

Democracy does improve human capital

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Abstract Smart Voting (SM) is an online service designed by the Russian political opposition to promote candidates with the best chance to defeat Kremlin approved politicians. In this paper, using annual county-level data on public expenditure and a triple difference (TD) strategy, I utilize a plausibly exogenous increase in political competition caused by an unexpected success of SM to show that democracy promotes public expenditure on health and education. This finding establishes the empirical linkage between democracy and human capital. This linkage has been hard to establish so far.

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1 Introduction

The evidence that democracy promotes human capital is neither strong nor robust. Some estimates suggest that democracies spend more on healthcare and achieve better health outcomes (e.g., Baum and Lake 2003; Besley and Kudamatsu 2006). At the same time, some countries under authoritarian rule showed the most dramatic improvements in human development (e.g., East Asian NICs and Communist countries). In contrast, many democracies witnessed and are still experiencing extreme disparities in their living conditions (e.g., India, Sub-Saharan Africa, Latin America). Therefore, many empirical studies conclude that democracies have little or no impact on components of human development (Gerring, Thacker, and Alfaro 2012; Ross 2006). These ambiguous findings result from the complexity of casually estimating the effect of democracy on human capital. In this paper, I take advantage of unique features of Russian politics to show that democracy, as measured by an increase in political competition, increase public expenditure on health and education.

Soon after coming into power in 2000, Vladimir Putin initiated so-called ‘Revision number Six’ (Gatov 2016; Kommersant 2010). The document declares that the Presidential Administration (PA) – initially an office of the head of state – becomes an institution responsible for minimizing political freedom in Russian, assuming that society is not mature enough and can not self-regulate. This approach and the school of thought originated from the late Soviet counter-intelligence community and was initially attempted by Andropov, who, similarly to Putin, was the head of Soviet secret police and later the head of the Union (Pringle 2000, 2001).

According to this approach, the PA’s objectives are to directly or indirectly control political parties, community and political leaders, candidates for elective positions, election officials, mass media, journalists and civil society organizations. The revision’s ultimate goal was to build a state where democratic institutions exist nominally, but in reality, these institutions are fully controlled by PA. A game-theoretical treatment of this state building approach is analyzed in Guriev and Treisman (2020). As the ‘Revision number Six’ puts it, this approach aims to allow predicting and, if required, manufacturing political climates in Russia and neighbouring countries, allowing the President to perform his ‘duties.’

To ensure that only pro-Kremlin candidates are elected on all levels of government, the opposing candidates with significant support are not allowed registration. In contrast, the candidates with minor public backing are allowed to run but only to maintain a public impression that PA backed candidates have overwhelming support. If situations get out of control, PA instructs the electoral commission to rig the elections. If rigging the election fails, PA instructs police or secret service to poison non-compliant politician or fabricate a criminal case (e.g., Ross 2018).

In September 2018, to break the monopoly of pro-Kremlin politicians, Alexei Navalny – the most prominent Russian opposition leader – launched the SM system, an online list of registered opposing candidates that are most likely to defeat the Kremlin-backed politicians. The aim is to consolidate the votes and disrupt the Kremlin’s political controls (Turchenko and Golosov 2021). SM achieved unexpected success in regional elections in September 2020 when pro-Kremlin politicians lost their majority in legislatures in three Russian regions of Novosibirsk, Tambov, and Tomsk. The changes in public expenses in those regions following this unexpected increase in political competition is at the core of my identification strategy, which I now explain.

2 Methods and data

The goal is to understand how an unexpected emergence of competitive legislature influences the expenditure on public education in health. The ideal experiment for causal identification would be to randomly assign parliaments with different degrees of competition to territories and observe the subsequent impacts on public health and education expenditure. To approximate this experiment, I use an unexpected success of SM in the Russian regions of Novosibirsk, Tambov, and Tomsk (total of 899 counties).

In particular, I use a TD strategy over time, across regions where politicians supported by SM succeed to be election and fails, and between public expenditure on human capital and the rest of spending.

$$Y_{itc} = \beta_1\{Smart_c \times After_t \times Capital_i\} + \alpha_2\{After_t \times Capital_i\} + \alpha_3\{After_t \times Smart_c\} + \alpha_4 After_t + \delta_{ic} Trend_t + \gamma_{ic} Quarter_t + \varepsilon_{itc} \quad (1)$$

where Y_{itc} is the natural logarithm of public expenditure of type i , in year t , in

county (municipality) c . $After_t$ is an indicator for 2021 onward (after the elections). $Capital_i$ is an indicator for whether expenditure i is on public health or education. $Smart_c$ is an indicator for whether SM succeeded in county i . $\delta_{ic}Trend_t$ controls for differential linear time trends by the full interaction of public expenditure types and county fixed effects. $\gamma_{ic}Quarter_t$ controls for the interaction of year, public expenditure types, and country fixed effects.

