

Can Independent Media Help Autocrats Suppress Collective Action?

Anton Sobolev (UCLA)*

The latest version of this paper is available here:

www.asobolev.com/files/Anton-Sobolev-Echo-Of-Moscow.pdf

Abstract

There is a wide-spread belief that autocratic governments are better off limiting media freedom, since it allows them to prevent mass protests and riots that could threaten the regime's survival. I argue that under certain conditions, some degree of media freedom can help autocrats to forestall anti-regime collective action. This can happen if media are allowed to report observable events truthfully, but cannot conduct independent journalistic investigations. For instance, reports on the number of people who attend pro-government rallies are more credible if produced by independent media outlets than by state propagandists. Thus, a signal of the regime's popularity from the former can discourage dissidents and suppress the protest. In order to test whether media freedom can help autocrat to credibly signal his popularity I exploit the fact that broadcasts of the opposition radio station *Echo of Moscow* are available in certain Russian cities but not in others. Importantly, local availability of *Echo of Moscow* in a given city was determined by socio-economic and geographic rather than political conditions. Data from recent opposition protests in Russia suggest that the occurrence of a massive pro-government rally in Moscow discouraged potential protesters significantly more in cities exposed to *Echo of Moscow* than in other cities.

* Anton Sobolev: PhD Candidate, Department of Political Science, UCLA

1. INTRODUCTION

Dictators tend to restrict the media for a number of reasons. First, the presence of independent media enables citizens to infer the quality of government and change political attitudes in the case of poor performance (Enikolopov, Petrova and Zhuravskaya, 2011; Miner, 2012; Stein, 2012). Second, free media also helps dissidents coordinate protest activity: newsreels can serve as focal points encouraging protesters to take to the street (Miner, 2012; Hassanpour, 2014; Lohmann, 1994).

However, not all dictators restrict media completely. In fact, there is substantial variation in the degree of media freedom even among harsh authoritarian regimes (Egorov, Guriev and Sonin, 2009). Given that autocratic incumbents do not easily accept criticism of their actions, why do some of them allow some freedom of media? Studies of authoritarian politics provide several explanations. First, independent media outlets help authorities deal with “the dictator’s dilemma” (Wintrobe, 1998), as they allow them to gather information on public grievances and the performance of local officials (Egorov, Guriev and Sonin, 2009; King, Pan and Roberts, 2013; Lorentzen, 2013). Second, informational transparency increases the government’s credibility to investors, thus promoting economic growth (Hollyer, Rosendorff and Vreeland, 2014a,b). Recent theoretical studies suggest that an autocrat can allow some level of media freedom while economic performance is high, but if the economy stagnates and public discontent is likely to turn into protest, she is better off increasing censorship (Edmond, 2013; Guriev and Treisman, 2015). Indeed, VonDoepp and Young (2012) find that in Africa media harassment increases if governments are faced with protests and coup plots, while Stein (2012) shows that censored media convinced Brazilians to support country’s military regime of 1964-85.

At the same time, a set of historical cases (e.g., the collapse of socialist regimes in Europe) suggest that revolutions can occur even under full censorship of media and aggressive pro-government propaganda (Lohmann, 1994). In contrast, recent events in Venezuela and Russia show that a regime can handle threats of mass protest non-violently, even in the presence of independent media outlets and uncensored internet services (Munger et al., 2015).

This paper suggests a new argument about how some media freedom could benefit the dictator. I study an previously unstudied effect of the exposure to free media on dissidents' decisions to take to the street. While not all autocratic regimes allow some degree of media freedom I suggest that the ones that do, can exploit the limited media freedom in order to suppress political protest.

I argue that when faced with a wave of anti-government protests, autocrats can sap the momentum of protest waves by staging large pro-government rallies. This is puzzling at first glance because dissidents will typically know that the dictator can pay or intimidate citizens to get them to participate in a pro-regime rally. Yet, if mobilizing citizens to march in support of the dictator is sufficiently costly, extremely unpopular dictators will find it more cost-effective to spend their resources in other ways. Observing a pro-government rally, citizens will rationally infer that the dictator is not extremely unpopular and may revise their estimates of the dictator's popularity upward. However, for citizens who do not observe the pro-government rally directly to make such inferences, they must believe the reports that they receive. I argue that autocrat benefits from partially free media that can report observable events truthfully, but cannot conduct independent journalistic investigations.

To test this argument, I employ covariate-balance propensity score techniques (Imai and Ratkovic, 2014) and a difference-in-differences design to compare cities of Russia that received broadcasts of the independent radio station *Echo of Moscow* with those that did not during 2011-2012 protests in Russia. Studying the relations between actions of media, of dissidents, and of government is challenging because these relations are highly endogenous. Incumbents can affect the level of media freedom to complicate the coordination of dissidents, while the latter can protest against censorship and demand media independence.

Nonetheless, unique features of the political and media landscape in Russia make it possible to try to identify a causal relationship between media freedom and protest. First, while, media freedom is restricted in Russia, *Echo of Moscow* was allowed to broadcast quite freely for a set of reasons. Because the radio station was owned by the state company *Gazprom-Media*, businesses were not afraid to use it for advertising despite its critical coverage of the

authorities. Thus the radio station was commercially successful and received a lot of regional franchise requests. The board of directors set an informal threshold for the minimum size of regional radio audience necessary for the company to accept a franchise request. The size of radio audience determines the revenues from commercials. Thus, in contrast to a typical independent political outlet, the local availability of *Echo of Moscow* was subject to socio-economic –not political– determinants. I confirm this empirically; specifically, I show that the only statistically significant predictors of the radio station’s presence in a region are of socio-economic and geographic nature. I assume that exposure to this radio station is as good as as-if random, conditional on the propensity of *Echo of Moscow* to enter local markets.

Second, the Russian government drastically changed its tactics toward the opposition in the middle of this wave of protests. The scale and intensity of the protests grew rapidly during the last month of 2011. Nonetheless, before the early 2012 appointment of hard-liner Vyacheslav Volodin to the position of vice-head of the Kremlin’s administration, the authorities preferred not to focus on the unrest and to instead treat it as if it was a minor event.¹ This soon changed significantly. The intensity of protest activity declined as the Presidential elections of March 2012 approached. After that, the number of protesters decreased drastically. As survey data show, only determined radicals continued to take to the street (Smyth et al., 2015). The Kremlin’s new cardinal Volodin switched the government’s tactics of cushioning to a more aggressive one. On the day of planned nationwide anti-government demonstrations (February 4th) a massive pro-government rally was organized on *Poklonnaya* Hill in Moscow (Smyth, Sobolev and Soboleva, 2013). Being one of the major sources of information for protesters, *Echo of Moscow*, reporting on this rally emphasized that it was much larger than the simultaneous anti-government demonstration.² Rumors circulated that many of the tens of thousands of citizens rallying for the government were actually employees of state-owned enterprises and organizations who had been pressured to participate, rather than

¹See the BBC article on how Russian main TV channels reported on protests:
http://www.bbc.com/russian/russia/2011/12/111207_russia_protests_media_coverage.shtml

²See examples of the Echo of Moscow radio station’s reports on the pro-government rally:
www.echo.msk.ru/news/855689-echo.html,
<http://www.echo.msk.ru/news/855664-echo.html>,
<http://www.echo.msk.ru/news/855664-echo.html>

sincere supporters of President Vladimir Putin. Being a radio station, *Echo of Moscow* is not a producer of investigative journalism, so it was difficult to establish the approximate number of genuine Putin supporters participating in the rally from its reports.

