“The Politics of a Super-Presidential State: The Use of Information and Communication Technology for Electoral Manipulation in Putin’s Russia”

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Natasha Williams

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Abstract

Over the course of Russia’s political transition from the end of the Cold War, national democratic elections have been subject to increased stipulation of political manipulation and influence by the Russian federal government, known as the Kremlin. As Russia has fallen from being a democracy into a semi-authoritarian regime type during the twenty-first century according to the Polity IV Project, electoral outcomes have become a barometer for the purported democratic backslide taking place within Russian society. Notably concurrent with Russia’s decline has been the country’s nearly twenty-year retention of Vladimir Putin in the executive, a reality prolonged by dramatically favorable, and oftentimes questioned, supermajority electoral vote shares. To secure such overwhelming and “Super-Presidential” support for Putin, this study finds through quantitative analysis that a realm of illegitimate “virtual politics,” borne from the information tactics and counterintelligence measures of the Soviet Union, is alive and active in Russia today (Linn 2006; Wilson 2005). Through the enablement of the internet and modern information and communication technologies (ICT), the Kremlin actively engages in manipulative information operations to induce voter intimidation, to generate economic consequences and opportunity costs for its citizenry, and to create societal disinformation as a means to monopolize power over the Russian executive, eroding future democratic outcomes in the country.
Introduction and Background

From its outset at the end of the Cold War, Russia has been the subject and focus of what many democratic proponents and scholars view as the last obstacle and, “most important test case for a transition to democracy” (Evans 2009). Interestingly, Russia’s democratic trajectory has been quite the opposite of that hoped for, and expected, since the overthrow of communism in the country. Specifically, over the past two decades Russia has exhibited a steady decline from the democratic transition experience that it underwent during the 1990s (Marshall 2010). Between 2006 and 2007 Russia dropped from a Polity IV classification of a democracy down to an open anocracy, a semi-authoritarian regime type that it retains to this day (Marshall 2010). This reality presents the interesting puzzle of an authoritarian shift in a present-day major power. As one of the largest countries in the world, increasingly coming into contact with globalization and liberalization, the Russian case for declining democracy requires explanation.

Over the course of Russia’s political transition, elections have become a barometer of the purported democratic backslide taking place within Russian society. Following the Cold War, the implementation of competitive elections in Russia was a prominent step towards democratic consolidation and was entrusted early on to be, “‘the only legitimate means to power in post-Soviet Russia’” (Evans 2009). However, as Russia’s transition has played out federal elections have become less an institution of democratic progress in the country, and more so the subject of rising stipulation of political manipulation and influence by the Russian government in shaping electoral outcomes.

Notably concurrent with Russia’s decline has been the country’s nearly twenty-year retention of Vladimir Putin in the executive. Since 2000 Putin has served as both the Russian President and Prime Minister, a reality prolonged by dramatically favorable, and oftentimes
questioned, popular vote shares. Putin’s supermajority electoral outcomes have led to the development of a Russian “super-presidential” state, in which the executive rules de facto unconstrained and unaccountable to the other branches of government, the rule of law, and society at large (Linn 2006).

To secure such overwhelming support for Putin and his subsequent government control over the Kremlin this study finds through quantitative analysis that a resurgence of the information-sphere and the practice of illegitimate “virtual politics,” borne from the information tactics and counterintelligence measures of the Soviet Union, is alive and active in Russia today (Ognyanova 2014; Wilson 2005). Through the enablement of the internet and modern information and communication technologies (ICT), the Kremlin actively engages in manipulative information operations to induce voter intimidation, to generate economic consequences and opportunity costs for its citizenry, and to create societal disinformation as a means to monopolize super-presidential power over the Russian executive.

The exploitation of information channels to control domestic political power is not a new phenomenon in Russia. Information activity today, “[revives] well-established Soviet techniques of subversion and destabilisation,” and derives from Putin and many in the Kremlin’s notorious lineage of service in the Soviet Union’s counterintelligence police force the Komitet Gosudarstvennoy Bezopasnosti, commonly known as the Russian KGB (Giles 2016). What the KGB mastered with traditional media outlets, and what this thesis argues Putin masters today through the internet and modern technology, is the soft power manipulation of information mediums to affect electoral outcomes, to the future detriment of Russian society.

It is worth noting, however, that the dual experience of increased ICT prevalence and democratic backsliding is not necessarily unique to the Russian case. Take for instance the
situation of China. Wang (2009) presents one of the first quantitatively driven studies attempting to uncover the positive potential of ICT in China. Through an analysis on the elements contributing to the uptake of ICT use across China, and further analyses on the correlation between politically motivated internet use and respective outcomes in the country, Wang (2009) conclusively finds that the internet does not influence towards democracy or better government practices in China. In drawing such conclusions, Wang (2009) acknowledges various sociodemographic and economic factors as potential moderators of the effect of ICT on political outcomes.

In isolation, the political impact of ICT is highly inconclusive amongst scholarly literature. On the one hand there exist those favoring ICT’s potential to enhance and further democracy, and on the other there exist those acknowledging ICT’s equivalent threat of manipulation towards authoritarian ends. Moreover, the aspects of democratic society that ICT might influence are debated and somewhat inconclusive. Even with the case of China some scholars find that ICT is able to facilitate greater government efficiency and transparency when bringing certain moderating factors into consideration (Palmer and Perkins 2012). In an attempt to obtain a nuanced understanding of ICT’s use within Russia today this thesis focuses on an analysis of ICT’s influence on Russia’s democratic elections, and primarily on the opportunity costs moderating Russian citizens use of the internet and further incentivizing their voting behavior.

While the guiding premise of this thesis is motivated to uncover declining standards of democracy in Russia, the study of electoral outcomes in place of aggregate measures of democracy stems from the current inadequacy and lack of methods for understanding how democracy operates below a national or cross-national level of analysis. In those instances that
subnational democratic indicators do exist, they typically consult the opinion assessments of ‘expert observers’ in order to determine subnational and region-specific levels of democracy, and to a lesser extent utilize measures that are quantitatively based or easily replicated (McMann and Petrov 2000; Lankina and Getachew 2008; Obydenkova 2008).

Considering these limitations, this thesis presents an analysis centered on understanding those vote shares generated in support of presidential candidates affiliated with United Russia, the political party of Vladimir Putin. Specifically, this thesis assesses the level of Russian government manipulation and intimidation efforts aimed at affecting voter behavior in the electoral system towards favoring United Russia candidates. Elections and voting behavior are politically topical as of late in connection to Russia’s speculated internet interference and democratic meddling in various elections across Europe and America over the past decade. Thus, by understanding how Russia strategically operates and implements authoritarian influence in the electoral arena at home, further analyses may build upon more multi-level models for democratic backsliding and contribute to studying Russian information tactics and manipulation as a whole.

Through an examination of information activity in connection to Russian presidential elections, this analysis finds that ICT enables the soft power manipulation of Russian citizen’s voting behavior by Kremlin loyalists. Specifically, pro-Kremlin ICT activity generates a super-presidentialist government regime in Russia, characterized by overwhelming favorable vote shares and support for Putin, his deputy Medvedev, and his affiliate party in power United Russia. The study’s results display support for significant government manipulation and intimidation occurring in the democratic electoral system as a result of ICT and lay the groundwork for conceptualizing further subnational studies on the democratizing effects of ICT within Russia and beyond.
In order to demonstrate such findings, the thesis is structured as follows. Part one addresses the primary research question and introduces the main inquiries guiding the analysis. Part two uncovers the relevant background of the Russian practice of ‘virtual politics’ and presents significant evidence of the Kremlin’s information manipulation online. The following sections then discuss the analytical theory behind the Kremlin’s influence in the electoral arena, the dependent and independent variables, and the preferred and alternative hypotheses. The proceeding sections then focus on the data and the research design, the results and analyses, and finally concluding thoughts and an appendix of the summary statistics.

**Research Question**

While the role of traditional media in affecting democratic outcomes has a well-documented history, the advent of modern technology and the internet have raised new avenues for projecting political affairs on a scale never before seen or experienced. (Obydenkova 2008; Shirzai 2008; Stodden and Meier 2009; Wang 2009; Sadrettin et al. 2016; Zang et al. 2018). With the case of Russia this thesis argues that the avenue of information and communication technology (ICT) has become a soft power operative mechanism to facilitate Putin’s political control through the disinformation, intimidation, and manipulation of Russian voters online. Such activity serves the Kremlin’s political end goal of winning elections so that those in power maintain their power, altering the future democratic accountability of the government and the expected transparency of the country’s leadership.

