

# Countering Liberation Technology: Internet Access and Media Freedom in Autocracies\*

Sara A. Newland  
Harvard University

Peter Lorentzen  
University of California, Berkeley

First Version: March 28, 2014

This Version: June 24, 2015

## Abstract

This paper explores the relationship between internet expansion and press freedom. Techno-optimists hold out hope that the internet will serve as a “liberation technology,” making attempts to rein in the press increasingly fruitless. Others argue that autocracies can actually use the internet to strengthen social control. Using a worldwide country-level panel, we find no relationship between internet penetration and press freedom in authoritarian regimes or democracies, undermining both these claims. However, we demonstrate that in one type of authoritarian regime—the party-state—this relationship is negative and significant. This is consistent with the theory that party-states are able to engage in managed media liberalization when desired, but rein in the media when the internet generates new, less easily controlled sources of information. Case studies of China and Vietnam provide further support for this argument.

## 1 Introduction

The internet’s transformation from a computer science experiment to a source of information and entertainment for households across the globe coincided with a period

---

\*For helpful comments, we thank Barbara Geddes and Daniela Stockmann. All errors remain our own. Galen Murray provided research assistance.

of dramatic political change. The fall of the Berlin Wall and the collapse of the Soviet Union created optimism that the “third wave” of democratization would bring political freedom to every corner of the globe, even as the problems in many new democracies quickly became apparent (Bunce, 2003; Carothers, 2002; Huntington, 1991). It seemed almost inevitable that the internet, by enabling the global spread of information and near-instantaneous communication between citizens, would further weaken authoritarian regimes and ultimately hasten their demise. As Bill Clinton put it: “In the new century, liberty will spread by cell phone and cable modem . . . Now, there’s no question China has been trying to crack down on the Internet—good luck. That’s sort of like trying to nail Jello to the wall” (Clinton, 2000). More recently, the Arab Spring—its protests coordinated via Facebook and Twitter—suggested that Clinton’s optimism was well-founded, as internet-based social organizing played a key role in a “fourth wave” of democratic movements (Howard & Hussain, 2013). Egyptian organizer Wael Ghonim, who created the Facebook group that helped spark the protests in Tahrir Square, echoed Clinton’s sentiments a decade later: “If you want to liberate a society, just give them the Internet” (quoted in MacKinnon, 2012, xix).

As internet access around the globe has increased, however, so has the sophistication with which authoritarian regimes seek to monitor, censor, and deploy it (Hachigian, 2002; Han, 2015; King et al., 2013; Roberts, 2014). Technologists, scholars, and pundits have long hoped that the internet will be a “liberation technology,” strengthening democracies and undermining authoritarian regimes around the world (Diamond, 2010). A large body of work has found the opposite to be true, however. Instead, governments may use the internet to monitor and control citizens, ultimately forestalling democracy and preserving their own power (Kalathil & Boas, 2003; Morozov, 2011). Despite the obvious disagreement between these two perspectives, they rest on a common assumption: that autocrats fear any independent voices, striving only to restrict the media as much as possible in order to transmit a unified propaganda message, a view long established in the political science literature (Friedrich & Brzezinski, 1956; Geddes & Zaller, 1989). These two bodies of scholarship thus disagree about *capacity* rather than *intent*; whether we should be optimistic or pessimistic about the internet as a “liberation technology” depends only on how effectively authoritarian regimes restrict access to it. Any degree of media independence can only be viewed as an indication that the government’s control is weak (Levitsky & Way, 2010; Shambaugh, 2007).

However, an emerging alternative view suggests that under some conditions semi-independent information sources may actually serve the interests of an authoritarian regime. In particular, the media can serve a useful watchdog function, checking the excesses of lower-level officials for the benefit of the regime as a whole (Egorov et al., 2009; Zhao, 2000). Lorentzen (2014) argues that authoritarian regimes will try to strike a balance between these two competing priorities, permitting some media free-

dom because of its value to the regime while keeping it to a level that minimizes the risk of instability.<sup>1</sup> Getting this balance right has become especially difficult in the context of rapidly proliferating sources of information via the internet. How has the growth of new media affected authoritarian regimes’ desire to control the traditional press?

If it were true that authoritarian regimes sought to limit information to the greatest degree possible, we would expect increasing internet penetration to undermine regime control of the traditional media. This effect might also be expected to prevail in democracies; as information sources multiply beyond a few major television networks and newspapers, elites may find it increasingly fruitless to expend resources to repress or capture news outlets (Petrova, 2008). If the alternative view described above is correct, however—in other words, if autocrats seek to achieve a targeted level of media freedom that balances the benefits and risks to them—then the increased availability of information from online sources should lead authoritarian regimes to tighten up control of the traditional media in order to maintain a constant overall level of information (Lorentzen, 2014). The internet—which quickly conveys information to citizens, even in countries with an unusually sophisticated internet censorship apparatus in place—complicates autocrats’ efforts to maintain a stable level of information available to citizens. This problem is essentially impossible to eliminate, but can be corrected for by increasing limitations on the traditional media. Thus Lorentzen’s model predicts that increases in relatively unrestricted information via the internet will lead autocrats to limit the scope of traditional media reporting in order to maintain citizens’ uncertainty about the true state of the world.

In this paper, we investigate the relationship between internet penetration and media freedom using a time-series cross-sectional (TSCS) dataset of 145 countries from 1993 to 2010. At first glance, our empirical results do not seem consistent with Lorentzen (2014)’s predictions: We find no relationship between internet access and media freedom for authoritarian regimes. This null result is itself instructive, as it casts doubt on the perspective of the “techno-optimists” who believe that the internet will liberalize authoritarian regimes.

When we disaggregate autocracies by regime subtype, however, we find an inverse relationship between internet penetration and media freedom in one-party governments, a finding consistent with Lorentzen’s model.<sup>2</sup> The model assumes an autocrat

---

<sup>1</sup>This tradeoff may be relevant to elected officials in weakly institutionalized democracies as well (VonDoepp & Young, 2013).

