Political Effects of the Internet and Social Media

The Long Shadow of Transition, Stockholm

Ruben Enikolopov

New Economic School, Universitat Pompeu Fabra, Barcelona IPEG

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Media and Politics

- Media plays a very important role in politics, especially in CES countries
  - Enikolopov, Petrova, Zhuravskaya (2011), Szeidl and Szucs (2017)
- Control over media is central for the new bread of autocratic regimes (Guriev and Treisman, forthcoming)
- Social media has certain features that potentially distinguish them from traditional media (Zhuravskaya, Petrova, Enikolopov forthcoming)
  - low barriers to entry
  - reliance on user-generated content

Special Features of Social Media

- Low Barriers to Entry
  - Makes gatekeeping of information less effective
  - Provides outlet for opposition and whistleblowers
    - ★ can make political regimes more vulnerable and accountable (Edmond, 2013; Besley and Prat, 2006)
  - but also to extremists
  - May undermine reputation mechanisms that assure quality of information (Gentzkow and Shapiro, 2006; Cage 2017)
  - Facilitates spread of fake news
  - could give rise to "echo chambers" and increase political polarization.
- User-generated content
  - Allows for horizontal flows of information
  - Makes it easier to coordinate and participate in collective actions

Social Media and Corruption

Enikolopov, Petrova, and Sonin (2018), *American Economic Journal: Applied Economics*

- In contrast to traditional media, the costs of starting a new blog or publishing a new piece of information in social media are very low
- Harder to control than traditional mass media
- But reputation becomes a huge issue
  - Can be used for monitoring (Morozov, 2011) and spreading false information (Esfandiari 2010)
- Whether social media might have an impact is an empirical question

Background

- Russia is an authoritarian state led by Vladimir Putin since 1999
  - low political competition, traditional media (TV, radio, most newspapers) is controlled by the government
- State-controlled companies: comprise more than 50% of all production, very large companies (e.g. Gazprom $\approx$ \$160 billion market capitalization)
  - less than 50% of stock traded on the market
  - known for high level of corruption, losses for taxpayers and, potentially, for minority shareholders
  - management appointed by Board of Directors, which is appointed by the government

Alexei Navalny and his blog

- Shareholder activist and (recently) opposition politician in Russia
  - before 2008, *no* reputation and almost *no* readers
- Writes in his blog about corporate governance violations in state-owned companies
  - some information previously unknown
  - more negative than traditional media
- Holds small number of shares in these companies and initiates law suits
- Belongs to Time's 100 most influential people of the year (2012) and Foreign Policy's 100 global thinkers (2011)

Navalny's blog

navalny.livejournal.com

Как пилят в Транснефти

navalny

November 16th, 2010

Это очень важный для меня пост.
Над этим делом я с коллегами работаю уже много месяцев.

Я буду очень благодарен всем, кто прочитает и поможет.

Но прежде, чем вы начнете читать - загляните в свой бумажник. Может вы и не заметили, но из него пропало примерно 1 100 рублей.
Не так много, для каждого из нас, но эту сумму украли у каждого совершеннолетнего жителя России. Всего, по нашей оценке, по ходу этой истории было **украдено не менее $ 4 млрд долларов.**

Итак. Трубопровод ВСТО. Восточная Сибирь - Тихий Океан. Протяженность - 4188 км.
По нему будут качать нефть Восточной Сибири на Дальний Восток.

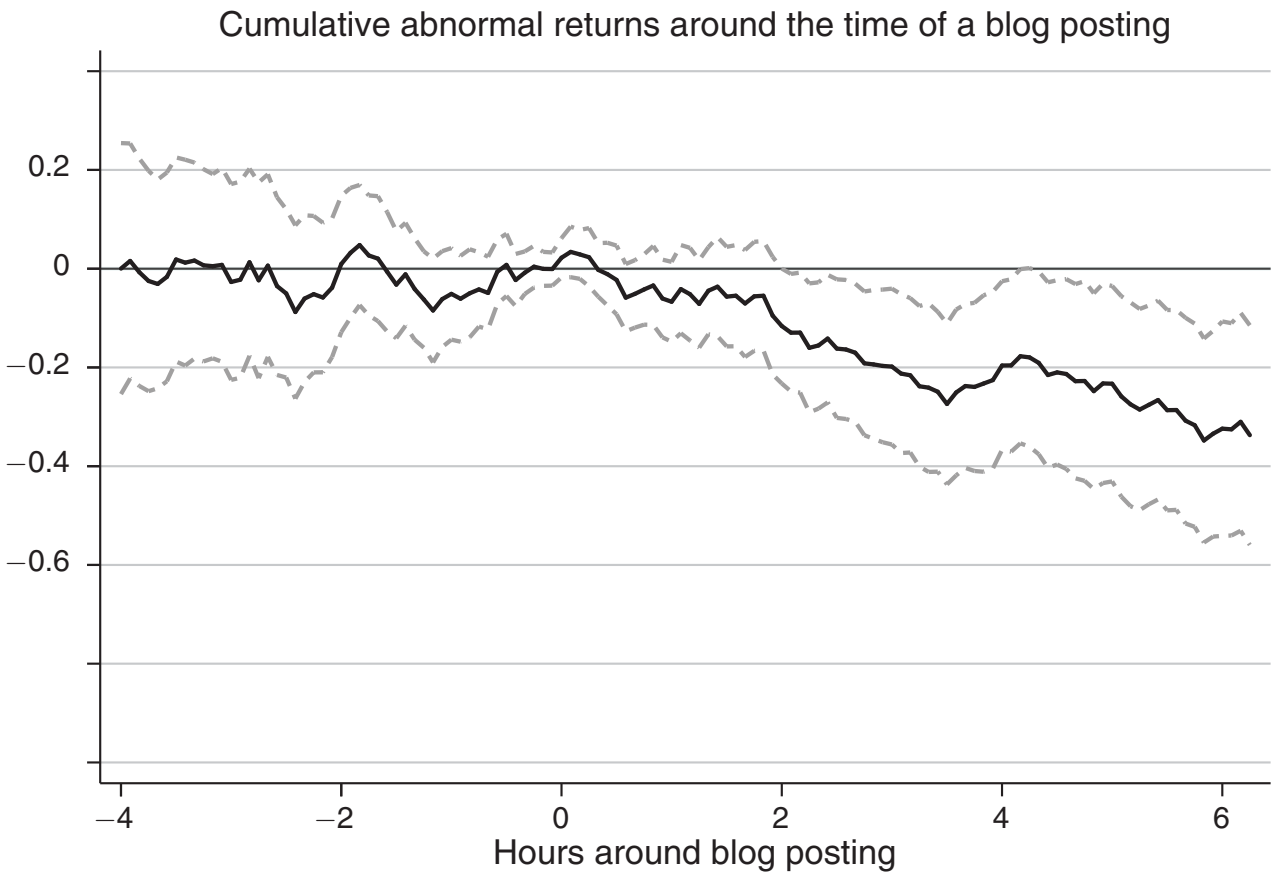
- Speaks about corruption in state-controlled companies
  - E.g. VTB overpaid $160 million for drilling equipment, which it has not been using so far ($15 million per machine that costs $10 million)
- Aggregates information: got access to internal investigation report, summed up all numbers, got $4 billion stolen
- Demands to disclose recipients of "spending on charity" of Transneft