The main aspect of Russia’s experience with ICT that this thesis aims to test and explore is what Wilson (2005) terms as post-Soviet “virtual politics,” as practiced in the Russian electoral system. Typically, by virtue of democratic elections the governing authority for political representatives is generated autonomously from the will and desire of the electorate. In
contrast however with the case of Russia, the government authority produced through the electoral system is oftentimes largely “invented” and persuasively won through the efforts of loyalists in society and government known as “political technologists” and “administrative technologists” (Wilson 2005). On behalf of the Kremlin these technologists develop and transmit social norms, popular opinions, and political perceptions to the public online-- such as the existence of an opposition figure or the image of contestation to the ruling party-- through various information routes and campaigns (Wilson 2005). This practice permits for an element of information ‘absurdism’ to exist in Russian politics today to the extent that the, “‘universal force-feeding [of] lies,’” is recognized as a commonplace practice in Russian society (Wilson 2005). Further, government authorities have become culturally tolerated to conduct certain forms of “social management” akin to the manipulative ‘active measures’ performed by the KGB as aggressive counterintelligence methods to control the public and its access to information (Wilson 2005).

The essential component to such historical social management in Russia is the facilitation of a ‘culture of deceit’ via mass media and technology outlets. Today disinformation and falsification continue to abound in Russian society only now online via new ICT outlets, further contributing to the country’s democratic decline. ICT allows for Putin and those in the Russian elite to leverage an upper-handed system of “‘information inequality’” over the general public on the true state of political affairs, thus securing their future survival and control in office: “The [government’s] overall ‘aim is not only to establish a monopoly of power but also to monopolise competition for it.’ [Thus,] the people may elect parties and politicians, but the Kremlin and its equivalents [always] select the winners” (Wilson 2005).
However, given prior acknowledgement towards the variability in ICT’s potential for affecting political outcomes under different sociodemographic and economic contexts, this analysis considers the moderating influence of an individual’s perceived economic condition on their behavior. To inform how individual Russians interact with ICT and further make their voting decisions, the salience of an individual’s income status is taken into account. Economic conditions have a demonstrated impact on electoral decisions made by voters and have been documented as a target issue for Kremlin loyalists to use to intimidate voters (Frye et al 2018). By interacting ICT with one’s perceived income status, this thesis seeks to uncover whether certain levels of income growth contextualize an individual’s use of ICT, and further influence voting outcomes in Russia. In order to test such, this analysis runs the independent variable of ICT in conjunction with an interaction factor representing the respective real income growth rate of ICT owners. Thus, the research questions guiding the study aim to examine: How does access to ICT impact super-presidential electoral outcomes in Russia? Moreover, how does the experience of differential income growth and perceived economic status moderate and inform this relationship?

**Russian Virtual Politics**

To understand how ICT influences Russian elections, the nature of Russian virtual politics must first be understood. Russian virtual politics is a practice of political strategy aimed at engineering, contriving and controlling all aspects and information associated with the political process. As Wilson (2005) states, “The key to ‘virtual politics’, [is inventing the Kremlin’s authority and staging the basic mythology of the state so that] inventing the opposition is as important as controlling it.” In essence today among Russia’s elite politics are, “perceived as a form of warfare,” and represent an ongoing struggle to be won and maintained (Wilson
Thus, as a tactic of control the incumbent government leadership often monopolizes access to public information in order to concentrate its position of power, and punishes those who publicize information that it prefers go unknown. While striking, this current political practice actually persists from the historic Soviet Union discipline of *informatsionnaya voyna*, or information warfare (Giles 2016).

Information warfare encompasses all, “hostile activities using information as a tool, [a] target, or a domain of operations” (Giles 2016). The key derivation of power from information operations is that information can be leveraged as both, “the subject and the medium [of] conflict,” so that knowing more and further deciding what others know becomes a source of asymmetric political advantage (Giles 2016). This is especially seen in the electoral context when powerful incumbents like Putin hold knowledge over potential opponents and decide what major political perceptions of candidates and parties are emitted to the public. Thus, having permanent government interference and manipulation over areas of serious political contestation or value at virtually all times renders the actual state of political reality fully unknown and misunderstood by the public. The Kremlin regularly censors and disinforms its citizens by intentionally spreading lies on political and electoral affairs, leading to a perpetual cycle of misinformation and further false realities throughout society. As Gel’Man (2014) puts, official lies in Russia are an accepted social norm as a result of the government’s, “monopolist control over Russia’s major information channels, and the [Kremlin’s ample deployment of] a wide range of propagandist techniques.”

However, an integral part of the social infrastructure behind government information control is the relative acquiescence of the Russian citizenry and electorate. Ognyanova (2014) notes how during the transition phase of post-Soviet Russia, the birth of a ‘media-political
system’ between the newly governing elite and the media brought about a public ‘information culture’ increasingly compliant to government control (Zassoursky 1999). The basis for the cultural ‘acceptance’ of yielding to the Kremlin’s information malfeasance stems from a sociological collectivist orientation underpinning the national Russian identity. A focus on collectivism premising “loyalty above all” is highly present in the values of Russian society, overtly manifesting in the staunch, nationalist sentiment of Putin’s “‘Strong Russia’” ideological slogans and in the suppression of the individual Russian in favor of the goals of the greater Russian community (Ognyanova 2014). Hence, a large portion of the Russian public is able to concede to the usurpation of their democratic rights to be correctly and fully informed in making political decisions by being, “conditioned to see information as necessarily modeled to serve a social purpose,” and by consciously deciding, “their media consumption choices,” and what “social signaling” to accept into their lives (Ognyanova 2014; Robertson and Greene 2017). Notably, this acquiescence is in large part due to intimidation and fear of the government, or to simply being misinformed. Current evidence for Russian information manipulation online in connection to bolstering Putin’s support and survival is abundant both in and out of government spheres.

Institutionally, the Kremlin has a number of government bodies dedicated to controlling the internet and public information. In 1994 the Russian Federation Presidential Committee for Information Policy known as Roscominform was founded to establish government control over information technology (Ognyanova 2014). Moreover, in 2000 the Federalnaya Sluzhba Bezopasnosti or FSB, the main domestic counterintelligence agency succeeding the Soviet KGB, instituted a regulatory requirement for all internet service providers in Russia to implement Sistema Operativno-Rozysknykh Meropriyatii or SORM, an infrastructure for federal online
surveillance which remains in operation today (Pringle 2016; Ognyanova 2014). SORM was updated in 2008 by Russia’s Ministry for ICT to allow for the FSB to have, “unrestricted access [online] to monitor all communications (including phone calls, text messages and e-mails) without the knowledge of either the provider or the users” (Ognyanova 2014). Additionally, there exists the Russian Federal Service for Supervision of Communications, Information Technology, and Mass Media known as Roskomnadzor which maintains a federal “Russian Internet Blacklist” of permanently blocked internet pages and individuals approved by the Russian State Duma (Sanovich et al. 2018).

Another major government tactic used to control information streams online is the formal constraint of the legal system. Russia has a longstanding Information Security Doctrine, akin to traditional national security doctrines, aimed specifically at securitizing the information sphere and at, “[positioning] the government as a dominant actor in the development of information infrastructure and network architecture” (Ognyanova 2014; Alexander 2004). Most recently and explicitly, the Kremlin released in 2017 a new Information Society Development Strategy in which various tenets indicate an, “increase [in] the autonomy of Russia’s internet,” tightening centralized government control over Russian internet use (Freedom House 2017). Moreover, various articles of the Russian Criminal Code appear directed at, “[curtailing] media criticisms and [shaping] public discourse in a manner benefiting the Kremlin,” and constrict individual’s abilities to, “[insult] an authority,” through outlets like the internet (Baker 2011; The Criminal Code of the Russian Federation 2019). Such restrictive laws have been implemented against various individuals and websites online who have acted opposingly to Kremlin officials.