<sup>2</sup>We include country-years for which Geddes et al. (2013) code a given state as a party-type authoritarian regime and for which Freedom House media freedom scores are available. We therefore include data for at least one year on each of the following countries: Afghanistan, Angola, Botswana, Cambodia, China, Côte d’Ivoire, Cuba, Egypt, Eritrea, Ethiopia, Gabon, Gambia, Indonesia, Iran, Kenya, Laos, Malaysia, Mexico, Mozambique, Namibia, North Korea, Rwanda, Senegal, Serbia,

who can exert fine-grained control over the media, enabling it to constantly recalibrate the level of sensitive media reporting in response to social conditions. In order for this strategy to work, the regime must have tight and institutionalized control of the traditional news media. Such control is typical of one-party governments, which generally penetrate society much more thoroughly than do personalistic or military regimes (Stockmann, 2013). To illustrate the mechanisms by which party-states exert this fine-grained control, we supplement the statistical analysis with case studies of two party-states—China and Vietnam—that have increasingly repressed the traditional media as their citizens’ internet access has grown.

The rest of the paper proceeds as follows. We describe the existing literature on the role of the internet in authoritarian regimes and on the determinants of media freedom. In the third section, we describe our data and methods. The fourth section provides the statistical results. The fifth discusses the relationship between internet expansion and media freedom in two examples, China and Vietnam. The sixth section concludes.

## 2 Existing Literature

This paper builds on two large but surprisingly disconnected existing literatures in comparative politics. The first analyzes the internet’s impact on authoritarian rule, focusing on the ways in which the internet may foster democracy by strengthening civil society. The second examines the determinants of media freedom and bias. However, very little academic research addresses how the spread of the internet affects government policies toward the media. We describe each of these two separate literatures first before discussing their very limited intersection.

### 2.1 Authoritarianism in the Internet Age

In the past two decades, a large body of research has explored the dramatic expansion of global internet use. Much of this research attempts to assess whether the internet is a liberalizing force or instead a new tool of repression (e.g. Kalathil & Boas, 2003; Morozov, 2011; Mungiu-Pippidi & Munteanu, 2009; Norris, 2001; Oates, 2013).<sup>3</sup> Other sources examine the specific techniques that authoritarian regimes

---

Singapore, South Africa, Sri Lanka, Syria, Taiwan, Tanzania, Tunisia, Turkmenistan, Uzbekistan, Vietnam, Zambia, and Zimbabwe.

<sup>3</sup>This is, of course, something of a false dichotomy, although it continues to structure the debate over the political impact of the internet. Over time, scholars have increasingly emphasized the contingent nature of the internet’s effects, and explored the conditions under which it offers a relative advantage to repressive states or to social groups (e.g., Diamond & Plattner, 2012; Stockmann, 2013). We are grateful to Daniela Stockmann for this point.

use to prevent the internet from undermining their power (King et al., 2013, 2014; Roberts, 2014). The prominent role that Twitter and other social media appeared to play in the Arab Spring raised the salience of this debate, even as some scholars and journalists claimed that the importance of these tools was overstated (Freelon et al., 2015; Howard et al., 2011; Howard & Hussain, 2013).

“Cyber-optimists” argue that while the internet may provide new tools to autocrats, its political benefits to society are even greater. The internet allows citizens to organize across borders and share information rapidly and efficiently, and enables groups excluded from traditional power structures to participate in politics (for a more detailed overview of this position, see Farrell, 2012; Norris, 2001, pp.172-4). Both country-level case studies and crossnational comparisons often support this position. In Singapore, the internet has opened up new spaces where civil society can flourish and has enabled citizens to evade existing forms of social control (Baber, 2002). Similarly, Guobin Yang argues that the internet has enabled Chinese civil society to grow by creating new venues in which social groups can flourish (Yang, 2003, 2009). Miner (2011) shows that localities in Malaysia with greater internet penetration also experienced higher voter turnout and greater support for the opposition party. Finally, Groshek (2009) uses time-series data from 152 countries to show that increased internet use predicts movement toward democracy, but that this effect is stronger in countries that were at least partially democratic at the outset.

Others agree with the “cyber-optimists” that internet penetration and democracy are positively associated, but argue that the latter causes the former. Milner (2006) shows that variation in political institutions between democracies and autocracies helps to explain the “digital divide.” When powerful interest groups in autocracies view themselves as potential losers from internet diffusion, they can more easily block the spread of the internet than can similar interest groups in democracies. Corrales & Westhoff (2006) argue that authoritarian regimes encourage television use but discourage internet use because the former is easier to control. But because of the clear economic benefits that the internet brings, authoritarian regimes vary in their resistance to internet expansion, with wealthier and more market-oriented states pursuing less obstructive policies.

Pessimists, on the other hand, focus on the substantial costs that accompany these advances. Authoritarian governments may learn to manage the risks the internet poses to their stability and still reap the economic rewards that the internet can provide, as the Chinese Communist Party has done (MacKinnon, 2011; Shie, 2004; Taubman, 1998). The significant variation in access to the internet (“a wired core and a less wired periphery”) and its commercialization both detract from its potential as a force for political change (Abbott, 2001). Finally, low-cost Internet activism (“slacktivism”) may substitute for more costly, and more effective, forms of political

participation (Morozov, 2011).

## 2.2 Determinants of Media Freedom and Bias

Explanations of cross-national variation in media freedom and bias can be grouped into three broad categories: economic resources, regime type, and media structure.

In the first category, Dutta & Roy (2009) argue that foreign direct investment decreases media outlets dependence on government financing and therefore promotes a more independent media. Egorov et al. (2009) argue that a (relatively) free media enables a dictator to monitor bureaucratic performance, but risks revealing the regime's incompetence to the public and ultimately threatening its survival. Because efficient bureaucratic performance matters less for autocrats in oil-rich states than for those who govern a more diversified economy, the latter may be willing to take this risk when the former are not, a claim supported by their empirical evidence. Gehlbach & Sonin (2014) argue that media bias is relatively small when the size of the advertising market is large, as more truthful news has more commercial value. But as advertising revenues increase, so does the incentive for the state to take control of private media, ultimately leading to greater media bias. Using data on U.S. newspapers from 1880 to 1885, Petrova (2011) similarly finds that higher ad revenues led to the growth of independent media in the U.S., although this effect was mitigated where political parties had many opportunities to influence the press.

