

Internet Freedom and Chinese Foreign Aid

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Abstract

There has been an uptick in attention on some governments' use of the internet in non-democratic ways. However, it is not satisfactorily explained by current research why government behavior with regard to the internet varies so much as to have a seemingly consistent continuum of digital government behavior. In other words, why do governments use the internet in different ways in the first place? I suppose that governments are rational and engage in a constrained-maximization problem, with costs and benefits being traded off against the constraint of technological ability to control the internet effectively. I propose to test the relationship between internet freedom and a proxy for technological ability- Chinese foreign aid- using DiD and IV methodologies.

Introduction

Towards the end of April 2022, more than fifty countries signed a “Declaration for the Future of the Internet” aimed at combating what the Biden administration sees as a rise in digital authoritarianism headed by China and Russia (Bose 2022). The United States has long been wary of threats from the internet to their vision of a democratic world order, even before Secretary Clinton’s famous speech on a commitment to global internet freedom (Clinton 2010). The new declaration is reported to be the first of its kind in terms of explicitness and international support, but will it be effective?

The answer could lie in first understanding why government elites have an incentive to behave autocratically with the internet. This inquiry may seem somewhat odd given the historical context of a powerful communication technology like the internet. In the early 2000’s, it was believed that the internet would be an impetuous catalyst for democracy around the world, allowing people to connect and learn unprecedented amounts of information. Many scholars now recognize its failure to fulfill this role. Around the same time as Secretary Clinton was speaking on internet freedom, Tunisia was strategically shutting it’s internet down and Iran was using the internet to successfully counter mass protests (Wagner 2012; Golkar 2011). Even

in the United States, the technology is often suspected for increasing political polarization and spreading rampant misinformation.

However, the trending topic of digital authoritarianism is certainly not the rule. Countries like Iceland, for example, have a near-perfect score on internet freedom according to Freedom House (*Freedom on the Net* 2022). Besides a possibly troubled methodology, the index implies that there is an enormous amount of variation in internet freedom around the world. Part and parcel to directly questioning why governments have an incentive to use the internet autocratically is the broader attempt to explain this significant variation in internet freedom. The variation becomes more interesting to speculate on when considering it seems to be continuous. It is not the case, as U.S. rhetoric may suggest, that there is a simple dichotomy between those who use the internet democratically and those who do not. There are many countries who appear to have internet freedom levels somewhere in the middle of the possible distribution, as implied by Freedom House (e.g., Kenya at 66/100 and Mexico at 60/100).

Are these middling countries simply on their way to becoming full-fledged digital democracies or autocracies? Or is there good reason for why governments around the world may want internet freedom levels that are not extremely high nor low? Even amongst the apparent extremists, why does China have positive levels of internet freedom at all (10/100)? Or, for that matter, why does the United States not exemplify the highest possible levels of internet freedom (75/100)?

Creating a theory that explains this variation in internet freedom would be instrumentally valuable in understanding the prospects for commitments to internet freedom like the one in April, while being intrinsically valuable in providing insight into how governments choose to use the ever-increasing technologies available to them. Not only will the internet continue to grow (Johnson 2021), but so will AI with its own potentially political consequences (Filgueiras 2022).

Literature on the costs, benefits, and how governments navigate these potential trade-offs are summarized below. Building on some of the reasons gleaned from the literature review, a theory of governmental use of the internet follows along with ideas for testing. A section on how to operationalize and measure the theory and tests comes next. A discussion on the potential limitations of the proposed study and a concluding section end the paper.

Literature Review

Benefits

To understand the variation in internet freedom around the world, it is firstly necessary to understand why government's would like to control the internet in the first place. That is, what do governments stand to gain by demonstrating mastery over this information technology and limiting freedom on the net?

The clearest motivation to control the internet is the obstruction of collective action that could be dangerous to any government looking to stay in power. The potential for information technology to aid citizens in overcoming collective action problems was well demonstrated by the predecessor to the internet, cell phones. The growth of cell phones in Africa is thought to have led to an increase in violence as groups were enabled to organize and communicate (Pierskalla and Hollenbach 2013).