Consider the case of Savva Terentyev, who in 2007 was sentenced to a year in prison after posting on the website LiveJournal of his hatred for the Russian police, following their
reported abuses towards him during a local election cycle (Columbia Global Freedom of Expression 2018). Terentyev claimed the authorities violated him through a, “politically motivated police search,” which included the seizure of hard drives and computers allegedly connected to online articles published critiquing local election procedures (Columbia Global Freedom of Expression 2018). Terentyev’s official conviction accused him of the, “[incitement of] hatred [and] enmity,” against the Russian authorities, which was later found by the European Court of Human Rights to be a, “disproportionate [legal] interference with [Terentyev’s] right to freedom of expression,” and an instance of abusively selective prosecution enforcement by the Russian authorities (Baker 2011; Columbia Global Freedom of Expression 2018). As Baker (2011) aptly puts, “if the [online] message proves to be an annoyance to the government, the Kremlin will have no reservation against swatting that annoyance away,” by whatever means necessary.

Examples of government information and content restriction abound against all ranks of Russian citizenry online. Policeman Alexei Dymovsky was jailed for, “fraud [committed as an official person],” after posting a series of videos online accusing various senior Russian officers of corruption while in office, which was deemed by the authorities as generating harm towards the government (Baker 2011; Sweeney 2009). Moreover, in 2014 the political blog of Alexey Navalny, a noted opposition leader to Putin’s regime in Russia, was blocked on LiveJournal for spreading politically inciteful rhetoric through his blog posts (Sanovich et al. 2018). Navalny has also been further targeted by the Kremlin, along with many other online bloggers in connection to him, due to his operation of Rospil.info a website akin to a Russian Wikileaks which, “[tracks] corruption within the Russian government,” and publicizes information on it (Baker 2011). Another blogger Leonid Nikolaev was similarly jailed for his critiques on the
government through posted online videos (Baker 2011; Sidorenko 2010). As a result of the prevalence of aggressive and quite extreme punishment against individuals who counter positive government perceptions online, major sources of public fear and intimidation arise amongst ICT users in response to the potentially severe consequences of provoking the Kremlin.

Individuals are not the only subjects of Kremlin information crackdowns online. Various online news sites such as Pravda.ru, Bankfax.ru, Gazeta.ru, and Grani.ru have been censored or banned for extremism or for posting government opposition content (Ognyanova 2014; Sanovich et al. 2018). However, the Kremlin does not only restrict available information online, as the previous examples have illustrated. The Kremlin also engages dynamically online by contributing to social media discourse and by molding it along political narrative lines (Sanovich et al. 2018). The Kremlin notoriously has a loyal following of public “defenders” who contribute to creating favorable government content and opinions on the internet (Robertson and Greene 2017). Additionally, the Kremlin is also known to employ and payoff politically persuasive figures like celebrities, parliamentarians, and high-level politicians to represent Kremlin ideals online (Sanovich et al. 2018). By retaining a virtual information army online Putin and Kremlin officials are often able to deflect direct responsibility for manipulating information online as they may not always post it, but more often than not sponsor and commandeer it.

Similarly, the Kremlin is known to employ the use of “bots” and “trolls” online to project pro-government content and to, “alter [online] political conversations” (Sanovich et al. 2018). Respectively, these are online accounts automated by algorithms and real individuals tasked with posting on the internet (Sanovich et al. 2018). The most infamous “troll factory” acting to facilitate Kremlin cyber operations is the Internet Research Agency (IRA) in St. Petersburg (U.S. Department of Justice 2018; Sanovich et al. 2018). The IRA falls under the direction of
Yevgeniy Viktorovich Prigozhin, a notorious member of Putin’s inner circle of oligarchs (U.S. Department of Justice 2018; MacFarquhar 2018). Prigozhin has earned the nickname of “‘Putin’s cook,’” alluding to his immediate and somewhat unsavory connection and fealty to the Russian president (MacFarquhar 2018). Other examples of outsourced and “hardly traceable” government cyber-based activity include DDoS attacks, or Distributed Denial of Service attacks, on various internet hosting systems conducted by outside loyalist groups such as the Syrian Electronic Army or the various Advanced Persistent Threat (APT) groups (Sanovich et al. 2018).

Another popular Kremlin ICT influence arose during the tumult of the colored revolutions in the early 2000s, in which pro-Kremlin voices from the public youth movements of the Nashi (“Ours”) and the Young Guard of United Russia were encouraged to blog and report favorably online on behalf of the government to stymie political dissenters (Sanovich et al. 2018; Robertson and Greene 2017). The Nashi have been likened to the Komsomol and Hitlerjugend, respectively the Soviet Union’s and Nazi Germany’s youth loyalist organizations, for their “‘unthinking nationalism and glorification of Putin’” (Baker 2011; Lucas 2009). Kristina Potupchik, a leader of the Nashi, was later the founder of the “Foundation for Open New Democracy” an organization created in 2014 in order to help, “[shape] public opinion on the internet,” on behalf of the Kremlin (Robertson and Greene 2017). Potupchik’s agents included an online population of Kremlin loyalist, “bloggers and online social media personalities [known] as [the] okhraniteli—literally, defenders,” whose main task was to, “resist [and] overcome the anti-Kremlin forces arrayed against them in blogs, on social-media networks, and in online news media” (Robertson and Green 2017). During the course of her work with the Foundation, Potupchik was reportedly in constant communication with the Russian Presidential
Administration’s internal-politics division and was charged with giving daily influence updates to authorities in the Russian executive (Robertson and Greene 2017).

The Kremlin also succeeds by dissuading the public from considering the internet as a safe place to trust information disseminated by outside sources. Ognyanova (2014) addresses how the Kremlin employs the, “prolific use of fear metaphors,” when portraying the internet to the public by invoking images of “terrorists,” “drugs and violence,” and “the inviolability of privacy,” if Russian citizens dare engage online (Schmidt et al. 2006). Putin himself has also publicly stated that, “the Internet was a ‘CIA project,’” and that, “Russia [has] a duty to resist [outside] influence and [to] protect its online interests” (Ognyanova 2014; MacAskill 2014). By associating fear with internet use the Kremlin is able to cunningly secure public acquiescence towards government insertions online, and further promotes individually motivated monitoring and censoring efforts (Ognyanova 2014; Schmidt et al. 2006). The Kremlin’s information campaign has spread to uptake by individuals through public software design contests sponsored by Roskomnadzor the Kremlin’s federal communications agency to encourage citizens to, “‘monitor online media outlets for extremest content,’” which oftentimes is inflated to encompass any anti-regime postings (Baker 2011). Moreover, in 2009 the search engine Yandex, the Russian equivalent to Google, changed its search output algorithms so that it would, “stop ranking or giving prominence to the most popular individual blog entries,” seen as a direct constraint aimed at lowering views for major opposition bloggers and anti-Kremlin voices (Baker 2011; Osborn 2009).

**The Kremlin’s Influence in the Electoral Arena**

The government’s strategic awareness of information ultimately reflects on individual’s perceptions of the Kremlin and helps achieve the government’s goals of electoral clout for
United Russia and Putin. The aggressive nature of the Kremlin’s information activity, manipulation, and crack downs online either result in largely misinformed favoritism for Putin and United Russia to be in power due to the limited availability of transparent and accurate political information online or induce significant intimidation so that voters find themselves driven to vote for Putin anyway. In inducing voter compliance and intimidation through information means, the Kremlin has been observed to target and leverage an individual’s economic situation in order to gain support.

Economically-based intimidation by the Kremlin more so than direct vote buying has been noted as, “widespread, especially among employed voters and [among] Russia’s many single company towns where employers [loyal to the government] have considerable [economic] leverage over employees” (Frye et al. 2018). The key component to this intimidation is the invocation of threats of job loss and negative economic consequences in order to induce voter support for the government. Significantly, Frye et al. (2018) find that, “the consequences of job loss are so grave that [intimidation] may often be sufficient to induce compliance even without direct monitoring of voter behavior.” Similarly, Reisinger and Moraski (2009) also find that the weight of socioeconomic factors is able to induce deference and enhance electoral support for Putin and the Kremlin.