A second body of work focuses on the effect of regime type on media freedom. The association between democracy and media freedom is so strong that it is rarely investigated directly (although important causal questions remain unresolved) so this research primarily focuses on explaining variation between authoritarian regimes. Popescu (2010) argues that censorship is relatively costly; as a result, authoritarian regimes censor the media only when they lack other, more efficient means of ensuring compliance. Single-party authoritarian regimes, having a variety of such means at their disposal, are less likely than other authoritarian subtypes to repress the media, whereas personalistic regimes are the most likely to engage in censorship. Gehlbach & Sonin (2014) agree that control of the media varies across authoritarian regime subtypes, but focus on the importance of mass mobilization. Their model implies that media bias is greatest under regimes that seek to mobilize the population; in contrast to Popescu, Gehlbach and Sonin therefore argue that media bias is greatest under populist regimes and that sultanistic regimes receive little benefit from media manipulation. Stockmann (2013) finds that one-party regimes are better able to “synchronize information flows” than other types of authoritarian regimes by distributing rents to loyal media and by maintaining greater control over media content and distribution than is possible in other types of regimes. Finally, Milton (2001) suggests that media freedom is often limited in countries that have undergone

a democratic transition. The winners from democratization have little incentive to liberalize the media that helped to elect them, and opposition parties seek to cement their own links to the media (which they hope will ultimately help them win office) rather than to liberalize the media as a whole.

Other sources focus on press ownership. Djankov et al. (2003) argue that private ownership of the media is associated with better outcomes in a variety of areas, including media freedom. Gehlbach & Sonin (2014) also assume that state ownership of the media increases bias. However, Sachs (2007) finds that this relationship varies with regime type; in democracies, state ownership of the press is associated with a freer media, whereas in autocracies the opposite is true.

### 2.3 Internet Expansion and Media Freedom

The relationship between the growth of the internet and traditional media freedom has received little scholarly attention. The most sustained theoretical treatment of the topic is Lorentzen (2014), described earlier in this paper. Petrova (2008) theorizes that a wealthy elite may wish to invest in “capturing” the media in order to distort its message, thereby dissuading voters from raising taxes to invest in public goods. The primary implication of this model is that in democracies, inequality should be associated with diminished media freedom. However, a secondary implication (supported by Petrova’s empirical analysis) is that internet penetration and media freedom should be positively associated in democracies, since alternate sources of information undercut the potential benefits to elites of capturing the traditional media. In autocracies, the results are more mixed: some specifications suggest a negative relationship between internet use and media freedom, while others suggest a positive but nonsignificant relationship. Finally, Stockmann (2014) suggests that the commercialization of the traditional media and the growth of the internet have provided Chinese citizens with new sources of information, but that the CCP has developed increasingly complex control mechanisms in response to these changes.

## 3 Data

We address this topic using a panel of 145 countries. Our dependent variable is media freedom, which we measure as 100 - Freedom House’s Freedom of the Press index; subtracting the Freedom House scores from 100 gives us a more intuitive measure in which higher scores indicate greater media freedom. These scores were first assigned based on evaluations of 1993, so we begin our analysis in 1993 and carry it through 2010.

Our independent variable, *internet penetration*, is measured as the number of internet users per 100 people in the population (source: International Telecommunication

Union); we log this variable throughout. We measure regime type using the Geddes, Wright, and Frantz (2012) dataset, which codes regimes as democratic, autocratic, or in one of several residual categories, and distinguishes between several authoritarian subtypes including party-states. We focus particular attention on party-states because the media control strategy characterized in Lorentzen (2014) would only be possible for a regime with essentially unquestioned control over all traditional media outlets. As Stockmann (2013) demonstrates, such control is most typical of party states. Other types of authoritarian governments tend to have less precise and direct control over the entirety of the media space.

We control for *population* (logged) and *GDP per capita* (logged, purchasing power parity, 2005 dollars); both measures are taken from the World Development Indicators. Following Egorov et al. (2009), we also control for a country’s *proven oil reserves*, measured as the log of proven reserves of oil in billions of barrels as reported in the *Statistical Review of World Energy* available from bp.com. In some specifications, we also include Polity 2, a version of the commonly used Polity score (an index of measures of governance that are associated with regime type) with missingness codes altered to be appropriate for a time series. Polity 2 ranges from -10 to 10, with more democratic countries receiving higher scores.

## 4 Results

### 4.1 The Internet as “Liberation Technology”

The dependent variable in all specifications is *media freedom* for the year following the year in which the independent variables are observed. Unless otherwise noted, all specifications include country fixed effects and a cubic time trend, with robust standard errors.

Table 1 presents our baseline results. In the first column we show that absent other controls, the association of internet penetration with media freedom is small and statistically indistinguishable from zero in the full sample. The second column introduces other variables proposed in Egorov et al. (2009). Consistent with their findings, increases in oil reserves are associated with declining press freedom in authoritarian regimes, as shown by the negative coefficient on the *autocracy\*oil* interaction term.<sup>4</sup> Internet penetration continues to have no apparent association with media freedom. The third and fourth columns provide two approaches to assessing

---

<sup>4</sup>Recall that when an interaction term is included, the dummy component and standard hypothesis test results cannot be interpreted as one otherwise would. Specifically, the coefficient here represents the marginal “effect” of being an autocracy only conditional on having (almost) zero internet penetration and negligible oil reserves.

Table 1: Internet Penetration and Media Freedom in Democracies and Autocracies

	Baseline	With controls	Autocracies only	Autocracy interaction
Internet penetration (log)	0.0773 (0.0992)	0.0527 (0.126)	-0.101 (0.176)	0.132 (0.133)
Autocracy		-5.983* (2.352)		-5.080 (2.745)
Oil reserves (log)		-0.240 (0.934)	-1.321 (0.770)	-0.183 (0.944)
Autocracy*Oil		-1.829* (0.772)		-1.757* (0.788)
GDP/capita (log)		4.115 (2.825)	-1.733 (3.857)	4.230 (2.841)
Population (log)		-4.254 (6.828)	3.575 (10.15)	-3.095 (7.408)
Autocracy*Internet				-0.129 (0.204)
Constant	52.40*** (0.908)	89.45 (117.4)	-10.07 (177.6)	69.12 (128.4)
Observations	3438	2559	1085	2559
Model d.f.	199	153	89	154
Residual d.f.	195	144	82	144

Standard errors in parentheses

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

whether increases in internet penetration might affect autocracies differently. Column 3 restricts the sample to regimes coded as autocracies by Geddes et al. (2013). In this specification, the coefficient on internet penetration is slightly negative but not statistically significant. Column 4 includes all countries, but includes the interaction Autocracy\*Internet to measure the same association. This interaction is negative but again not statistically significant.