Methodology

- Impact of blog postings on stock performance
  - average effect of blog posting (5-minute, daily, and 30-day effects, portfolio returns on 3.5-year horizon)
  - identification from precise timing of the posts
- Examine heterogeneity of the effect
- Impact of blog postings on corporate policies
  - management turnover
  - instances of corporate conflicts

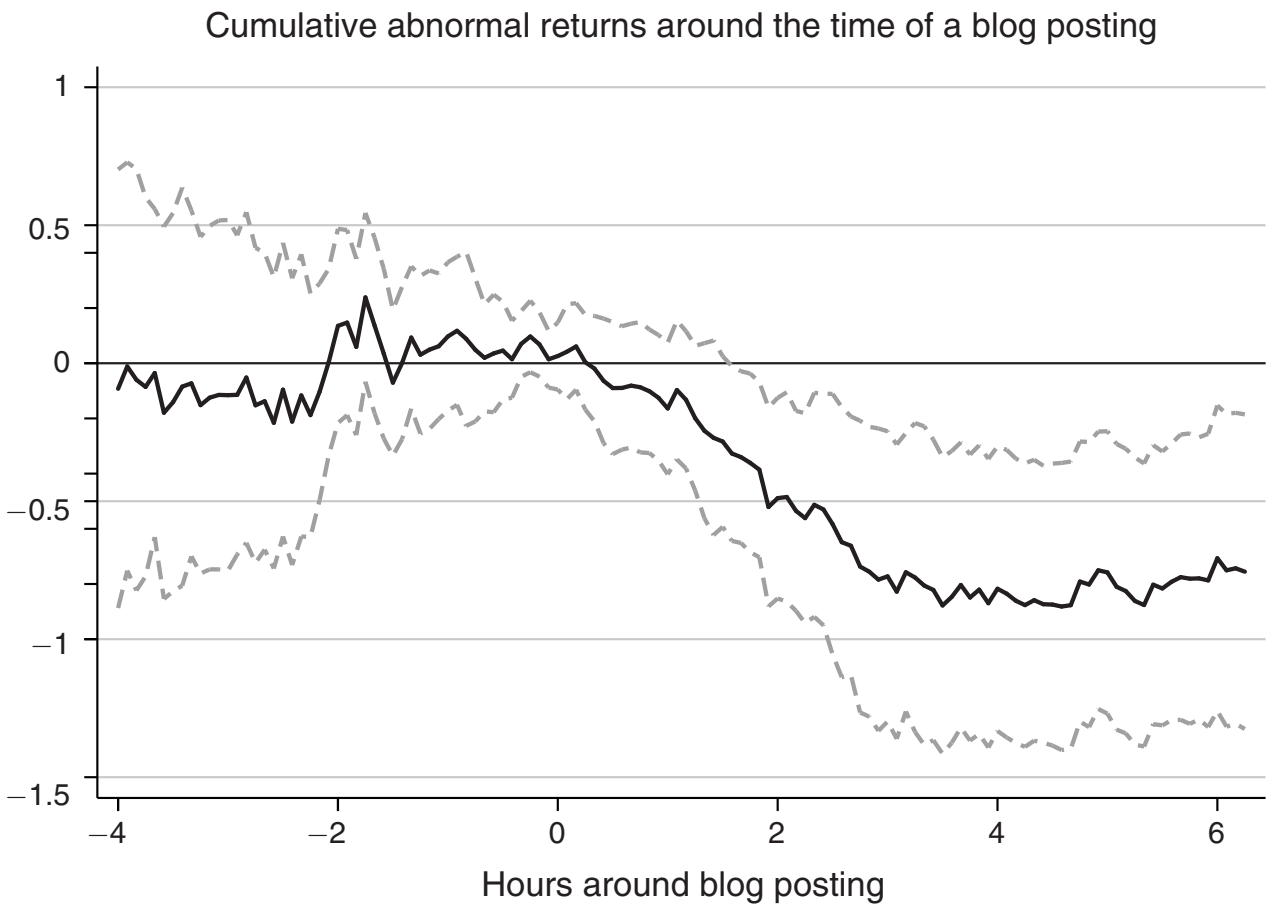
Intraday price reaction

Trading day FE, hour FE, and company-month FE are included, posts with preceding mentions excluded



Intraday CARs after important (5+ mentions) postings

Trading day FE, hour FE, and company-month FE are included, posts with preceding mentions excluded



Effects on Corporate Governance

Management turnover

Variables	Dummy for management changes			
Type of blog posting:	Important blog postings		All blog postings	
	(1)	(2)	(3)	(4)
Number of Navalny's postings	0.0332	0.0087	0.0038	−0.0093
	[0.0177]	[0.0233]	[0.0244]	[0.0199]
Number of postings × Navalny popularity dummy		0.0693		0.0534
		[0.0290]		[0.0673]
Navalny popularity dummy (SVI > 10)		−0.2724		0.2373
		[0.1004]		[0.1403]
Company and year fixed effects	Yes	Yes	Yes	Yes
Observations	157	157	157	157
R^2	0.1508	0.1722	0.1432	0.1603

Effects on Corporate Governance

Conflicts with minority shareholders

Variables	Dummy for ongoing conflict with minority shareholders			
Type of blog posting:	Important blog postings		All blog postings	
	(1)	(2)	(3)	(4)
Number of Navalny's postings	−0.0703	−0.0595	−0.0215	−0.0172
	[0.0329]	[0.0345]	[0.0112]	[0.0102]
Number of postings × Navalny popularity dummy		−0.0311		−0.0355
		[0.0652]		[0.0347]
Navalny popularity dummy (SVI > 10)		0.0197		−0.0073
		[0.0786]		[0.0751]
Company and year fixed effects	Yes	Yes	Yes	Yes
Observations	118	118	118	118
R^2	0.6642	0.6650	0.6565	0.6601