In this paper I test whether credible reports on the relative size of pro-government and anti-government demonstrations in the absence of detailed journalist investigations produced by independent media can discourage dissidents from taking to the streets. I compare regional capitals of Russia exposed to *Echo of Moscow* broadcasting with those that are not, but which still satisfied or were close to satisfying requirements of accepting franchise request. I find that in most of the capitals the number of protests and protest turnout went down. Regional capitals with no exposure to *Echo of Moscow* experienced the decline in the mean protest turnout and the mean number of protests from .73 to .54 participants per thousand citizens and from 2.9 to 1.7 protests, respectively. At the same time, in capitals exposed to *Echo of Moscow* the mean protest turnout and the mean number of protests dropped from .88 to .42 participants per thousand citizens and from 3.9 to 1.6 protests, respectively. Results of the regression models with inverse propensity score weighting suggest that in cities with no exposure to *Echo of Moscow* protest turnout and number of protests decreased on average by .21 participant per thousand citizens and by 1.5 protests, respectively. In capitals exposed to *Echo of Moscow*, turnout and number of protest on average decreased by .57 participant per thousand citizens and by 3 protests, respectively.

Overall, the results suggest that when reporting on a government that seeks to create an "image of invincibility" (Magaloni and Wallace, 2008), independent media outlets can unintentionally strengthen the dictator's position. Such media outlets can effectively play a "bad joke" on the opposition, because they can discourage moderates from participating. Some scholars of Russian politics suggest that among the major reasons for the defeat of the resistance campaign was the fact that after the Presidential elections (and especially after the start of the *Bolotnaya Square* case)³ moderates left the protest movement (Volkov, 2012). Efforts to create an image of invincibility can be less effective in the absence of credible media

³A criminal case by the Russian Investigative Committee on the counts of alleged massive riot and alleged violence against police during the "March of the Millions" on May 6, 2012.

outlets. This may explain why Muamar Gaddafi's regime in Libya and the soviet government in the late years of USSR were unable to awe opposition activists by means of large-scale pro-regime rallies.⁴ In both cases, most activists did not take the reports on such rallies broadcast by propaganda sources very seriously (Morris, 2014).

This paper contributes to several literatures. First, it speaks to the literature on the political mobilization (Miner, 2012; Adena et al., 2014; Peisakhin and Rozenas, 2014; Yanagizawa-Drott, 2014) and persuasion (Enikolopov, Petrova and Zhuravskaya, 2011; Gehlbach and Sonin, 2014) effects of media. The studies closest to my research are Yanagizawa-Drott (2014) and Peisakhin and Rozenas (2014). The former investigates the effect of state radio propaganda on casualties from the genocide in Rwanda in 1994. The latter finds that the availability of Russian analog television signals raised electoral support for pro-Russian parties and candidates in the 2014 presidential and parliamentary elections in Ukraine. In contrast to studies that largely focused on the effects of biased news from state-controlled media, I show that sometimes credible reports sent by independent media outlets can be an even more efficient instrument to discourage opposition than state propaganda.

Second, the paper speaks to the literature on the role that free media plays in autocracies. Studies focus primarily on the ways that autocrats can use free media to increase their regime's performance. They do it generally via gathering information on low-level officials (Egorov, Guriev and Sonin, 2009; King, Pan and Roberts, 2013) or by producing transparent information on the state of affairs and thus reducing risks for capital investment (Hollyer, Rosendorff and Vreeland, 2014a,b). These studies assume a trade-off between the benefits of the free information flow and increased risks of social unrest. I find that this relationship is not always zero-sum. Under certain conditions, increased media freedom can be associated with lower risk of mass protest.

Third, this study is also related to the literature on the evolution of strategies of authoritarian survival (Magaloni and Wallace, 2008; Munger et al., 2015). Recent studies of Guriev and Treisman (2015) and Gunitsky (2015) find autocratic regimes of the 21st century to be

⁴See, for example, news on pro-soviet government rally (February, 23th, 1991): <http://www.newizv.ru/society/2012-02-24/159699-moskva-mitingovaja.html>

less violent than their predecessors. They suggest that given the current level of technology electoral falsifications, bribing and censoring the private press or corrupting online bloggers are cheaper and more efficient means of bolstering the regime's legitimacy than classic repressions. My results are in line with this account. In fact, Russian authorities were able to reduce the number of people taking to the street without any significant cases of violence.⁵ Journalists, public commentators, and even leaders of the opposition emphasized the exceptional politeness of policemen.⁶

Finally, the contribution of this paper is limited in scope. First, it does not offer a general theory of collective action, but only studies a role of partial media freedom. Inevitably, it assumes away the "free-rider" problem and focuses only on the problem of coordination – not because I perceive the "free-rider" problem to be less important, but because the role of media is more pronounced in solving coordination problem than in solving "free-rider" problem. Empirically, I compare the success of protests in the regions exposed and not exposed to independent media broadcasting as my main independent variable is media credibility. Second, it does not argue that Russian government strategically used *Echo of Moscow* to forestall anti-regime collective actions in 2011-2012. Instead, it suggests that under certain conditions, exposure to credible reports of independent media can discourage potential protesters from taking to the streets.

The remainder of the paper is organized as follows. Section 2 contains clarifications and a numerical example of the theory. Section 3 provides background information. Section 4 describes the data, hypotheses and the identification strategy. Section 5 presents the empirical results and addresses potential concerns and factors that could bias the results. Section 6 concludes.

⁵See, for example, the report on the major anti-government demonstrations in Moscow (Bolotnaya Square, February, 4th, 2012). At the end of demonstration, organizers thank the police for the job and politeness: <http://www.ridus.ru/news/20267/>

⁶The only significant exception was the *Bolotnaya* Square demonstration (May 6th, 2012). However, this protest happened after the time period that is in focus of my study.

2. THEORY AND NUMERICAL EXAMPLE

In this section I develop a simple example of how independent and state-controlled media affect dissidents' beliefs on incumbent's popularity using Bayesian approach. I limit the theory to a case where the incumbent is able to organize a large-scale pro-government rally. If the rally is not a big one, dissidents cannot infer whether anyone else participated except for pro-regime stalwarts, and thus it makes no sense for him to spend his resources. I consider a non-polarized society, i.e. the majority of citizens are neither radical dissident, nor pro-regime stalwarts, but somewhere in between. Thus, if a large-scale rally takes place, dissidents learn that moderates also took to the street. The question that remains is whether moderates are true-supporters of the regime, or are in fact bribed or coerced to participate.

In the every day life of autocratic countries the extent of media freedom depends highly on the incumbent's decisions. In this section however, I abstract from this endogeneity problem for tractability purposes. First, this is consistent with the empirical identification strategy of the study that is based on the assumption that exposure to independent media is as-if random, conditional on *Echo of Moscow* propensity to enter regional markets. Second, the general results hold if incumbent is allowed to suppress media strategically, in case the suppression is costly. I address these issues in more detail in the Conclusion.

Setup. There are *Dissident* (strategic), *Incumbent* (non-strategic), and *Moderate* (non-strategic). *Incumbent* organizes a pro-regime rally. *Moderate* can either show up at the rally or not show up, $a = \{S, \neg S\}$. If *Moderate* supports *Incumbent*, she always shows up at the rally. If she does not support *Incumbent*, the latter may propose a bribe sufficient in size to persuade her to show up despite her lack of enthusiasm for *Incumbent*. She accepts the bribe with probability $P(\text{bribe}) < 1$. *Dissident* does not observe whether or not *Moderate* supports the incumbent, but he has a prior probability estimate of this, $P_{\text{prior}}(\text{support}) < 1$.

Since *Dissident* knows that *Moderate* will participate in the rally if either (a) she supports the *Incumbent*, or (b) she does not support the incumbent but has accepted a bribe to participate, *Dissident* also has a prior estimate of the probability that *Moderate* will participate:

$$P_{prior}(S) = P_{prior}(support) + [1 - P_{prior}(support)] \times P(bribe).$$

The protest succeeds with a probability of one minus the probability that Moderate supports the *Incumbent*, $1 - P(support)$. Expected utility of *Dissident* from protest is:

$$U_d = [1 - P_{prior}(support)] \times A - P_{prior}(support) \times C,$$

where A - is a victory prize, and C - are costs of failure (e.g., retribution).