This null result is substantively important, as it casts doubt on the assumptions undergirding the literature on the Internet’s potential as a “liberation technology.” There is little evidence that the dramatic improvements in internet access around the world have led to liberalization of the traditional media. The fact that no relationship between the two exists in autocracies will be especially disheartening to many who hope that expanding internet access will bring broader freedoms to those living under authoritarianism. The implications of this are not only merely academic, as material support for internet expansion has become a key component of democracy-promotion programs abroad.<sup>5</sup>

Given these results, is there any basis for optimism that rising internet access will improve media freedom? We dig deeper by disaggregating different regime subtypes, and by investigating whether the strength or democracy in a given country affects the internet-media relationship there. Table 2 explores the latter. In each column we progressively restrict our sample. Column 1 uses only states (country-years) considered democracies by Geddes et al. (2013). Column 2 restricts attention to states with a Polity 2 score of 6 or higher (the threshold for democracy recommended by the creators of that dataset). Column 3 limits the sample to states with a Polity 2 score of 9 or higher (strong democracies), and Column 4 to states with a Polity 2 score of 10 or higher. Only in column 4 do we see a statistically significant positive effect, broadly consistent with Petrova (2008)’s finding of a positive relationship between internet expansion and media freedom in countries with Polity scores above 8.

Thus while there is a positive relationship between internet expansion and media freedom for some states, this is likely not the relationship that the “cyber-optimists” have in mind. The countries that fall into this category are typically strong and extremely stable democracies—among them the United States, Australia, and much of Western Europe—and the limitations on media freedom in them may have more to do with informal government influence on the press and control by large media conglomerates than with overt repression (Besley & Prat, 2006; Dutta & Roy, 2009; Williams & Puddington, 2014).

---

<sup>5</sup>One recent example is the Ukraine Freedom Support Act, signed into law in December 2014, which authorized \$60 million for a variety of programs including “expand[ing] uncensored Internet access in the Russian Federation” (U.S. Congress, 2014).

Table 2: Internet Penetration and Media Freedom in Strong vs. Weak Democracies

	GWF Democracies	Polity 2 $\geq$ 6	Polity 2 $\geq$ 9	Polity 2=10
Internet penetra- tion (log)	0.107 (0.146)	-0.0313 (0.109)	-0.0370 (0.0958)	0.135** (0.0435)
Oil reserves (log)	-1.300 (1.936)	-1.227 (1.572)	-1.566 (1.644)	-0.0474 (0.874)
GDP/capita (log)	9.705* (4.663)	11.54** (3.508)	8.230* (3.541)	8.630* (3.961)
Population (log)	-13.18 (7.809)	-14.80* (7.171)	-25.23* (12.08)	-22.05 (11.63)
Polity 2	1.185*** (0.282)	0.986 (0.741)	0.196 (1.422)	
Constant	182.9 (147.1)	193.0 (131.7)	401.0 (203.5)	347.1 (190.2)
Observations	1242	1316	707	504
Model d.f.	99	109	62	41
Residual d.f.	91	101	54	34

Standard errors in parentheses

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

## 4.2 Testing Lorentzen (2014): Internet and media freedom in party-states

If internet expansion appears to have no effect on media freedom in autocracies in general, does the same hold for the authoritarian party-states? If the model in Lorentzen (2014) is correct, we should find that party-states—which have much more fine-grained control over the traditional media than personalistic regimes—further repress traditional media in response to the influx of new information the internet creates.

Our results support this hypothesis. Table 3 focuses on party-states. Column 1 examines just the subsample of party states, finding that internet penetration indeed has a negative association with press freedom. Column 2 uses a random effects specification to allow for cross-country variation and yields very similar coefficient estimates, but with much smaller confidence intervals. Columns 3 and 4 use the complete sample but includes a dummy variable for party-states and the interaction Party\*Internet. Consistent with the subsample findings, the coefficient on the interaction is negative in both the fixed and random effects specifications.<sup>6</sup>

To increase our confidence in these findings, we conduct several robustness checks. First, we assess whether our results remain stable when we include a more nuanced measure of the qualities of autocracy. In Table 4, columns 1 and 2, Polity 2 is included as a control, on the theory that finer gradations of democratic or autocratic institutions may also be associated with press freedom. The coefficient on this variable is indeed positive and significant, but the coefficients on the effects of internet penetration remain essentially unchanged in both size and significance.

Another possible factor confusing the inferences we draw is the possibility of regime change. Our focus in this paper is not on the ways in which the internet may or may not facilitate the overthrow of authoritarian regimes, but on their responses before such a point may be reached. Therefore in Table 4, columns 3 and 4 we restrict our sample to regimes that did not transition either to or from democracy or among authoritarian subtypes in the previous year. The results are unaffected.

Does qualitative evidence from party-states also support the notion that these regimes crack down on the traditional media as internet access expands? In the

---

<sup>6</sup>In specification 3, while standard hypothesis tests allow us to reject the null that the effect of increased internet penetration is identical for party-states and non-party-states, we cannot reject the hypothesis that the total effect of internet penetration in party-states is positive. The relevant coefficient estimate would be  $0.151 + (-.442)$ , which is negative, but with a confidence interval that includes zero. Thus, considering this specification in isolation we cannot reject the possibility that the coefficient of internet penetration for non-party-states is positive and the internet\*authoritarian interaction is also positive (but smaller).