There is evidence that governments recognize this ability for information technology to foster group activity, particularly with the internet. China apparently focuses much of it's censorship on social media activity that encourages collective action, letting isolated critiques of the government go unobstructed (King, Pan, and Roberts 2013; 2014). As alluded to, censorship is one of the main tools governments can use to curtail this collective action potential. It can be extremely effective, even when there exists known ways for users to circumvent it (Roberts 2018). Governments can also espouse their own information to dissuade and discourage collective action, manipulating information and distracting citizens (King, Pan, and Roberts 2017).

In cross-national studies, censorship has again proved effective (Lutscher 2021) while an incentive to stop the internet from increasing democratic demands could exist (Nisbet, Stoycheff, and Pearce 2012). A similar opportunity of preventing dissatisfaction through internet use is available to some countries, as citizens who use the internet become more aware of how they are constrained (Bailard 2012).

There are also other reasons for limiting internet freedom that are not strictly undemocratic. For example, it is perhaps a rather popular and beneficial idea to inhibit hate speech which is rampant in some countries (e.g., Ogura 2021).

Costs

Given these benefits of exercising control over the internet, what might be some reasons why the internet is not perpetually delimited? There is evidence that limiting internet freedom stimulates multiple dimensions of potential backlash. A study comparing democracies and autocracies finds that internet controls lead to lower trust in institutions (You and Wang 2020) while other cross-national research on authoritarian regimes

demonstrates that strong controls do not wholly prevent anti-regime sentiment and internet access (Ruijgrok 2021).

Internet controls are thus not always effective, and poor implementation of controls can have unintended consequences for the government. In China, for example, unexpected censorship of popular websites can lead to an increase in citizens circumventing censorship to access these relatively benign sites and stumbling onto other, politically charged and potentially anti-government material (Hobbs and Roberts 2018).

Besides the potential backlash from implementing internet controls, governments may also be missing out on crucial economic growth by limiting the internet (Bahrini and Qaffas 2019).

Costs vs Benefits

Thus, taken together, current literature illuminates a trade-off for governments looking to use the internet to their political advantage. While governments stand to gain stability by inhibiting dangerous collective action through censorship and the manipulation of information, they also stand to disillusion and exasperate their populations and lose the economic growth associated with the internet. So what does the literature say about how governments navigate this trade-off?

One theory on how governments decide the extent of internet freedom posits that governments recognize the potential for collective action but also need a way to incentive bureaucracies to implement sound policy (Egorov, Guriev, and Konstantin Sonin 2009). Having a relatively free media allows for information about bureaucratic conduct to reach the otherwise uninformed government. The dependence on free media is thought to be lessened in countries with abundant natural resources, who might fare well economically even if the bureaucracy is somewhat negligent.

Further evidence shows that a positive amount of media freedom can help improve governance and stave off collective action if not too high (Lorentzen 2014). Differing levels of media freedom between countries can also result from the government internalizing the effect of media bias and deciding to nationalize or privatize the media market (Gehlbach and K. Sonin 2014).

Theorizing about social media in particular, the extent to which governments will attempt to capture or corrupt digital news outlets depends on how costly it is to control these outlets versus the benefits of staying in office (Kocak and Kıbrıs 2022). Other work hints at China’s recognition that while the internet must be controlled, it should not be eliminated or impeded to the extent that economic growth is threatened (Chung 2008). This insight is supported by research detailing the economic benefits of the internet (e.g., Kamssu et al. 2004; Wallsten 2005).

While these theories speak to the nuance in a government’s determinance of the level of internet freedom,

most take for granted the ability governments have to effectively exercise control over the internet through technologically-advanced censorship and diversion tactics or describe a more indirect process of a government buying off local media platforms. It is for the most part not clear, though, that all governments have the same technological capability to bend the internet to their political will. Ignoring technological ability can lead to over-predictions of digital authoritarianism and an obfuscation of the mechanism behind the political decision of how to control the internet or not.

Furthermore, some of the theories presented here do not test their formal results or, when they do, they do not provide predictions or possible trends in government behavior.

Theory

In developing a theory that will 1) detail the role of technical knowledge in the control of the internet, 2) explain current levels of internet freedom around the world, and 3) provide more precise predictions for future levels of internet freedom, the basis for government behavior in light of the internet must be revisited. Like the cumulative literature on this topic summarily states, if governments are rational then they must factor in the costs and benefits of potentially obstructing the growth of the internet in their respective countries.

