

*Ctrl+Aid+Delete:*

## Regime-Contingent Effects of Foreign Aid on Internet Freedom

Ayush Shahi\*

Ashoka University

April 14, 2025

### Abstract

Across the world, authoritarian regimes have responded to the internet's rise as a prominent channel for political discourse through censorship and restricting access. Simultaneously, developments in the foreign aid space have led to a sharp rise in the amounts disbursed for building internet infrastructure and promoting "internet freedom" in countries where the two are most lacking. Since most aid is directed through recipient country governments, I hypothesize that internet aid leads to improved "government capacity" to control the internet (irrespective of whether they actually exercise this power) across regime type but authoritarian countries leverage this increased capacity to stifle internet freedom. My empirical results provide limited evidence for either increased capacity or freedom and thus contribute to broader debates about the efficacy (or rather inefficacy) of aid in improving democratic outcomes in recipient countries.

**Keywords:** internet freedom, foreign aid, regime type, OECD CRS

---

\*Author completed this work as a student at Ashoka University. Currently at Yale University. Email: ayush.shahi@yale.edu

# 1 Introduction

In the past three decades, the internet has emerged as a prominent channel for political discourse. This has had important implications for governments across the democratic spectrum. Regimes must now contend with an increased threat to their survival stemming from citizens having unregulated access to information, a means for private communication (enabling mobilization), and a widely accessible avenue for dissent. How regimes respond to such threat usually defines the ‘internet freedom’ in a country.

In the same period, foreign aid to improve internet infrastructure and its governance in countries has also grown. According to OECD CRS data, in the ten years between 2002 and 2011, approximately 676 million USD was disbursed by donors to improve internet access in recipient countries. In the next ten years between 2012-2021, this figure ballooned to approximately 2.94 billion USD<sup>1</sup>.

The growing importance of the aforementioned themes gives rise to an important question: how does foreign aid affect internet freedom in recipient countries? While literature on this relationship is scant, Dutta and Williamson (2016) have previously provided evidence that foreign aid marginally increased press freedom, only in democracies. Recent work relating more closely to internet freedom has shown that foreign direct investment (FDI) from other autocracies enables autocrats to “provide internet access *and* use it for repressive purposes” (Garbe et al. 2025). I add to this strand of work by studying the impact of foreign aid instead, with no restriction on the regime type of donors.

It is plausible to believe that the impact of internet aid will be different across regime type of recipients. Autocracies, in order to ensure regime survival, restrict freedom to criticize its policies, spread misinformation, and suppress the opposition. Multiple studies have shown how this manifests in the digital sphere— through the use of espionage technology (Deibert 2022), increased digital surveillance (Xu 2021; Feldstein 2021), and disrupting elections by shutting down the internet (Garbe 2023). While recent work shows that democracies may not be completely irreproachable in employing these tactics (Panao 2025), they are ‘by definition’ expected to uphold civil liberties (Levitsky and Way 2015) and thus use aid for the intended purpose of promoting internet freedom.

---

<sup>1</sup>Source: Author’s calculations using purpose code 22040 of the OECD CRS data.

The above intuition drives my research question— is the impact of internet aid<sup>2</sup> on digital freedom different across regime types? More specifically, my hypotheses are as follows:

**H1:** *Internet aid leads to higher government capacity in recipient countries with respect to controlling the internet, for both democracies and autocracies.*

Since I am considering bilateral aid, aid given to improve internet infrastructure and media freedom will be implemented by the recipient government. I argue that since they are the developers of this infrastructure, they are also likely to have more control over its use by the public (irrespective of whether they actually exercise this power). Conditional on H1 holding, my second hypothesis is as follows:

**H2:** *Internet aid leads to worse internet freedom outcomes in autocratic recipient countries.*

I expect that instead of providing free reign to internet users, authoritarian countries leverage their increased capacity for controlling the web to ramp up surveillance, censorship, and spread of misinformation— which contribute to worse internet freedom in recipient countries than if such aid had never been given.

My results provide limited evidence for the two hypotheses. Aid given to improve internet access and safeguard freedom has no positive impact on government capacity to control the internet, across regime types. With regards to the realized outcome of internet freedom, I observe minimal improvement on one measure, only limited to democratic countries, with no impact on freedom in autocracies. Given these results, I link my findings to broader debates about the efficacy (or rather inefficacy) of aid in improving democratic outcomes in recipient countries.

The rest of the paper is structured as follows: in Section 2, I provide descriptions and summary statistics of the variables used to capture aid flows, internet freedom, and regime type. In section 3, I explain the empirical specification and the different models I run to capture aid's impact on government capacity and actual freedom outcomes. Section 4 presents the results from my data analysis and discusses possible channels for explaining them. Finally, I conclude in Section 5 with policy implications of my work and scope for future research.