Table 3: Internet Penetration and Media Freedom in Authoritarian Party-States

	Party-states only (FE)	Party-states only (RE)	Interaction (FE)	Interaction (RE)
Internet penetra- tion (log)	-0.706*	-0.609**	0.151	0.209**
	(0.294)	(0.224)	(0.122)	(0.0790)
Oil reserves (log)	-1.538	-2.555**	-0.284	-1.170*
	(2.943)	(0.897)	(0.927)	(0.467)
Autocracy*oil			-1.709*	-1.711***
			(0.776)	(0.455)
GDP/capita (log)	9.467	7.190***	5.050	8.562***
	(6.308)	(1.708)	(2.723)	(0.583)
Population (log)	1.819	-0.791	-1.999	-0.278
	(25.80)	(2.275)	(7.015)	(0.584)
Autocracy			-6.311**	-7.653***
			(2.266)	(0.957)
Party-state			3.887	3.924*
			(4.804)	(1.935)
Party*Internet			-0.442*	-0.514***
			(0.218)	(0.0921)
Observations	454	454	2559	2559
Model d.f.	41	7	155	11
Residual d.f.	34		144	

Standard errors in parentheses

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

Table 4: Robustness Checks

	Party-states only	Interaction	Party-states only (transitions excluded)	Interaction (transitions excluded)
Internet penetra- tion (log)	-0.529* (0.250)	0.193 (0.124)	-0.530* (0.250)	0.186 (0.128)
Autocracy		-0.523 (2.438)		-0.489 (2.701)
Oil reserves (log)	-1.313 (3.545)	0.118 (0.998)	-1.305 (3.546)	-0.0132 (1.090)
Autocracy*Oil		-1.727* (0.738)		-1.507 (0.814)
GDP/capita (log)	12.94 (6.797)	2.732 (2.640)	12.98 (6.804)	2.574 (2.622)
Population (log)	7.559 (27.46)	-1.448 (6.127)	7.579 (27.43)	-2.600 (6.105)
Party-state		10.94** (4.010)		10.79** (4.174)
Party*Internet		-0.665** (0.204)		-0.647** (0.207)
Polity 2	0.989** (0.285)	1.065*** (0.192)	0.984** (0.287)	1.106*** (0.195)
Observations	386	2203	385	2152
Model d.f.	37	153	37	153
Residual d.f.	29	141	29	141

Standard errors in parentheses

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

next section, we present evidence from two party-states—China and Vietnam—that demonstrate some of the mechanisms by which governments are able to manage this tradeoff and maintain a relatively constant flow of information to citizens.

## 5 Case Studies

### 5.1 China

Contemporary China provides a useful example of the tradeoff between rising internet use and media freedom—and the fine-grained control mechanisms required for autocrats to effectively manage the balance between the two. In the late 1990s and early 2000s, top Chinese government leaders openly supported aggressive investigative reporting, even when it implicated government officials. In 2003, the hard-hitting newsmagazine *Caijing* came to national prominence with a series of stories on the government coverup surrounding the SARS epidemic. In 2005, editors were allowed to publish stories on a massive chemical spill on the Songhua River in Northeastern China (Osno, 2009). However, the work environment for journalists grew increasingly repressive as the 2000s progressed. Top leaders no longer praised investigative reporters and focused instead on the importance of maintaining “harmony.” China’s most aggressive editors lost their jobs or were forced to rein in their reporters (Dean, 2006; LaFraniere & Ansfield, 2010; Lim, 2008). Freedom House raised (worsened) its press freedom score from a low of 80 for 1999 up to 84 by 2009.

Since Xi Jinping assumed the presidency in 2013, the repressive treatment of journalists has only grown more severe. In 2014, 44 Chinese journalists were imprisoned, the most since the Committee to Protect Journalists began collecting detention statistics (Dietz, 2014). While the harshest treatment (violence and imprisonment) has largely been reserved for Chinese journalists, foreign reporters who cover China have faced deteriorating work conditions as well. In a 2014 survey by the Foreign Correspondents Club of China, 80 percent of respondents reported that their work conditions had worsened or stayed the same in the past year, and two thirds reported experiencing “interference, harassment or violence” in the course of their work (Foreign Correspondents Club of China, 2014).

The importance of the internet as a source of independent news also grew dramatically over this time. Internet users grew from a negligible 0.7 percent of the population in 2000 to over 649 million users—the most in the world—in 2014 (McKirby, 2015). Photos of schoolhouses that had collapsed due to shoddy construction or of local officials sporting prohibitively expensive luxury watches could spread rapidly, despite the censors’ best efforts. Those sophisticated enough to get around the “Great Firewall” separating China’s internet from the world’s could read reports from the international media about ill-gotten wealth in the families of China’s top leaders. While no Chi-

nese leader has openly admitted the causal connection between the spread of new information sources and the crackdown on traditional media, the correlation is highly suggestive.

## 5.2 Vietnam

The internet has become an increasingly important force in Vietnam over the past decade. The 2001 Bilateral Trade Agreement between Vietnam and the US, as well as Vietnam's WTO accession in 2007, substantially liberalized Vietnam's telecommunications sector by allowing foreign firms to form joint ventures with local providers. These reforms have decreased the cost to users and increased the quality of Vietnam's telecommunications services. The Vietnamese government has actively promoted increased Internet penetration through the Vietnam Public Utility Telecommunication Service Fund (VTF), which facilitates the development of telecommunications infrastructure in places where market mechanisms are insufficient; one of the VTF's initial goals was to ensure that 70 percent of Vietnam's communes had public Internet access locations by 2010 (Lee, 2011). In part as a result of these efforts, internet use in Vietnam has grown at a rapid pace; the share of the population using the internet grew from less than one percent in 2000 to 33.9 percent in 2013 (International Telecommunication Union, 2015).

Although the Vietnamese government restricts internet freedom through censorship, surveillance, and crackdowns on bloggers, the internet has provided citizens with useful new sources of information. As of 2012, Vietnam had over 10 million Facebook members. Although the site is intermittently blocked, access is much more regularly available than it is in China, where Facebook has not been accessible for years, and the USTR reports that foreign website blocking is decreasing in Vietnam (Office of the United States Trade Representative, 2012). Consistent with our argument, the Internet has publicized sources of citizen discontent, bringing them to the attention of the public and the state. The Internet has been used to organize and spread information about anti-China protests and to demand accountability for police brutality (after a video of a police officer stepping on a protester's head spread on the Internet, the officer was allegedly suspended) (Parker, 2014). And in 2012, after citizens live-blogged the forceful removal of farmers from their land for the creation of a luxury housing development, state media outlets—which had initially been banned from covering the protests—ran editorials criticizing government corruption (McKinley & Schiffrin, 2013).