Moreover, economic consequences for voters also surface through the, “large fines and [very] real prison terms,” invoked against those who provoke Russia’s leadership online, creating severe opportunity costs that curb internet users (Sanovich et al. 2018). Further, the Kremlin is noted to channel systems of economic “rents” and “benefits” to loyalists in order to ascertain their support for Putin and those in power (Robertson and Greene 2017). Given the carrot-stick scenario most Russian citizens find themselves stuck between, an economic reality results in
which an individual’s, “fear of potentially losing existing benefits, and [their inherent] risk aversion, [contribute] to the fact that among those Russians who [complain] about the status quo regime, [the regime’s] continuity [seems] like a lesser evil vis-a-vis any other alternatives” (Gel’Man 2014). Thus, the influence of economic costs and consequences are able to intimidate voters out of “political disloyalty” and away from “implementing political change” (Gel’Man 2014). These factors are all driven by the weighing of opportunity costs by voters in deciding how to behave electorally.

In acknowledging the opportunity costs surrounding a voter’s electoral decisions, perceived economic status through the aforementioned income growth factor may inform voter’s cost evaluations and may further moderate their voting behavior within the relationship between ICT and electoral outcomes. For one, income levels may influence an individual’s incentives and issue salience in regard to voting behavior. Despite an individual’s given exposure to certain information and propaganda online via ICT access, their overall economic position may have more prominence or priority over other incentives to vote for a particular candidate, as a consequence of their perceived financial security or income status. Thus, as income growth increases alongside increases in access to various ICT measures, propensity for United Russia vote shares might decrease as individuals feel more secure to challenge government political discourse and have the opportunity to inform themselves more deeply and from a wider number of resources.

Additionally, as an individual's level of income reaches a particular level of growth, they may vote for a candidate based more on valence issues and personal qualifications rather than economically driven or survival-based motives. Voters, who both own ICT and have higher income growth, may be able to more comprehensively evaluate a candidate via ICT aside from
main or mass-media outlets which largely portray state-directed representations of activity, potentially being more well informed politically over those ICT owners of lower income growth rates. Given that they may devote more time or resources to developing intrinsic profiles of candidates themselves, those owners of ICT measures that also experience the highest rates of income growth may be able to more effectively utilize their ICT to uncover larger information narratives and make more informed and politically divergent voting decisions as a result. Consequently, this would alter their vote choice, and would explain a decrease in United Russia vote shares as both ICT and income growth increase.

By contrast, individuals of lower income growth levels might have less resources and time to dispense towards informing themselves on candidates and may be likely to vote for more familiar, topically persuasive, and popular incumbent candidates as portrayed to them through major ICT outlets. In this case the overwhelming incumbent candidate in Russia is Putin who has observably been able to generate a consistently dominant, positive, and familiar image for himself through mass media and ICT. Lower income growth individuals, who own and use ICT, may not be effectively equipped with the resources, here essentially the time, to utilize ICT measures to their full, informative capacity. Given the probable higher salience of their economic circumstance in relation to their voting behavior, these individuals of lower income growth may be more inclined as a result to vote for candidates based on the incumbent’s popularity, informational narratives, or economic promises said candidates may make and create online.

Hence, the guiding assumption to this intuitive theory is the principle of opportunity costs driving Russian citizens in their voting behaviors. As individuals who own and use ICT achieve a certain income growth bracket, they are able to expend more resources into the political and electoral process, in this case resources being time and ability to devote to informing themselves
politically. These individuals may more likely uncover informational messages online and deduce political realities in Russia for themselves. Moreover, high income growth ICT users may discover more opposition opinions online, often presented by foreign outlets and international news informants typically blocked by the government, thus being more difficult or costly to access. By contrast, those owners of ICT who are of a lower income growth rate may expend less time resources to inform themselves more deeply in regard to voting, and hence become patrons of the mass information put online through ICT by Putin and United Russia affiliates, lending more vote shares to them as a result. This explanation assumes that by not expending time and resources to inform themselves beyond the information campaigns put forth by Putin and his associates, individuals remain more persuasively susceptible to the information narratives and ICT influences discussed prior online. From such a perspective, United Russia is then able to secure a significant support base and vote share. Consequently, the party remains in power today and continues to manipulate information routes to perpetuate control over the country’s future democracy.

The Dependent Variable: Presidential Election Vote Shares

The ability for virtual politics to be practiced in Russia’s elections today is dependent on the hybrid-authoritarian nature of the Russian political system. By the Polity IV index Russia is a classified open anocracy. An anocracy is distinctly not a, “transitional stage [of] duration between [democracy and autocracy],” but rather an independent state incorporating features of both regime types (Colomber et al. 2016). An anocracy can be seen as a political system in which “significant freedom” can also coexist alongside, “[limited] restrictions on electoral competition [and] constrained accountability of elected rulers,” permitting for the existence of
manipulation and increased authoritarianism under seemingly democratic political circumstances (Colomber et al. 2016).

Similarly, Russia is also termed as a “competitive [authoritarian]” state (Levitsky and Way 2002). This concept readily aligns to the present reality in Russia in which a democratic government framework exists, however the political, “incumbents violate the rules [of democratic governance] so often and to such an extent... that the regime fails to meet conventional minimum standards for democracy,” as a result (Levitsky and Way 2002). Further, under competitive authoritarianism the manipulation of commonly acknowledged democratic structures such as elections by the incumbency, “[creates] an uneven playing field between government and opposition,” confounding the original democratic government’s functioning and purpose (Levitsky and Way 2002).

The key democratic conduit that Colomber et al. (2016), Levitsky and Way (2002), and further Diamond (2002), recognize as one in which authoritarian-leaning incumbencies tend to typically infiltrate is the electoral process. With Russia, Putin and his affiliates have maintained power in the Kremlin by winning overwhelmingly dominant vote shares in presidential elections through authoritarian tactics of intimidation and manipulation. By controlling such grand supermajorities Putin’s electoral success secures his future political preservation and strategically maintains its continuity by developing the following electoral characteristics (Gel’Man 2014):

1. Super-Presidentialism
2. Subnational Authoritarianism
3. A Dominant Party

The most important and relevant electoral feature here is super-presidentialism. By amassing overwhelming vote shares and support, super-presidential electoral systems are those
in which, “the trappings of democratic government remain in place [but in reality] do not in fact counterbalance the authority of the president, do not make [the president’s] power open to a real contest, and do not enforce [the executive’s] accountability” (Linn 2006). Thus, while super-presidentialism could be touted as a method for creating greater efficiency in the form of a consolidated government, it largely presents more risks and political problems based on the type of leadership and control it engenders (Linn 2006). Super-presidentialism is often seen as the main source of monopolistic power in post-Soviet nations (Gel’Man 2014). Moreover, presidential election systems under super-presidentialism tend to lack full competitiveness and, “key elements of legitimacy,” causing them to have little enforcement over holding leaders responsible for their actions (Linn 2006).

Super-presidential systems also induce extremely, “vicious [cycles of political] control [by incumbents in order to] gain and maintain [their presidential] power,” to the point that elections become, “zero-sum [in] nature,” with incumbents incurring drastic costs from electoral loss (Linn 2006; Gel’Man 2014). The zero-sum value derives from the paramount need to survive in office for the presidential incumbent, due to both the political losses and sometimes physical threats of exiting office for himself, his affiliates, and the entire government apparatus he controls (Linn 2006; Gel’Man 2014). The heightened value of holding office for the incumbent under super-presidentialism thus, “creates additional incentives to hold power at any cost,” and to maintain such power overwhelmingly and forcefully if necessary (Gel’Man 2014).

As Gel’Man (2014) notes this was largely the case for Putin at the start of his political career as Russia’s president. In his consolidation of the Russian executive Putin aspired to, “reduce various segments of Russia’s elites [into] unequivocal submission and to subordinate them [in order to] facilitate the long-term loyalty of all [government] stakeholders” (Gel’Man
By inducing the political submission of the government at large to secure his own electoral success, Putin developed a, “nation-wide Kremlin-driven echelon,” for lower-level politicians to oversee and carry out his localized popular support and drafted a, “highly controlled [national political party] hierarchy under the dominance of United Russia” (Gel’Man 2014). Thus, Putin significantly manipulates much of his presidential power from the authoritarian submission of his own government associates, as he derives from the widespread popular electoral support he both shapes and receives.