Suppose now that *Dissident* can directly observe if *Moderate* showed up at the pro-government rally. *Dissident* follows Bayes rule in updating his beliefs on *Incumbent's* popularity, $P(support)$:

$$\begin{aligned} P(support|S) &= \frac{P(S|support) \times P_{prior}(support)}{P_{prior}(S)} = \\ &= \frac{P(S|support) \times P_{prior}(support)}{P(S|support) \times P_{prior}(support) + P(bribe) \times [1 - P_{prior}(support)]} \\ &= \frac{P_{prior}(support)}{P_{prior}(support) + P(bribe) \times [1 - P_{prior}(support)]}. \end{aligned}$$

Given that, by assumption $P(bribe < 1)$ and $P_{prior}(support) < 1$,

$$\frac{P_{prior}(support)}{P_{prior}(support) + P(bribe) \times [1 - P_{prior}(support)]} > P_{prior}(support),$$

i.e. if *Dissident* observes that *Moderate* showed up at the rally, he updates his estimates of *Moderate's* support for *Incumbent* upwards. Even though there is a positive probability that moderate has being bribed to rally, *Dissident* still increases his estimate of regime popularity after observing that *Moderate* takes to the street.

Now suppose that *Dissident* does not observe the rally directly, but receives a signal from media. I assume that the media may either be "biased" — in which case it always reports that *Moderate* rallied ($P_{biased}(signal = S) = 1$), whether she did or not — or "unbiased" — in which case it reports the truth with probability c . Type of media is common knowledge. One can think of c as measuring media's credibility. Clearly, if media is biased, *Dissident* will

pay no attention to these reports:

$$P(S|signal = S) = \frac{P_{biased}(signal = S|S) \times p_{prior}(S)}{P_{biased}(signal = S)} = \frac{1 \times p_{prior}(S)}{1} = p_{prior}(S).$$

However, if the media is “unbiased,” she will update as follows:

$$\begin{aligned} P(S|signal = S) &= \frac{P_{biased}(signal = S|S) \times p_{prior}(S)}{p(signal = S)} \\ &= \frac{c \times p_{prior}(S)}{c \times p_{prior}(S) + (1 - c)(1 - p_{prior}(S))} \end{aligned}$$

This equation allow to identify conditions when $P(S|signal = S) > p_{prior}(S)$:

$$\begin{aligned} \frac{c \times p_{prior}(S)}{c \times p_{prior}(S) + (1 - c)(1 - p_{prior}(S))} &> p_{prior}(S) \\ c \times p_{prior}(S) &> p_{prior}(S) \times [2c \times p_{prior}(S) + 1 - c - p_{prior}(S)] \\ c &> 2c \times p_{prior}(S) + 1 - c - p_{prior}(S) \\ 2c[1 - p_{prior}(S)] &> 1 - p_{prior}(S) \\ c &> \frac{1}{2} \end{aligned}$$

This result shows that a media report will be more likely to lead to an increase in the belief that *Moderate* actually took to the street if credibility of media is relatively high. Given the signal from the media, *Dissident* calculates posterior probability that *Moderate* supports the incumbent by adjusting for media freedom:

$$\begin{aligned}
P(\text{support}|\text{signal} = S) &= P(\text{support}|S) \times P(S|\text{signal} = S). \\
&= \frac{P_{\text{prior}}(\text{support})}{P_{\text{prior}}(\text{support}) + P(\text{bribe}) \times [1 - P_{\text{prior}}(\text{support})]} \\
&\times \frac{c \times p_{\text{prior}}(S)}{c \times p_{\text{prior}}(S) + (1 - c)[1 - p_{\text{prior}}(S)]}
\end{aligned}$$

In the next section I study how $P(\text{support}|\text{signal} = S)$ relates to $P_{\text{prior}}(\text{support})$, $P(\text{bribe})$, and c .

Comparative Statics. I consider how the extent of media freedom affects *Dissident's* posterior beliefs on *Incumbent's* popularity with respect to his prior beliefs $P_{\text{prior}}(\text{support})$, probability that *Moderate* accepts bribe $P(\text{bribe})$, and credibility of independent media outlet c .⁷

Figure 1a shows comparative statics for $P(\text{support}|\text{signal} = S)$ with respect to credibility of independent media outlet given $P_{\text{prior}}(\text{support}) = 1/2$ and $P(\text{bribe}) = 1/5$. Two main sources can explain the credibility of independent media; (lack of) professionalism, and dependency from opposition leaders. First, nobody believes even independent reports if journalists are known to be corrupt or unprofessional. Second, dissidents do not trust reports if media outlet plays up revolutionary leaders and the latter is ready to strike the government at any price. The figure depicts that the posterior support is higher under media freedom only if level of media's credibility is higher than 1/2.

This result can also be derived in a general case:

$$\begin{aligned}
P(\text{support}|\text{signal} = S) &> P_{\text{prior}}(\text{support}) \Leftrightarrow \\
\frac{P_{\text{prior}}(\text{support})}{p_{\text{prior}}(S)} \times \frac{c \times p_{\text{prior}}(S)}{c \times p_{\text{prior}}(S) + (1 - c)[1 - p_{\text{prior}}(S)]} &> P_{\text{prior}}(\text{support}) \Leftrightarrow \\
1 - P_{\text{prior}}(S) &> \frac{1 - c}{c}[1 - P_{\text{prior}}(S)] \Leftrightarrow \\
c &> \frac{1}{2}.
\end{aligned}$$

⁷I fix other parameters to particular values for simplicity purposes. Assigning of other values does not change comparative statics results.

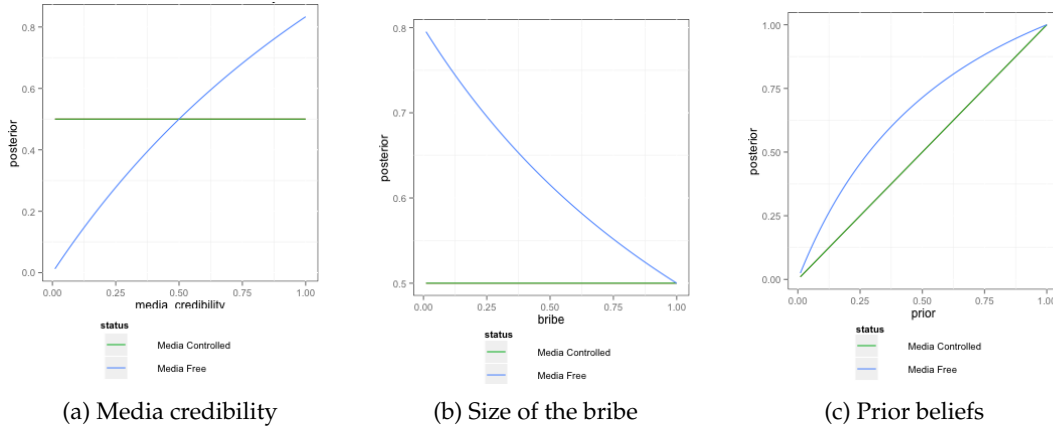


Figure 1: Comparative statics

In words, as long as the media is quite credible ($c > 1/2$), *Dissident* raises his estimate of support for the *Incumbent* when he receives a report that *Moderate* rallied for the *Incumbent* from the unbiased media.