However, the internet's growing presence in Vietnamese society has gone hand in hand with increasingly repressive control of the traditional media. After a period in the early 2000s in which officials actively encouraged the news media to investigate and report on corruption (McKinley & Schiffrin, 2013), Vietnam has steadily fallen

in the Reporters Without Borders World Press Freedom Index; it ranked 155th in 2006 and 174th out of 180 in 2014 (Reporters Without Borders, 2006, 2014). Data collected by the Committee to Protect Journalists show that imprisonment of Vietnamese journalists and bloggers has dramatically increased: 16 journalists were imprisoned in 2014, compared to “only” two in 2000 (Committee to Protect Journalists, 2001, 2014). Regulations governing the media have become increasingly draconian as well. The government has long invoked Article 79 of the criminal code, which forbids activities intended to “overthrow the state,” as justification for crackdowns on journalists. In 2006, however, the government amended the law to include over 2,000 new violations relating to information and culture (Freedom House, 2013). And in 2013, Vietnamese satellite TV providers temporarily dropped foreign news channels including BBC and CNN in the wake of “Decision 20,” a law requiring foreign television channels to hire local editors to translate (and perhaps approve or censor) all coverage before it could be broadcast in Vietnam. Although the law is no longer being enforced and foreign channels have returned to the air, the environment for foreign media remains uncertain (Banyan blog (*The Economist*), 2013; Brown, 2013).

Fine-grained censorship of the media, both before and after the fact, is only possible because of the structure of the Vietnamese Communist Party-state. All traditional media in Vietnam are state-owned, and the VCP’s Propaganda and Education Department exercises editorial control via weekly meetings with TV, radio, and newspaper editors. The Party exercises appointment power over editors and journalists, and uses this power to control media content. In 2015, Kim Quoc Hoa was removed from his position as editor-in-chief of *The Elderly* and charged with a series of criminal offenses after publishing a series of stories on government corruption (Committee to Protect Journalists, 2015). Foreign channels broadcast in Vietnam are subject to a 30-minute delay while state censors vet their content (Banyan blog (*The Economist*), 2013). And if local media do report on something they shouldn’t, the Ministry of the Interior’s A25 and PA25 departments may directly intervene by arresting journalists or otherwise preventing them from reporting (Reuters Institute for the Study of Journalism, 2010). In short, the VCP’s monopoly ownership of local media, its fine-grained censorship mechanisms, and the *nomenklatura* appointment system typical of authoritarian party-states work together to ensure more effective media control than is possible in many autocracies.

As these case studies make clear, an elaborate and remarkably effective infrastructure enables the CCP and the VCP to monitor and control the traditional media. In light of this impressive capacity for censorship, some may question whether the internet really functions as a semi-independent source of information in party-states—a crucial assumption of this paper. After all, if the government effectively controls the information that the internet makes available to citizens, then an expansion of internet access should not affect the government’s treatment of the traditional me-

dia. However, the examples of Vietnam and China usefully illustrate some of the different ways in which the internet resists complete control even by determined and high-capacity autocracies.<sup>7</sup> In China, preemptive censorship (blocking blog posts that contain particular keywords, using the “Great Firewall” to restrict access to foreign websites) is only partially effective. Savvy “netizens” use homophones, satire, metaphor, and other techniques to evade keyword censorship, and many tunnel under the “Great Firewall” using a virtual private network, although the Chinese government has cracked down on these services in recent months (Jacobs, 2015; King et al., 2013). The Chinese government therefore must rely on a veritable army of censors to clean up objectionable online content after the fact, a process that creates a window of opportunity for citizens: as effective as these censors may ultimately be, they are always playing catch-up. In Vietnam, the internet censorship apparatus, while modeled on China’s, is not nearly so complete. Furthermore, the many laws intended to deter bloggers from spreading information critical of the government via the Internet have thus far been largely ineffective (McKinley & Schiffrin, 2013). Thus in both cases, neither legal nor technical tools have enabled the government to completely control online expression—making control of the traditional media, which remains under the thumb of the state, more important than ever.

## 6 Conclusion

This paper has investigated the relationship between increasing internet penetration and media freedom. As more and more citizens gain access to relatively free information via the internet, do governments respond by relinquishing control over the traditional media, or by cracking down on journalists to maintain a relatively constant overall flow of information to citizens?

The evidence presented here supports three main conclusions. First, in autocracies in general, we find no relationship between increasing internet penetration and changes in media freedom, either positive or negative. While the nature of the research design means these associations are not necessarily causal, they call into question the techno-optimist view that the spread of the internet will force authoritarian governments to liberalize. Of course, this paper explores the association between growing internet penetration and only one type of liberalization (media freedom), and our results do not rule out the possibility that the growth of the internet will lead autocrats to relinquish other aspects of their control. The fact that we see no evidence of a

---

<sup>7</sup>China and Vietnam, both of which have governments that have been unusually effective in many areas (generating economic growth, preempting challenges to one-party rule, etc.), are useful “hard cases” for our argument. These high-capacity party-states are the *most* capable of controlling the internet; if uncensored information is nonetheless able to reach their citizens, it is reasonable to expect that the internet serves as a source of at least partially free information in less competent authoritarian regimes as well.

positive effect even in the arena of politics most directly affected by the internet—information control—makes us somewhat pessimistic about the internet’s ability to serve as an unambiguously positive force in other areas, however.

Second, the evidence presented here is consistent with Lorentzen (2014)’s model of information control in authoritarian party-states, which hypothesizes that the expansion of internet access should lead such governments to crack down even more harshly on the traditional media. As the model predicts, both the statistical analysis and the examples of China and Vietnam suggest that party-states have indeed clamped down on the traditional media as internet access within their borders has grown. Finally, we find that the only set of countries that support the “cyber-optimist” position are the countries least in need of liberalization—strong democracies. In these countries, expanding internet access is associated with fewer restrictions on traditional media. Further research is needed to determine the reasons for this association, which could be driven by loosening government restrictions on the traditional media or by the changes to the commercial incentives facing traditional media outlets in the face of a growing internet presence.

