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Emily Calvert April 15, 2013

The Effect of Internet Usage on Media Freedom in the People's Republic of China

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ABSTRACT

Ever since the Internet became a global phenomenon in the early 1990s, it has become the subject of scrutiny by politicians and political scientists alike. Many researchers have focused on the Internet's potential for spreading democracy by lowering barriers to communication and information-sharing and creating a public sphere from which democracy might emerge. In this thesis I focus on a specific aspect of the democratizing potential of the Internet within the context of the People's Republic of China, seeking to answer the question "What effect does Internet usage have on traditional media freedom?" The thesis uses original data collected and coded by myself to measure media freedom within each of the 31 provinces of China. I then study the relationship between provincial Internet penetration rates—the percent of citizens within a province who regularly access the Internet—and this media freedom score. I examine the relationship in both a "large"-N section, looking at data from every province, and a case study portion, where I compare media freedom in three pairs of provinces, with each pair containing provinces as similar as possible except for their Internet penetration rates. Although the limitations of this study have made statistical significance difficult to achieve, I find a clear and consistent positive correlation between higher Internet penetration rates and higher traditional media freedom. I conclude that this study supports the idea that Internet usage leads to greater press freedom, but this conclusion is made with the caveat that a separate, unstudied force could be driving both Internet usage and press freedom. While this paper lends support to cyberdemocracy theories, it is also clear that authoritarian governments such as the Chinese Communist Party have become increasingly skilled at co-opting and controlling the Internet, and that the Internet might not be the unstoppable democratizing force predicted by many political scientists.

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INTRODUCTION

The democratizing potential of the Internet has been the subject of research by political scientists since the World Wide Web first became a global phenomenon in the early 1990s. Much of the literature has focused on the idea of "cyberdemocracy" or "e-democracy;" that is, the potential of the Internet to encourage and improve democracy by facilitating communication among citizens, providing timely information on important events, and monitoring and publicizing government actions (Yuan 2010). Recently, research has focused on the political implications of blogging, microblogging, and other forms of social media, concentrating especially on its impact on the Arab Spring, during which protestors in countries throughout the Middle East used social media to communicate and organize the protests that helped topple many regimes in the area (Aouragh 2012, Rawal and Nixon 2012, Schaar 2011, Howard and Hussein 2011). While the exact political role of the Internet in general, and social media in particular, has been the subject of many debates, no scholar doubts the potential of the Internet as a tool for organizing and sharing information.

However, despite the recent surge of optimism during the Arab Spring, the literature has gradually become less enthusiastic about the democratizing potential of the Internet. As authoritarian regimes become more successful at co-opting and controlling online discussion, the expected democratizing effects of the Internet have failed to occur (Morozov 2011, Mou, Atkin, and Fu 2011, Tai 2006, Wang and Tian 2005). One authoritarian government that has become especially skilled at controlling and co-opting the Internet is the Chinese Communist Party (CCP). Much of the literature on the Internet in China has focused on the Chinese government's sophisticated methods of censoring and controlling online information and discussion. Despite these limitations, however, many studies have found that Chinese

Internet users are able to engage in political discussion and share information online under certain conditions (Calingaert 2010, China and the Internet 2009, Herold 2011, King, Pan, and Roberts 2012). While the theoretical democratizing potential of the Internet remains largely unchallenged, earlier "cyberutopian" theories have been tempered by a less than ideal reality.

Thus, the broad question becomes: what is the effect of the proliferation of Internet use in China? With increasing Internet access throughout China, the CCP is no longer able to completely control information flows to its citizens. Furthermore, increased access to information from online sources such as blogs and social media means that traditional forms of media must now compete with these alternate news sources. With this increased competition comes an increased pressure to accurately report events; internet-savvy citizens are better informed and better able to identify when the media is withholding or altering the truth. Put more narrowly, the question becomes: faced with a better-informed citizenry, is the Chinese government still able to set the agenda for what is or is not discussed in the media?

I examine this question at the provincial level, studying the effects of Internet penetration rate—that is, the percentage of citizens who regularly access the Internet—on freedom of the press. Following the logic of e-democracy theory, provinces with higher internet penetration rates should exhibit freer and more critical traditional media. This leads to two related hypotheses: first, that provinces with higher internet penetration rates are more likely to report on sensitive issues; and second, that among the provinces that report on sensitive issues, those with higher internet penetration rates will be more likely to express criticism and provide detailed information on the events. Although my study is constrained by the relatively small number of observations and the subjective nature of my analysis, I conclude that internet penetration rates do have a positive effect on media freedom. While it is difficult to separate the effects of other

factors such as urbanization and wealth from the effects of Internet penetration rates, I believe this study lays the foundation for further research on the subject.

In order to study this phenomenon, it is important to first become familiar with the history and background of the Internet in China, prevailing theories regarding the relationship between the Internet and governments, and the CCP's censorship methods and propaganda goals for both the Internet and traditional media.

LITERATURE REVIEW

THE RISE OF THE INTERNET IN CHINA

After decades of isolation during the Great Leap Forward and the Cultural Revolution, China's adoption of the Internet in 1987 was hailed as a great step towards modernization and globalization. In September 1987, China sent its first email, a symbolic message reading "Beyond the Great Wall, joining the world" (越过长城，走向世界, *Yueguo changcheng, zouxiang shijie*), and in 1994 China became the 71st country to connect an international line to the Internet and register onto the global computer network (Bin and Hong 2010). Internet use in China grew quickly. In 1997, China boasted 600,000 Internet users, 4000 domain names, and 1500 .cn websites (Chen and Ang 2011). The number of Internet users grew from 2 million users in 1998, to 100 million users in 2005, to 298 million in 2008, making China the largest Internet user in the world (Bin and Hong 2010). At the end of 2009, China reportedly had 384 million Internet users, 16.82 million domain names, and 3.23 million websites registered under .cn (Chen and Ang 2011). As of 2010, around 50 million of China's total Internet users are bloggers, who collectively have produced over 100 million blogs (Calingaert 2010). In just under two decades, China has transformed into an increasingly Internet-savvy society, although internet usage is concentrated among urban centers and remains relatively low in rural areas.

THE IMPACT OF THE INTERNET: THEORIES AND RESEARCH

Much of the initial research on the broader impact of the Internet on society was carried out by legal academics and sociologists, focusing on the cultural implications of the Internet in creating a cohesive and collective community (Rheingold 1993, Drucker 1994, Healy 1996, Farrel 2012). Viewing the Internet as a sort of "final frontier," many researchers have found that the Internet has created communities in which individuals with similar values group together, creating culturally cohesive groups that are linked only through the Internet rather than through physical space (Rheingold 1993, Drucker 1994, Healy 1996). These researchers focused on the Internet as a force in transforming society by revolutionizing the unit of social organization; because of the Internet, communities are no longer limited to a specific space, allowing individuals to self-select into groups of their liking (Healy 1996, Drucker 1994). This, in turn, has led to increasingly homogeneous communities that could contribute to greater political polarization and extremism (Farrel 2012, DiMaggio et al. 2001). Farrel (2012) posits that this "homophily" has potentially exacerbated the political polarization within the United States over the past few decades. Farrel (2012) points to studies that demonstrate politically right-leaning bloggers are more likely to link only to other right-leaning blogs, and vice versa, suggesting that the Internet helps create an "echo chamber" in which Internet users hear only repetitions and amplifications of their own views, leading to polarization and potentially extremism.