---

<sup>2</sup>A detailed description of what constitutes such aid is given in Section 2.

## 2 Data and Key Variables

My research question requires three different types of data: foreign aid flows given for improving internet infrastructure and freedom, measures of government capacity and internet freedom in recipient countries, and information on regime type in recipient countries.

For aid flows, I get data from *AidAtlas*— an initiative by the Stockholm Environment Institute— that includes annual project-level data on global development finance commitments and disbursements from 2002 onwards, sourced from the OECD Creditor Reporting System (CRS) Aid Activities database. The OECD CRS provides codes reported by donors for the particular sector and sub-sector under which they have given aid. I consider aid given between 2002-2021 under two purpose codes. First, aid given under the sector “Government and Civil Society” for the purpose of “Media and free flow of information” (hereon referred to as Media Freedom aid). Second, I also include aid given under the “Communications” sector for the sub-sector “Information and communication technology (ICT)” (hereon referred to as ICT aid). Detailed descriptions of both have been included in the Appendix.

While the inclusion of Media Freedom aid is obvious given its stated purpose, including ICT aid might seem arbitrary to some. I argue that since ICT aid is specifically targeted towards providing the infrastructure to improve internet access, it also becomes an important means for facilitating internet freedom. Better internet infrastructure is likely to encourage citizens to demand greater freedom over its use, through increased exposure to policies of other countries as well as information about their own governments’ excesses (Shen 2017).

From 2002-2021, there were a total of 5591 projects for which ICT aid was given from bilateral and multilateral sources to recipient countries/regions. In the same time frame, there were 425 projects for which Media Freedom aid was given<sup>3</sup>. I collapse the data with both these sources at the recipient-year level and drop regional recipients, giving me sum totals of the amount of ICT and Media Freedom aid each recipient country received in a year. I also construct dummy variables which take the value of 1 if a country received any aid amount in a particular year (for ICT and Media Freedom respectively) and 0 otherwise. Summary statistics for the aid variables are reported in Table 1.

---

<sup>3</sup>I use aid disbursements rather than aid commitments. This is because *AidAtlas* mentions that its disbursement data is nearly 100% complete for the period of my analysis.

Table 1: Summary Statistics of Independent Variables (Aid)

	Mean	SD	Min	Max	N
ICT Aid	647747	4439363	0.00	1.88e+08	5591
Media Freedom Aid	464048	5496717	0.00	1.13e+08	425

Note: All figures (except N) are in US Dollars.

Source: Aid flows - Aid Atlas based on OECD DAC data.

For my dependent variables relating to government capacity and internet freedom in recipient countries, I use the Digital Society Survey, a dataset containing questions about the political environment of the internet and social media in countries. It is designed by the Digital Society Project (Mechkova et al. 2024), and rolled out as an extension to the Varieties of Democracy (V-Dem) survey. Since changes to the internet freedom environment of a country are likely to occur in the medium to long run, I analyze internet capacity and freedom outcomes three years after aid disbursement. A detailed description of the variables I use to measure internet capacity and freedom are given in the Appendix, and their summary statistics disaggregated by regime type are reported in Tables 2 and 3 respectively.

Table 2: Summary Statistics of Dependent Variables (Gov. Capacity) by Regime Type

	Mean	SD	Min	Max	N
<b>Democracy</b>					
Internet Filtering Capacity	1.69	0.66	0.13	2.90	615
Internet Shutdown Capacity	2.15	1.03	0.09	3.98	615
Online Content Regulate Capacity	1.70	0.66	0.20	3.34	615
<b>Autocracy</b>					
Internet Filtering Capacity	2.08	0.68	0.17	2.98	733
Internet Shutdown Capacity	3.13	0.91	0.24	3.98	733
Online Content Regulate Capacity	2.07	0.84	0.10	3.91	733

Note 1: Ordinal scale for each measure reported in Appendix.

Note 2: Higher values are equivalent to greater government capacity.

Source: Digital Society Project (Mechkova et al. 2024).

I borrow the regime type classifications from the Regimes of the World (RoW) data (Lührmann et al. 2018) published by V-Dem. Apart from using the four regime categories provided by RoW, I also construct a binary variable—taking value 1 if the recipient country is an autocracy (Closed or Electoral) and 0 if democracy (Electoral or Liberal)—for ease of analysis. This dichotomous classification is also used for the summary statistics reported in Tables 2 and 3. Information on this study’s sample size disaggregated by regime type (ex-

Table 3: Summary Statistics of Dependent Variables (Gov. Measures) by Regime Type

	Mean	SD	Min	Max	N
<b>Democracy</b>					
Disseminate False Info Domestic	2.74	0.65	0.28	3.90	615
Internet Filtering in-practice	3.25	0.61	1.25	3.92	615
Social Media Shutdown in-practice	3.75	0.38	1.67	3.98	615
Social Media Censorship in-practice	3.58	0.44	2.18	3.96	615
Arrests for Political Content	2.22	0.57	0.52	2.92	615
<b>Autocracy</b>					
Disseminate False Info Domestic	1.73	0.73	0.13	3.53	733
Internet Filtering in-practice	2.11	0.97	0.10	3.87	733
Social Media Shutdown in-practice	3.06	0.74	0.80	3.98	733
Social Media Censorship in-practice	2.73	0.74	0.57	3.93	733
Arrests for Political Content	1.18	0.61	0.11	2.92	733

Note 1: Ordinal scale for each measure reported in Appendix.