In sum

- Social media can affect stock performance and accountability of state-controlled companies in an authoritarian country
  - in an emerging market, despite potential of insider trading
  - despite control of traditional media
- Monitoring by social media can provide incentives for good behavior of public officials
  - implications for the role of Internet in authoritarian countries

Political and Social Effects of Social Media Penetration

- "Social Media and Protest Participation: Evidence from Russia" (forthcoming), *Econometrica* (with Alexey Makarin and Maria Petrova)

- "Social Media and Xenophobia: Evidence from Russia" (2019), *working paper* (with Leonardo Bursztyn, Georgy Egorov, and Maria Petrova)

Main Idea

- Do changes in communication technologies affect political and social outcomes?
- Russia is a perfect example to study impact of social media
  - Social media dominated by VKontakte (VK)
    - ★ Russian version of Facebook with 55 million users in 2011
    - ★ use information about the history of the creation of VK for identification
  - Unexpected wave of protests triggered by election irregularities
    - ★ first large-scale protests since the end of USSR, significant geographical variation with protests in 103 out of 625 cities
  - Heterogenous country, a lot of xenophobia

Background on VK

Timeline

- October 2006 – VKontakte (VK) created as a Russian clone of Facebook
  - founder - Pavel Durov, who was at that time a student of philology department
  - initially, by invitation only (through student forum, created also by Durov)
- First VK users
  - mostly students from SPbSU; different home cities
  - most of them never returned to their home cities, but still had networks of friends and relatives there
- End of November 2006 – open registration
- Later:
  - Summer 2008 – Facebook offered Russian interface
  - 2011 – 55 million VKontakte users, 6 million Facebook users

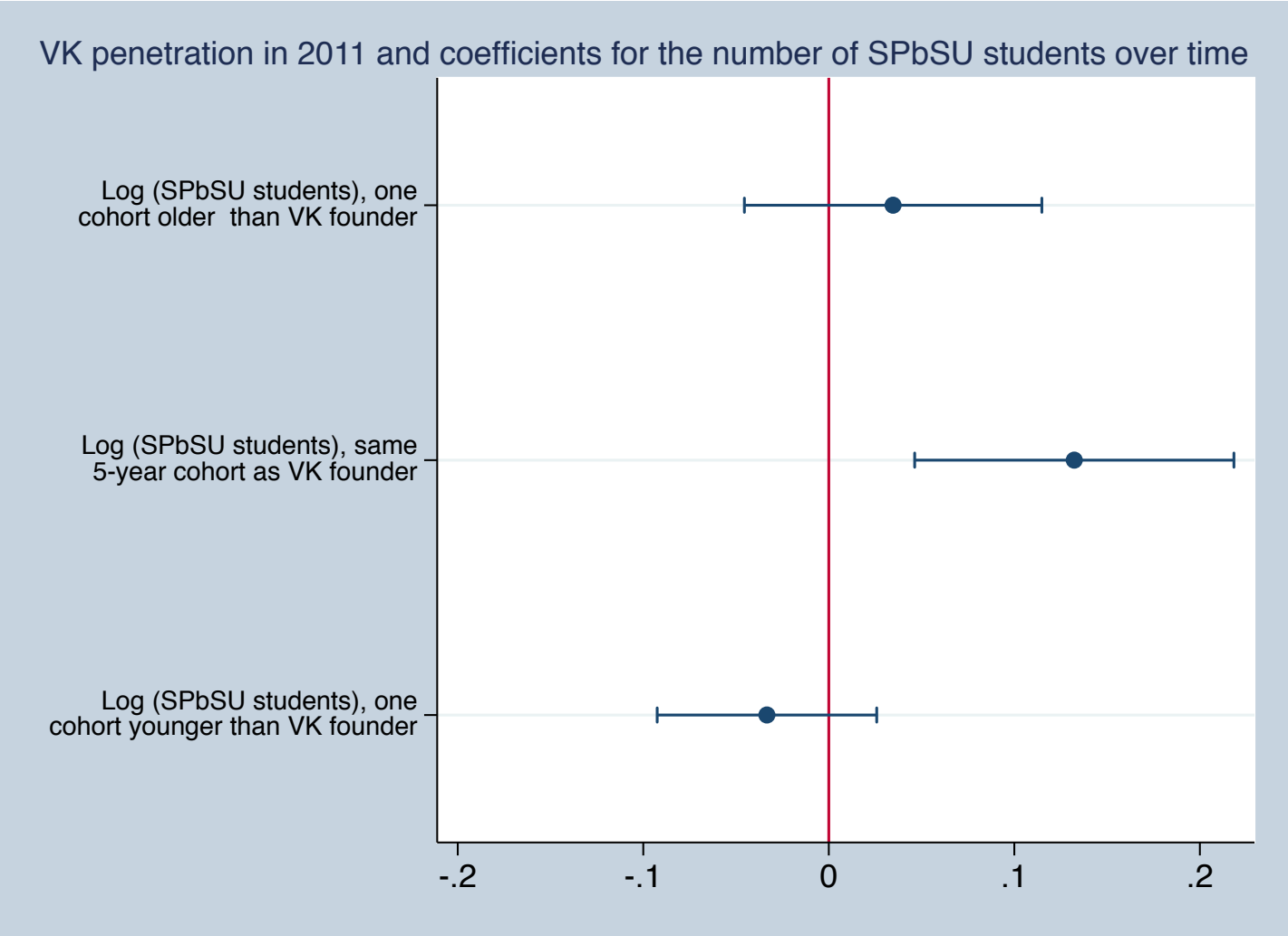
Source of Variation

- Argument: idiosyncratic variation in the distribution of early users has a long lasting effect
  - attract new users through network externalities
  - deter opening Facebook accounts
- Instrument: fluctuations in inter-city student flows
  - Originally, accounts by invitation only
  - Early penetration can be correlated with unobserved taste parameter
  - We use information on city origins of the students studying in St Petersburg State University by cohort
    - ⋆ separate cohort studying with the VK founder (+- 2 years) from older or yonger cohorts

VK Penetration and Inter-city Student Flows

Coefficients for the number of students of different origin as determinants of 2011 VK penetration

