the unit of observation. The dependent variable is the binary indicator of approval of the State Duma.

Table A4: Approval of Government Bodies: Prime Minister

| | Approval of the Prime Minister | | | |
	(1)	(2)	(3)	(4)
Internet Use Intensity	−0.079***			
	(0.017)			
Age	−0.064***	−0.045***	−0.042***	−0.042***
	(0.008)	(0.010)	(0.011)	(0.011)
Age Squared	0.001***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
ln Income (rub.)	0.054	0.103**	0.109**	0.109**
	(0.040)	(0.051)	(0.052)	(0.052)
Gender (Male)	−0.396***	−0.372***	−0.358***	−0.358***
	(0.045)	(0.057)	(0.058)	(0.058)
University Education	−0.034	−0.051	−0.058	−0.058
	(0.057)	(0.068)	(0.069)	(0.069)
Marital Status	−0.009	−0.030	−0.037	−0.037
	(0.049)	(0.062)	(0.063)	(0.063)
Employment Status	−0.011	−0.042	−0.021	−0.021
	(0.055)	(0.069)	(0.069)	(0.069)
City/Rural Area	−0.021	−0.082	−0.078	−0.078
	(0.052)	(0.066)	(0.067)	(0.067)
Online News		0.003	−0.025	−0.025
		(0.071)	(0.075)	(0.075)
Online communication			−0.102	−0.102
			(0.080)	(0.080)
VK			0.045	0.045
			(0.081)	(0.081)
Odnoklassniki			−0.029	−0.029
			(0.128)	(0.128)
Facebook			−0.083	−0.083
			(0.173)	(0.173)
Twitter			0.264***	0.264***
			(0.076)	(0.076)
Constant	3.172***	1.841***	1.644***	1.644***
	(0.217)	(0.229)	(0.249)	(0.249)
Year FE	Y	Y	Y	Y
Observations	11,060	6,791	6,791	6,791
Log Likelihood	−6,894.142	−4,407.468	−4,400.691	−4,400.691
Akaike Inf. Crit.	13,822.280	8,842.937	8,839.382	8,839.382

Notes: *** $p<0.01$, **$p<0.05$, *$p<0.1$. Individual is the unit of observation. The dependent variable is the binary indicator of approval of the Prime Minister.

Table A5: Approval of Government Bodies: Regional Governor

	Approval of the Regional Governor			
	(1)	(2)	(3)	(4)
Internet Use Intensity	−0.018			
	(0.018)			
Age	−0.044***	−0.038***	−0.036***	−0.036***
	(0.009)	(0.010)	(0.010)	(0.010)
Age Squared	0.001***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
ln Income (rub.)	0.226***	0.225***	0.218***	0.225***
	(0.041)	(0.051)	(0.051)	(0.051)
Gender (Male)	−0.207***	−0.245***	−0.246***	−0.242***
	(0.047)	(0.057)	(0.057)	(0.057)
University Education	0.106*	0.095	0.092	0.098
	(0.056)	(0.068)	(0.068)	(0.068)
Marital Status	−0.051	−0.056	−0.050	−0.059
	(0.051)	(0.062)	(0.062)	(0.062)
Employment Status	0.058	−0.030	−0.031	−0.031
	(0.057)	(0.068)	(0.068)	(0.068)
City/Rural Area	−0.129**	−0.111*	−0.115*	−0.117*
	(0.055)	(0.066)	(0.066)	(0.066)
Online News		−0.014	−0.027	−0.000
		(0.070)	(0.073)	(0.074)
Online communication			0.045	0.060
			(0.079)	(0.079)
VK			0.081	0.113
			(0.079)	(0.079)
Odnoklassniki			−0.065	−0.056
			(0.074)	(0.074)
Facebook				−0.150
				(0.126)
Twitter				−0.483***
				(0.168)
Constant	1.149***	0.993***	0.860***	0.875***
	(0.214)	(0.225)	(0.245)	(0.245)
Year FE	Y	Y	Y	Y
Observations	9,757	6,801	6,801	6,801
Log Likelihood	−6,424.624	−4,490.649	−4,488.615	−4,482.769
Akaike Inf. Crit.	12,881.250	9,009.297	9,011.230	9,003.539

Notes: *** $p<0.01$, **$p<0.05$, *$p<0.1$. Individual is the unit of observation. The dependent variable is the binary indicator of approval of the Regional Governor.

Table A6: Model with Interaction Terms: GRP per capita

	Gosduma	President	Government	Prime Minister	Regional Governor
	(1)	(2)	(3)	(4)	(5)
Internet Use Intensity * ln GRP per capita	−0.034	−0.106***	−0.061***	−0.063***	−0.016
	(0.005)	(0.025)	(0.022)	(0.022)	(0.022)
Constant	3.065**	−1.226	1.170	2.283**	0.238
	(1.344)	(1.296)	(1.112)	(1.135)	(1.129)
Year FE	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y
Observations	7,351	10,194	8,948	10,145	8,934

Notes: *** $p<0.01$, **$p<0.05$, *$p<0.1$. Individual is the unit of observation. The dependent variable is the binary indicator of approval of the Regional Governor. Controls include age, age squared, gender, marital status, employment status, university education, urban status.

Figure A1: Marginal Effects Plot: GRP per capita

Relationship between Internet Use Intensity and Approval of the President for different levels of GRP