Note 2: Lower values are equivalent to more repressive government practices.

Source: Digital Society Project (Mechkova et al. 2024).

panded classification) is provided in Table 4, and definitions for each category are provided in the Appendix.

Table 4: Sample Size across Regime Types - Expanded Classification

Regime type	Count
Closed Autocracies	162
Electoral Autocracies	571
Electoral Democracies	542
Liberal Democracies	73
<b>Total</b>	1348

Source: Classification by Lührmann et al. (2018)

It is important to highlight selection in my sample. Since I only consider countries that have received any internet aid, this implies that these are the countries that are likely to have poorer internet freedom in the first place. It could also explain why a majority of my sample are autocracies who have more repressive internet censorship and surveillance. However, this is not a drawback— these are also the set of countries that are relevant to my research question.

### 3 Empirical Strategy

I run four separate regressions for each of my outcome variables. These are combinations of different operationalizations of my independent variables (binary/expanded classification of regimes and binary/continuous measures of aid). To maintain brevity, I only discuss results from the model with binary operationalization of regime type and continuous aid amounts (figures reported as 10,000 USD for ease of interpretation), with the other results provided in the Appendix. The regression equations for each outcome are given below:

$$\begin{aligned} capacity_{c,t+3} = & \beta_0 + \beta_1 * ict\_aid_{ct} + \beta_2 * mediafree\_aid_{ct} + \beta_3 * autocracy_{ct} + \\ & \beta_4 * ict\_aid_{ct} * autocracy_{ct} + \beta_5 * mediafree\_aid_{ct} * autocracy_{ct} + \mu_c + year_t + \varepsilon_{ct} \end{aligned} \quad (1)$$

Here  $capacity_{c,t+3}$  refers to the three different measures of government internet control capacity in country  $c$  3 years after aid was received in year  $t$ .  $ict\_aid_{ct}$  and  $mediafree\_aid_{ct}$  refer to the respective aid received by a country in year  $t$ .  $autocracy_{ct}$  is a binary variable indicating whether a particular country was classified as an autocracy in that year or not. The interaction terms (between aid and autocracy) give me the differential impact of aid on the outcome variable in autocracies. I also include country fixed-effects  $\mu_c$  to control for idiosyncratic country-level differences that are constant across time (for example, political systems) which may lead to differences in how aid impacts internet freedom. I also include year fixed-effects to wash away differences across years that are constant for all countries (for example, donor-giving cycles that impact aid amounts given across years).

$$\begin{aligned} internet\_free_{c,t+3} = & \beta_0 + \beta_1 * ict\_aid_{ct} + \beta_2 * mediafree\_aid_{ct} + \beta_3 * autocracy_{ct} + \\ & \beta_4 * ict\_aid_{ct} * autocracy_{ct} + \beta_5 * mediafree\_aid_{ct} * autocracy_{ct} + \mu_c + year_t + \varepsilon_{ct} \end{aligned} \quad (2)$$

In equation (2),  $internet\_free_{ct}$  refers to the five different measures of internet freedom in country  $c$  3 years after aid was received in year  $t$ . Interpretation of all independent variables and fixed-effects is the same as in equation (1).

If my hypothesis 1 holds true, I expect  $\beta_1$  and/or  $\beta_2$  to be positive and significant (better government internet controlling capacity). For hypothesis 2 to hold, I expect  $\beta_4$  and  $\beta_5$  to be negative and significant (worse internet freedom in autocracies).

## 4 Results and Discussion

I find limited evidence supporting my two hypotheses. Results from equation (1)—reported in Table 5—show that broadly there is no difference between democracies and autocracies in their governments’ capacity for controlling the internet, with autocracies being more capable of regulating online content. This adds an interesting dimension to recent literature, which has shown that while democracies perform better with respect to cybersecurity, autocratic capacity “should not be underestimated” (Kleiner 2025). For more ominous purposes of internet regulation however, autocrats seem to be keeping pace with democracies, if not performing better.