Gradually, political scientist began turning their attention to the Internet, especially following the surge in popularity of blogs and social media. I draw on the theories developed by these political scientists in formulating the hypotheses for this paper. As mentioned earlier, many researchers have proposed theories about the potentially positive role of the Internet in developing democracy. Most importantly, the Internet can create a space for free expression—an

essential ingredient for democracy—even in countries where traditional media and freedom of expression are restricted; due to its open and accessible nature, the Internet represents a challenge to regimes who wish to repress dissent and opposition (Calingaert 2010). Zhang (2004) identifies three avenues through which the Internet can promote democracy: by enhancing democratic systems and processes, by boosting the public sphere and deliberative democracy, and by lowering barriers to the creation and distribution of content and the organization of citizens. Abbott (2011) makes a similar point, stating that the Internet is a democratizing force in that it connects, empowers, and informs a great number of people with relative ease, turning ordinary citizens into producers, instead of mere consumers, of information. Tai (2006) also hypothesizes that the Internet, and other emerging technologies such as cell phones and mobile personal communication devices, can lead to democracy by linking like-minded citizens through collective action. Because the Internet allows easy and often anonymous interaction between citizens, it enhances and promotes many of the conditions necessary for democracy to flourish.

However, many counter-theories have been developed that dispute the effect of the Internet on developing democracies. Just as some scholars have outlined the democratic potential of the Internet, others have studied the opposite: factors that prevent the Internet from achieving its democratizing potential. Morozov (2011) argues that, while the Internet does lower the transaction cost of collective action, this could have potentially negative effects in the long-run because Internet users will be more likely to join in cheap but ineffective forms of politics—for example, engaging in "slacktivism" by joining a Facebook group but taking no substantive action. Building on this, some researchers argue that the supposed role of the Internet and social media during the Arab Spring has been exaggerated by the media, and that Facebook and Twitter played only a superficial role in the movements (Farrel 2012, Morozov 2011). Other researchers

have found that the Internet is not the "great equalizer" that many had hoped; rather than leading to the democratization of public debate through the unseating of traditional elites such as pundits and politicians, a new class of Internet elites has emerged, with a small number of blogs receiving the most attention (Shirky 2003, Farrel 2012). As mentioned earlier, the Internet could be increasing polarization, rather than increasing public dialogue, by creating self-selected communities who do not engage with communities holding different opinions (Farrel 2012, DiMaggio et. al 2001). Because of this homogeneity, the Internet might not be creating the free public sphere hypothesized in cyberdemocracy theories.

Additionally, many unique factors exist in the People's Republic of China that inhibit the democratizing effects of the Internet. Tai (2006) asserts that the national diffusion rate of the Internet is still too low in China to produce any meaningful result; the gap between Internet access in rural versus urban areas and economically developed versus economically underdeveloped regions means that the Internet has only penetrated a small percentage of the population. Additionally, Mou, Atkin, and Fu (2011) discovered from surveys that the majority of Chinese Internet users do not use the Internet to express political opinions, as cyberdemocracy theory had hoped; in fact, they found political apathy to be fairly high among younger generations in China. Similarly, Shen, Wang, Guo and Guo (2009) found that only a tenth of Internet users in China actively contribute to online forums, while the majority of users remain silent. Additional studies corroborate this evidence, finding that most Chinese Internet users are not interested in politics; the demographics suggest that Chinese Internet users are usually young, politically disinterested netizens who use the Internet to check their email, socialize, and play computer games (Zhang 2004, Bin and Hong 2010). These studies indicate that proponents of cyberdemocracy theory may have been overly optimistic about the average Internet user. Most

Chinese users, like many Internet users around the world, are simply not interested in using the Internet for political means.

METHODS AND PATTERNS OF CENSORSHIP AND CONTROL IN CHINA

Due to the factors listed above, cyberdemocracy theories have not proven true in China, where the government maintains strict controls over expression and collective action. Indeed, many of the same authors who suggest "cyberutopian" theories have expressed doubts about their efficacy in China. To understand why, one must examine the highly effective methods of control and censorship used by the CCP to control the Chinese Internet.

While some authoritarian regimes, such as those in Burma, Cuba, and North Korea, have severely restricted Internet access to a small, elite segment of the population, China has embraced the Internet as a method to stimulate economic growth and innovation—within certain parameters. Although Internet use has been actively promoted by the government, the CCP also aggressively regulates Internet content in order to maintain propaganda control (Hachigian 2002, Calingaert 2010, China and the Internet 2009, Wang and Tian 2005). In order to protect itself from the politically destabilizing effects of the Internet, the CCP has developed a variety of technological, administrative, and legislative strategies to firmly maintain control and surveillance of the Chinese Internet and its users.

The most basic level of control has become known as "the Great Firewall of China;" this mechanism automatically censors search results and blocks sites that are deemed to contain sensitive or controversial material (Bin and Hong 2010). These blocked sites range from Western news sites like CNN and the BBC to websites supporting the forbidden spiritual group Falun Gong, Tibetan or Taiwanese independence, human rights groups, and pro-democracy organizations (Wang and Tian 2005). There is no complete list of blocked websites in China;

rather, the Chinese government constantly alters what is blocked based on the current political climate and location (Zittrain and Edelman 2003). Zittrain and Edelman identify a list of commonly blocked subjects, including sexually explicit content, Tibet, Taiwan, Falun Gong, STDs, equality, AIDS, and democracy (2003). However, a significant amount of information on banned subjects is still accessible; they found that only 13.4% of sexually explicit content was blocked, and only 9.3% of politically sensitive subjects were blocked (Zittrain and Edelman 2003). While such heavy-handed technological methods of control are effective at blocking some controversial sites, the CCP has increasingly relied on more delicate means of control.

Because of the labyrinthine and nebulous nature of the Internet, the CCP relies most heavily on human forces to control and regulate the Chinese Internet. This includes encouraging self-censorship, issuing regulations for individual Internet service providers (ISPs) or Internet content providers (ICPs), employing human censors who manually monitor and remove offensive posts, and paying commentators to guide and influence online discussion in a pro-CCP direction (Calingaert 2010, Hassid and Stern 2010, Wang and Tian 2005, China and the Internet 2009). The CCP encourages self-censorship by deliberately maintaining vague rules over what is or is not allowed, such as forbidding posts that "disturb social order" or "subvert state power," and applying severe punishments to seemingly random offenders (Hassid and Stern 2010, Hachigian 2002). ISPs and ICPs are also encouraged to monitor their own users out of fear of losing their licenses; again, faced with vague guidelines of what is or is not allowed, these companies frequently censor themselves and their users more than is explicitly required (Merrington 2008, Wang and Tian 2005). Wang and Tian (2005) suggest the idea of a "digital panopticon," referring to a 1792 publication by English philosopher and social scientist Jeremy Bentham, in which Bentham asserts that prisoners in view of a panopticon (a circular building

with a tower in the center) are unable to determine if the authority is watching or not, and therefore constantly follow the rules for fear the authority is present. According to Wang and Tian, a similar occurrence exists on the Chinese Internet; Chinese netizens can never know for certain if their posts or web searches are being monitored, and therefore follow the rules out of fear they are being watched (2005). These human forces play an important role in controlling the Internet and Internet users, because they help regulate elements which might otherwise slip through the Great Firewall.

Recently, several studies have emerged that quantitatively study censorship in settings such as blogs, microblogs, and social media, revealing a more detailed view of the degree of freedom of expression (or lack thereof) on the Chinese Internet. Bamman, O'Connor and Smith (2012) present a large-scale analysis that reveals censorship trends in Chinese social media. For their study, the authors performed a statistical analysis on 56 million messages on the Twitter-like microblogging site Sina Weibo to see which messages were censored post-publication. By examining the rate at which posts containing certain terms were deleted, and comparing messages on Sina Weibo to Chinese-language messages on Twitter, the authors develop a list of politically sensitive terms which were deleted at varying frequencies. The authors also found that the rate at which posts were deleted varied throughout the country, with more posts being deleted in "troublesome" regions like Tibet and Qinghai. Most recently, a team of academics from Bowdoin College, Rice University, and the University of New Mexico use complex computer programming to attempt to reverse-engineer the Chinese government's censorship and tracking practices, narrowing down the deletion time frame to a matter of minutes; the authors found that 30% of deletions occur within thirty minutes, while 90% occur within a day (Zhu, Phipps, Pridgen, Crandall, Wallach, 2013). The authors also estimate the number of censors required to

read and censor all of Weibo's 70,000 new posts every minute, putting the number of total workers at 4,200 (Zhu et al, 2013). Sina Weibo has proven to be fertile ground for the analysis of Chinese censorship practices, although such studies require a great deal of computing knowledge and resources.