Reisinger and Moraski (2009) similarly note evidence of electoral outcomes akin to those of super-presidentialism in Russia termed as “deference to the Kremlin” or evidently dominant vote shares in support of the incumbency and the “‘party in power.’” The overwhelming executive incumbency identified in Reisinger and Moraski’s study is Putin and his ally Medvedev, and United Russia as the legislative ‘party in power.’ The quantitative analyses conducted by Reisinger and Moraski (2009) also consider confounding factors that might be influencing regional electoral outcomes, revealing that ethnic Russian nationalism is a key driver in electoral support. However, when ethnic nationalism is not dominant in regions, Reisinger and Moraski (2009) notably find that high levels of urbanization and socioeconomic development, “[push] regions away from deference to the Kremlin,” reflecting lower vote share support for incumbent candidates. The negative effect of higher socioeconomic standing on incumbent affiliated vote share is a crucial takeaway for consideration in this thesis.

Additionally, overwhelming vote shares have been equipped in further contexts as a proxy for levels of democracy and government transparency. In order to measure ‘non-democracy’ in electoral systems, Diamond (2002) measures electoral outcomes as a reflection of government power consolidation on three levels:
1. The percentage of legislative seats held by the ruling party
2. The percentage of the vote won by the ruling party presidential candidate
3. The years the incumbent ruler has continuously been in power

In Russia, all of these indicators reflect quite undemocratically and mirror the trends of super-presidentialism and Putin and United Russia’s dramatically induced popular support. Despite the competition of various parties in both the legislative and presidential elections occurring over the past two decades in which Putin has been in the executive, Russia appears to have experienced a, “decline in political pluralism” (Evans 2009). This reality is most exemplified through the evidence of Putin’s United Russia overwhelmingly fortifying and increasing its share of votes across the government over the past decades by electoral margins at times upwards of 60-70% (Evans 2009). While some would argue that high vote margins do not necessarily preclude democracy, the apparent support is largely garnered through the aforementioned information tactics, pro-Kremlin campaigns, and voter intimidation methods (Frye et al. 2018). Given the reality of Putin’s apparent super-presidential regime and history of voter manipulation and intimidation, this thesis aims to provide support for testing an alternative route in which political influence is taking place through ICT.

**The Independent Variable: ICT**

Within scholarly literature information and communication technology (ICT) has been studied for its impact in affecting various political and democratic outcomes. Diamond (2010) is one of the first to recognize ICT’s politically influential role and identifies ICT as a “liberation technology” emphasizing its positivity and potential for generating greater transparency in society. Diamond (2010) describes the theory of liberation technology as, “any form of information and communication technology (ICT) that can expand political, social, and
economic freedom,” including those technologies such as the internet, personal computers, and mobile phones. As a social mobilizer, ICT has proven successful in many instances by, “[empowering] individuals, [facilitating] independent communication and mobilization, and [strengthening an] emergent civil society” (Diamond 2010). Moreover, by channeling information ICT is thought to enhance cooperation amongst citizens and to instill value for democratic norms by virtue of a citizen’s exposure to internet content and discourse (Best and Wade 2009). Further, the promotion of civil activism through ICT is often cited as a major source of its progressive capability and its enhancement of democratic society and individuals (Lysenko and Desouza 2010; Reuter and Szakonyi 2013; Oates 2014; Lankina and Skovoroda 2017).

A problem, however, with studies on ICT’s positive potential is the over endowment of ICT with inherently democratic and transparent quality due to its structural advantages for communication. Take for instance the following case. Munoz and Soysa (2010) conduct a study comparing old and new technology in their abilities to promote globalization and democratic mobilization. In their findings Munoz and Soysa (2010) claim that, “new ICTs are qualitatively better for human rights [than] old [technologies],” and suggest that, “the internet makes people qualitatively better off,” given its communicative advantages. Empirically, it is difficult to broadly ascertain that the internet carries positive qualitative value, as this perspective of analysis does not fully capture the intent and rationality behind the information posted by individuals online. Moreover, increased ICT and internet access for citizens does not necessarily inhibit their risk of repression by states nor preclude them from a state’s online interference, as is prevalently seen in Russia.
ICT cannot necessarily be expected to convey intrinsic values when considering the larger context in which all internet users operate. A more politically contextual approach to understanding how ICT operates is introduced by Deibert and Rohozinski (2010) whereby, “any portrayal of technology that highlights a single overarching characteristic biased toward either liberation or control [is] fanciful.” The underlying political dynamics should be considered within the mechanism of ICT itself, in order to fully understand its potential. With the case of Russia, this approach brings the government’s manipulative use of information channels into greater clarity and understanding.

Further quantitative study illustrates the ongoing debate over the potential link between ICT and political outcomes. Best and Wade (2009) present a cross national study over a 10-year period analyzing the relationship between internet prevalence and positive democratic outcomes. In their findings, Best and Wade (2009) conclude that correlations between internet use and the prevalence of democracy are inconsistent and not present across all global regions. Notably, Best and Wade’s (2009) conclusions highlight that the internet has not made a significant impact in ameliorating democratic and political circumstances in the Middle East and Western Europe, similar to an earlier finding by Scheufele and Nisbet (2002) which found the internet to be un-enhancing to democratic practices in America. Thus, the overall variance in ICT findings provides support for democratically damaging effects to hold under certain circumstances.

Finding inconsistency with positive ICT portrayals, various arguments have thus diverged towards more negative views of ICT’s capabilities. In a quantitative analysis Rod and Weidmann (2015) test which types of autocratic regimes adopt the internet and ICT, and further the internet’s potential to enact social and political change. The study finds that authoritarian-leaning, “regimes aiming to prevent any independent public sphere,” are actually those regimes
most likely to permit internet service provision in their countries (Rod and Weidmann 2015).

Rod and Weidmann (2015) conclude that ICT has no significant effect towards political institutions, and that their evidence weighs more in favor of a theory of “repression technology” which describes ICT as an autocratic tool of, “[restriction on] political and social liberties.” Autocratic states are found to expand public ICT access more because, “when a regime is able and willing to exercise control,” and there exist viable outlets like ICT to widely, “perpetuate regime-friendly messages,” to the public then those in power are effectively able to remain in power, and thus often exploit these capabilities (Rod and Weidmann 2015). The repression perspective is highly applicable to the case of Russia, as those in the Kremlin actively utilize ICT informational pathways to manipulate the public maintenance of their power.

Substantiating the repressive view of ICT capabilities, Vanderhill (2015) studies the political limitations of the internet in two post-Soviet countries, Armenia and Kyrgyzstan. Through qualitative case study Vanderhill (2015) acknowledges that, “structural [and political] barriers to democratization,” are often overlooked in analyses concerning the political use of ICT. Notably the, “strength of the regime,” the level of unity amongst opposition forces, and the potential for the long-term overhaul of state institutions all play a preventative role on the positive force of ICT (Vanderhill 2015). While ICT provides access and information to constituencies, states still retain the capacity and the capability to suppress and diminish their opposition. Even when ICT is coupled with political action, Vanderhill (2015) illustrates the claim that it does not necessarily translate into state democratic overhaul, through the examples put forth by Armenia and Kyrgyzstan’s regimes.

Thus, with the case of Russia the insight to understanding how ICT functions in determining the electoral behavior of its citizenry is the underlying Kremlin control guiding it.
The motivations of Putin driving the tactics of information manipulation and voter intimidation help clarify how ICT and the internet induce the Russian electorate to continually entrench Putin’s electoral success and his control over the Kremlin. Quantitative research has recognized a lack in the ICT literature that desires for greater political contextualization within analyses and specifically for more micro-level research in order to fully grasp how increasing internet penetration may or may not be furthering the political integrity of government institutions and systems such as democratic elections (Nisbet et al. 2012). Moreover, Nisbet et al. (2012) highlight how multilevel models, beyond aggregate cross-country analyses, suggest a much more varied political impact and robustness behind ICT and internet use, heavily dependent on regional context and individual citizens’ democratic demands. Hence, this thesis attempts to bridge the macro-micro gap and acknowledge a significant proportion of variation generated from ICT use and individual’s unique socioeconomic situation. By considering the specific context in which ICT operates inside of Russia, individual usership of the internet and further Russia’s super-presidential state and increasingly authoritarian political outcomes come into clearer perspective.