More importantly, Table 5 shows that *ceteris paribus*, ICT aid has no statistically significant impact on government capacity in controlling the internet. Similarly, Media Freedom aid has no impact on government’s capacity to shutdown the internet and regulate online content (independent of whether it actually does so). However, on average, it marginally decreases democratic governments’ internet filtering capacity ( $\beta_2 = -0.002$ ) with no impact on authoritarian governments’ capacity (interpreted as  $\beta_2 + \beta_5$ ). A potential channel could be that democracies use the aid as intended— supporting projects that decentralize government power over internet control and safeguarding against potential excesses.

Table 5: Effect of Internet Aid Amount on Government Capacity for Controlling Internet

	(1) govfilcap	(2) govshutcap	(3) onlineregcap
ICT Aid Amt. (USD 10K)	0.000 (0.00)	0.000 (0.00)	-0.000 (0.00)
Autocracy	0.024 (0.03)	0.048 (0.03)	0.046** (0.02)
Autocracy $\times$ ICT Aid Amt. (USD 10K)	-0.000 (0.00)	-0.000 (0.00)	0.000 (0.00)
Media Freedom Aid Amt. (USD 10K)	-0.002** (0.00)	-0.000 (0.00)	0.000 (0.00)
Autocracy $\times$ Media Freedom Aid Amt. (USD 10K)	0.002** (0.00)	0.000 (0.00)	-0.000 (0.00)
Observations	1342	1342	1342

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors in parentheses.

Similarly, with the impact of internet aid on internet freedom (results from equation (2) reported in Table 6)— I find a limited positive impact and only for democracies. Autocra-



cies have baseline worse internet freedom— evidenced through a higher tendency to spread false information domestically, filter online content, shut down the internet, censor social media, and arrest people for political content— and the coefficients suggest that internet aid does nothing to alleviate it. The interaction term for all except one measure is statistically insignificant, and even the outcome for these autocracies spreading false information domestically is null when interpreted together as the overall impact of aid ( $\beta_2 + \beta_5$ ).

Table 6: Effect of Internet-related Aid Amount on Government’s Measures Against Internet Freedom in practice

	(1)	(2)	(3)	(4)	(5)
	govfalseinfodom	govfilprc	govintshut	govsmcenprc	polarrest
ICT Aid Amt. (USD 10K)	-0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Autocracy	-0.432*** (0.04)	-0.283*** (0.03)	-0.160*** (0.02)	-0.174*** (0.02)	-0.347*** (0.03)
Autocracy $\times$ ICT Aid Amt. (USD 10K)	0.000 (0.00)	-0.000 (0.00)	0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Media Freedom Aid Amt. (USD 10K)	0.003** (0.00)	0.000 (0.00)	0.001 (0.00)	0.001 (0.00)	0.000 (0.00)
Autocracy $\times$ Media Freedom Aid Amt. (USD 10K)	-0.003** (0.00)	-0.000 (0.00)	-0.001 (0.00)	-0.001 (0.00)	-0.000 (0.00)
Observations	1342	1342	1342	1342	1342

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors in parentheses.

While these results negate my original hypotheses, they are interesting to study nevertheless. A 1 million USD increase in Media Freedom aid leads to only a 0.3 increase (on the 4-point scale) towards the category that democratic governments do not spread false information domestically. This is an economically insignificant result given that such a large increase in aid leads to a positive impact equivalent to only 4/10th of the outcome’s sample (democracies) standard deviation. Moreover, this is only for one of my outcome variables. The otherwise insignificant results for internet freedom across the board directly tie in with the longstanding academic debate about the efficacy of democracy aid (Carothers 2015), backing the view that such aid— at least in the context of improving internet freedom— has minimal impact.

## 5 Conclusion

To summarize, this paper looks at how the impact of media freedom and ICT aid on internet freedom differs across regime types. I hypothesized that such aid would increase government

capacity to control the internet across regimes, with autocracies using this capacity to implement more repressive surveillance and censorship that leads to worse freedom outcomes. My analysis did not find results to support these hypotheses, instead showing that internet aid has little to no impact on both government capacity and internet freedom in recipient countries.

Future research can further test my theoretical channels by employing other measures of government capacity in the digital sphere. Moreover, it would be useful to conduct robustness checks by using alternative data sources that proxy internet freedom (for example, internet shutdown data provided by *AccessNow* or internet freedom scores by *Freedom House*). To make this analysis causal, instrumental variables that provide exogenous variation in specifically the amount of internet aid given (and not any other category of aid) should be exploited.

For policymakers, the evidence provided here adds to the growing body of evidence calling for a re-evaluation of democracy aid. My results align with Dutta and Williamson (2016), who found marginal impact of foreign aid on press freedom. Broadly my results, in the context of previous literature, show that internet-supporting aid barely moves the needle, and even this impact is restricted to democracies— countries which have higher internet freedom levels in the first place.