Similar studies have looked beyond the popular Sina Weibo into other types of social media. King, Pan, and Roberts (2012) also conducted a large-scale analysis of social media, but looked at nearly 1400 different social media services rather than simply Sina Weibo; specifically, they examined blogging sites that allow for longer posts and thus more content. They make the startling discovery that censorship conducted under the CCP is not necessarily intended to suppress criticism of the state or the Communist party, but rather to reduce the chance of collective action; even pro-government posts were censored when they had high collective action potential, and anti-government posts were not censored when they did not have high collective action potential (King, Pan, and Roberts 2012). Both studies suggest that the censorship methods of the CCP are more nuanced and delicate than many previous studies have assumed, suggesting that freedom of expression is possible on the Chinese Internet so long as the user remains within certain restrictions.

Unfortunately, due to the effectiveness and refinement of the CCP censorship mechanism, the democratic potential of the Internet and blogosphere has remained largely unrealized in China. In fact, the CCP appears to have seized the Internet as an opportunity to improve its propaganda machine and monitor the grievances of the nation. Chen and Ang (2011) determine that the Chinese government regards the Internet as just another public space, albeit an electronic one, in which a police force is needed to keep order; most importantly, the authors surmise that the CCP is using the Internet as an official channel through which citizens can air popular

grievances, where the problem can be dealt with tidily and bureaucratically rather than through potentially destabilizing popular protests. Herold (2011) similarly points out that Hu Jintao has actually encouraged Internet use in order to give citizens an outlet for anger and bring grievances to the attention of the government. In this sense, the Chinese Internet has been co-opted as yet another method through which the CCP can control and monitor its citizens.

The CCP has also seized the opportunity presented by the Internet to sway popular opinion in favor of the party, especially among China's Internet-savvy youth. Brady (2008) determines that China's propaganda specialists view the Internet as an opportunity rather than a threat; the Internet allows them to engage with one of the CCP's most important target audiences: the youth. The CCP encourages nationalistic pride through a variety of methods. One such example is the Strong Country (强国， *Qiangguo*) Forum, which was originally created after the 1999 bombing of the Chinese Embassy in Belgrade and continues to be an outlet for anti-Western sentiment and nationalistic fervor among the youth. Another method is computer games with propaganda messages, such as three computer games found on 21dnn.com, in which the player physically assaults a former president of Taiwan (Brady 2008). Brady concludes that the party-state has in fact embraced the Internet as not only a tool for economic growth, but also a new tool for propaganda control (2008). Since 2005, the Chinese government has been proactively manipulating discourse online through paid pro-party commentators referred to as the "50 Cent Party" (so-called because the users supposedly receive 50 cents for each pro-government post they create). An estimated 250,000 of these commentators lead online discussions along the party line and report users who post offending statements, amplifying the party's version of events over any alternative accounts (China and the Internet 2009, Mou, Atkin and Fu 2011, King, Pan, and Roberts 2012). Thus in some instances the government has been

able to dominate the "public sphere" created by the Internet and use it to further its own purposes rather than allow free discussion.

THE POLITICAL INFLUENCE OF THE INTERNET IN CHINA

Despite the pessimistic results of the preceding studies, there is also evidence that the Internet in China has helped propel certain issues into the official media and public discourse. Qiang (2011a) found that authorities in China are increasingly taking note and responding to public opinions expressed online. 2007 marked the first year in which Internet activity inspired public discourse despite opposition from the censors; online movements against a chemical plant in Xiamen and the use of slave labor in brick kilns gained so much attention on the Internet that the issues were forced into the official media as well, after which the government had little choice but to address the issues (Qiang 2011a). Using case studies of specific events, Qiang (2011b) found that the Internet and online activity have in some instances driven public events and created public dialogue, as well as given support to more outspokenly liberal media outlets such as the *Southern Metropolis Daily* or *Southern Weekend* by corroborating stories that would otherwise be buried beneath CCP propaganda. This suggests that, while online discourse is often controlled, it can still lead to a substantive effect in the real world.

Social media users in China, and specifically Chinese bloggers, have also played an important role in informing foreign correspondents and the professional news media about events occurring in China (MacKinnon 2008). MacKinnon finds that, while blogs are certainly far from replacing the work of the professional news media, bloggers in China have helped influence and supplement the work of journalists, especially regarding events that have been censored or repressed (2008). In a survey conducted by MacKinnon, a majority of China correspondents not only found blogs useful for their reporting, but also found them more useful than Chinese Central

Television (CCTV), CNN, and the BBC (2008). These results suggest that social media in China not only influences the public dialogue within China by forcing the government to address certain issues, but also influences foreign reporting on China by providing an "inside scoop" to the story.

In addition to informing foreign correspondents about China, blogs in China also play a vital role in creating a public space for discussion and monitoring. According to the China Internet Network Information Center, 231 million Chinese citizens had registered blogs by 2010, making up 55% of Chinese Internet users (Lagerkvist 2010). Lagerkvist (2010) asserts that blogs, as well as bulletin board systems (BBS) and chat rooms, provide a space for Chinese citizens to express their public opinion and thus helps create a rudimentary public sphere. Similarly, Yang (2009) concludes that, while a major revolution will not occur within China, civic engagement via the Internet and blogging does enhance citizenship rights such as the ability to voice opinions and to be informed about major events occurring around the country. Indeed, the blogosphere is a good source for alternative information—that is, information that is not sanctioned by, or is even actively repressed by, the regime (Loewenstein 2008). However, this power to spread information and express opinions is rarely used to push for reform of the political system and its institutions; rather, Chinese bloggers often direct their attention towards exposing corrupt local officials and businesses (Lagerkvist 2010). Thus the freedom provided by the blogosphere is unlikely to push China towards democracy, but does give an outlet for Internet users to express their opinions, share information, and build an elementary public sphere.

TRADITIONAL MEDIA CONTROL IN CHINA

The CCP has been so successful in coopting and controlling the Internet in part because of its extensive experience in the censorship of traditional media. Like many Communist regimes,

the CCP has been quick to recognize the usefulness of the media as a tool for selectively informing, instructing, and controlling China's population. It has engaged in such practices since the founding of the People's Republic of China in 1949, and has continued to utilize this tool to gain popular support, spread and implement policies, and stir up popular mobilization throughout the past century (Bennet 2011). Most major papers in China remain formally linked to the Communist Party, under the control of the Propaganda Department of the Central Committee of the Communist Party, also known as the Central Propaganda Department (CPD) (Bennet 2011). In controlling what the traditional print media is or is not allowed to report on, the CCP has used a self-censorship strategy similar to that used with the Internet; the government creates deliberately ambiguous laws about what type of information is or is not allowed (for example, "state secrets" are banned but not defined), thus encouraging individuals to censor themselves more stringently than they might otherwise (Dowell 2006). With decades of practice censoring traditional media in China, it is little wonder the CCP has done so well in controlling the Chinese Internet.

Two major reforms in the People's Republic of China have complicated key aspects of media control: Deng Xiaoping's Reform and Opening Up movement in the late 1980s and the partial privatization of media in the early 2000s. The Reform and Opening Up movement pushed China in a capitalist direction, allowing for private ownership and foreign investment, and in doing so the Chinese Communist Party lost its central "communist" ideology (Brown 2012, Chen 2010). During the ensuing decades, the CCP has clung to the Marxist and Maoist conception of a Party-state, while pushing for decidedly non-Communist economic reforms. This has created an ideological vacuum, resulting in an increasingly contradictory propaganda message being conveyed to the public. In order to resolve this ambiguity, the CCP has altered its propaganda

message to one focusing on reducing inequality and promoting economic growth (Brown 2012). The government has also increasingly appealed to nationalism, citing China's unique culture and history as a cause of pride and unity (Holbig and Gilley, 2010). Thus the CCP has remained pragmatic and adaptable in the message it chooses to project through the media, although the fundamental tension and ambiguity between Reform and Opening Up, on the one hand, and the CCP's foundation in Maoist and Communist ideology, on the other, remains.