Figure 1b shows comparative statistics for $P(\text{support}|\text{signal} = S)$ with respect to $P(\text{bribe})$ given $P_{\text{prior}}(\text{support}) = 1/2$ and $c=1/8$. Basically, $P(\text{bribe})$ reveals the size of *Incumbent's* budget. If incumbent has enough resources he can propose a huge bribe so *Moderate* always accepts it. Thus, as *Moderate* always shows up (either due to her support or due to the bribe), *Dissident* learns nothing about *Incumbent's* popularity even if media is independent.

Figure 1c shows the comparative statics for $P(\text{support}|\text{signal} = S)$ with respect to $P_{\text{prior}}(\text{support})$ given $P(\text{bribe}) = 1/5$ and $c = 1/8$. The figure outlines several important results. First, except for the extreme cases when $P_{\text{prior}}(\text{support})$ equals to 1 or 0, independent media generates higher value of posterior belief in *Incumbent's* popularity than biased media. Second, the size of the effect of independent media ($P_{\text{posterior}} - P_{\text{prior}}$) peaks when the uncertainty of *Dissident* about *Incumbent's* popularity is the highest, i.e. $P_{\text{prior}}(\text{support}) = 1/2$. Finally, for a particular number of cases independent media can crucially change *Dissident's* behavior as it transforms prior beliefs that incumbent is unpopular ($P_{\text{prior}}(\text{support}) < 1/2$) to opposite posterior beliefs ($P(\text{support}|\text{signal} = S)$), while state-controlled media does not change $P_{\text{prior}}(\text{support})$

Numerical example. Following a numerical example illustrates this main finding.

Let $P_{prior}(support) = 1/3$, $P(bribe) = 1/5$ and $c=1/8$, then

$$P(support|S) = \frac{1 \times \frac{1}{3}}{1 \times \frac{1}{3} + \frac{1}{5} \times \frac{2}{3}} = \frac{1}{3} / \frac{7}{15} = \frac{1}{3} \times \frac{15}{7} = 5/7.$$

If media is controlled by the state, then $P(S|signal) = \frac{1 \times 7/15}{1} = \frac{7}{15}$. Thus, *Dissident* basically does not change his beliefs:

$$\begin{aligned} P(support|signal = S) &= P(support|S) \times P(S|signal = S). \\ &= \frac{5}{7} \times \frac{7}{15} = \frac{1}{3} = P_{prior}(support) \end{aligned}$$

If media is independent, it reports on the rally with probability

$$\begin{aligned} P(S|signal = S) &= \frac{.8 \times 7/15}{.8 \times 7/15 + .2 \times 8/15} \\ &= \frac{7}{9} \end{aligned}$$

Dissident does change his beliefs:

$$\begin{aligned} P(support|signal = S) &= P(support|S) \times P(S|signal = S). \\ &= \frac{5}{7} \times \frac{7}{9} = \frac{5}{9}. \end{aligned}$$

Thus, after observing a report from state-controlled media *Dissident* believes that incumbent is popular with probability of $1/3 < 1/2$, but with probability of $5/9 > 1/2$ if media is independent. This example shows that, under certain conditions, independent media may indeed crucially change *Dissident's* beliefs about Incumbent's popularity.

3. BACKGROUND

3.1. *Brief history of media in Post-Soviet Russia*

Vladimir Putin's crusade against Russian media. According to the Freedom House Foundation, media have not been free in Russia since at least 2003.⁸ Except for a limited number of newspapers and magazines, all significant media outlets in Russia were either directly controlled by the state or were owned by oligarchs from Vladimir Putin's inner circle (Gehlbach, 2010b). One of Putin's main concerns upon becoming president was gaining control over the major media outlets, particularly TV channels. During Yeltsin's rule, major media empires were under the control of a few oligarchs who actively used them for lobbying their own business and political interests.

Within a short period of time, Putin was able to seize the "commanding heights" of the media industry (Gehlbach, 2010b). His most significant action was the attack on the *ORT* TV station of Boris Berizovsky and the *Media-Most* corporation of Vladimir Gusinsky. After the selective application of tax and criminal law to the company, the invasion of its premises by tax police, the direct pressure of the Ministry of Press, Radio and Television and also boardroom intrigue, *Media-Most* collapsed. The leading source of non-state broadcasting, and the only privately-owned TV station with a national reach, became the property of the government-controlled energy company *Gazprom* (Becker, 2004). The new owner completely changed the staff and editorial policy of the channel to become more supportive toward the government. Similar things happened to Boris Berezovsky's *ORT*, and both oligarchs were eventually forced into exile.

Exception to the rule: *Echo of Moscow*. As *Echo of Moscow* was a part of *Media-Most*, the radio service also became the property of *Gazprom*. However, the editorial policy of the station and the team of journalists within the company did not change. Being the oldest post-soviet media outlet, and known worldwide as one of Russia's last bastions of free media,

⁸See the Freedom House reports on the media in Russia:
<https://freedomhouse.org/country/russia#.VfITq51Viko>

the radio service was allowed to continue broadcasting to audiences across Russia for the following possible reasons.

First, as editor-in-Chief Alexei Venediktov points out, *Echo of Moscow* serves as a useful tool to refute Western criticism of Russia's lack of freedom of speech, as the Kremlin points to *Echo of Moscow* whenever countries in the West criticize press freedom in Russia (*Economist*, February 12, 2012).⁹

Second, The Kremlin could tolerate *Echo of Moscow* as a safety-valve for discontented groups. Even though the station is held in high regard by the country's intelligentsia, it has little influence over the voting masses (*Der Spiegel*, February 17, 2012).¹⁰ Two facts speak in support of this claim: first, according to *TNS Gallup*, the outlet's audience is extremely loyal. For more than half of its listeners, *Echo of Moscow* is the only - or at least the major - radio station (*TNS Group Report 2006*).¹¹ So it is therefore likely that in this particular case it is not the media outlet that affects political preferences, but on the contrary those who already have negative attitudes toward the government choose this radio station. Alternatively, it can perhaps be explained by the relatively small size of the radio audience compared to that of TV channels.¹²

A traditional political economy explanation suggests that independent media outlets help to deal with the informational vacuum generated by incentives of subordinates to not report bad news to an autocrat (*Wintrobe, 1998*). Several journalists mention that the top level politicians in Russia are among the regular listeners of *Echo of Moscow* (*Barabanov, 2009*).

Finally, informal relations between the head of the station, Alexey Venediktov, and Vladimir Putin may be the basis of *Echo of Moscow* being perceived as untouchable. In a series of in-

⁹<http://www.economist.com/blogs/easternapproaches/2012/02/media-russia>

¹⁰<http://www.spiegel.de/international/world/controlling-the-press-echo-of-moscow-under-pressure-in-russia-a-815731.html>

¹¹<http://www.myshared.ru/slide/282007/>

¹²Indeed, as one may see from the data, the exposure of a region to the "Echo of Moscow" is not correlated with any electoral outcomes for the last 15 years. *Enikolopov, Petrova and Zhuravskaya (2011)* find that the presence of the independent TV channel decreased the aggregate vote for the government party by 2.5 percentage points and increased the combined vote for major opposition parties by 2.1 percentage points. While comparing these results to result of my paper, one should take into account that the audience size of Echo of Moscow is tens of times smaller.

interviews, Venediktov mentions that, at least in the past, he had engaged in hours of informal talks with Vladimir Putin. Putin's press-secretary Dmitry Peskov often provides this radio station with exclusive commentaries ([Reuters, July 30, 2015](#)).