- in a regression with all baseline controls included



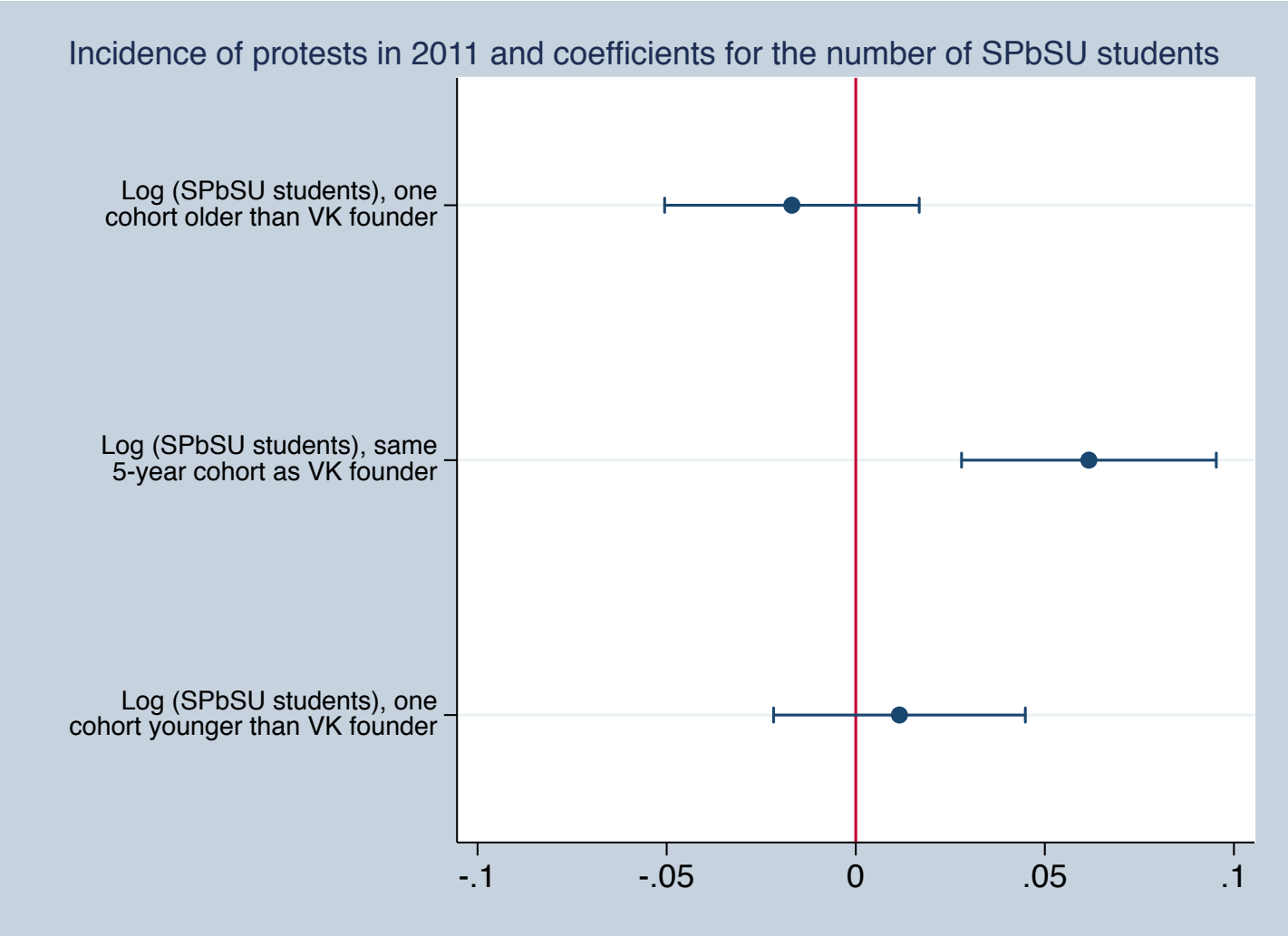
VK Penetration and Inter-city Student Flows

	Log (number of VK users), Aug 2011				
Log (SPbSU students), same 5-year cohort as VK founder	0.1749***	0.1323**	0.1452***	0.1385***	0.1404***
	[0.0442]	[0.0517]	[0.0511]	[0.0497]	[0.0509]
Log (SPbSU students), one cohort younger than VK founder	-0.0323	-0.0333	-0.0254	-0.0364	-0.0300
	[0.0522]	[0.0355]	[0.0356]	[0.0379]	[0.0372]
Log (SPbSU students), one cohort older than VK founder	0.0945**	0.0347	0.0280	0.0224	0.0266
	[0.0448]	[0.0482]	[0.0490]	[0.0461]	[0.0458]
Regional center	0.1992*	0.1860	0.1542	0.1864	0.1864
	[0.1115]	[0.1393]	[0.1290]	[0.1310]	[0.1261]
Distance to Saint Petersburg, km		-0.0001	-0.0001	-0.0001	-0.0002
		[0.0002]	[0.0002]	[0.0002]	[0.0002]
Distance to Moscow, km		-0.0000	-0.0000	-0.0000	0.0000
		[0.0002]	[0.0002]	[0.0002]	[0.0002]
Rayon center (county seat)		-0.0200	-0.0343	-0.0358	-0.0181
		[0.0683]	[0.0605]	[0.0678]	[0.0633]
Log (average wage), city-level, 2011		0.1179	0.0526	0.0244	0.0501
		[0.1501]	[0.1547]	[0.1507]	[0.1445]
Presence of a university in a city, 2011		0.1229	0.1609*	0.1395	0.1480
		[0.0963]	[0.0937]	[0.0954]	[0.0948]
Internet penetration, region-level, 2011		0.1958	0.1451	0.1665	0.1938
		[0.2254]	[0.2127]	[0.2382]	[0.2215]
Log (number of Odnoklassniki users), 2014		0.0887	0.1099	0.1250	0.1408*
		[0.0851]	[0.0786]	[0.0792]	[0.0790]
Ethnic fractionalization, 2010		0.3894*	0.4285*	0.5763**	0.3517*
		[0.2205]	[0.2203]	[0.2277]	[0.2044]
Observations	625	625	625	625	625
R-squared	0.8614	0.9063	0.9127	0.9105	0.9116
Population controls	Yes***	Yes**	Yes*	Yes*	Yes*
Age cohort controls		Yes***	Yes***	Yes***	Yes***
Education controls		Yes***	Yes***	Yes***	Yes***
Electoral controls, 1995			Yes***		
Electoral controls, 1999				Yes**	
Electoral controls, 2003					Yes*

Probability of Protests and Inter-city Student Flows

Coefficients for the number of students of different origin as determinants of dummy for protest