Media reforms pursued in the early 2000s have also altered the government's control over the message of propaganda and ideology conveyed to the public, but again the CCP has been quick to adapt to new circumstances. While state-owned enterprises (SOEs) were quickly privatized following market reforms in the 1980s, the media industry remained strictly controlled by the state until a series of reforms beginning in the early 2000s following China's ascension to the WTO (Huang 2007). Private investors, even those from outside China, are currently allowed to invest in the media industry, although only as minority shareholders (Ansfield 2004). Yet the CCP has been careful to avoid losing control of the message projected by the media; Huang (2007) identifies two "safety devices" through which the CCP maintains control of the media: by banning private and foreign investment in the editorial sectors of the media (that is, sectors that ultimately control the message conveyed through the press), and by decreeing that private and foreign media firms who wish to function in China must do so as a joint venture with a state-owned media company (China Business Infocenter 2004, Huang 2007). Additionally, the CCP has retained a number of core Party papers, principally the People's Daily, and shielded these from outside interference (Huang 2007). In this way, the CCP has allowed for the benefits of foreign and private investment—lesser corruption, greater efficiency, and stronger competition—while maintaining ultimate control of the message projected through the media.

China has a notoriously poor record of press freedom, but the Internet has increasingly provided a way to circumvent government control. The Committee to Protect Journalists reports that at least 34 journalists are currently imprisoned by the Chinese authorities, while Reporters Without Borders reports that 40 of 60 political prisoners in China's jails are journalists (Bennet 2011, Dowell 2006). China's media censorship practices reached a new height of notoriety during the SARS epidemic of 2002-2004, with disastrous global repercussions; because the epidemic was censored and hidden by the media for a long period of time, what could have been an easily contained disease spread worldwide (Dowell 2006). In fact, the news was only reported on by the official media after mass emails and texts sent by individual citizens spread awareness of the true situation (Dowell 2006). After the SARS disaster, the CCP actually lessened its control of the media to ensure such an event is not repeated (Dowell 2006). It also may have served to demonstrate to the CCP the power of social media in spreading information despite strict controls. Similar phenomena have begun occurring with increasing frequency since the spread of the Internet; stories that would otherwise remain covered up have been forced into the open by online activism and information dissemination.

This returns us to the original research question: what is the impact of the Internet, as an alternative and competing source of information, on traditional media in China? Are provinces with more Internet-savvy citizens more likely to report on controversial stories, and provide a greater level of detail and criticism? In the following sections, I will describe the research design and methodology I have used to examine these questions, outline my strategies for data collection and coding, analyze my results, and provide some concluding observations.

RESEARCH DESIGN

In the preceding literature review, I have surveyed the relevant literature on the theory of e-democracy or cyberdemocracy, the history of the Chinese Internet, and the censorship practices of the CCP. From these sources, I conclude that while much of the democratizing potential of the Internet has been stymied by the CCP's sophisticated censorship and cooptation methods, the Internet remains a useful tool for promoting freer discourse and providing an alternative source of information outside of the official media. I propose that this function as an alternate source of information generates two related effects that lead to less censorship and greater freedom of traditional media. First, Internet usage generates a competition effect: online information sources such as blogs and social media sites create competition with traditional media by providing an alternate source of information with which traditional media must now compete, meaning that traditional media faces stronger pressure to attract readers with accurate and timely information. Second, the Internet generates an agenda effect: Chinese citizens are better informed and therefore more aware when information is being withheld by the traditional media, creating a public more dedicated to pressuring traditional media to report accurately on events.

This leads me to my two related hypotheses:

H1: Newspapers in provinces with higher Internet penetration rates are more likely to report on sensitive issues.

H2: Newspapers in provinces with higher Internet penetration rates will provide more critical and detailed coverage of the sensitive issue.

Both of these hypotheses are drawn from e-democracy theory, which suggests that, other factors held equal, provinces with a higher percentage of Internet users will have a more free and

open press because the Internet provides greater access to alternative information and opinions and generates pressure on traditional news sources to provide similarly unbiased information.

To test these hypotheses, I used both quantitative and qualitative methods. First, I chose to examine the coverage of a single politically sensitive event, the Bo Xilai scandal, across each of China's 31 provinces; this issue was selected because of its sensitive nature and national prominence. I then selected a single newspaper from each province, choosing the newspaper with the most subscribers in each province [1](see Appendix I for full list of newspapers). Using online versions of these newspapers[2], I examined each newspaper's coverage of the event within a specific time frame. I then coded the coverage in order to obtain two measures, an Overall Media Freedom score and an Overall Critical Freedom score; the former is a general measure of descriptiveness and includes measures of criticism, while the latter focuses solely on criticism and accuracy.[3] In this way, I created data for my dependent variable, press freedom. My corresponding independent variable is the percentage of the population in each province that regularly accesses the Internet, which I will refer to as "Internet Penetration Rate" or "IPR." Both variables are measured at the provincial level. I have also collected general data on each province for variables that might affect media freedom, Internet penetration rates, or both; these variables include data for total GDP, GDP per capita, average wage of workers, foreign direct

[1] By only choosing one newspaper per province, I am examining only a very small part of that province's traditional media; unfortunately, this limit is necessary due to time constraints. However, by choosing the newspaper with the largest number of subscribers in each province, I will be examining the news that reaches the largest number of people in each province.

[2] The online versions of newspapers were chosen because of the obvious difficulty of obtaining physical copies of Chinese newspapers. These online versions were exact copies of the print media, in PDF form, rather than articles written for the newspaper's website; therefore the results are exactly the same as if I had examined the physical paper.

[3] One of the main limitations of this study is the possibility of human error, both in the coding and in the collection of articles. I have attempted to be as thorough and precise as possible by coding each article multiple times and comparing results. However, the potential for errors in the dataset exists. This is especially important to note because of the small number of observations; a single error could have a large effect on the results of this study.

investment (FDI), percent of population enrolled in college, number of newspapers published, and urbanization.

Unfortunately, standard tests of statistical significance, such as the probit model and linear regression, are difficult when dealing with such a small sample size. I have attempted to overcome this obstacle by including a variety of tests and by carefully analyzing trends within the data. I have also included a more qualitative section. For my qualitative analysis, I chose three pairs of provinces that were similar along certain variables but differed in Internet penetration rates. For these six provinces, I chose two sensitive political events in addition to the Bo Xilai case: the 2012 Feng Jianmei forced abortion case, and the 2011 Wenzhou Line train crash. Following the same procedures used for the Bo Xilai case, I analyzed the provinces' newspapers' coverage of these two events and gave each province an additional press freedom score. These more in-depth case studies allow me isolate Internet penetration rates as a causal variable, as well as expand my observations to include additional cases.

DATA COLLECTION

In this study I used both pre-existing data and self-generated data. In the following section I will describe my sources and methods for collecting data on each variable studied.

INTERNET PENETRATION RATE

As with any study of authoritarian regimes such as China, accurate data is often difficult to procure. My data on my independent variable, provincial Internet penetration rates, comes from the China Internet Network Information Center (中国互相网络信息中心，*Zhongguo Huxiang Wangluo Xinxi Zhongxin*), a non-profit management and service organization under China's Ministry of Information Industry. Information from the organization, abbreviated as CNNIC, has been used in a number of scholarly papers and is generally regarded as accurate

(Bin and Hong 2010, Chen and Ang 2011). The following is a table of the provincial-level data provided by CNNIC on Internet usage in 2011 that I will be using to test my hypothesis (Figure 1). The table includes data on not only the Internet penetration rate of each province, but also its rate of increase; while this information is not necessary to my study, it is nonetheless informative.