Though the exact reasons for the survival of *Echo of Moscow* as an anti-government radio station are unknown, there is a key difference between this radio station and other independent media outlets that specialize in political news. While most other outlets suffer from a lack of profits and depend on wealthy donors (e.g., *Novaya Gazeta* newspaper and *The New Times* magazine depend on Alexander Lebedev and Irena Lisnevskaya respectively), *Echo of Moscow* is an exceptionally profitable company, and has paid dividends to its shareholders every year since 1998. By contrast, *Finam.FM* radio station, founded in 2008, rapidly acquired a significant audience in Moscow but in 2013 authorities put pressure on the owners to close three radio programs. Eventually the owners decided to stop broadcasting altogether and to sell the outlet because of these pressures and also insufficient revenues.¹³

Because businesses were not afraid to use the *Echo of Moscow* for advertising, and the station was commercially successful, it received franchise requests from most other regions. The board of directors set the informal minimum "entrance requirements" for regional franchise requests to be accepted.¹⁴ Thus, in contrast to a typical independent political outlet, the regional presence of *Echo of Moscow* was subject to economic, not political determinants. By the beginning of the most recent wave of post-electoral protests, 42 Russian cities were exposed to *Echo of Moscow* broadcasting. I assume that this exposure was random among the cities that are relatively close to these requirements.

The typical contract between *Echo of Moscow* and regional broadcasters states that the latter can use daytime hours for ads, announcements and local programs, while evening and morning air time belongs to the Moscow office. This is crucial for the purposes of the study, as most reports on the *Poklonnaya* Hill rally were delivered during the evening broadcast of 4th February 2012. In fact, records of that evening broadcast show that the radio station reported on the size of pro-government and anti-government demonstrations during each

¹³<http://lenta.ru/news/2013/11/05/finam/>

¹⁴Based on author's interviews with journalists and managers of the *Echo of Moscow* radio station

news release from 6 pm to 10 pm.¹⁵ Reports included estimates of the number of participants provided by organizers, police, radio station journalists and independent experts. All of them suggest that more participants took to the street in order to support Vladimir Putin. While the true scale of the collective actions is unknown, I am presuming that the listeners trusted reports, as journalists of *Echo of Moscow* were critical toward the government and thus, unlikely to have any incentives to report the attendance as favorable toward Putin.

It is also important that according to survey evidence, non-state controlled radio stations – and *Echo of Moscow* in particular – were one of the main sources of information on protests among protest participants.

Report, but do not investigate: free media in an unfree environment. An important feature of the media environment in Russia is the absence of a means for investigative journalism. Even though *Echo of Moscow* and other independent media are allowed to criticize the government and report on anything that might interest their audience, journalists lack the opportunities, rights and legal protection to organize effective investigations.

David Remnick's prominent article on *Echo of Moscow* underlines that although the station is able to broadcast opinions critical of the government, it falls short when it comes to thorough investigations. He cites interview with one of Russia's most famous journalists and commentators, Yulia Latynina. Latynina admits that investigative work is nearly impossible in Russia:

"The basic problem is that you cannot really expect, in a regime like that of Marcos or Duvalier, to get solid information into your hands about bank accounts," she says...

"Everyone looks the other way. This is not a dictatorship — no one should exaggerate and compare it to the Soviet Union — but in an authoritarian regime you can't conduct an effective investigation the way you can in a democratic regime." (The New Yorker, September 22, 2008).

This opinion matches to Gehlbach's (2010a) account which suggests that media freedom is at

¹⁵See examples of the reports in Appendix

the intermediate level in Russia. This feature is essential for the empirical test, as the theory suggests that without full freedom of the press, citizens can not infer whether moderates genuinely supported the incumbent or were bribed.

3.2. *Russian protests 2011-2012*

The protest meetings against the falsification of parliamentary and presidential elections of 2011-12 were the largest in Russia since the collapse of the Soviet Union in 1991. The largest protests took place in the months following the parliamentary elections. The aftermath of the 2011 elections was in sharp contrast to that of previous elections. Though most observers considered that the levels of fraud were approximately the same in the 2011-2012 and 2007-2008 elections, the latter did not result in any mass protests. Even experienced leaders of opposition believed that the ruling party “United Russia” would obtain the majority of votes and did not expect any social unrest, especially on such a large scale. To some extent, the unexpectedly low official results for United Russia (49% of votes) were the shock that triggered mass protests (Hale, 2011).

The scale of protest had been increasing following the parliamentary elections, with at least five thousand Muscovites taking to the streets in the early evening of December 5, 2011 to voice their dissatisfaction with the results of the parliamentary elections. In the following two months, Putin’s Russia experienced the unexpected rise of the opposition movement. Six days after the *Chistiproudny* Boulevard’s meeting, at least sixty thousand protesters rallied in *Bolotnaya* square. Two weeks later (on December 24) this number increased to around hundred twenty thousand. This was the case not only for the capital cities of Moscow and Saint-Petersburg, but also for most of the regions. Figure 2 shows the dynamics of the number of anti-government demonstrations from December 2011 until May 2012.

More than 500 mass protests took place in almost all Russian regions.¹⁶ With the day of the presidential election approaching however, the number of people that continued to take to the street in protest began to decrease, and the number of anti-government protesters has been declining steadily ever since.

¹⁶Based on author’s calculations

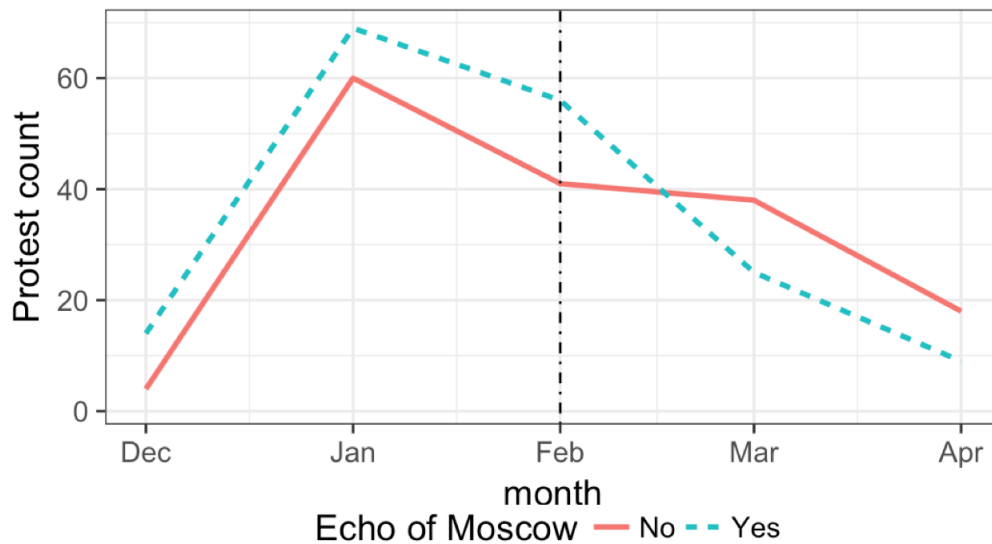


Figure 2: Protest Dynamics in Russia’s cities

Figure 2 also shows the patterns of protest intensity in cities that are exposed and not exposed to *Echo of Moscow* broadcasts. One can see that before the major pro-government rally on February 4, these patterns were essentially the same, although the baseline amount of protests was higher in the first group. However, following the rally the patterns changed. While the number of protests in the cities that were exposed to the broadcasting fell dramatically, this number stayed almost the same in the other cities. Nonetheless, protests faded away everywhere, after Vladimir Putin’s victory in Presidential elections was announced in March, 2012.

4. HYPOTHESES, DATA AND EMPIRICAL STRATEGY

4.1. Hypotheses

The theory developed in this paper is consistent with a belief that, in general, independent media increase the ability of the opposition to mobilize dissidents. Yet, it adds a significant nuance: if the incumbent is able to organize a large-scale support rally, then independent media reports can reduce both the probability of following protests and protest turnout.

Thus, I test two main hypotheses:

1. After pro-regime rally takes place *the protest turnout declines more in cities exposed to independent media reports about size of the pro-regime rally*;
2. After pro-regime rally takes place *the number of anti-government protests declines more in cities exposed to independent media reports about size of the pro-regime rally*.