- in a regression with all baseline controls included



VK Penetration and Protest Participation

Panel A. Probability of protests

	Incidence of protests, dummy, Dec 2011							
	IV	IV	IV	IV	OLS	OLS	OLS	OLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log (number of VK users), Aug 2011	0.466**	0.451**	0.458***	0.479***	0.060***	0.057***	0.055***	0.065***
	[0.189]	[0.177]	[0.175]	[0.181]	[0.018]	[0.018]	[0.019]	[0.018]
Log (SPbSU students), one cohort younger than VK founder	0.027	0.026	0.028	0.030	0.029	0.028	0.026	0.030
	[0.024]	[0.024]	[0.025]	[0.025]	[0.021]	[0.020]	[0.021]	[0.020]
Log (SPbSU students), one cohort older than VK founder	-0.033	-0.029	-0.028	-0.026	0.003	0.005	0.003	0.007
	[0.031]	[0.029]	[0.027]	[0.029]	[0.018]	[0.017]	[0.017]	[0.018]
Population controls	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***
Age cohort controls	Yes	Yes	Yes	Yes	Yes**	Yes**	Yes**	Yes***
Education controls	Yes	Yes*	Yes	Yes	Yes	Yes	Yes	Yes
Other controls	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***
Electoral controls, 1995		Yes				Yes*		
Electoral controls, 1999			Yes				Yes	
Electoral controls, 2003				Yes				Yes**
Observations	625	625	625	625	625	625	625	625
Kleibergen-Paap F-stat	6.554	6.779	7.591	7.031				
Effective F-stat (Montiel Olea and Pflueger 2013)	10.97	12.03	12.30	12.17				

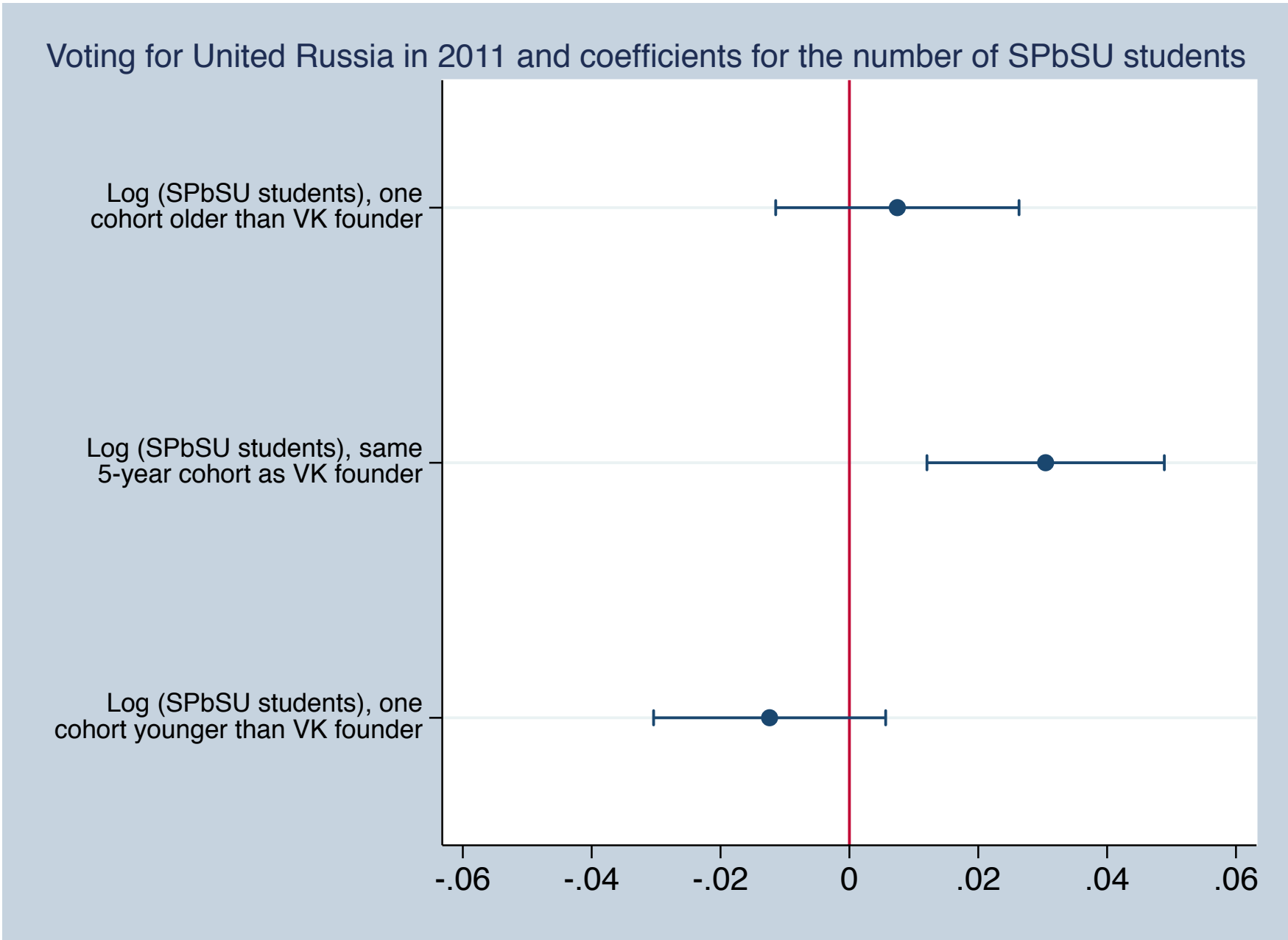
Panel B. Number of protesters

	Log (number of protesters), Dec 2011							
	IV	IV	IV	IV	OLS	OLS	OLS	OLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log (number of VK users), Aug 2011	1.911**	1.872**	1.894**	2.013**	0.377***	0.359***	0.351***	0.393***
	[0.924]	[0.872]	[0.872]	[0.889]	[0.098]	[0.102]	[0.104]	[0.103]
Log (SPbSU students), one cohort younger than VK founder	0.216*	0.209*	0.213*	0.230*	0.221**	0.217**	0.207*	0.233**
	[0.117]	[0.115]	[0.119]	[0.119]	[0.107]	[0.106]	[0.108]	[0.107]
Log (SPbSU students), one cohort older than VK founder	-0.141	-0.127	-0.124	-0.115	-0.004	0.004	-0.002	0.013
	[0.151]	[0.145]	[0.135]	[0.144]	[0.093]	[0.092]	[0.090]	[0.094]
Population controls	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***
Age cohort controls	Yes	Yes	Yes	Yes	Yes*	Yes**	Yes**	Yes**
Education controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes*	Yes
Other controls	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***
Electoral controls, 1995		Yes				Yes		
Electoral controls, 1999			Yes				Yes	
Electoral controls, 2003				Yes*				Yes*
Observations	625	625	625	625	625	625	625	625
Kleibergen-Paap F-stat	6.554	6.779	7.591	7.031				
Effective F-statistics (Olea Montiel and Pflueger 2013)	10.97	12.03	12.30	12.17				