Given the observational nature of the data, it is important to consider other possible explanations for our statistical results. The most obvious is a variant of Milner (2006)’s conclusion. She contends that autocracies limit the spread of the internet in order to preserve their rule, while democracies are more open to it. A natural extension of that theory would be that governments that fear free information flows (even holding regime type constant) would also take steps to limit the spread of the internet. Moreover, the absence of free information flows resulting from a heavily censored press might also reduce demand to get online. However, this should lead to a positive correlation between media freedom and internet penetration. This alternative hypothesis calls into question whether the relationship we find in strong democracies (that increases in internet penetration lead to improvements in media freedom) is causal. However, it should if anything strengthen our confidence in our main findings, as this same effect should mask the negative effect of the internet on press freedom in authoritarian regimes, weakening our result. The fact that the association is nonetheless strong and consistent across specifications gives us confidence that the correlation is not spurious.

## References

Abbott, J. P. (2001). Democracy@internet.asia? The challenges to the emancipatory potential of the net. *Third World Quarterly*, 22(1), 99-114.

- Baber, Z. (2002). Engendering or endangering democracy? The internet, civil society and the public sphere. *Asian Journal of Social Science*, 30(2), 287-303.
- Banyan blog (*The Economist*). (2013). *Ministry of obscurity: Regulating television in Vietnam*. Retrieved June 18, 2015, from <http://www.economist.com/blogs/banyan/2013/06/regulating-television-vietnam>
- Besley, T., & Prat, A. (2006). Handcuffs for the grabbing hand? Media capture and government accountability. *American Economic Review*, 96(3), 720-736.
- Brown, M. (2013, May 29). Miscommunication: Vietnam's new rules for foreign tv channels. *The Diplomat*.
- Bunce, V. (2003). Rethinking recent democratization: Lessons from the postcommunist experience. *World Politics*, 55(2), 167-192.
- Carothers, T. (2002). The end of the transition paradigm. *Journal of Democracy*, 13(1), 5-21.
- Clinton, B. (2000, March 8). *Permanent normal trade relations status for China*. Speech at Johns Hopkins University. Retrieved June 15, 2015, from <http://www.techlawjournal.com/cong106/pntr/20000308sp.htm>
- Committee to Protect Journalists. (2001, 2014). *Prison census* (Tech. Rep.). Retrieved from <https://cpj.org/imprisoned/2014.php>.
- Committee to Protect Journalists. (2015, May). *Vietnamese editor faces anti-state charges for reporting on corruption*. Retrieved June 18, 2015, from <https://cpj.org/2015/05/vietnamese-editor-faces-anti-state-charges-for-rep.php>
- Corrales, J., & Westhoff, F. (2006). Information technology adoption and political regimes. *International Studies Quarterly*, 50, 911-933.
- Dean, J. (2006, February 17). Chinese editor fired in squeeze on media dissent. *The Wall Street Journal*.
- Diamond, L. (2010). Liberation technology. *Journal of Democracy*, 21(3), 69-83.
- Diamond, L., & Plattner, M. F. (Eds.). (2012). *Liberation technology: Social media and the struggle for democracy*. Baltimore, MD: Johns Hopkins University Press.
- Dietz, B. (2014, December). *In China, mainstream media as well as dissidents under increasing pressure*. Retrieved June 18, 2015, from <https://cpj.org/blog>

- Djankov, S., McLiesh, C., Nenova, T., & Shleifer, A. (2003). Who owns the media? *Journal of Law and Economics*, 46(2), 341-382.
- Dutta, N., & Roy, S. (2009). The impact of foreign direct investment on press freedom. *Kyklos*, 62(2), 239-257.
- Egorov, G., Guriev, S., & Sonin, K. (2009). Why resource-poor dictators allow freer media: A theory and evidence from panel data. *American Political Science Review*, 103(4), 645-668.
- Farrell, H. (2012). The consequences of the internet for politics. *Annual Review of Political Science*, 15, 35-52.
- Foreign Correspondents Club of China. (2014, September). *Position paper on working conditions for foreign correspondents in China* (Tech. Rep.). Beijing.
- Freedom House. (2013). *Freedom of the press 2013 (Vietnam)*. Retrieved June 18, 2015, from <https://freedomhouse.org/report/freedom-press/2013/vietnam>
- Freelon, D., Merritt, S., & Jaymes, T. (2015). Focus on the tech: Internet centrism in global protest coverage. *Digital Journalism*, 3(2), 175-191.
- Friedrich, C. J., & Brzezinski, Z. (1956). *Totalitarian dictatorship and autocracy*. Cambridge, Mass.: Harvard University Press.
- Geddes, B., Wright, J., & Frantz, E. (2013). *Authoritarian regimes dataset*. <http://dictators.la.psu.edu>.
- Geddes, B., & Zaller, J. (1989). Sources of popular support for authoritarian regimes. *American Journal of Political Science*, 33(2), 319-347.
- Gehlbach, S., & Sonin, K. (2014). Government control of the media. *Journal of Public Economics*, 118, 163-171.
- Groshek, J. (2009). The democratic effects of the internet, 1994-2003: A cross-national inquiry. *International Communication Gazette*, 71(3), 115-136.
- Hachigian, N. (2002). The internet and power in one-party East Asian states. *The Washington Quarterly*, 25(3), 41-58.
- Han, R. (2015). Manufacturing consent in cyberspace: China's "fifty-cent army". *Journal of Current Chinese Affairs*, Forthcoming.
- Howard, P. N., Duffy, A., Freelon, D., Hussain, M., Mari, W., & Mazaid, M. (2011). *Opening closed regimes: What was the role of social media during the Arab Spring?* (Project on Information Technology and Political Islam Working Paper 2011.1)