4.2. Data

Outcomes of interest: protest count and protest size. While the protests of 2011-2012 in Russia were a reaction to a single event (falsification of the results of parliamentary elections), their scale and frequency varied greatly across time and cities. I measure this variation using a protest-event dataset that draws on the reports from the NaMarsh.ru website. This website aggregates information from various sources: a network of regional correspondents, printed press and online newsreels. Despite the fact that the website is maintained by opposition groups and thus is potentially biased in its reporting of protest events, scholars of Russia's politics suggest that the reports on this website "accurately capture temporal and spatial protest trends and it corresponds with national and regional public opinion polls gauging support for and activism in protests" (Lankina and Voznaya, 2015). I validate the NaMarsh.ru data with reports from the archive of the Russian Institute for Collective Action (ICA). This NGO publishes regular updates about individual opposition protest events across Russia, mostly those involving social claims and/or linked to independent trade unions, anti-globalist movements, and other non-mainstream left-wing groups.¹⁷ Though the total number of reports by ICA is smaller than that of NaMarsh.ru, these data are widely used in studies of Russian politics (Clément, 2008; Teague, 2011; Robertson, 2010, 2013).

While complete dataset contains more than 7400 opposition events across Russia from 2007 to 2017, I only use data from protests that took place around the date of the pro-government rally on *Poklonnaya Hill* in Moscow within *forty days*; there were 251 and 145 of them before and after the date, respectively. Because of the scarcity of the city-level socioeconomic data in Russia, at this early stage of the study, I consider only *regional capitals* that

¹⁷<http://www.ikd.ru/taxonomy/term/39>

	No “Echo of Moscow”	“Echo of Moscow”	Total
No Protest	6	0	6
Protest	43	33	76
Total	49	33	82

Table 1: Exposure of regional capitals to “Echo of Moscow” in Russia

experienced protests in a given time span. This choice is partly justified by the fact that almost eighty percent of *Echo of Moscow* branches were located in capitals of regions. I measure a change in protest turnout for each city as the difference between the largest opposition protest before and after the pro-regime rally on *Poklonnaya* Hill, weighted by population size of the city. The time span is chosen so that demonstrations which took place on the major days of protest (December 24th and March 5th) appear in the sample. To calculate the second outcome of interest, I calculate the difference in the number of protests in the city before and after the rally on *Poklonnaya* Hill in a given time span. While only a small piece of data is used in hypothesis testing directly, I use additional data points to check the relevance of parallel trends assumption.

Explanatory variable: exposure to *Echo of Moscow* reports. I use a binary variable that indicates the exposure of the city to *Echo of Moscow* reports on the day of a major pro-government rally. I collect these data from WebArchive.org. This source contains a copy of the radio station website (echo.msk.ru) for the 2011-2012 protest period. At that time, the *Echo of Moscow* broadcasted in 42 cities. Nine of them (Kinesma, Obninsk, Pereslavl’-Zalesskiy, Rybinsk, Severodvinsk, Tol’jatti, Vyborg, Zelenogorsk, Zeleznogorsk-Ilimskiy) are not regional capitals and I do not consider them at this stage of the project. Because the franchise request approach does not apply to the city of Moscow, I exclude it from my analysis as well.

Table 1 shows that 76 regional capitals experienced protests in a given time span and 33 of them were exposed to *Echo of Moscow*. Anti-government demonstrations occurred in 43 out of 49 capitals without *Echo of Moscow* broadcasting.

4.3. Empirical strategy

How to test the validity of rules in accepting “franchise requests”. At the first stage of my analysis, I check whether the as-if-randomness of exposure to *Echo of Moscow* holds - that is, if the actual exposure of Russian cities to the radio station broadcasting is consistent with the rule described by its management in accepting franchise requests. To account for as many potential confounders as possible I make use of LASSO selection model. I collect a broad set of covariates to model the probability for a city to be exposed to *Echo of Moscow*. Most of them come from the Russian State Agency of Statistics (*GosKomStat*). To determine economic factors of the local presence of this radio station, I use GDP per capita, the size of private investment, unemployment, average wage, economic inequality, the size of labor force, share of educated people in the labor force, and automobiles per capita. I also use available geographic variables that can also contribute to the cost of entry, including; distance of the city from Moscow, and mean temperatures in January and July (as of 2010).¹⁸

I use a set of socio-demographic indicators that can account for the size of potential radio audience and its consumption behavior. They include: population size, share of adult internet and personal laptop users, share and density of fixed and mobile phones coverage.¹⁹

One of the challenges of my approach is that local exposure to *Echo of Moscow* radio station could be subject to political determinants. The causal effect cannot be estimated if both exposure to the radio broadcasting and the scale of protest are functions of local political regimes. To mitigate this problem I use official electoral scores of the ruling *United Russia* party in parliamentary elections (2003, 2007, 2011), and vote shares of Vladimir Putin and Dmitry Medvedev in presidential rallies of 2004 and 2008 respectively. This data come from the Central Electoral Committee of Russia.²⁰ I also use estimates of fraud in 2011 parliamentary elections presented in [Kobak, Shpilkin and Pshenichnikov \(2012\)](#).

¹⁸http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/en/main/

¹⁹These data are collected from “Electronic Russia” Institute report: <http://eregion.ru/en/full-report>

²⁰http://cikrf.ru/eng/lawRF/elect_subj_2008.html

Identification assumption. The identification strategy of this study is based on the assumption that exposure to *Echo of Moscow* was as good as random, conditional on the city’s propensity of exposure. As the actual indicators that were used by radio station management to accept franchise requests are proprietary, I use city-level predictors of local exposure to *Echo of Moscow* to generate propensity scores. If the quasi-randomness assumption is valid, then conditional on city’s propensity to be exposed to *Echo of Moscow*, the causal effect τ can be estimated with a difference-in-differences estimator:

$$\hat{\tau}|propensity = \{E[Y(1)|D = 1] - E[Y(0)|D = 1]\} - \{E[Y(1)|D = 0] - E[Y(0)|D = 0]\},$$

where:

$E[Y(1)|D = 1]$ is the expected size of the protest in the cities with *Echo of Moscow* after the pro-regime rally,

$E[Y(0)|D = 1]$ is the expected size of the protest in cities without *Echo of Moscow* after the rally,

$E[Y(1)|D = 0]$ is the expected size of the protest in with *Echo of Moscow* before the rally,

$E[Y(0)|D = 0]$ is the expected size of the protest in the cities without *Echo of Moscow* before the rally.

5. RESULTS

5.1. Does a city hear *Echo of Moscow*?

In this section I identify factors that determine the local availability of *Echo of Moscow*. I check if actual exposure of regional capitals to *Echo of Moscow* is consistent with the rule followed by the management of this radio station in accepting franchise requests. As the potential confounders are abundant and the number of regional capitals is relatively small, I employ a LASSO approach (Tibshirani, 1996) to select the predictors of urban presence of this radio station. LASSO regression minimizes the sum of squared errors with a bound on the sum of

	Exposure to <i>Echo of Moscow</i> Frequency of selection
Population of Region Capital 2009	963
Regional Capital Distance from Moscow	980
Temperature in January 2009	961
Observations	76

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2: Results of Bootstrap LASSO

the coefficients' values. Because results of LASSO-modeling are not very robust, I bootstrap the LASSO estimators of the regression parameters with one thousand bootstraps and keep those variables that were selected in at least 95% of estimated models (Chatterjee and Lahiri, 2011).

Table 2 reports on the significant predictors resulting from estimated LASSO models. Column 1 shows frequencies of selection of each significant predictor, including the size of region capital's population, the mean temperature in January, and the distance to Moscow. First of all, the size of a city population can be regarded as a valid proxy for the size of the radio's audience. The regional capital's distance to Moscow also seems a reasonable predictor, as it can be partly associated with the cost of organizing joint broadcasting of the regional company and the central office of *Echo of Moscow*. There is no explicit explanation of why exposure to *Echo of Moscow* is associated with the mean temperature in January.