## 6 References

- Atteridge, Aaron, Georgia Savvidou, Sebastian Sadowski, Flavio Gortana, Lena Meintrup, and Adis Dzebo. 2019. “Aid Atlas.” *Stockholm Environment Institute (SEI)*. <https://aid-atlas.org/>
- Carothers, Thomas. 2015. “Democracy Aid at 25: Time to Choose.” *Journal of Democracy* 26(1): 59–73. <https://doi.org/10.1353/jod.2015.0010>.
- Deibert, Ronald J. 2022. “The Autocrat in Your iPhone.” *Foreign Affairs*, December 22. <https://www.foreignaffairs.com/world/autocrat-in-your-iphone-mercenary-spyware-ronald->
- Dutta, Nabamita, and Claudia R. Williamson. 2016. “Can Foreign Aid Free the Press?” *Journal of Institutional Economics* 12(3): 603–21. <https://doi.org/10.1017/s1744137415000557>.
- Feldstein, Steven. 2021. *The Rise of Digital Repression: How Technology is Reshaping Power, Politics, and Resistance*. Oxford University Press.
- Garbe, Lisa, Seraphine F. Maerz, and Tina Freyburg. 2025. “Authoritarian Collaboration and Repression in the Digital Age: Balancing Foreign Direct Investment and Control in Internet Infrastructure.” *Democratization*, January: 1–24. <https://doi.org/10.1080/13510347.2024.2442377>.
- Garbe, Lisa. 2023. “Pulling through Elections by Pulling the Plug: Internet Disruptions and Electoral Violence in Uganda.” *Journal of Peace Research* 61(5): 842–57. <https://doi.org/10.1177/00223433231168190>.
- Kleiner, Jan. 2025. “How Political Regimes Affect National Cybersecurity: The Polity Flux Effect.” *Democratization*, February: 1–32. <https://doi.org/10.1080/13510347.2025.2451951>.
- Levitsky, Steven, and Lucan Way. 2015. “The Myth of Democratic Recession.” *Journal of Democracy* 26(1): 45–58. <https://doi.org/10.1353/jod.2015.0007>.
- Lührmann, Anna, Marcus Tannenberg, and Staffan I. Lindberg. 2018. “Regimes of the World (ROW): Opening New Avenues for the Comparative Study of Political Regimes.” *Politics and Governance* 6(1): 60–77. <https://doi.org/10.17645/pag.v6i1.1214>.
- Mechkova, Valeriya, Daniel Pemstein, Brigitte Seim, and Steven L. Wilson. 2024. “Measuring Online Political Activity: Introducing the Digital Society Project Dataset.” *Journal of Information Technology & Politics*, June: 1–17. <https://doi.org/10.1080/19331681>.

2024.2350495.

Panao, Rogelio Alicor. 2025. "Stalker States: Are Democracies More Likely to Snoop on Citizens' Data on Facebook?" *Democratization*, April: 1–24. <https://doi.org/10.1080/13510347.2025.2484575>.

Shen, Fei. 2017. "Internet Use, Freedom Supply, and Demand for Internet Freedom: A Cross-National Study of 20 Countries." *International Journal of Communication* 11: 2093–2114.

Xu, Xu. 2021. "To Repress or to Co-opt? Authoritarian Control in the Age of Digital Surveillance." *American Journal of Political Science* 65, no. 2 (April 7, 2021): 309–25. <https://doi.org/10.1111/ajps.12514>.

## 7 Appendix

### 7.1 Questionnaire and scale of dependent variables

For all outcome variables, I use values on the original scale (osp). These are rescaled values (aligning with the original ordinal scale to allow for ease of interpretation) of the measurement model output which aggregates the ratings provided by multiple country experts and, taking disagreement and measurement error into account, produces a probability distribution over country-year scores on a standardized interval scale.

#### 7.1.1 Government capacity to control the internet

1. Independent of whether it actually does so in practice, does the government have the technical capacity to censor information (text, audio, images, or video) on the Internet by filtering (blocking access to certain websites) if it decided to?  
0: The government lacks any capacity to block access to any sites on the Internet.  
1: The government has limited capacity to block access to a few sites on the Internet.  
2: The government has adequate capacity to block access to most, but not all, specific sites on the Internet if it wanted to.  
3: The government has the capacity to block access to any sites on the Internet if it wanted to.
2. Independent of whether it actually does so in practice, does the government have the technical capacity to actively shut down domestic access to the Internet if it decided to?  
0: The government lacks the capacity to shut down any domestic Internet connections.  
1: The government has the capacity to shut down roughly a quarter of domestic access to the Internet.  
2: The government has the capacity to shut down roughly half of domestic access to the Internet.  
3: The government has the capacity to shut down roughly three quarters of domestic access to the Internet.