**Preferred Hypotheses**

Drawing on the economic interaction-based analysis for ICT’s impact, the preferred hypotheses between ICT and vote shares in Russia are outlined below:

**Hypothesis 1:** Increased ICT access, in the absence of income growth, results in an increased vote share for a United Russia affiliated presidential candidate.

**Hypothesis 2:** Increased ICT access amongst individuals experiencing lower levels of income growth results in an increased vote share for a United Russia affiliated presidential candidate.
Whereas, increased ICT access for individuals experiencing higher levels of income growth results in a decreased vote share for a United Russia affiliated candidate.

In this respect increased income can generate greater mobility, opportunity, and vocalization for electoral change. Rod and Weidmann (2015) acknowledge the effect of “financial capabilities” as a potential generator of social liberalization and greater democratic transparency in the relationship between ICT and political outcomes. Moreover, McMann and Petrov (2000) demonstrate in their regional survey of Russian democracy that wealth and economic reform are both significant indicators of greater democratic and political leniency in a region.

The theory and causal mechanism behind these relationships lie in the Russian regime’s utilization of online outlets to impart control and influence, as discussed prior. Freedom House (2017) and the Open Net Initiative (2010) acknowledge that the Russian government makes wide use of various employments of censorship, private activity monitoring, and propaganda promotion online to influence and shape its citizenry. Moreover, the Russian government makes use of the internet to employ regime-supportive content promoters and agents in order to reinforce Putin’s legitimacy and public standing in the face of opposition movements and challenging discourse (Open Net Initiative 2010).

The political motivation and historic rationale behind such activity for the Kremlin is that, “when your voice is not [present] in the media, it is very likely to be replaced by the voice of your rival,” arousing a heavy-handed desire for government informational influence online (Koltsova 2001; Baker 2011). In doing so, information is recognized as a means of manipulating an individual’s sense of trust, and hence garnering their political support, heightening the importance of information to a level commensurate with state sovereignty and national security,
as seen by official published state information doctrines (Giles 2016; Giles 2012). Russian use of ICT in this way, as a tool of informational control, helps explain why the proposed relationship of increased ICT access leads to increased electoral consolidation for Putin’s super-presidential regime, and further entrenchment in the country.

**Alternative and Competing Hypotheses**

Aside from ICT and consideration for an individual’s economic situation, there are other conventional routes by which electoral outcomes in Russia may be affected that must be considered. Largely, these mechanisms can be broken down into traditional socio demographic concepts. The total size of the population and the distribution of citizens across the geographic expanse of a country in connection to levels of urbanization, could potentially change the citizenry’s demands for greater government accountability, democracy, and transparency in society. Lankina and Getachew (2008) discuss how urbanization can vary an individual citizen’s exposure to and connection with government legitimacy and democratic practices, and similarly McMann and Petrov (2000) discuss the value of cities in furthering various progressive social advancements. Moreover, Rod and Weidmann (2015) note how rural areas can prove difficult towards technological expansion and how more urbanized areas might pose as more active democratic proponents through protest or riot. Thus, the different impact between concentrated, urban areas and sparse, rurally populated regions on the government’s ability to assert control must be considered, with the overall expansiveness of territory also potentially lending favor towards an inability to successfully concentrate demand for greater government accountability amidst dispersed individual citizen proponents (Rod and Weidmann 2015). Further, levels of education have been noted by Nisbet et al. (2012) and by Best and Wade (2009) as considerable gauges of a government’s accountability and democratic likelihood, and further the population’s
support and demand for such in countries. And finally, the role of domestic and civil activism is important to acknowledge in potentially generating opposition against government manipulation and electoral intimidation. The rate and frequency of opposition discourse and opinions can serve to increase desires for change in a society. However, due to the constrained and collective nature inherent to Russian civil society the realistic effectiveness and the intrinsic power of opposition movements in overturning government control is unfortunately not clear and not readily or easily measurable.

While these alternative explanations might also explain electoral outcomes, this thesis focuses on information channels in ICT and income growth salience as under studied causal mechanisms towards the heightened state of electoral super-presidentialism and government control observable in Russia today.

**Data and Research Design**

The quantitative analyses driving this study focus on a 12-year period covering Russia’s main sub-national federal regions. The unit of analysis for the study is region-year, and the data includes 82 of the sub-national administrative units of the Russian Federation (21 republics, 46 oblasts, 9 krais, 3 autonomous okrugs, 1 autonomous oblast, and 2 region-cities) encompassing only the internationally recognized federal regions in the entire universe of observations (the Republic of Crimea is not considered in this study) (Mirkina 2015). The time frame for the years of study ranges from 2000-2012 in Russia. The reasoning behind this period is that it encompasses the transitional decline in Polity scores for Russia and the extended political retention of Putin in office, which serve as motivating points of interest for the study. Moreover, this time period captures four presidential elections, which are able to reflect the significantly
influential role Putin holds and demonstrate the tenure of the United Russia party at the core of the Russian government.

The data sources come from the database of the International Center for the Study of Institutions and Development (ICSID) at the Higher School of Economics, and from the extended 2015 version of the Aggregate Regions of Russia dataset by Irina Mirkina at Lund University (ICPSR 35355). Respectively, the ICSID economic database spans the years 1998-2014, and the ICPSR 35355 dataset spans 1990-2010 in the official release, and up until 2015 in the new pending release. The design of the project is observationally based. To illustrate the regression models the following variable construct measures and controls are used.

**Dependent Variable (DV) and Independent Variable (IV) Measures:**

<table>
<thead>
<tr>
<th>UR PRESIDENTIAL VOTE SHARE (DV)</th>
<th>Vote share (%) for a United Russia affiliated presidential candidate (Putin or Medvedev) (ICSID 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ICT Model 1: LOG INTERNET (IV)</strong></td>
<td>Logarithm of internet access per 100 users (Mirkina 2015)</td>
</tr>
<tr>
<td><strong>ICT Model 2: LOG CELLPHONES (IV)</strong></td>
<td>Logarithm of the number of cell phone subscribers per capita (Mirkina 2015)</td>
</tr>
<tr>
<td><strong>ICT Model 3: LOG COMPUTERS (IV)</strong></td>
<td>Logarithm of the number of personal computers per 100 households (Mirkina 2015)</td>
</tr>
<tr>
<td>REAL INC GROWTH (IV)</td>
<td>Real personal income annual growth rate (Mirkina 2015)</td>
</tr>
</tbody>
</table>

In order to measure the independent variable ICT three regression models are developed based on three different ICT measures (1. Log of internet access per 100 users; 2. Log of the number of cell phone subscribers per capita; and 3. Log of the number of personal computers per 100 households) in each region in order to acknowledge the various forms of ICT manifestation and informational connectivity. The ICT independent variables are all transformed into logarithms in order to normalize their distributions. Second, in order to consider the moderating
effect of varied income status on an individual’s ICT use another key independent variable representing real income annual growth is respectively interacted with each ICT measure in the three models. Next, the dependent variable considers Putin’s super-presidential electoral success and is measured as the regional percentage vote share for the United Russia affiliated candidate in Russian presidential elections, that being either Putin or his deputy Medvedev. These elections occur in four years in 2000, 2004, 2008, and 2012. Splitting into multiple regressions allows this thesis to individually consider the influential power of various ICT forms, and additionally the role of different income levels in shaping super-presidential power in Russia.

The various controls have been included in consideration of the competing hypotheses discussed prior. To control for the role of extraneous economic conditions the models all include the logarithm of gross regional product normalized per capita (Mirkina 2015). To account for demographics the models all include the logarithm of the regional population, the percentage of urbanization, the logarithm of the area of the region, and the logarithm of the number of regional students graduated from higher education institutions normalized per capita (Mirkina 2015). All log transformations are done in order to normalize each variable’s distribution.