Protest Placebo

Panel A. Incidence of earlier protests								
	Incidence of protests, 1987-1992				Incidence of pro-democracy protests, 1987-1992			
Log (number of VK users), Aug 2011	0.009	0.006	-0.015	0.023	-0.011	-0.019	-0.023	0.004
	[0.281]	[0.271]	[0.263]	[0.273]	[0.194]	[0.186]	[0.189]	[0.192]
P-value for equality of coefficients with that in Table 3	0.182	0.182	0.139	0.176	0.094*	0.086*	0.077*	0.086*
	Incidence of labor protests, 1997-2002				Incidence of social protests, 2005			
Log (number of VK users), Aug 2011	-0.056	-0.053	-0.022	-0.018	-0.070	-0.058	-0.170	-0.035
	[0.238]	[0.211]	[0.228]	[0.227]	[0.239]	[0.210]	[0.233]	[0.247]
P-value for equality of coefficients with that in Table 3	0.108	0.086*	0.120	0.111	0.041**	0.045**	0.019**	0.051*
Panel B. Participation in earlier protests								
	Log (number of protesters), 1987-1992				Log (pro-democracy protesters), 1987-1992			
Log (number of VK users), Aug 2011	0.533	0.410	0.281	0.477	0.144	-0.010	0.017	0.136
	[1.904]	[1.880]	[1.831]	[1.887]	[1.494]	[1.449]	[1.476]	[1.524]
P-value for equality of coefficients with that in Table 3	0.482	0.475	0.397	0.448	0.298	0.270	0.263	0.283
	Log (participants in labor protests), 1997-2002				Log (participants in social protests), 2005			
Log (number of VK users), Aug 2011	-0.312	-0.280	-0.075	-0.041	-0.562	-0.515	-1.366	-0.481
	[1.625]	[1.426]	[1.552]	[1.549]	[1.850]	[1.644]	[1.774]	[1.884]
P-value for equality of coefficients with that in Table 3	0.268	0.238	0.306	0.295	0.194	0.188	0.080*	0.201
Population, Age cohorts, Education, and Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Electoral controls, 1995		Yes				Yes		
Electoral controls, 1999			Yes				Yes	
Electoral controls, 2003				Yes				Yes
Observations	625	625	625	625	625	625	625	625

Support of the Government: Reduced Form



Support of the Government: Voting

	Voting share for United Russia, 2007							
	IV	IV	IV	IV	OLS	OLS	OLS	OLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log (number of VK users), Aug 2011	0.043	0.023	0.054	0.004	-0.027*	-0.025**	-0.018	-0.032***
	[0.060]	[0.047]	[0.056]	[0.042]	[0.014]	[0.011]	[0.013]	[0.011]
	Voting share for Medvedev, 2008							
Log (number of VK users), Aug 2011	0.153*	0.132*	0.165*	0.113*	-0.007	-0.009	-0.004	-0.013
	[0.089]	[0.072]	[0.085]	[0.065]	[0.012]	[0.010]	[0.011]	[0.009]
	Voting share for United Russia, 2011							
Log (number of VK users), Aug 2011	0.281*	0.206*	0.276*	0.210	-0.047***	-0.043**	-0.034*	-0.052***
	[0.169]	[0.118]	[0.154]	[0.130]	[0.017]	[0.016]	[0.017]	[0.014]
Log (SPbSU students), one cohort younger than VK founder	-0.004	-0.001	-0.002	-0.002	-0.004	0.001	-0.003	-0.001
	[0.016]	[0.012]	[0.015]	[0.012]	[0.012]	[0.010]	[0.011]	[0.010]
Log (SPbSU students), one cohort older than VK founder	0.000	0.005	-0.001	-0.005	0.023*	0.023**	0.020*	0.015
	[0.018]	[0.014]	[0.016]	[0.014]	[0.012]	[0.011]	[0.010]	[0.010]
	Voting Share for Putin, 2012							
Log (number of VK users), Aug 2011	0.155*	0.129*	0.153*	0.110	-0.015	-0.014	-0.011	-0.021**
	[0.093]	[0.077]	[0.087]	[0.071]	[0.012]	[0.010]	[0.012]	[0.009]
	Voting share for United Russia, 2016							
Log (number of VK users), Aug 2011	0.212*	0.141	0.185*	0.130*	0.001	0.012	0.018	-0.000
	[0.116]	[0.088]	[0.095]	[0.077]	[0.017]	[0.016]	[0.018]	[0.012]
Population controls	Yes	Yes	Yes*	Yes**	Yes	Yes	Yes*	Yes*
Age cohort controls	Yes**	Yes*	Yes**	Yes	Yes	Yes	Yes	Yes
Education controls	Yes	Yes	Yes	Yes	Yes***	Yes***	Yes***	Yes***
Other controls	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***	Yes***
Electoral controls, 1995		Yes***				Yes***		
Electoral controls, 1999			Yes***				Yes***	
Electoral controls, 2003				Yes***				Yes***
Observations	625	625	625	625	625	625	625	625
Kleibergen-Paap F-stat	6.554	6.779	7.591	7.031				
Effective F-statistics (Olea Montiel and Pflueger 2013)	10.97	12.03	12.30	12.17				