3. Does the government have sufficient staff and resources to regulate Internet content in accordance with existing law?

0: No, almost all online activity happens outside of reach of the state, where it lacks the capacity to remove illegal content.

1: Not really. The state has extremely limited resources to regulate online content.

2: Somewhat. The state has the capacity to regulate only some online content or some portions of the law.

3: Mostly. The state has robust capacity to regulate online content, though not enough to regulate all content and all portions of the law.

4: Yes, the government has sufficient capacity to regulate all online content.

### **7.1.2 Actual Internet Freedom**

1. How often do the government and its agents use social media to disseminate misleading viewpoints or false information to influence its own population?

0: Extremely often. The government disseminates false information on all key political issues.

1: Often. The government disseminates false information on many key political issues.

2: About half the time. The government disseminates false information on some key political issues, but not others.

3: Rarely. The government disseminates false information on only a few key political issues.

4: Never, or almost never. The government never disseminates false information on key political issues.

2. How frequently does the government censor political information (text, audio, images, or video) on the Internet by filtering (blocking access to certain websites)?

0: Extremely often. It is a regular practice for the government to remove political content, except to sites that are pro-government.

1: Often. The government commonly removes online political content, except sites that are pro-government.

2: Sometimes. The government successfully removes about half of the critical online

political content.

3: Rarely. There have been only a few occasions on which the government removed political content.

4: Never, or almost never. The government allows Internet access that is unrestricted, with the exceptions mentioned in the clarifications section.

3. How often does the government shut down domestic access to the Internet?

0: Extremely often. It is a regular practice for the government to shut down domestic access to the Internet.

1: Often. The government shut down domestic access to the Internet numerous times this year.

2: Sometimes. The government shut down domestic access to the Internet several times this year.

3: Rarely but there have been a few occasions throughout the year when the government shutdown domestic access to Internet.

4: Never, or almost never. The government does not typically interfere with the domestic access to the Internet.

4. To what degree does the government censor political content (i.e., deleting or filtering specific posts for political reasons) on social media in practice?

0: The government simply blocks all social media platforms.

1: The government successfully censors all social media with political content.

2: The government successfully censors a significant portion of political content on social media, though not all of it.

3: The government only censors social media with political content that deals with especially sensitive issues.

4: The government does not censor political social media content, with the exceptions mentioned in the clarifications section.

5. If a citizen posts political content online that would run counter to the government and its policies, what is the likelihood that citizen is arrested?

0: Extremely likely.

- 1: Likely.
- 2: Unlikely.
- 3: Extremely unlikely.

## 7.2 Description of regime types

I use the Regimes of the World classification by political scientists Anna Lührmann, Marcus Tannenberg and Staffan Lindberg. They distinguish between the following regimes:

- **Closed autocracies:** citizens do not have the right to either choose the chief executive of the government or the legislature through multi-party elections.
- **Electoral autocracies:** citizens have the right to choose the chief executive and the legislature through multi-party elections; but they lack some freedoms, such as the freedoms of association/expression, that make the elections meaningful, free, and fair.
- **Electoral democracies:** citizens have the right to participate in meaningful, free and fair, and multi-party elections.
- **Liberal democracies:** citizens have further individual and minority rights, are equal before the law, and the actions of the executive are constrained by the legislative and the courts.

## 7.3 Description of aid measures

### 7.3.1 Media and free flow of information

For media freedom aid, I use aid given under purpose code 15153 of the OECD CRS data which comes under the sector “Government & Civil Society”. The description of this aid is as follows: “Activities that support free and uncensored flow of information on public issues; activities that increase the editorial and technical skills and the integrity of the print and broadcast media, e.g. training of journalists.”



### 7.3.2 Information and communication technology (ICT)

For ICT aid, I use aid given under the same name (purpose code 22040) which comes under the “Communications” sector of the OECD CRS data. Aid given under this sub-sector is described to be given for the purpose of ‘computer hardware and software; internet access; IT training.’

## 7.4 Results- other empirical specifications

### 7.4.1 Government capacity to control the internet

Table 7: Effect of Internet-related Aid Amount on Government’s Capacity for Controlling Internet