- Howard, P. N., & Hussain, M. M. (2013). *Democracy's fourth wave? Digital media and the Arab Spring*. New York, NY: Oxford University Press.
- Huntington, S. P. (1991). *The third wave: Democratization in the late twentieth century*. Norman, OK: University of Oklahoma Press.
- International Telecommunication Union. (2015). *Ict 2015* (Tech. Rep.). Geneva, Switzerland. Retrieved from <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>
- Jacobs, A. (2015, January 30). China further tightens grip on the internet. *The New York Times*, A1.
- Kalathil, S., & Boas, T. (2003). *Open networks, closed regimes: The impact of the internet on authoritarian rules*. Washington, DC: Carnegie Endowment for International Peace.
- King, G., Pan, J., & Roberts, M. E. (2013). How censorship in China allows government criticism but silences collective expression. *American Political Science Review*, 107(2), 326-343.
- King, G., Pan, J., & Roberts, M. E. (2014). Reverse-engineering censorship in China: Randomized experimentation and participant observation. *Science*, 345(6199), 1251722.
- LaFraniere, S., & Ansfield, J. (2010, March 9). Editor is fired after criticizing Chinese registration system. *The New York Times*.
- Lee, R. C. (2011, May 16). *Telecommunications in Vietnam* (Tech. Rep.). Big Sky, MT: Symposium on APEC's New Strategy for Structural Reform.
- Levitsky, S., & Way, L. A. (2010). *Competitive authoritarianism: Hybrid regimes after the Cold War*. New York, NY: Cambridge University Press.
- Lim, B. K. (2008, May 6). Chinese editor fired over Tibet commentaries. *Reuters*.
- Lorentzen, P. (2014). China's strategic censorship. *American Journal of Political Science*, 58(2), 402-414.
- MacKinnon, R. (2011). China's "networked authoritarianism". *Journal of Democracy*, 22(2), 32-46.
- MacKinnon, R. (2012). *Consent of the networked: The world-wide struggle for internet freedom*. New York, NY: Basic Books.

- McKinley, C., & Schiffrin, A. (2013). Leninist lapdogs to bothersome bloggers in Vietnam. In M. M. Hussain & P. N. Howard (Eds.), *State power 2.0: Authoritarian entrenchment and political engagement worldwide* (p. 125-137). Burlington, VT: Ashgate.
- McKirdy, E. (2015, February 4). *China's online users more than double entire U.S. population.* Retrieved June 18, 2015, from <http://www.cnn.com/2015/02/03/world/china-internet-growth-2014/>
- Milner, H. (2006, March). The Digital Divide: The Role of Political Institutions in Technology Diffusion. *Comparative Political Studies*, 39(2), 176-199.
- Milton, A. K. (2001). Bound but not gagged: Media reform in democratic transitions. *Comparative Political Studies*, 34(5), 493-526.
- Miner, L. (2011, November). *The unintended consequences of internet diffusion: Evidence from malaysia.*
- Morozov, E. (2011). *The net delusion: the dark side of internet freedom.* New York: Public Affairs.
- Mungiu-Pippidi, A., & Munteanu, I. (2009). Moldova's "twitter revolution". *Journal of Democracy*, 20(3), 136-142.
- Norris, P. (2001). *Digital divide: Civic engagement, information poverty, and the Internet worldwide.* New York: Cambridge University Press.
- Oates, S. (2013). *Revolution stalled: The political limits of the Internet in the post-Soviet sphere.* New York: Oxford.
- Office of the United States Trade Representative. (2012, March). *2012 national trade estimate report on foreign trade barriers* (Tech. Rep.). Washington, DC.
- Osnos, E. (2009, July 20). The forbidden zone. *The New Yorker*.
- Parker, E. (2014, June 1). Blogging for freedom in Vietnam. *The New Yorker*.
- Petrova, M. (2008). Inequality and media capture. *Journal of Public Economics*, 92(1-2), 183-212.
- Petrova, M. (2011). Newspapers and parties: How advertising revenues created an independent press. *American Political Science Review*, 105(4), 790-808.
- Popescu, B. G. (2010). *Press freedom in non-democratic regimes.* (Unpublished manuscript)
- Reporters Without Borders. (2006, 2014). *World press freedom index.*

- Reuters Institute for the Study of Journalism. (2010). *Interview with Giang Nguyen*. Oxford University. Retrieved June 1, 2015, from <https://reutersinstitute.politics.ox.ac.uk/ckfinder/userfiles/files/Vietnam.pdf>
- Roberts, M. E. (2014, August). *Fear or friction? How censorship slows the spread of information in the digital age*. (Working Paper)
- Sachs, N. (2007). *Freedom of the press, democracy and democratization*. (Unpublished manuscript)
- Shambaugh, D. (2007). China's propaganda system: Institutions, processes and efficacy. *China Journal*(57), 25-58.
- Shie, T. R. (2004). The tangled web: Does the internet offer promise or peril for the Chinese Communist Party? *Journal of Contemporary China*, 13(40), 523-540.
- Stockmann, D. (2013). *Media commercialization and authoritarian rule in China*. New York, NY: Cambridge University Press.
- Stockmann, D. (2014). Responsive authoritarianism in Chinese media. In A. Goldstein & J. deLisle (Eds.), *Challenges to regime stability in China* (p. 261-300). Philadelphia, PA: University of Pennsylvania Press.
- Taubman, G. (1998). A not-so world wide web: The internet, China, and the challenges to nondemocratic rule. *Political Communication*, 15(2), 255-272.
- U.S. Congress. (2014). *Ukraine Freedom Support Act (H.R. 5859)*.
- VonDoepp, P., & Young, D. J. (2013). Assaults on the fourth estate: Explaining media harassment in Africa. *Journal of Politics*, 75(1), 36-51.
- Williams, L., & Puddington, A. (2014, May 8). *How ownership patterns threaten press freedom*. Retrieved June 20, 2015, from <https://freedomhouse.org/blog/how-ownership-patterns-threaten-press-freedom>
- Yang, G. (2003). The co-evolution of the internet and civil society in China. *Asian Survey*, 43(3), 405-422.
- Yang, G. (2009). *The power of the internet in China: Citizen activism online*. New York, NY: Columbia University Press.
- Zhao, Y. (2000). Watchdogs on party leashes? Contexts and implications of investigative journalism in post-Deng China. *Journalism Studies*, 1(4), 577-597.