Support of the Government: Survey Evidence

	How do you assess the work of president Dmitry Medvedev					
	Good and getting better	Good and remains the same	Good and getting worse	Bad, but getting better	Bad and remains the same	Bad and getting worse
	(1)	(2)	(3)	(4)	(5)	(6)
Log (number of VK users), Aug 2011	0.255**	-0.069	-0.060	-0.094	-0.026	0.026
	[0.127]	[0.130]	[0.062]	[0.059]	[0.076]	[0.061]
Log (SPbSU students), one cohort younger than VK founder	-0.013	0.010	0.001	0.013**	0.003	0.005
	[0.016]	[0.009]	[0.007]	[0.005]	[0.009]	[0.008]
Log (SPbSU students), one cohort older than VK founder	-0.016	-0.017	-0.001	0.006	-0.011	-0.006
	[0.019]	[0.014]	[0.010]	[0.008]	[0.009]	[0.008]
	How do you assess the work of prime minister Vladimir Putin					
	Good and getting better	Good and remains the same	Good and getting worse	Bad, but getting better	Bad and remains the same	Bad and getting worse
Log (number of VK users), Aug 2011	0.205*	-0.072	0.004	-0.061	-0.068	-0.016
	[0.124]	[0.124]	[0.047]	[0.042]	[0.075]	[0.056]
Log (SPbSU students), one cohort younger than VK founder	-0.019	0.012	-0.000	0.008**	0.007	0.004
	[0.016]	[0.009]	[0.006]	[0.003]	[0.009]	[0.007]
Log (SPbSU students), one cohort older than VK founder	-0.011	-0.021	-0.007	0.005	-0.002	-0.002
	[0.018]	[0.016]	[0.007]	[0.006]	[0.011]	[0.007]
	How do you assess the work of the government					
	Good and getting better	Good and remains the same	Good and getting worse	Bad, but getting better	Bad and remains the same	Bad and getting worse
Log (number of VK users), Aug 2011	0.313**	0.100	-0.124*	-0.078	-0.075	-0.027
	[0.133]	[0.129]	[0.074]	[0.079]	[0.104]	[0.091]
Log (SPbSU students), one cohort younger than VK founder	-0.017	0.015	0.004	0.013**	-0.001	0.001
	[0.018]	[0.013]	[0.008]	[0.006]	[0.012]	[0.009]
Log (SPbSU students), one cohort older than VK founder	-0.019	-0.026	0.007	0.006	-0.014	0.001
	[0.020]	[0.018]	[0.012]	[0.010]	[0.012]	[0.011]

Pre-Election Intentions

	Which party are you planning to vote for in December elections					
	United Russia	Just Russia	LDPR	KPRF	Patriots of Russia	Yabloko
Log (number of VK users), Aug 2011	0.260*	0.050	-0.056	-0.041	-0.002	-0.005
	[0.155]	[0.055]	[0.055]	[0.067]	[0.009]	[0.013]
Log (SPbSU students), one cohort younger than VK founder	-0.006	-0.000	0.006	0.003	0.001	0.002
	[0.016]	[0.005]	[0.005]	[0.005]	[0.001]	[0.001]
Log (SPbSU students), one cohort older than VK founder	-0.043*	-0.004	0.005	0.002	0.000	-0.002
	[0.023]	[0.007]	[0.009]	[0.008]	[0.001]	[0.002]
	Do you personally admit or exclude a possibility to take part in any protests					
	Admit	Exclude	Difficult to answer			
Log (number of VK users), Aug 2011	-0.278*	0.101	0.186			
	[0.164]	[0.184]	[0.146]			
Log (SPbSU students), one cohort younger than VK founder	-0.001	-0.002	0.002			
	[0.014]	[0.015]	[0.012]			
Log (SPbSU students), one cohort older than VK founder	0.027	-0.024	-0.005			
	[0.021]	[0.025]	[0.022]			

Placebo: Pre-VK Voting

Panel A. Parliamentary elections

	Dependent variable					
	Pro-government party vote share	Yabloko vote share	Communists vote share	LDPR vote share	Against all share	Turnout
Voting results in 1995, IV with SPbSU cohorts	-0.018	-0.012	0.093	0.034	0.025	-0.010
	[0.029]	[0.022]	[0.072]	[0.057]	[0.039]	[0.008]
Voting results in 1999, IV with SPbSU cohorts	0.031	0.006	0.053	-0.008	-0.088	-0.000
	[0.051]	[0.017]	[0.049]	[0.011]	[0.062]	[0.007]
Voting results in 2003 IV with SPbSU cohorts	0.088	-0.017	-0.005	-0.002	-0.019	-0.016
	[0.056]	[0.011]	[0.024]	[0.025]	[0.050]	[0.012]

Panel B. Presidential elections

Year 1996, 1st round	Yeltsin vote share	Yavlinsky vote share	Zyuganov vote share	Lebedev vote share	Against all share	Turnout
Voting results, IV with SPbSU cohorts	-0.135	0.014	0.127	-0.007	-0.002	0.008
	[0.086]	[0.018]	[0.091]	[0.042]	[0.003]	[0.025]

Year 1996, 2nd round	Yeltsin vote share		Zyuganov vote share		Against all share	Turnout
Voting results, IV with SPbSU cohorts	-0.122	-	0.136	-	-0.006	0.004
	[0.092]	-	[0.095]	-	[0.009]	[0.031]

Year 2000	Putin vote share	Yavlinsky vote	Zyuganov vote	Tuleev vote share	Against all share	Turnout
Voting results, IV with SPbSU cohorts	0.125	-0.028*	-0.042	-0.006	-0.012**	0.005
	[0.081]	[0.015]	[0.055]	[0.031]	[0.005]	[0.031]

Year 2004	Putin vote share	Hakamada vote	Haritonov vote	Glazyev vote share		Turnout
Voting results, IV with SPbSU cohorts	0.109*	-0.025*	0.000	-0.034*	-	-0.027
	[0.063]	[0.014]	[0.034]	[0.019]	-	[0.053]

Social Media and Xenophobia

- Use the same source of variation as above
- Look at the effect of VK penetration on hate crimes
  - examine heterogeneity with respect to unerdlying level of nationalism
    - ★ as measured by the share of votes for *Rodina* pary in 2003 elections
- Conduct a surey to provide additional evidence on mechanisms
  - coordination
    - ★ from observational data on crimes conducted by multiple or single perpetrators
  - persuasion
    - ★ eliicited hostility from list experiment
  - reduction in stigma
    - ★ hostility reported in direct questions

Social Media and Hate Crime - IV

Table 3. Social Media and Hate Crime. IV Specification with Interaction. Period: 2007-2015.