It is reasonable to suggest that governments will try to maximize their benefits and minimize their costs if they are able. This implies that there will likely be some limit placed on the internet to take advantage of the benefits (e.g., curtailing the extremity of collective action) but that internet freedom should also not be completely absent to avoid the expected costs (e.g., unnecessarily agitating the population or missing out on some associated economic growth). However, this exact trade-off presumably varies per country along with the technical knowledge of how to control the internet, which has again previously gone unrecognized in the literature as a potential constraint on the government's maximization problem.

Therefore, the simplest of an explanation along these lines would be that governments will take advantage of the benefits of controlling the internet when they can effectively implement controls and expect to avoid the costs of doing so. Testing the basic relationship stated by this theory would be straightforward if one could measure a government's ability for curbing internet freedom. While this is not theoretically impossible, I propose a more tractable test given more readily available data.

A test of technological capacity's effect on internet freedom would have to restrict its attention to countries with middling levels of internet freedom. To see this, firstly consider countries where we observe strict internet controls and low internet freedom. In these cases, we would have *prima facie* evidence that governments have the ability to control the internet, and the test would be tautological at the limit. Secondly, if we do not see low internet freedom, we cannot infer that governments simply lack the ability to implement internet

controls. They could, in all possibility, have high costs of implementing internet controls, such as a strong suspicion that citizens will revolt or exhibit high levels of backlash. This expected backlash from the citizens should be stronger in countries where democracy is likewise strong, since citizens are less accustomed to low levels of other freedoms and already possessed with strong institutions of collective action.

Therefore, omitting countries with low levels of internet freedom (who already have observably high technological capacity) and highly democratic countries (where costs of implementing internet controls should be highest) should theoretically isolate a sample of countries that have some leeway to implement internet controls (due to the elimination of strong democracies) and an unknown technological ability to implement these controls (since they do not already demonstrate this ability). The resulting sample will, theoretically, have middling levels of internet freedom.

Given this theoretic sample, I would test the extent to which the variation in a proxy for technological ability explains the variation in internet freedom levels in these countries. The proxy I propose is Chinese foreign aid, particularly from the Digital Silk Road (DSR) program- part of the colossal Belt and Road Initiative (BRI).

The reason why looking at a country's involvement with the Digital Silk Road program might impart some information to researchers about that country's technological capacity to control the internet is largely because China is building infrastructure necessary for the internet in countries around the world and sharing some of their sophisticated technology with recipients of foreign aid. The purported reason for China doing so is to expand the customer base of their domestic companies and to overall strengthen their economy and political influence (Shen 2018). Part of convincing other countries to use Chinese services is to give the respective government ways to control the internet and ensure that it will not become a political threat to the regime. China is thus allegedly sharing facial recognition technology, censorship techniques, and other cyber-security tools alongside their invitation for countries to use Chinese social media and digital platforms.

Presumably, some countries within the restricted sample will have had more extensive contact with Chinese foreign aid and its programs than others. I speculate that if a country has had significant interaction with programs like the Digital Silk Road initiative, they have gained some expertise on how to implement effective censorship or other forms of internet control. Thus, we should observe that countries who have interacted with the DSR will have lower levels of internet freedom *ceteris paribus*. Additionally, significant involvement with the DSR should be associated with a large decrease in internet freedom among countries that can avoid the costs of implementing stricter controls. A crude approximation of this ability to avoid costs is regime type, as alluded to when the logic of eliminating strong democracies was detailed above. Perhaps, *ceteris paribus*, autocratic nations have more control over their populations and an enhanced ability to do unpopular things and stay in power.

Therefore, if my thoughts are correct, these hypotheses should not be rejectable by statistical analysis:

H_1 : Democracy makes internet control more costly and is thus associated with an increase in internet freedom.

H_{2a} : Involvement with the DSR program increases technological ability to implement internet controls and is subsequently associated with an decrease in internet freedom.

H_{2b} : The DSR program should have a particularly negative effect on internet freedom in more autocratic countries.

Given that it seems the internet is good for the economy, lowering internet freedom far enough could negatively impact a country's economic growth. However, I theorize that concerns over the economy's relationship to internet freedom is of secondary concern when compared to the political costs and benefits, since we are ultimately talking about governments who rationally want to stay in power- regardless if economic growth is soaring or not. Thus, a lower-bound on internet freedom based on economic considerations should only characterize those countries whose governments are already secure politically. This line of thinking leads to the following hypothesis:

H_3 : Poor autocracies should have higher levels of internet freedom than rich autocracies.