All three regressions incorporate these controls to account for time variant and invariant regional aspects in place of region fixed effects which, if included, would get rid of a significant amount of variation in the analyses. However, the regressions do include time fixed effects to control for external factors occurring over the study’s time period. Moreover, the regression designs take the form of robust OLS regressions.
### Analyses of Determinants of United Russia Presidential Vote Share

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1</strong></td>
<td><strong>Model 2</strong></td>
<td><strong>Model 3</strong></td>
<td></td>
</tr>
<tr>
<td>LOG INTERNET (per 100 users)</td>
<td>19.20***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7.775)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOG INTERNET (per 100 users) * REAL INC GROWTH</td>
<td>-0.220***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0651)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOG CELLPHONES (per capita)</td>
<td></td>
<td>6.313</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4.623)</td>
<td></td>
</tr>
<tr>
<td>LOG CELLPHONES (per capita) * REAL INC GROWTH</td>
<td></td>
<td>-0.0565</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(0.0413)</td>
<td></td>
</tr>
<tr>
<td>LOG COMPUTERS (per 100 households)</td>
<td></td>
<td></td>
<td>18.97***</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(6.445)</td>
</tr>
<tr>
<td>LOG COMPUTERS (per 100 households) * REAL INC GROWTH</td>
<td></td>
<td>-0.187***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.0553)</td>
</tr>
<tr>
<td>REAL INC GROWTH</td>
<td>0.497***</td>
<td>0.179*</td>
<td>0.704***</td>
</tr>
<tr>
<td></td>
<td>(0.127)</td>
<td>(0.0962)</td>
<td>(0.164)</td>
</tr>
<tr>
<td>URBAN</td>
<td>-0.276***</td>
<td>-0.137**</td>
<td>-0.195***</td>
</tr>
<tr>
<td></td>
<td>(0.0607)</td>
<td>(0.0686)</td>
<td>(0.0583)</td>
</tr>
<tr>
<td>LOG HIGH EDUC</td>
<td>-3.100*</td>
<td>-5.353***</td>
<td>-4.004***</td>
</tr>
<tr>
<td></td>
<td>(1.687)</td>
<td>(1.876)</td>
<td>(1.160)</td>
</tr>
<tr>
<td>LOG GRP (per capita)</td>
<td>3.368*</td>
<td>2.240</td>
<td>3.092**</td>
</tr>
<tr>
<td></td>
<td>(1.713)</td>
<td>(1.438)</td>
<td>(1.394)</td>
</tr>
<tr>
<td>LOG POP</td>
<td>0.175</td>
<td>0.0448</td>
<td>-0.274</td>
</tr>
<tr>
<td></td>
<td>(0.688)</td>
<td>(0.821)</td>
<td>(0.663)</td>
</tr>
<tr>
<td>LOG AREA</td>
<td>-1.125***</td>
<td>-1.539***</td>
<td>-1.174***</td>
</tr>
<tr>
<td></td>
<td>(0.402)</td>
<td>(0.411)</td>
<td>(0.347)</td>
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<td>23.48</td>
<td>21.20</td>
<td>-27.54</td>
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<tr>
<td></td>
<td>(17.62)</td>
<td>(17.97)</td>
<td>(21.33)</td>
</tr>
</tbody>
</table>

Observations: 241
R-squared: 0.353
YEAR FE: YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Results and Analysis

The output of the linear regression models in Figure 1 reveals results of statistical significance and support in favor of the purported hypotheses. Each of the three ICT models produces evidence for both of the preferred hypotheses and are conditional on the role of real income growth in each region. Below the regression models and their output are discussed.

ICT Model 1: Regional Internet Use

The first model tests the independent variable measure of regional internet use. As expected by hypothesis 1, holding all else constant a 1% increase in regional internet use amongst those individuals not experiencing income growth correlates with a 19.20 percentage point increase in United Russia candidate vote share, statistically significant at the 0.05 level. However, the output also shows that when regional internet use increases by 1% amongst those individuals aggregately experiencing income growth, United Russia candidate vote share decreases by 0.220 percentage points, statistically significant at the 0.01 level. Additionally, when income growth increases by 1% for individuals with no internet access, vote share support for United Russia increases by 0.497 percentage points, significant at the 0.01 level. Yet as predicted by hypothesis 2, there appears to be a differential effect amongst individuals experiencing varying levels of income growth on their propensity to vote for a United Russia candidate when increasing their internet access.

For the lower end of income growth, individuals increase their vote share for United Russia at a gradually decreasing rate through growth rates of 86.1%, as their internet access increases by 1%. For individuals experiencing income growth above 86.1% and up to 102.1%, increased percentages of internet access begin to generate negative vote shares for United Russia at an increasing rate. Once at income growth of 106.1% increased internet access generates
statistically significant and increasingly negative vote share percentages for United Russia candidates at the 0.05 level, and further at the 0.01 level once above income growth of 114.1%. For individuals experiencing the maximum income growth rate value of 146% a percentage increase in internet access can yield up to a 12.91 percentage point decrease in United Russia vote share, statistically significant at the 0.01 level.

For illustrative purposes, Figure 2 demonstrates the predictive changes in the percentage vote share for a United Russia candidate when increasing the percentage of internet use at different rates of income growth. As illustrated those income growth rates below 92.1% suggest a clear positive relationship towards vote shares as internet use increases amongst individuals experiencing such growth. This is seen respectively with the linear predictions at income growth rates of 62.1%, 72.1%, and 82.1%. Conversely, income growth above 92.1% generates an observable negative relationship towards candidate vote shares as internet use increases amongst individuals experiencing such growth. Examples of such are the regression line predictions at income growth rates of 102.1% through 142.1%.
Figure 2

Predictive margins of change in United Russia vote shares when increasing the percentage of regional internet use at different rates of income growth.

**ICT Model 2: Regional Cell Phone Subscribers**

The second model introduces the ICT measure represented by regional cell phone subscribers. As predicted by hypothesis 1, ceteris paribus a 1% increase in regional cell phone subscriptions amongst individuals not experiencing income growth relates to an increase in United Russia affiliated vote shares by nearly 6.313 percentage points. Yet the results also show that increasing cell phone subscription percentages amongst those individuals aggregately experiencing real income growth instead correlates with a decrease in United Russia vote share by 0.0565 percentage points for every 1% increase in subscriptions. When income growth
increases by 1% for individuals with no cell phone subscriptions, vote share support for United Russia increases by 0.179 percentage points, significant at the 0.1 level. However, when looking between individuals experiencing different levels of income growth, support for hypothesis 2 is similarly revealed when increasing their respective cell phone subscriptions.

Amongst those regional individuals experiencing the lower half of income growth between 62.1% and 110.1%, increasing cell phone subscriptions yields an increase in the percentage of United Russia vote shares at a decreasing rate. However, once beyond the threshold income growth rate of 110.1% increasing the percentage of cell phone subscriptions generates increasingly negative vote shares for United Russia. Moreover, amongst those individuals experiencing the maximum level of income growth at 146% increasing cell phone subscription suggests a 1.93 percentage point decrease in United Russia vote share.

To demonstrate such, Figure 3 illustrates the predictive changes in the percentage vote share for a United Russia candidate when increasing the percentage of cell phone subscriptions at different rates of income growth. As can be seen, those income growth rates up to 112.1% suggest a positive relationship towards vote shares as cell phone subscription increases amongst individuals experiencing such growth. Conversely, the linear predictions at and above an income growth rate of 122.1% generate a negative relationship towards candidate vote shares as the percentage of cell phones increases amongst individuals experiencing such growth.
Figure 3

Predictive margins of change in United Russia vote shares when increasing the percentage of regional cell phone subscriptions at different rates of income growth.

ICT Model 3: Regional Computer Ownership

The third model utilizes the final ICT independent variable measure of personal computer ownership. All else equal as predicted by hypothesis 1, a 1% increase in regional computer ownership amongst individuals not experiencing income growth yields an increase in United Russia affiliated vote share by 18.97 percentage points, statistically significant at the 0.01 level. In contrast however, the output also shows that for those individuals who aggregately experience income growth, a 1% increase in computer ownership leads to a decrease in United Russia votes by 0.187 percentage points, statistically significant at the 0.01 level. When income growth
increases by 1% for individuals with no personal computers, vote share support for United Russia increases by 0.704 percentage points, significant at the 0.01 level. However, hypothesis 2 additionally finds support amongst those individuals experiencing different levels of income growth when increasing their respective computer ownership.