Figure 1. **Provincial-Level Internet Usage Statistics**

Province	Number of Internet Users (10000 persons)	Internet Penetration Rate (% of total population)	Rate of Increase (%)	Penetration Rate Rank	Speed of Increase Rank
Beijing	1379	70.3	13.2	1	9
Shanghai	1525	66.2	23.1	2	1
Guangdong	6300	60.4	18.3	3	2
Fujian	2102	57	13.7	4	8
Zhejiang	3052	56.1	9.5	5	23
Tianjin	719	55.6	10.9	6	17
Liaoning	2092	47.8	9.2	7	25
Jiangsu	3685	46.8	11.5	8	15
Xinjiang	882	40.4	7.7	9	28
Shanxi	1405	39.3	12.4	10	10
Hainan	338	38.9	11.4	11	16
Shaanxi	1429	38.3	10.3	12	22
Shandong	3625	37.8	8.8	13	26
Hubei	2129	37.2	11.9	14	11
Chongqing	1068	37	7.9	15	27
Qinghai	208	36.9	10.4	16	20
Hebei	2597	36.1	18.2	17	3
Jilin	966	35.2	9.5	18	24
Inner Mongolia	854	34.6	14.4	19	6
Ningxia	207	32.8	18.2	20	4
Heilongjiang	1206	31.5	7	21	29
Tibet	90	29.9	10.8	22	19
Hunan	1936	29.5	10.8	23	18
Guangxi	1353	29.4	10.4	24	21
Sichuan	2229	27.7	11.6	25	14
Henan	2582	27.5	6.8	26	31
Gansu	700	27.4	6.9	27	30
Anhui	1585	26.6	13.9	28	7
Yunnan	1140	24.8	11.7	29	13

Jiangxi	1088	24.4	14.5	30	5
Guizhou	840	24.2	11.9	31	12

Source: CNNIC, 2011

CONTROLS

I have also used data from the China Data Online database and the China Statistical Database to use as controls in my study, in order to hold all factors except for Internet usage constant. With the exception of the urbanization variable, all variables are for the year 2010, in order to ensure that the variables had an effect on provincial Internet penetration rates, which are from 2011. The measures for total GDP, GDP per capita, average wage of workers, FDI, and number of newspapers published are all exact data from the China Data Online database. The measure for percent of population enrolled in higher education is also based on data from the China Data Online database; I have simply taken the measure of population enrolled in higher education and divided it by the measure for population. The measure for urbanization is taken from the China Statistical Database, which only had data from 2009, rather than 2010, available. To create this data, I took the data for year-end population in cities and towns and divided it by the year-end population count for the total province. The following table lists these control variables by province (Figure 2).

Figure 2: **Descriptive Provincial-Level Statistics**

Province	GDP (100 million yuan, 2010)	GDP per capita (yuan/ person, 2010)	Average Wage of Workers (yuan, 2010)	FDI (USD 10000, 2010)	Percent of Population Enrolled in Higher Education (2010)	Total Newspapers Copies Published (100 million copies, 2010)	Urbanization (2009)
Beijing	14114	73856	65683	636358	29.9	77.5	85.0
Shanghai	17166	76074	71874	1112100	22.4	15.8	88.6
Guangdong	45473	44736	40358	2026100	13.7	45.6	63.4
Fujian	14737	40025	32647	580279	17.5	10	51.4
Zhejiang	27722	51711	41505	1100175	16.2	32.5	57.9
Tianjin	9224	72994	52963	1084872	33.0	9.4	78.0

Liaoning	18278	42355	35057	2075000	20.1	15.7	60.4
Jiangsu	41425	52840	40505	2849777	21.0	27	55.6
Xinjiang	5419	24978	32361	23700	11.5	4.6	39.8
Shanxi	9088	26385	33544	151000	15.7	20.6	46.0
Hainan	2052	23644	31025	151200	17.4	2.1	49.1
Shaanxi	10021	27133	34299	182006	24.8	6.2	43.5
Shandong	39170	41105	33729	916833	17.0	33.4	48.3
Hubei	15968	27906	32588	405015	22.6	18.2	46.0
Chongqing	7926	27596	35326	634397	18.1	5.9	51.6
Qinghai	1350	24115	37182	21900	8.0	1	41.8
Jilin	8577	31306	29399	128000	20.0	8.7	53.3
Inner Mongolia	11655	47347	35507	338500	15.0	2.7	53.4
Ningxia	1643	26860	39144	8100	12.7	1.1	46.1
Heilongjiang	10235	27076	29603	266000	18.8	7.8	55.5
Tibet	507	17319	54397	2434	10.3	0.7	23.8
Hunan	15902	24719	30483	518400	15.9	12.9	43.2
Guangxi	9502	20219	31842	91200	12.3	7	39.2
Sichuan	16899	21182	33112	612299	13.5	17	38.7
Hebei	20394	28668	32306	383000	15.4	14.7	43.0
Henan	23092	24446	30303	624669	15.5	21.2	37.7
Gansu	4119	16113	29588	13500	14.9	4.1	32.6
Anhui	12359	20887	34341	501446	15.8	11.7	42.1
Yunnan	7220	15749	30177	132900	9.5	6.4	33.1
Jiangxi	9451	21253	29092	510084	18.3	7	43.2
Guizhou	4594	13119	31458	29500	9.3	3.7	29.9

Source: China Data Online 2010, China Statistical Database 2009

MEDIA FREEDOM

Obtaining data for my dependent variable, media freedom, was a more complex process than obtaining data for the previously listed variables because I collected and coded my own data. For the sake of clarity, I will break my data collection method for this variable into several steps.

Media Freedom: Collecting Data

As briefly described in the previous section, I selected the newspaper with the most subscriptions from each of China's 31 provinces as my traditional media source. While only choosing one newspaper to represent the entire province could lead to observations that are not

representative of all traditional media in that province, selecting on the basis of subscribers gives a uniform method of selection; all newspapers observed are popular within their province and widely read. After selecting newspapers for each province, I found online copies of each newspaper in order to facilitate my search.

In order to observe variation between provinces, I chose a single politically sensitive case and observed each province's coverage of the event. I selected the Bo Xilai political scandal for this purpose because of its strong political repercussions, the stigma in China against criticizing high-ranking officials, and the national attention the case eventually received. In order to represent the full importance of the scandal, I will provide a general background on the case.

Bo Xilai, the son of early revolutionary hero Bo Yibo, rose from a minor position in Liaoning Province to become the leader of Chongqing, one of China's four municipalities- cities with the ranking and independence of a province. His "Chongqing Model," which entailed a strong crackdown on crime, the revival of "red culture" through displays patriotic Communist songs and Maoist quotations, and an emphasis on greater state power and a more equitable distribution of wealth, gained the attention and support of the Chinese left and modern-day Maoists, and has been widely credited with transforming Chongqing into an economic powerhouse. However, scandal broke loose in February 2012 with the flight of Wang Lijun, Chongqing's former police chief and vice-mayor, to Chengdu, where he took refuge in the US Consulate for 24 hours before being escorted to Beijing. The scandal came to a head with Bo's removal from power on March 15th amid accusations of corruption. At the time of Bo's demotion, rumors circulated that his removal was tied to his neo-Maoist views and his open political campaigning for a position on the 9-person Politburo Standing Committee, showing a possible rift between the left and right factions of Chinese politics.

By late March, news began to circulate that Bo and his wife, Gu Kailai, were tied to the death of British businessman Neil Heywood, who died in Chongqing in November 2011. Soon it was revealed that Wang Lijun's demotion from vice-mayor in February was tied to his investigation of the murder, and his bizarre sojourn in the US Consulate had been a plea for immunity and possible safety in the United States. By April 10th Bo had been stripped of all Communist Party posts, and after a summer of investigation his wife was tried and sentenced to a suspended death sentence for the murder of Neil Heywood. In September, Wang Lijun was tried for defection, power abuse, and bribe taking and eventually sentenced to a relatively lenient 15 years in jail. By October 2012, Bo Xilai had been expelled from the Communist Party and from parliament, removing his immunity from prosecution. At the time of this writing, Bo Xilai remains in detention at an undisclosed location while the Chinese government prepares a case against him. (BBC, 2012a; BBC, 2012b; BBC 2012d; Wines, 2012; Keck, 2012).