There are two potential objections to my theory so far that should be addressed. Firstly, it can be said that China's attempts at foreign influence are too decentralized and diverse to be made the centerpiece in an explanation of other countries' political regimes. To be clear, there has been debate over how effective China's influence is in general and with respect to its programs like the Digital Silk Road. Some of China's efforts could be ineffective due to regulatory issues in the countries they seek to partner with and the pandemic (Triolo 2022). However, there is evidence that China's DSR, and perhaps the BRI more generally, leads to an effective diffusion of technology to it's partners (Fung et al. 2018). Moreover, China's lending practices have been shown to effectively increase the economic well-being of the recipient country while decreasing democratic governance (Woldemichael 2022).

Secondly, it seems reasonable to doubt the validity of Chinese foreign aid as a proxy for technological capacity if one supposes that governments are not solely dependent on China for learning the requisite

technology for effective internet control. Perhaps some developed this capacity on their own or that other countries assisted them in learning the required skills. I do not doubt that this is true. However, China is one of the most powerful spreaders of both money and technology and it is not clear that other countries have the ability or incentive to instruct others on controlling the internet. Perhaps Russia and Saudi Arabia fit this description, and controlling for trade with these countries could be included in the model.

It seems more likely, though, that some countries could have developed the technological capacity on their own. This fact would not drastically affect the proposed test since I already aim to exclude countries that have demonstrated the ability to control the internet effectively. However, I can try to speak to this phenomenon if one supposes that developing technological capacity takes a lot of resources. This would imply:

H_4 : Countries excluded from the sample due to enhanced internet-control capabilities are richer than those in the sample.

Not being able to reject H_4 might provide support for the idea that countries who were able to learn to control the internet themselves did so, while those were too poor to do so had to wait for Chinese assistance. This could indicate that foreign aid is still an appropriate proxy for the intended sample.

Methodology

While it is possible that the relationship I laid out occurs, where China markets its companies and technology to other countries thereby increasing the recipient's ability to implement internet controls and leading to lower internet freedom levels on average, it might be hard to tell empirically. Perhaps as countries decrease internet freedom levels they become more likely to engage with China, posing a potential simultaneity issue. Lower internet freedom levels could alienate a government from the support of Western forces, leading it to rely more on China and other, non-Western powers for assistance.

A tenable way to deal with this simultaneity, and other potential endogeneity problems, is to use instrumental-variable (IV) regression. I would need to identify a variable that covaries with Chinese foreign aid (the potentially endogenous independent variable) but not with internet freedom (the dependent variable). One candidate for such a variable is hinted at in the above logic outlying the simultaneity issue: the lack of support from Western powers, namely money from the International Monetary Fund (IMF). The IMF is somewhat notorious for requiring that reforms be made in exchange for their money, with some countries consequently not willing to accept. These countries may look for alternatives to the IMF to get money,

and China is the next best alternative (Sundquist 2022). Thus, refusing IMF funds may drive a country to collude with China and subsequently receive technological expertise as well. The lack of IMF money would not be directly related to internet freedom, but would instead indirectly affect internet freedom through pushing governments towards Chinese foreign aid.

It is possible that IMF funds are related to internet freedom levels if the IMF refuses to lend money to governments with severely low levels of internet freedom since they are likely very autocratic countries. However, my sample is already subsetting to those countries with middling levels of internet freedom, signifying that IMF funds may be a more valid instrumental variable in my sample than in general.

Another strategy to combat endogeneity is using a difference-in-difference (DiD) framework. If it can be assumed that countries part of the restricted sample were following similar trends before some started receiving Chinese foreign aid, then we can treat foreign aid like a treatment applied to the group that received it. Then, comparing this pseudo-treatment group with the set of countries in the restricted sample that did not receive Chinese foreign aid should allow one to evaluate foreign aid's effect.

The main independent variables in my analysis would be Chinese foreign aid and regime type. In measuring the independent variable of foreign aid, there is an abundance of relatively new data on the somewhat secretive practice from William and Mary researchers (Dreher et al. ND; Custer et al. 2021).