Amongst individuals experiencing income growth up to 98.1% increasing computer ownership by 1% increases United Russia vote shares at a decreasing rate. Between income growth rates of 98.1% and 110.1%, increasing computer ownership begins to induce negative vote shares towards United Russia candidates. However, once above income growth of 110.1% increasing computer ownership generates statistically significant and increasingly negative vote shares for United Russia candidates at the 0.05 level, and then at the 0.01 level once above growth of 118.1%. Looking amongst individuals experiencing the maximum income growth of 146%, increasing their percentage of computer ownership yields a statistically significant 8.40 percentage point decrease in United Russia vote share at the 0.01 level.

Figure 4 illustrates the predictive changes in the percentage vote share for a United Russia candidate when increasing the percentage of personal computer ownership at different rates of income growth. As can be seen, those income growth rates below 102.1% suggest a positive relationship towards vote shares as the percentage of computer ownership increases amongst individuals experiencing such growth. The regression line predictions at income growth rates of 62.1% through 92.1% demonstrate this relationship. However, on the other hand income growth above 102.1% generates a negative relationship towards candidate vote shares as the percentage of computers owned increases amongst individuals experiencing this growth. The linear predictions for income growth at and above 112.1% provide examples of this contrasting relationship.
Figure 4

*Predictive margins of change in United Russia vote shares when increasing the percentage of regional personal computer ownership at different rates of income growth.*

Thus, it appears that in analyzing the role of ICT towards respective vote share the impact of income growth cannot be ignored. Statistically significant results support both of the preferred hypotheses put forth, and conclusively find that: increased percentages in ICT access for those individuals not experiencing income growth is associated with increased vote share for United Russia affiliate candidates; increased percentages in ICT access for individuals experiencing lower levels of income growth is associated with increased vote share for United Russia affiliate candidates; and increased percentages in ICT access for individuals experiencing higher levels of income growth is associated with decreased vote share for United Russia affiliate candidates.
Conclusion

The results of the analyses present significant evidence on behalf of a relationship between ICT and United Russia presidential vote shares in Russia. The models show varying strength in the political effect of certain ICT measures, with personal computer ownership and internet use representing the strongest isolated predictors of Putin affiliated presidential vote shares by a significant percentage margin over cell phones. These results become more clearly understood when distinguishing between cell phones in their traditional concept and increasingly popular smartphones. While smartphones are technically cell phones, all cell phones are not necessarily smart phones. This disparity in classification matters, as smartphones notably allow for more advanced internet access and sophisticated user operating systems over standard cell phones, allowing for individuals to have greater communicative and informational access, and mobile capabilities much more akin to a personal computer. Hence, given the now exponential popularity of smartphones like the iPhone, the large effect of their heightened connectivity may be captured by the coefficient on the internet use variable rather than the cell phone variable. This is due in part to the nature of smartphone connectivity, such as the extensive Wi-Fi enabled assistance that functions when traditional cellular coverage is rendered inoperable, the prevalence of publicly accessible Wi-Fi hotspots, and the internet facilitation of many smartphone online applications.

Similarly, the personal computer coefficient may be capturing the effect of that portion of the population who may own a lesser sophisticated cell phone but do have access to a computer in order to enable them to view online content like social media, internet blogs, and news outlets. Data-permitting, future analyses may hopefully be able to clarify attribution disparities and user overlap between ICT measures more distinctly. Moreover, the economic expectation that income
levels will generate different opportunity costs behind an individual’s ICT usership, and further moderate their voting behavior, also finds significant support with the results of the personal computer and internet use models. Thus, this thesis is able to conclude that Putin’s super-presidential reign and domination of the electoral system are impacted by the Russian citizenry’s exposure to information on the internet, and that the weight of economic opportunity costs informs and influences how individuals engage with information online. Russian citizens are being manipulated by the information put forth on the internet by the Kremlin, which ultimately shapes and determines their voting behavior and their consequent decisions to retain Putin and his affiliates in office. As Putin recently won his fourth presidential term in early 2018, attaining another six years at the head of the Russian government, the powerful role of information and its strategic importance in Russia cannot be overstated. The Kremlin continues to control and manipulate public information today in order to further its political goals, and ultimately to determine Putin’s future security in office.
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## Appendix: Summary Statistics

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>LABEL</th>
<th>DESCRIPTION</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>MIN</th>
<th>MAX</th>
<th>OBSERVATIONS</th>
<th>SOURCE</th>
</tr>
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<tbody>
<tr>
<td>ID</td>
<td>Region numeric code</td>
<td>Region numeric code, coded from 1-82 alphabetically</td>
<td>41.5</td>
<td>23.67515</td>
<td>1</td>
<td>82</td>
<td>2132</td>
<td>ICPSR 35355 (published version of pending dataset RoR_1990_2_015_rub_share)</td>
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<td>REGION</td>
<td>Region working name</td>
<td>Region working name</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>INTERNET</td>
<td>Internet access per 100 users (non log transformed)</td>
<td>Regional internet access per 100 users (non log transformed)</td>
<td>14.23352</td>
<td>9.2851</td>
<td>1</td>
<td>59</td>
<td>1062</td>
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<tr>
<td>LOG INTERNET</td>
<td>Internet access per 100 users (log transformed)</td>
<td>Regional internet access per 100 users (log transformed)</td>
<td>2.391057</td>
<td>0.7955762</td>
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<tr>
<td>CELL PHONES</td>
<td>Number of cell phone subscribers (000s) per capita (non log transformed)</td>
<td>Regional number of cell phone subscribers (000s) normalized by population (non log transformed)</td>
<td>0.6840087</td>
<td>0.651466</td>
<td>3.88E-05</td>
<td>3.629585</td>
<td>925</td>
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<tr>
<td>LOG CELL PHONES</td>
<td>Number of cell phone subscribers (000s) per capita (log transformed)</td>
<td>Regional number of cell phone subscribers (000s) normalized by population (log transformed)</td>
<td>-1.7262 81</td>
<td>2.408</td>
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<td>1.289118</td>
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</tr>
<tr>
<td>COMPUTERS</td>
<td>Consumer durables: Personal computers per 100 households (non log transformed)</td>
<td>Regional number of personal computers per 100 households (non log transformed)</td>
<td>42.2328 5</td>
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<tr>
<td>LOG COMPUTERS</td>
<td>Consumer durables: Personal computers per 100 households (log transformed)</td>
<td>Regional number of personal computers per 100 households (log transformed)</td>
<td>3.25787 6</td>
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<td>REAL INC GROWTH</td>
<td>Real personal income annual growth rate, %</td>
<td>Percentage annual growth rate of regional real personal income</td>
<td>103.891 9</td>
<td>11.0323 2</td>
<td>62.1</td>
<td>146</td>
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<td>UR PRESIDENTIAL VOTE SHARE</td>
<td>Percentages of votes for the UR candidate (Putin or Medvedev) in the 2000, 2004, 2008, and 2012 presidential elections</td>
<td>Same as WINNER VOTE SHARE except for 6 swapped values with RUNNER UP VOTE SHARE in 2000 for the regions where the UR candidate was the regional runner up instead of the winner: omsk_obl, lipetsk_obl, kemerovo_obl, chukotka_ao, bryansk_obl, altai_rep</td>
<td>64.8549 7</td>
<td>11.8925 5</td>
<td>25.01</td>
<td>99.75664</td>
<td>328</td>
<td>ICSID economic database via <a href="http://www.cikrf.ru">http://www.cikrf.ru</a> Central Election Commission of the Russian Federation</td>
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<td>GRP</td>
<td>Gross regional product (GRP), Gross regional product measured in current Russian</td>
<td></td>
<td>155.346 8</td>
<td>247.570 1</td>
<td>1.449466</td>
<td>3395.867</td>
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<td>LOG GRP</td>
<td>Gross regional product (GRP), mln.RUR per capita (log transformed)</td>
<td>4.25617</td>
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<td>AREA</td>
<td>Area, km2 (non log transformed)</td>
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<td>442654. 2</td>
<td>1091</td>
<td>3083523</td>
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<td>URBAN</td>
<td>Share of urban population, %</td>
<td>69.1873 4</td>
<td>13.3287 6</td>
<td>23.9</td>
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<td>POP</td>
<td>Population, 000s (non log transformed)</td>
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<td>Number of students graduated from higher education institutions</td>
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<td>LOG HIGH EDUC</td>
<td>Number of students graduated from higher education institutions (000s) per capita (non log transformed)</td>
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