The scandal has become increasingly prominent over time, and newspapers both in China and abroad have reported heavily on the case. Because I am studying media freedom, I wanted to observe coverage of the scandal when it was most controversial—just as the scandal began to unfold in February and March 2012. For this reason, I searched for articles published between February 1, 2012 and March 31, 2012. This period of time included Wang Lijun's demotion from vice-mayor of Chongqing, his flight to the US Consulate in Chengdu, his supposed "holiday-style vacation" following his departure from the consulate (which was, in fact, detention), Bo Xilai's dismissal from his post as party chief in Chongqing, and the circulation of rumors tying Bo Xilai and his wife to the death of Neil Haywood (BBC, 2012b).

In order to find articles for each newspaper, my assistants and I performed a simple site search on Google and limited the time frame to between February 1, 2012 and March 31, 2012.

For the search, we used the names of both Bo Xilai and Wang Lijun as keywords. For example, to search for articles published in Shanghai (for which I used the newspaper 新民晚报, Xinmin Evening Post), I would enter "site:http://xmwb.xinmin.cn 薄熙来" into the search bar to search for articles about Bo Xilai, and then limit the search results to the relevant period of time. Similarly, to search for articles about Wang Lijun, I would enter "site:http://xmwb.xinmin.cn 王立军" into the search bar, again limiting the search results to between February 1 and March 31. After locating articles using these keywords, my research assistants and I translated the articles[4]; English translations were necessary in order to ensure my coding was as accurate as possible. In all, 32 articles pertaining to Bo Xilai and Wang Lijun were translated.

Media Freedom: Coding Data

To obtain my measures of media freedom, I gave each article a score in five individual categories: character count, level of detail, level of criticism, accuracy/explicitness, and origin of the article (whether the story was original or if it came from Xinhua, a national newspaper)[5]. I read and gave scores for each article three separate times, in order to ensure the most accurate coding; if an article received a different score in different readings, I re-examined the case and resolved the discrepancy. The scores in each of the five categories were then added together for two article scores: the media freedom score, a broad score that was the sum of all the aforementioned categories, and the critical freedom score, a narrower score which included only level of criticism, accuracy/explicitness, and origin of the article. For each province, I added all the article-level media freedom scores, plus the total number of articles for that province, to create a province-level score of Overall Media Freedom. Similarly, I combined all the article-

[4] Several articles were dismissed because they were not relevant to the case (i.e., an article from early February about Bo Xilai feeding seagulls).
[5] For detailed coding rules, please see Appendix II.

level critical freedom scores for each province together for a score of Overall Critical Freedom. I used these final two variables as two alternate measures of media freedom within a province. Below is a table of the final data for media freedom in each province (Figure 3); for a description of my coding rules for article-level media freedom and provincial level scores, please see Appendix II.

Figure 3: **Provincial-Level Overall Media Freedom and Overall Critical Freedom**

Province	Number of Articles Published	Reported on Case (Yes or No)	Overall Media Freedom Score	Overall Critical Freedom Score
Beijing	3	Yes	20	3
Shanghai	5	Yes	32	15
Guangdong	2	Yes	14	5
Fujian	1	Yes	18	7
Zhejiang	3	Yes	42	19
Tianjin	0	No	0	0
Liaoning	0	No	0	0
Jiangsu	0	No	0	0
Xinjiang	1	Yes	13	4
Shanxi	0	No	0	0
Hainan	0	No	0	0
Shaanxi	3	Yes	16	6
Shandong	1	Yes	13	6
Hubei	0	No	0	0
Chongqing	0	No	0	0
Qinghai	0	No	0	0
Jilin	0	No	0	0
Inner Mongolia	0	No	0	0
Ningxia	0	No	0	0
Heilongjiang	0	No	0	0

Tibet	0	No	0	0
Hunan	0	No	0	0
Guangxi	4	Yes	28	14
Sichuan	1	Yes	4	1
Hebei	0	No	0	0
Henan	3	Yes	27	8
Gansu	0	No	0	0
Anhui	2	Yes	19	8
Yunnan	2	Yes	8	2
Jiangxi	0	No	0	0
Guizhou	1	Yes	15	11

As this table demonstrates, many of the selected provincial newspapers did not report on the case during this time period. In my analysis section, I will examine what effect, if any, provincial Internet penetration rates played in whether or not a province reported on the event.

DATA ANALYSIS

I begin my data analysis by examining the simpler of the two hypotheses:

H1: Newspapers in provinces with higher Internet penetration rates are more likely to report on sensitive issues.

Because my independent variable in this hypothesis is a dummy variable (Reported or Did Not Report), I started my data analysis with a probit regression. I used three different models to test this hypothesis. First, I tested a simple model including only the effect of Internet Penetration Rate on reporting or not reporting. Second, I tested the same model with added controls for variables that might also affect the relationship: provincial GDP, the percent of citizens enrolled in college within that province, and the percent of the population living in urban areas. Finally, I ran a third test controlling once again for college enrollment and urbanization,

but using different measures for provincial wealth: the FDI received by the province and GDP per capita rather than overall GDP; the model also controlled for the number of newspapers published in that province. The results of these three models are listed in the table below (Figure 4).

***Figure 4*: The Effect of Internet Penetration Rate on Reporting or Not Reporting**

Model	1	2	3
Constant	-1.044 (.755)	-.374 (.862)	-.175 (1.513)
Internet Penetration Rate	.0240 (.019)	.072* (.044)	.058 (.051)
GDP	-	.000 (.000)	-
College Enrollment	-	-.067 (.069)	-.077 (.072)
Urbanization	-	-.038 (.041)	-.039 (.058)
FDI	-	-	0.00 (0.00)
GDP Per Capita	-	-	0.00 (0.00)
Number of Newspapers	-	-	.083** (.042)

N=31

Note: *p<.10, **p<.05

Unfortunately, the results of this probit regression are rather inconclusive; because of the small scale of my study, it is difficult to achieve statistical significance on any of the results. The first model shows a small positive effect of Internet penetration rate on reporting, but the result is not statistically significant. When controlling for GDP, college enrollment, and urbanization, it appears that Internet penetration rate has small positive effect with a p value of .09; given the limitations of this study, this level of statistical significance is meaningful. In the final model, the only statistically significant variable is number of newspapers. Interestingly, in the final two models, measurements of provincial affluence appear to have no effect on reporting or not reporting.

While the relatively small scale of this study makes statistical techniques such as probit regressions difficult, other tests can provide more meaningful results. I also tested my hypothesis using a Pearson chi-square test, which indicates the likelihood the null hypothesis is correct. In this case, the chi-square test will indicate whether Internet penetration rates affect reporting. While this test does not reveal the direction or scale of the effect, it is nonetheless useful in that it indicates the presence of a relationship.

Before running the chi-square test, I first needed to transfer my continuous variable of Internet penetration rate into categories. I created five categories of Internet penetration rates: Very High IPR, for provinces with greater than 60% Internet penetration rates (3 provinces); High IPR, for provinces with Internet penetration rates between 50% and 59% (3 provinces); Medium IPR, for provinces with Internet penetration rates between 40% and 49% (3 provinces); Low IPR, for provinces with Internet penetration rates between 30% and 39% (11 provinces); and Very Low IPR, for provinces with Internet penetration rates lower than 29% (11 provinces)[6]. I will be using these five categories of Internet penetration rates for a number of other tests in this paper. The results of my Pearson chi-square test are below (Figure 5).

***Figure 5*: Pearson Chi-Square Test of IPR and Reporting**

	Reported	Did Not Report	Total
Very High IPR (>60%)	3	0	3
High IPR (50-59%)	2	1	3
Medium IPR (40-49%)	1	2	3
Low IPR (30-39%)	2	9	11
Very Low IPR (<29%)	6	5	11
Total	14	17	31

Pearson chi-square = 7.9967
P=0.092

[6] For a complete table of Internet penetration rates by category please see Appendix III.