The important result for this analysis is that political variables, such as results of presidential (2004, 2008) and parliamentary (2003, 2007, 2011) elections, or levels of electoral fraud do not predict local availability of *Echo of Moscow*. This result addresses the concern that the local availability of *Echo of Moscow* follows political reasons.

5.2. *Effect of Echo of Moscow reports on protest activity*

In unadjusted sample, regional capitals with no exposure to *Echo of Moscow* experience the decline in the mean protest turnout and the mean number of protests from .73 to .54 participants per thousand citizens and from 2.9 to 1.7 protests, respectively. At the same time, in

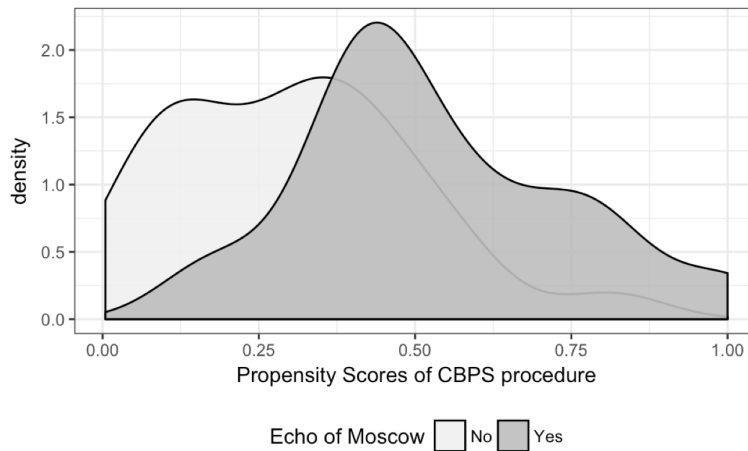


Figure 3: Covariate-Balance propensity scores for city’s exposure to “Echo of Moscow”

capitals exposed to *Echo of Moscow* the mean protest turnout and the mean number of protests dropped from .88 to .42 participants per thousand citizens and from 3.9 to 1.6 protests, respectively.

I use three variables selected in the previous section to conduct Covariate-Balance Propensity Score algorithm (Imai and Ratkovic, 2014). Figure 3 shows the distribution of propensity scores for both groups of cities.

Next I regress two outcomes of interest on exposure to *Echo of Moscow* with and without inverse propensity score weights. Table 3 reports the main results of this study. In unadjusted sample, only the effect on the change in the number of protests appears to be significant (Columns 2 and 4). In models that use inverse propensity score weighting *Echo of Moscow* is shown to have larger and significant effects on both measures of protest activity (Columns 1 and 3). These models suggest that in cities with no exposure to *Echo of Moscow* protest turnout and number of protests decreased on average by .21 participant per thousand citizens and by 1.5 protests, respectively. In capitals exposed to *Echo of Moscow*, turnout and number of protest on average decreased by .57 (-.36 + -.21) participant per thousand citizens and by 3 (-1.5 + -1.5) protests, respectively.

Figure 4 illustrates the patterns of change for both number of protests and protest turnout in adjusted sample.

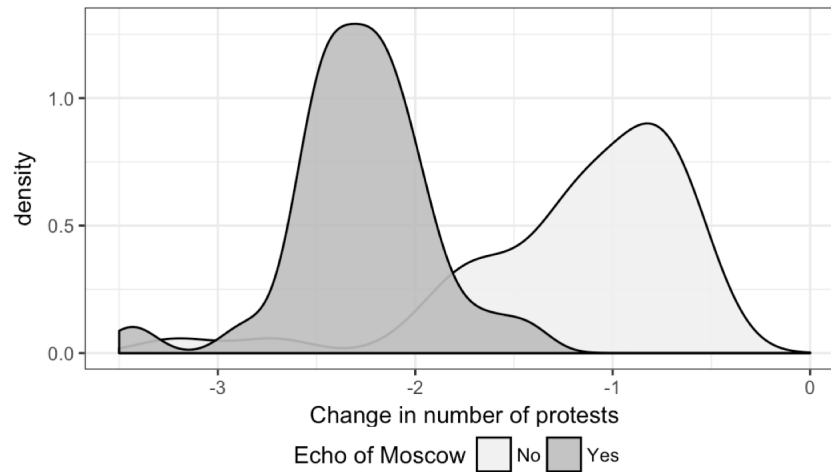
	Change in Protest Turnout ⁺		Change in Protest Count	
	IPW ⁺⁺	Unadjusted	IPW	Unadjusted
<i>Echo of Moscow</i>	-0.36** (0.15)	-0.23 (0.19)	-1.51*** (0.52)	-1.31** (0.58)
Constant	-0.21 (0.20)	-0.20 (0.17)	-1.56** (0.74)	-1.814*** (0.54)
Observations	76	76	76	76
Log Likelihood	-100.5	-93.8	-164.8	-152.8
Akaike IC	211.1	197.7	339.6	315.7

Note: Standard errors in parentheses, * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$,
⁺Protesters per 1000 citizens, ⁺⁺Inverse Propensity Weighting.

Table 3: Effect of local availability of *Echo of Moscow* on change in protest activity



(a) Change in the protest turnout



(b) Change in the number of protests

Figure 4: Protest change

5.3. Threats to validity

Censored or missing data. The size of the effect can be influenced by the fact that some regional authorities stopped issuing permits for demonstrations in the post-treatment period. This could explain both missing protest events and cases of extreme changes in the size of protest. In these cases protesters either didn't take to the street at all, or constituted a small share of radicals. The extreme example is Yaroslavl Oblast, where the size of the protest dropped from 1500 to 50 citizens. I account for this possibility by investigating cases of a suspiciously drastic change in the attendance rate. In 8 out of 11 cases the permission to hold a meeting was granted by the authorities, but in 3 of them it was common knowledge that officials tried to prevent the meeting by choosing an inadequate location or date for it. Results presented in section 5.2 do not change after omission of these 3 cases.

Regression to the mean. The fact that before the pro-government rally on February 4th the protest dynamics in both cities with and without exposure to *Echo of Moscow* followed parallel trends (see fig. 2) suggests that regression to the mean did not take place and did not account for the results of analysis.

6. CONCLUSION

This paper suggests that exposure to independent (partially-free) media can have a demobilizing effect on dissidents if combined with the aggressive tactics of building an image of overwhelming support for the autocrat. It is commonly believed that the existence of independent media increases the ability of opposition to mobilize. But if the incumbent has enough financial resources and organizational capacities to launch large-scale rallies of supporters, then independent media reports can reduce the number of mobilized protesters.

Data from recent protests in Russia suggests that in capital cities exposed to *Echo of Moscow* radio station, the number of protests and protest turnout decreased more than in the rest of the capital cities following the major pro-government rally in Moscow. The results of this study suggest that in cities with no exposure to *Echo of Moscow* protest turnout and

number of protest on average decreased by .21 participant per thousand citizens and by 1.5 protests, respectively. In capitals exposed to *Echo of Moscow* turnout and number of protest on average decreased by .57 participant per thousand citizens and by 3 protests, respectively.

Note, that the results do not show that incumbents strategically allow independent media to exist. They only show that under certain conditions, greater media freedom can help autocrats to forestall anti-regime collective action more effectively. At the same time, it is likely that the actual level of media freedom is endogenous to incumbent's perception of the risk of being overthrown (VonDoepp and Young, 2012; Guriev and Treisman, 2015) and to the strength of his regime (Stein, 2012; Geddes and Zaller, 1989), and, thus, to the incumbent's popularity.