	(1)	(2)	(3)
	v2smgovfilcap_osp_m1a	v2smgovshutcap_osp_m1a	v2smregcap_osp_m1a
	b/se	b/se	b/se
ICT Aid Amt. (USD 10K)	-0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Closed Autocracies	-0.139** (0.07)	-0.085 (0.08)	-0.054 (0.06)
Electoral Autocracies	0.033 (0.06)	0.197*** (0.07)	0.018 (0.05)
Electoral Democracies	-0.004 (0.05)	0.124** (0.06)	-0.035 (0.05)
Closed Autocracies × ICT Aid Amt. (USD 10K)	0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Electoral Autocracies × ICT Aid Amt. (USD 10K)	0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Electoral Democracies × ICT Aid Amt. (USD 10K)	0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Media Freedom Aid Amt. (USD 10K)	-0.001 (0.00)	0.003 (0.00)	0.003 (0.00)
Closed Autocracies × Media Freedom Aid Amt. (USD 10K)	0.001 (0.00)	-0.003 (0.00)	-0.003 (0.00)
Electoral Autocracies × Media Freedom Aid Amt. (USD 10K)	0.001 (0.00)	-0.003 (0.00)	-0.003 (0.00)
Electoral Democracies × Media Freedom Aid Amt. (USD 10K)	-0.001 (0.00)	-0.004 (0.00)	-0.003 (0.00)
Observations	1342	1342	1342

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Standard errors in parentheses.

Table 8: Effect of Internet-related Aid (Any Amount) on Government's Capacity for Controlling Internet

	(1)	(2)	(3)
	v2smgovfilcap_osp_m1c	v2smgovshutcap_osp_m1c	v2smregcap_osp_m1c
	b/se	b/se	b/se
ICT Aid (Any)=1	0.105 (0.13)	0.150 (0.15)	-0.015 (0.11)
Closed Autocracies	0.051 (0.14)	0.049 (0.16)	-0.103 (0.12)
Electoral Autocracies	0.193 (0.13)	0.372** (0.15)	0.029 (0.11)
Electoral Democracies	0.100 (0.13)	0.242 (0.15)	-0.099 (0.11)
ICT Aid (Any)=1 × Closed Autocracies	-0.213 (0.14)	-0.150 (0.16)	0.030 (0.12)
ICT Aid (Any)=1 × Electoral Autocracies	-0.152 (0.13)	-0.211 (0.15)	-0.029 (0.11)
ICT Aid (Any)=1 × Electoral Democracies	-0.099 (0.13)	-0.132 (0.15)	0.047 (0.11)
Media Freedom Aid (Any)=1	0.120 (0.17)	0.270 (0.19)	0.088 (0.14)
Media Freedom Aid (Any)=1 × Closed Autocracies	-0.063 (0.18)	-0.412** (0.21)	-0.121 (0.15)
Media Freedom Aid (Any)=1 × Electoral Autocracies	-0.176 (0.17)	-0.322* (0.20)	-0.152 (0.14)
Media Freedom Aid (Any)=1 × Electoral Democracies	-0.165 (0.17)	-0.326* (0.19)	-0.090 (0.14)
Observations	1342	1342	1342

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Standard errors in parentheses.

Table 9: Effect of Internet-related Aid (Any Amount) on Government's Capacity for Controlling Internet

	(1)	(2)	(3)
	v2smgovfilcap_osp_m1d	v2smgovshutcap_osp_m1d	v2smregcap_osp_m1d
	b/se	b/se	b/se
ICT Aid (Any)=1	0.007 (0.03)	0.020 (0.04)	0.024 (0.03)
Autocracy	0.077* (0.04)	0.082 (0.05)	0.093** (0.04)
ICT Aid (Any)=1 × Autocracy	-0.058 (0.04)	-0.047 (0.05)	-0.046 (0.03)
Media Freedom Aid (Any)=1	-0.047 (0.04)	-0.051 (0.05)	0.000 (0.04)
Media Freedom Aid (Any)=1 × Autocracy	0.007 (0.05)	-0.007 (0.06)	-0.054 (0.04)
Observations	1342	1342	1342

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Standard errors in parentheses.

## 7.4.2 Actual Internet Freedom

Table 10: Effect of Internet-related Aid Amount on Government's Measures Against Internet Freedom in practice

	(1)	(2)	(3)	(4)	(5)
	v2smgovdom_osp_m2a	v2smgovfilprc_osp_m2a	v2smgovshut_osp_m2a	v2smgovsmcenprc_osp_m2a	v2smarrest_osp_m2a
	b/se	b/se	b/se	b/se	b/se
ICT Aid Amt. (USD 10K)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Closed Autocracies	-0.867*** (0.11)	-0.500*** (0.08)	-0.258*** (0.06)	-0.345*** (0.06)	-0.492*** (0.07)
Electoral Autocracies	-0.482*** (0.09)	-0.203*** (0.07)	-0.049 (0.06)	-0.129** (0.05)	-0.286*** (0.06)
Electoral Democracies	-0.094 (0.09)	0.046 (0.06)	0.082 (0.05)	0.025 (0.05)	0.041 (0.06)
Closed Autocracies × ICT Aid Amt. (USD 10K)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Electoral Autocracies × ICT Aid Amt. (USD 10K)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Electoral Democracies × ICT Aid Amt. (USD 10K)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Media Freedom Aid Amt. (USD 10K)	-0.000 (0.00)	-0.002 (0.00)	0.000 (0.00)	-0.001 (0.00)	-0.001 (0.00)
Closed Autocracies × Media Freedom Aid Amt. (USD 10K)	0.000 (0.00)	0.002 (0.00)	-0.000 (0.00)	0.001 (0.00)	0.001 (0.00)
Electoral Autocracies × Media Freedom Aid Amt. (USD 10K)	0.000 (0.00)	0.002 (0.00)	-0.000 (0.00)	0.001 (0.00)	0.001 (0.00)
Electoral Democracies × Media Freedom Aid Amt. (USD 10K)	0.004 (0.00)	0.003 (0.00)	0.001 (0.00)	0.002 (0.00)	0.001 (0.00)
Observations	1342	1342	1342	1342	1342