The chi-square test yields a p-value of 0.092, indicating that there is a 9.2% chance that the null hypothesis is correct—that is, there is a 9.2% chance that Internet penetration rates have no effect on whether or not a province reported on the case, and a 90.8% chance that Internet penetration rates do have an effect on whether or not a province reports on the case. Given the limitations of my data set, I believe that this supports my hypothesis, although not as conclusively as one might hope.[7]

As stated before, statistical tests are difficult to use in this study because of the limitations of my data set. However, trends can still be observed in the data, despite the difficulty of achieving statistical significance. Below is a chart listing which provinces reported and did not report, separated by Internet penetration rate, once more categorized into five groups of Internet penetration rates (Figure 6).

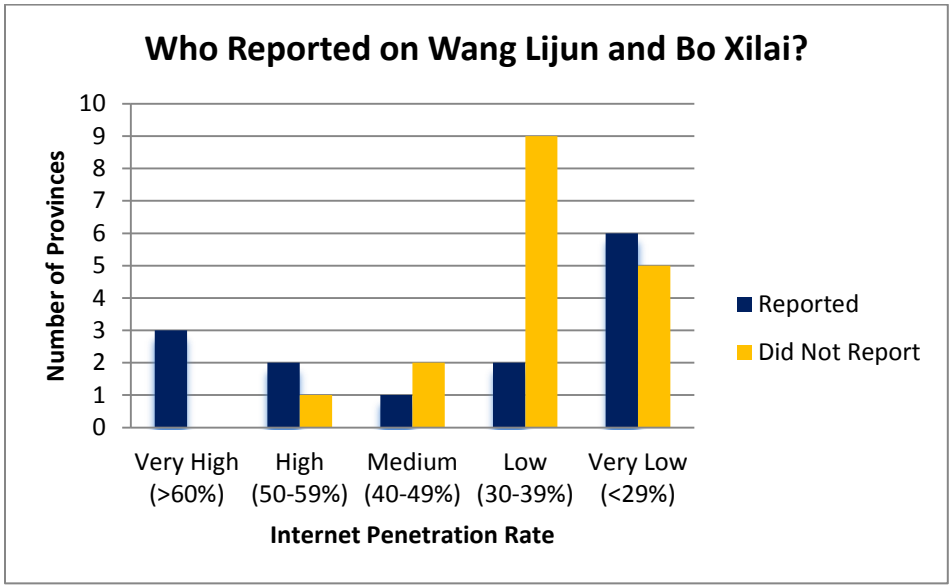
***Figure 6*: Reporting on Bo Xilai and Wang Lijun by Internet Penetration Rate**

	Very High IPR (>60%)	**High IPR (50-59%)**	**Medium IPR (40-49%)**	**Low IPR (30-39%)**	**Very Low IPR (<29%)**
Reported	Beijing Shanghai Guangdong	Fujian Zhejiang	Xinjiang	Shaanxi Shandong	Guangxi Sichuan Henan Anhui Guizhou
Did Not Report		Tianjin	Liaoning Jiangsu	Shanxi Hainan Hubei Chongqing Qinghai Jilin Inner Mongolia Ningxia Heilongjiang	Tibet Hunan Hebei Gansu Yunnan Jiangxi

[7] Generally, a p-value of <0.05 is considered statistically significant; however, given the small size of my study, a p-value of .092 is still indicative of a relationship.

This simple chart shows that, while provinces in every category of Internet penetration rate reported on the case, provinces that did not report on the case are grouped in the lower Internet penetration rate categories, indicating that a lower Internet penetration rate is related to not reporting on the case—or at least, the two vary together. This can better be represented in simple graphical form (Figure 7).

Figure 7:



Again, while provinces in every category reported on the case, the provinces that did not report on the case are grouped largely in the lower Internet penetration rate categories. It is also worth noting that the "Low" and "Very Low" categories of Internet penetration rate contain a significantly higher number of provinces.[8]

The preceding tests, while not necessarily displaying a statistically significant effect, do demonstrate a definite relationship between Internet penetration rates and whether or not a province reported on the Bo Xilai and Wang Lijun case. Based on these tests, my hypothesis is not disproven—there appears to be a positive relationship between Internet penetration rates and

[8] Again, for a full chart of provinces and their respective Internet penetration rates and IPR categories, please see Appendix III.

frequency of reporting. Unfortunately, without statistically significant results, it is difficult to definitively determine if Internet penetration rate is causing provinces to report on sensitive cases with greater frequency, or if the same variable causes both higher Internet penetration rates and higher instances of reporting. Future studies could add more cases and more newspapers to the analysis, providing a greater data pool from which to draw conclusions; to some extent, the case studies examined later in this paper will attempt to prove the relationship.

I will now proceed to my second hypothesis, which deals only with provinces that reported on the Bo Xilai scandal:

H2: Newspapers in provinces with higher Internet penetration rates will provide more critical and detailed coverage of the sensitive issue.

As described in the Data Collection section of this paper, I developed two measures for media freedom: Overall Media Freedom, which is a broad measure of a newspaper's descriptiveness, criticalness, accuracy, and length, and Overall Critical Freedom, which focuses specifically on the criticalness and accuracy of a newspaper's coverage. I begin by testing the effect of Internet penetration rates on media freedom as measured by the Overall Media Freedom variable. To test this hypothesis, I drop the provinces that did not report on the Bo Xilai scandal in order to observe variation of coverage between provinces. This decreases my list of observations from 31 to 14, meaning that statistical significance is even more difficult to achieve.

As with the previous hypothesis, I test this hypothesis with a variety of methods, ranging from statistical regressions to basic charts of the relationship to graphical representations of the data. In providing a variety of tests and models of the data, I am attempting to overcome the difficulty of analyzing a fairly limited set of data by doing so as thoroughly as possible.

For the sake of thoroughness, I begin with a linear regression, testing three models. My first model is a simple test between Overall Media Freedom and Internet Penetration Rate. The second model tests this relationship while controlling for provincial GDP, FDI, and urbanization- factors that could also affect the liberalness of a province's media. Finally, my third model tests the relationship between Overall Media Freedom and Internet Penetration Rate while again controlling for urbanization, as well as provincial GDP per capita and the total number of newspapers in the province. The table below lists the results of these regressions.

***Figure 8*: Effect of Internet Penetration Rate on Overall Media Freedom**

Model	1	2	3
Constant	9.314 (7.19)	4.060 (9.617)	23.672 (16.156)
Internet Penetration Rate	.236 (.160)	.044 (.447)	-.130 (.441)
GDP	-	-.000 (.000)	-
FDI	-	-.000 (.000)	-
Urbanization	-	.339 (.438)	-.591 (.755)
GDP Per Capita	-	-	.000 (.000)
Number of Newspapers	-	-	-.171 (.183)

N=14

Note: *p<.05;**p<.01

None of the results of this regression are statistically significant, an unfortunate side effect of the small number of provinces that reported on the case. Because little can be learned from statistical methods such as these, I will turn to more qualitative measures; trends can still be observed in the data, despite its small size, and while these trends might not be statistically significant, they can still reveal important relationships in the data.