REFERENCES

- Adena, Maja, Ruben Enikolopov, Maria Petrova, Veronica Santarosa and Ekaterina Zhuravskaya. 2014. "Radio and the Rise of the Nazis in Prewar Germany." *Available at SSRN 2242446* .
- Barabanov, Ilya. 2009. *Sovremennyj rynek massmedia v Rossii: struktura i strategii osnovnyh igrokov*. Technical report.
URL: http://web.archive.org/web/20090211003910/http://opec.ru/docs.aspx?id=389&ob_no=87960html
- Becker, Jonathan. 2004. "Lessons from Russia A Neo-Authoritarian Media System." *European journal of communication* 19(2):139–163.
- Chatterjee, A. and S. N. Lahiri. 2011. "Bootstrapping Lasso Estimators." *Journal of the American Statistical Association* 106(494):608–625.
URL: <https://doi.org/10.1198/jasa.2011.tm10159>
- Clément, Karine. 2008. "New social movements in Russia: a challenge to the dominant model of power relationships?" *Journal of Communist Studies and Transition Politics* 24(1):68–89.

Edmond, C. 2013. "Information Manipulation, Coordination, and Regime Change." *The Review of Economic Studies* 80(4):1422–1458.

URL: <http://restud.oxfordjournals.org/content/early/2013/09/12/restud.rdt020.short>

Egorov, Georgy, Sergei Guriev and Konstantin Sonin. 2009. "Why Resource-poor Dictators Allow Freer Media: A Theory and Evidence from Panel Data." *American Political Science Review* 103(4):645–668.

Enikolopov, Ruben, Maria Petrova and Ekaterina Zhuravskaya. 2011. "Media and political persuasion: Evidence from Russia." *The American Economic Review* 101(7):3253–3285.

Geddes, Barbara and John Zaller. 1989. "Sources of Popular Support for Authoritarian Regimes." *American Journal of Political Science* 33(2):319–347.

Gehlbach, Scott. 2010a. "Media Freedom: What Matters?" pp. 1–3.

Gehlbach, Scott. 2010b. "Reflections on Putin and the Media." *Post-Soviet Affairs* 26(1):77–87.

Gehlbach, Scott and Konstantin Sonin. 2014. "Government control of the media." *Journal of Public Economics* 118:163–171.

URL: <http://dx.doi.org/10.1016/j.jpubeco.2014.06.004>

Gunitsky, Seva. 2015. "Corrupting the Cyber-Commons: Social Media as a Tool of Autocratic Stability." *Perspectives on Politics* 13(01):42–54.

URL: <http://journals.cambridge.org/action/displayFulltext?type=6&fid=9586505&jid=PPS&volumeId=13&issueId=>

Guriev, Sergei and Daniel Treisman. 2015. "DP10454 How Modern Dictators Survive: Cooperation, Censorship, Propaganda, and Repression."

Hale, By Henry E. 2011. "The Putin Machine Sputters: First Impressions of the 2011 Duma Election Campaign." *Russian Analytical Digest* (106):2–8.

Hassanpour, Navid. 2014. "Media Disruption and Revolutionary Unrest: Evidence From Mubarak's Quasi-Experiment." *Political Communication* 31:1–24.

URL: <http://www.tandfonline.com/doi/abs/10.1080/10584609.2012.737439>

- Hollyer, James R, B Peter Rosendorff and James Raymond Vreeland. 2014a. "Transparency , Protest and Autocratic Instability."
- Hollyer, James R, B Peter Rosendorff and James Raymond Vreeland. 2014b. "Why do Autocrats Disclose ?".
- Imai, Kosuke and Marc Ratkovic. 2014. "Covariate balancing propensity score." *Journal of the Royal Statistical Society: Series B (Statistical Methodology)* 76(1):243–263.
- King, Gary, Jennifer Pan and Margaret Roberts. 2013. "How Censorship in China Allows Government Criticism but Silences Collective Expression." *American Political Science Review* 107(2):326–343.
- Kobak, Dmitry, Sergey Shpilkin and Maxim S Pshenichnikov. 2012. "Statistical anomalies in 2011-2012 Russian elections revealed by 2D correlation analysis."
- Lankina, Tomila and Alisa Voznaya. 2015. "New Data on Protest Trends in Russia's Regions." *Europe-Asia Studies* 67(2):327–342.
URL: <http://www.tandfonline.com/doi/full/10.1080/09668136.2014.1002696#abstract>
- Lohmann, Susanne. 1994. "The Dynamics of Informational Cascades." *World Politics* 47(1):42–101.
- Lorentzen, Peter L. 2013. "Regularizing Rioting: Permitting Public Protest in an Authoritarian Regime." *Quarterly Journal of Political Science* 8(2):127–158.
- Magaloni, Beatriz and Jeremy Wallace. 2008. Citizen loyalty, mass protest and authoritarian survival. In *Conference on Dictatorships: Their Governance and Social Consequences*, Princeton University.
- Miner, Luke. 2012. The unintended consequences of Internet diffusion: Evidence from Malaysia. Technical report Working Paper, New Economic School.
- Morris, Laura. 2014. "Contextualizing the power of social media: Technology, communication and the Libya Crisis." *First Monday* 19(12).

- Munger, Kevin, Rich Bonneau, John T Jost, Jonathan Nagler and Joshua Tucker. 2015. "Elites Tweet to get Feet off the Streets : Measuring Elite Reaction to Protest Using Social Media." pp. 1–31.
- Peisakhin, Leonid and Arturas Rozenas. 2014. "Electoral Mobilization with Biased Media : The Influence of Russian Television in Ukraine." pp. 1–31.
- Robertson, Graeme. 2013. "Protesting Putinism: The Election Protests of 2011-2012 in Broader Perspective." *Problems of Post-Communism* 60(2):11–23.
- Robertson, Graeme B. 2010. *The politics of protest in hybrid regimes: managing dissent in post-communist Russia*. Cambridge University Press.
- Smyth, Regina, Anton Sobolev and Irina Soboleva. 2013. "A Well-Organized Play." *Problems of Post-Communism* 60(2):24–39.
- Smyth, Regina, Irina Soboleva, Luke Shimek and Anton Sobolev. 2015. Defining Common Ground: The Language of Mobilization in Russian Protests. In *Systemic and Non-Systemic Opposition in the Russian Federation. Civil Society Awakens?* Ashgate pp. 51–76.
URL: <http://medcontent.metapress.com/index/A65RM03P4874243N.pdf>
- Stein, E. a. 2012. "The Unraveling of Support for Authoritarianism: The Dynamic Relationship of Media, Elites, and Public Opinion in Brazil, 1972-82." *The International Journal of Press/Politics* 18(1):85–107.
- Teague, Elizabeth. 2011. "How did the Russian population respond to the global financial crisis?" *Journal of Communist Studies and Transition Politics* 27(3-4):420–433.
- Tibshirani, Robert. 1996. "Regression shrinkage and selection via the lasso." *Journal of the Royal Statistical Society. Series B (Methodological)* pp. 267–288.
- Volkov, Denis. 2012. "The protesters and the public." *Journal of Democracy* 23(3):55–62.
- VonDoepp, Peter and Daniel J. Young. 2012. "Assaults on the Fourth Estate: Explaining

Media Harassment in Africa." *The Journal of Politics* 75(01):36–51.

URL: http://www.journals.cambridge.org/abstract_S0022381612000850

Wintrobe, Ronald. 1998. *The political economy of dictatorship*. Vol. 6 Cambridge Univ Press.

Yanagizawa-Drott, David. 2014. "Propaganda and Conflict: Theory and Evidence From the Rwandan Genocide." *The Quarterly Journal of Economics* 129(4):1947—1994.

URL: <http://www.hks.harvard.edu/fs/dyanagi/Research/RwandaDYD.pdf>