	Log (# of victims of hate crime)			Log (# of victims of ethnic hate crime)			Log (# of victims of non-ethninc hate crime)		
	total	*single perpetrator*	*multiple perpetrators*	*total*	*single perpetrator*	*multiple perpetrators*	*total*	*single perpetrator*	*multiple perpetrators*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Log (number of VK users), 2011 x Nationalist Party Support in 2003	12.002***	6.349***	11.605***	10.578***	5.056**	10.282***	10.365***	1.823	9.125**
Weak Instrument Robust Confidence 95% Sets	(4.537; 23.199)	(1.588; 13.491)	(4.120; 22.833)	(3.701; 20.895)	(1.114; 10.971)	(3.304; 20.749)	(3.004; 21.407)	(-1.623; 6.991)	(1.983; 19.839)
	[4.570]	[2.915]	[4.583]	[4.211]	[2.414]	[4.272]	[4.507]	[2.110]	[4.373]
Log (number of VK users), 2011	0.053	0.362	-0.055	-0.046	0.446**	-0.276	0.529	0.051	0.667*
Weak Instrument Robust Confidence 95% Sets	(-.976; .740)	(-.105; 1.062)	(-1.081; .629)	(-.984; .578)	(.050; 1.041)	(-1.215; .351)	(-.201; 1.624)	(-.410; .359)	(-.036; 1.720)
	[0.420]	[0.286]	[0.419]	[0.383]	[0.243]	[0.383]	[0.447]	[0.188]	[0.430]
Nationalist Party Support in 2003	5.384	1.168	5.534*	4.978*	0.180	5.633*	2.214	0.509	1.137
	[3.298]	[1.527]	[3.260]	[2.930]	[1.281]	[3.006]	[2.557]	[1.096]	[2.504]
Socioeconomic city-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohorts of SPbSU students, older and younger and their interaction with Nationalistic Party Support, 2003	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	625	625	625	625	625	625	625	625	625
Kleibergen-Paap	6.351	6.351	6.351	6.351	6.351	6.351	6.351	6.351	6.351
Weak-instrument-robust F-stat for the coefficients of inter	5.759	5.463	5.640	5.491	6.193	6.793	6.246	0.842	6.001
Weak-instrument-robust p-value for the coefficients of int	0.056	0.065	0.060	0.064	0.045	0.033	0.044	0.656	0.050
Endogeneity test p-value	0.302	0.204	0.291	0.358	0.178	0.218	0.077	0.713	0.066
Full Effect at minimal level of Nationalist Party Support	-0.522	0.057	-0.611	-0.554	0.204	-0.769*	0.032	-0.036	0.229
p-value for the effect at minimum	.255	0.831	.176	.173	.35	.062	0.939	.862	0.573
Full Effect at maximum of Nationalist Party Support	2.584**	1.701**	2.392**	2.184**	1.512**	1.893*	2.715**	0.436	2.591**
p-value for the effect at maximum	.017	.027	.028	.032	.021	.064	.023	.38	.024

Notes: Robust standard errors in brackets. Stars for endogenous variables are based on weak instrument robust confidence sets, *** p<0.01, ** p<0.05, * p<0.1. Unit of observation is a city. Logarithm of any variable is calculated with 1 added inside. Socioeconomic city-level controls includelogarithm of population according to 2010 Russian Census, age cohort controls (the number of people aged 25-29, 30-34, 35-39, 40-44, 45-49, 50 and older, in each city according to 2010 Russian Census), share of population with higher education in each of the age cohorts according to 2010 Russian Census, dummy for regional center, log (average wage in 2011), dummy for the existence of a university in a city, log (Odnoklassniki users in 2014), ethnic fractionalization according to 2010 Russian Census.

Revealed Xenophobia – IV

Table 5. Social Media and Ethnic Hostility, Elicited from List Experiment. IV Specification.

	Number of options in List Experiment						
Subsample:	All	Male	Female	Low Education	High Education	Young	Old
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dislike Other Ethnicities Option in List Experiment (LE) x Log (Number of VK users, 2011)	0.075**	0.109*	0.043	0.164***	-0.008	0.105***	0.050
Weak Instrument Robust Confidence 95% Sets	(.002; .181)	(-.001; .228)	(-.069; .220)	(.043; .239)	(-.078; .105)	(.009; .210)	(-.041; .164)
	[0.041]	[0.069]	[0.050]	[0.057]	[0.051]	[0.049]	[0.064]
Log (Number of VK users, 2011)	-0.053	-0.001	-0.080	0.017	-0.085	0.066	-0.067
	[0.167]	[0.277]	[0.189]	[0.228]	[0.220]	[0.191]	[0.253]
Dislike Other Ethnicities Option in LE	0.203**	0.110	0.293**	-0.019	0.422***	0.087	0.310**
	[0.101]	[0.173]	[0.123]	[0.131]	[0.130]	[0.119]	[0.157]
Nationalistic Party Support, 2003	-0.832	-1.227	-0.363	-1.390	-0.045	0.120	-1.477
	[1.037]	[1.399]	[1.492]	[1.716]	[1.310]	[1.299]	[1.555]
Dislike Other Ethnicities Option in LE x Vote share of nationalistic party, 2003	1.040	0.680	1.032	0.526	0.762	0.061	2.087
	[1.195]	[2.177]	[1.431]	[1.748]	[1.355]	[1.501]	[1.989]
Socioeconomic city-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,447	2,118	2,329	1,954	2,493	2,164	2,283
Kleibergen-Paap	4.468	4.331	4.291	4.696	4.216	4.482	4.008

Notes: Robust standard errors clustered at a city level in brackets. Stars for endogenous variables are based on weak instrument robust confidence sets, *** p<0.01, ** p<0.05, * p<0.1. Unit of observation is a respondent. Logarithm of any variable is calculated with 1 added inside. Socioeconomic city-level controls include logarithm of population according to 2010 Russian Census, age cohort controls (the number of people aged 25-29, 30-34, 35-39, 40-44, 45-49, 50 and older, in each city according to 2010 Russian Census), share of population with higher education in each of the age cohorts according to 2010 Russian Census, dummy for regional center, log (average wage in 2011), dummy for the existence of a university in a city, log (Odnoklassniki users in 2014), ethnic fractionalization according to 2010 Russian Census, and SPbSU older and younger student cohorts. Indivual-level controls include gender, education categories, dummy for piolt and age categories.

In sum

- Social media boost protest and (for some places) hate crime
  - Cross-city results for the leading Russian social network, VKontakte
  - Use overtime fluctuations of student flows for identification
- But: social media can at the same time promote support of autocratic regime
- Also, seems to increase xenophobia and hate crimes

Online Strategies of Autocratic Regimes

- Digital Censorship
  - prevalent in China (King, Pan and Roberts 2013, 2014)
  - not as much in other countries
- Manipulation of Information
  - the most popular of information manupulation
  - increasingly used for by foreign powers interfering in democratic regimes
  - not that much academic research on that topic (Gorodnichenko, Pham and Talavera 2018; Stukal et al 2019)
- Monitoring and Surveillance
  - collecting information on performance of local governments (Egorov, Guriev and Sonin, 2009)
  - and citizens (Qin, Strömberg and Wu, 2017)

Conclusions

- Information manipulation is important for autocratic regimes
- In this context the spread of social media can be especially important
- Low barriers to entry and horizontal flows of information in social media
  - can promote governance
  - can promote self-organization and protest participation;
- At the same time
  - can boost government popularity
  - and be conducive to xenophobia and hate crime