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Standard errors in parentheses.

Table 11: Effect of Internet-related Aid (Any Amount) on Government's Measures Against Internet Freedom in practice

	(1)	(2)	(3)	(4)	(5)
	v2smgovdom_osp_m2c	v2smgovfilprc_osp_m2c	v2smgovshut_osp_m2c	v2smgovsmcenprc_osp_m2c	v2smarrest_osp_m2c
	b/se	b/se	b/se	b/se	b/se
ICT Aid (Any)=1	-0.029 (0.21)	-0.226 (0.15)	-0.069 (0.12)	-0.116 (0.11)	-0.059 (0.14)
Closed Autocracies	-0.971*** (0.23)	-0.870*** (0.16)	-0.429*** (0.13)	-0.576*** (0.12)	-0.595*** (0.15)
Electoral Autocracies	-0.641*** (0.21)	-0.468*** (0.15)	-0.101 (0.13)	-0.251** (0.12)	-0.394*** (0.14)
Electoral Democracies	-0.145 (0.21)	-0.161 (0.15)	-0.003 (0.12)	-0.082 (0.11)	0.006 (0.14)
ICT Aid (Any)=1 × Closed Autocracies	0.102 (0.23)	0.434*** (0.16)	0.205 (0.13)	0.269** (0.12)	0.102 (0.15)
ICT Aid (Any)=1 × Electoral Autocracies	0.151 (0.22)	0.268* (0.15)	0.029 (0.13)	0.123 (0.12)	0.101 (0.14)
ICT Aid (Any)=1 × Electoral Democracies	0.033 (0.21)	0.216 (0.15)	0.082 (0.13)	0.109 (0.12)	0.025 (0.14)
Media Freedom Aid (Any)=1	-0.143 (0.27)	-0.407** (0.20)	-0.132 (0.16)	-0.220 (0.15)	-0.152 (0.18)
Media Freedom Aid (Any)=1 × Closed Autocracies	0.077 (0.29)	0.133 (0.21)	-0.065 (0.17)	0.043 (0.16)	0.130 (0.19)
Media Freedom Aid (Any)=1 × Electoral Autocracies	0.156 (0.27)	0.381* (0.20)	0.116 (0.16)	0.237 (0.15)	0.171 (0.18)
Media Freedom Aid (Any)=1 × Electoral Democracies	0.196 (0.27)	0.348* (0.19)	0.127 (0.16)	0.227 (0.15)	0.123 (0.18)
Observations	1342	1342	1342	1342	1342

Note: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01. Standard errors in parentheses.

Table 12: Effect of Internet-related Aid (Any Amount) on Government's Measures Against Internet Freedom in practice - Expanded Regime Type Classification

	(1)	(2)	(3)	(4)	(5)
	v2smgovdom_osp_m2d	v2smgovfilprc_osp_m2d	v2smgovshut_osp_m2d	v2smgovsmcenprc_osp_m2d	v2smarrest_osp_m2d
	b/se	b/se	b/se	b/se	b/se
ICT Aid (Any)=1	0.003 (0.05)	-0.012 (0.04)	0.015 (0.03)	-0.005 (0.03)	-0.032 (0.03)
Autocracy	-0.546*** (0.07)	-0.385*** (0.05)	-0.161*** (0.04)	-0.230*** (0.04)	-0.428*** (0.05)
ICT Aid (Any)=1 $\times$ Autocracy	0.125* (0.07)	0.110** (0.05)	0.001 (0.04)	0.060 (0.04)	0.083* (0.04)
Media Freedom Aid (Any)=1	0.032 (0.07)	-0.076 (0.05)	-0.012 (0.04)	-0.005 (0.04)	-0.040 (0.05)
Media Freedom Aid (Any)=1 $\times$ Autocracy	-0.019 (0.08)	0.035 (0.06)	-0.013 (0.05)	0.012 (0.04)	0.061 (0.05)
Observations	1342	1342	1342	1342	1342

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Standard errors in parentheses.