The identifying assumption is that without SM, the difference between public expenditures into human capital and other expenditures would have changed in the same way from the pre-period to the post-period in the counties with successful and unsuccessful SM (after controlling for public expenditure type and county-specific seasonality and for differential linear time trends). For an omitted variable to explain the results, it would have to have a non-linear change after 2021 that affects the public expenditures into human capital more than it affects other public expenditures among counties where the SM achieved success, as compared to counties where it was unsuccessful. The standard errors are clustered at the region levels because that is where the SM varies.

I apply the model to the official municipality-level statistical data covering 2018-2021. The data is published by the Russian Federal State Statistics Service and is publicly available online. I utilize the Centre for Advanced Governance version of this data. The centre scrapes the official data from the website and structures it as a ready-to-use annual municipality-level panel (Rosstat 2021).¹ The expenditures on education and health and the rest can be unambiguously identified in this data. The information on the regions where SM achieved success is available in the media.

3 Results and conclusions

Column (1) of Table 1 uses data only on health and education to show a difference-in-differences estimate over time and between regions where parliament became competitive and stayed uncompetitive. Column (2) uses all types of public expenses and shows a difference-in-differences estimate over time and between human capital and other expenses. While the two columns use different sources of variation, they both find statistically significant effects of 5.5% and 3.3%, respectively.

Column (3) estimates the effect from Column (2) separately for regions where SM succeeded and failed and shows that the effect is driven by the former. These regions had an effect of 7.7%, while the point estimate is only 1.1% among regions where SM failed. The latter effect can be interpreted as a placebo estimate under the assumption that SM has no effect in regions where SM fails.

Finally, Column (4) shows the results from the main TD specification described in Equation (1). I find an effect of 7.7%, statistically significant at the 10% level. In this specification, regions where SM failed serve as a control group. In Columns (3) and (4) of Equation (1), the coefficient on $After \times Smart$ can be interpreted as a difference-in-differences estimate of the effect of SM on non-

¹Data for 2020 and 2021 was taken from the Federal State Statistics Service official website. Data for 2021 can be requested by contacting the service and will be publicly available in mid-2022.

Table 1: The effect of the increase in political competition

	ln(expenditure)			
	(1)	(2)	(3)	(4)
After×Smart	0.055** (0.023)		0.007 (0.014)	0.009 (0.014)
After×Capital		0.033** (0.015)		0.023 (0.021)
After×Capital×Smart			0.077*** (0.027)	0.061** (0.031)
After×Capital×Non-Smart			0.011 (0.019)	
County×Type×Lin. Tr	✓	✓	✓	✓
County×Type×Year	✓	✓	✓	✓
After	✓	✓	✓	✓
Data type	Capital	All	All	All
Observations	81,212	162,424	162,424	162,424
Clusters	85	85	85	85

Notes: This table shows the effect of political competition on public expenditure in health and education. The outcome variable is the amount of expenditure in a specific category, in a county, and in a year. Column (1) analyzes only expenditure in health and education using a difference-in-differences estimate over time and across counties. Columns (2)-(4) include data on all public expenditures. Column (2) presents a difference-in-differences estimate over time and between expenditure types. Column (3) presents the estimate from Column (2) separately for regions where SM succeeded and failed. Column (4) presents our primary triple-difference estimate over time, across counties, and between expenditure types. A county is categorized as having increased competition if SM prevented the pro-Kremlin party from securing the majority in the regional parliament in September 2020. County-level data from 2018 to 2021 is used. Standard errors clustered at the region level in parenthesis.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: Rosstat (2021)

human capital expenditure, using variation over time and between regions. Since I do not expect the effect, this coefficient can be interpreted as a placebo test.

An unexpected establishment of competitive parliament increases public investment into education and health and, thus, fosters human capital accumulation. This makes two contributions. General contribution is that it shows that democracy, understood as a competitive market of politicians, improves human capital.

Another contribution is to demonstrate once again the costs of social experimentation that is happening in Russia (cf. Zhuravskaya, Guriev, and Markevich 2021). The system that Vladimir Putin and his old-boy network created for unclear reasons hurt Russian through multiple channels. Apart from the obvious cost of political repression and uncertain investment climate, my paper shows that uncompetitive decorative parliament reduces human capital. On a positive note, my paper suggests that returning to competitive parliament will increase spending on human capital, reducing funds available for repression and public opinion manipulation.

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