With regard to regime type, I would prefer to use the "Dictatorship and Democracy" (DD) index since it strives for objectivity and reliability (Cheibub, Gandhi, and Vreeland 2010). However, the DD index would need substantial updating, and I would also run my models with the Freedom House and Polity IV indices for completeness and comparability (*Freedom House* 2022; *INSCR Data Page* 2021).

Other independent variables include some controls. Control variables that would be included would be those in accordance with the adjustment criterion, where the control blocks all non-causal paths from the treatment to the outcome while not opening new non-causal paths and leaving mediating paths from the treatment to the outcome intact (Cinelli, Forney, and Pearl 2022, p. 12). GDP per capita for example, may be a good control since it is likely related to both regime type and internet freedom. Another potentially good control is internet access or affordability (*Affordability Report* 2020), as inequality or inability to access the internet may increase a government's desire to seek aid from China while being associated with lower internet freedom levels.

Measuring the dependent variable of internet freedom provides a unique challenge. There is but one dataset that attempts to quantify internet freedom and it is the Freedom House index, as mentioned in the introduction (*Freedom on the Net* 2022). However, upon looking at the methodology behind the numbers, I've concluded that it is not the most objective measure possible. Different experts are asked a barrage of questions and instructed to give an ordinal ranking of a country's performance for each question. It seems

likely that while not being totally incorrect, marginal differences in arbitrary judgement and possible expert bias can distort the true levels of internet freedom. There is also an abundance of missing data, especially for countries that might have middling levels of internet freedom (which I am most interested in).

Therefore, I would build my own dataset on internet freedom using objective and replicable numbers. There is some data available from Meta and Twitter that could provide objective insight into the freedom citizens have on social media in different countries. Meta shares the number of posts from Facebook and Instagram that are pulled down due to local restrictions on content (*Content Restrictions* 2022) and how many private accounts had their information requested by governments (*Government Requests* 2022). Twitter details how many misinformation campaigns were conducted by governments (*Information Operations* 2022). Building an index off of these objective figures could indicate freedom on social media, at least.

For an picture of internet freedom more generally to be pieced together, I would need to find other data on the laws and restrictions that pertain to the rest of the web in different countries.

Limitations

There are a couple of unaddressable limitations of the proposed study. Firstly, even if objective indices for regime type and internet freedom levels are used, the cutoffs for what is considered a democracy or not and what level of internet freedom is good or not will still be arbitrary.

Second, the proxy's I have selected to use may be rather weak. Chinese foreign aid maybe not adequately capture technological knowledge and regime type may be an imperfect match with government accountability. These potential weakness are products of weak data since it can not be directly quantified how knowledgeable or accountable a government is. Additionally, some of the data I intend to use only goes to about 2017 and the DSR program started in 2015. My sample, already restricted by the logic of my theory, would be again restricted in terms of years analyzed.

Conclusion

Assuming that governments are rational, they will use the internet to their advantage if they know how to. While difficult to precisely measure a government's technological capacity, using Chinese foreign aid can act as a proxy since technology and infrastructure is shared through China's DSR program. The resulting expectation is that involvement with the DSR increases a country's ability to use internet controls effectively, leading to an increase in the probability that those countries implement lower internet freedom levels. In countries where backlash from the citizenry is expected to be low, like solidified autocracies, this increase

in technological know-how from engaging with the DSR program should have an even stronger effect on the likelihood of lower internet freedom levels.

To test these relationships, a new index on internet freedom would have to be created with objectivity and reliability in mind. There exists some data on social media freedom but more general data would be needed to understand digital freedom as a whole in every country. Regime type indices would also be used along with a large dataset on China's foreign aid activity. Controls, like GDP per capita and internet access and affordability, would be included as well.

Using these data, a DiD framework could be employed where those countries that have sustained frequent foreign aid interactions with China are made the treatment group while countries that have not are made the control group. If the parallel trends assumption can be maintained, then the difference in internet freedom levels in these countries can be attributed to Chinese foreign aid. An instrumental variable approach can also be used, with IMF funds being related to making countries more likely to engage with Chinese foreign but unrelated to internet freedom levels for those countries in the sample.

Developing this research would not only help illuminate the mechanisms that generate a country's internet freedom levels, but would also help clarify the importance of China's influence campaigns.

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