Below is a chart of Overall Media Freedom by Internet penetration rate. For this chart, I once again use the same five categories for Internet Penetration Rate rather than the continuous variable. Additionally, I divide the Overall Media Freedom score into five broad categories: Very High Media Freedom, for provinces with an Overall Media Freedom score greater than 33 (1 province), High Media Freedom, for provinces with an Overall Media Freedom score between 25 and 32 (3 provinces), Medium Media Freedom, for provinces with an Overall Media Freedom score between 17 and 24 (3 provinces), Low Media Freedom, for provinces with an Overall Media Freedom score between 9 and 16 (5 provinces), and Very Low Media Freedom, for provinces with an Overall Media Freedom score between 1 and 8 (2 provinces).[9]

Figure 9: **Overall Media Freedom by Internet Penetration Rate**

	Very High IPR (>60%)	**High IPR (50-59%)**	**Medium IPR (40-49%)**	**Low IPR (30-39%)**	**Very Low IPR (<29%)**
Very High Media Freedom		Zhejiang			
High Media Freedom	Shanghai				Guangxi Henan
Medium Media Freedom	Beijing	Fujian			Anhui
Low Media Freedom	Guangdong		Xinjiang	Shaanxi Shandong	Guizhou
Very Low Media Freedom					Sichuan Yunnan

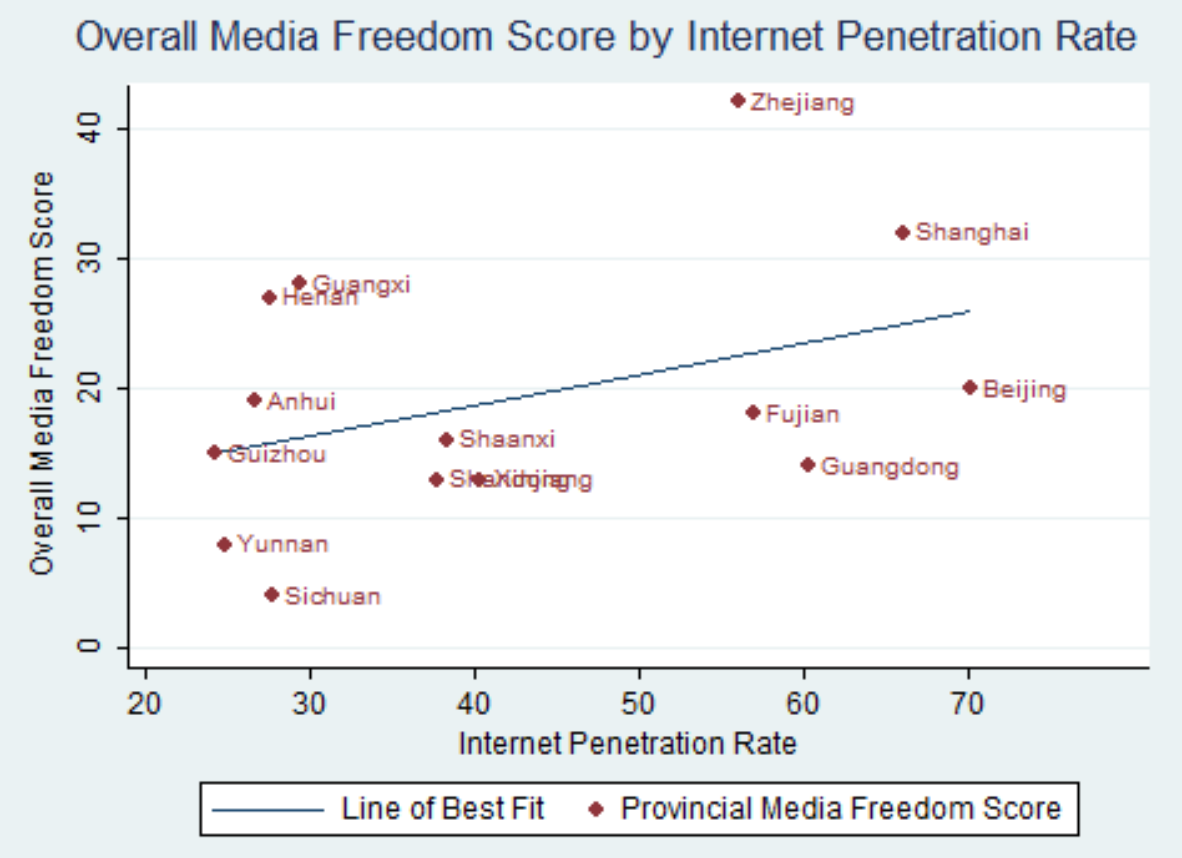
This chart demonstrates an important trend in the data: provinces with lower Internet penetration rates also appear to have lower media freedom scores, while provinces with higher Internet penetration rates tend to receive higher media freedom scores. The province with the highest media freedom score, Zhejiang Province, belongs to the High IPR category, while the only two provinces to receive a Very Low Media Freedom score belong to the Very Low IPR category. However, there is still significant variation within each category of Internet penetration

[9] For a complete chart of provinces and their Overall Media Freedom categories, please see Appendix IV.

rate; for instance, Guangdong Province belongs to the Very High IPR category but received a Low Media Score, while Guangxi Province and Henan Province both belong to the Very Low IPR category but received a High Media Freedom score. This suggests that, while Internet penetration rates play a role in media freedom, there are other factors at work.

In order to study the relationship between Internet penetration rate and media freedom, I created a simple scatter plot to examine trends in the data. For this graph, I used continuous measures for both Internet Penetration Rate and the Overall Media Freedom score, rather than the categorical variables used above. I also included a simple line of best fit to demonstrate the trend in the data more clearly (Figure 10).

Figure 10:



The line of best fit clearly indicates a positive relationship between Internet penetration rate and overall media freedom, supporting my hypothesis. However, it should be noted that no statistical controls were used in this graph. Once again, the small number of observations limits the efficacy of statistical methods, and without controls it is impossible to determine for certain that other variables are not affecting the relationship. However, in the case study portion of my analysis I will attempt to isolate Internet penetration rate as a causal factor. For now, the graph above does indicate the presence of a positive relationship, in support of my hypothesis.

I now test my hypothesis using my second and more stringent measure of media freedom, Overall Critical Freedom. As described in the Data Collection section, my measure for Overall Critical Freedom is the summation of individual article scores for level of criticism, accuracy/explicitness, and originality of the article. I developed this alternative measure because it is possible for an article to be detailed and descriptive without those details and descriptions being entirely accurate or critical. This measure focuses on the most important element of media freedom, that is, the freedom to criticize the government and government officials and provide accurate details when those details contain controversial or sensitive information.

I once again begin testing my hypothesis with a linear regression; although I am using a very small sample size with a correspondingly small chance of statistical significance, I include the regression for the sake of thoroughness. Once again, I run the regression using three different models: first, a simple test between Overall Media Freedom and Internet Penetration Rate; second, a model testing the relationship while controlling for provincial GDP, FDI, and urbanization; and finally, a model that tests the relationship while controlling for urbanization, provincial GDP per capita, and the total number of newspapers in the province. The table below lists the results of these regressions (Figure 11).

Figure 11: **Effect of Internet Penetration Rate on Overall Critical Freedom Score**

Model	1	2	3
Constant	5.357 (4.014)	1.356 (4.929)	11.735 (8.617)
Internet Penetration Rate	.0580 (.089)	-.010 (.229)	-.080 (.235)
GDP	-	.000 (.000)	-
FDI	-	-.000 (.000)	-
Urbanization	-	.202 (.225)	-.294 (.403)
GDP Per Capita	-	-	.000 (.000)
Number of Newspapers	-	-	-.155 (.098)

N=14

Note:*p<.05;**0<.01

Once again, none of the results are statistically significant, which is to be expected with a sample size of 14. None of the variables appear to have a strong effect, and all have p-values greater than 0.1. Future studies that include more observations could use this method to determine the strength of the relationship between these variables; however, given the limitations of my current study, statistical analysis is difficult.

A more useful method of interpreting the data is to once more separate the measures of Internet penetration rate and Overall Critical Freedom into five categories each and chart the results. The Overall Critical Freedom score is divided as follows: Very High Critical Freedom, for provinces with an Overall Critical Freedom score between 17 and 20 (1 province); High Critical Freedom, for provinces with an Overall Critical Freedom score between 13 and 16 (2 provinces); Medium Critical Freedom, for provinces with an Overall Critical Freedom score between 9 and 12 (1 province); Low Critical Freedom, for provinces with an Overall Critical Freedom score between 5 and 8 (6 provinces); and Very Low Critical Freedom, for provinces

with an Overall Critical Freedom score between 1 and 4 (4 provinces). The results of this chart are below.

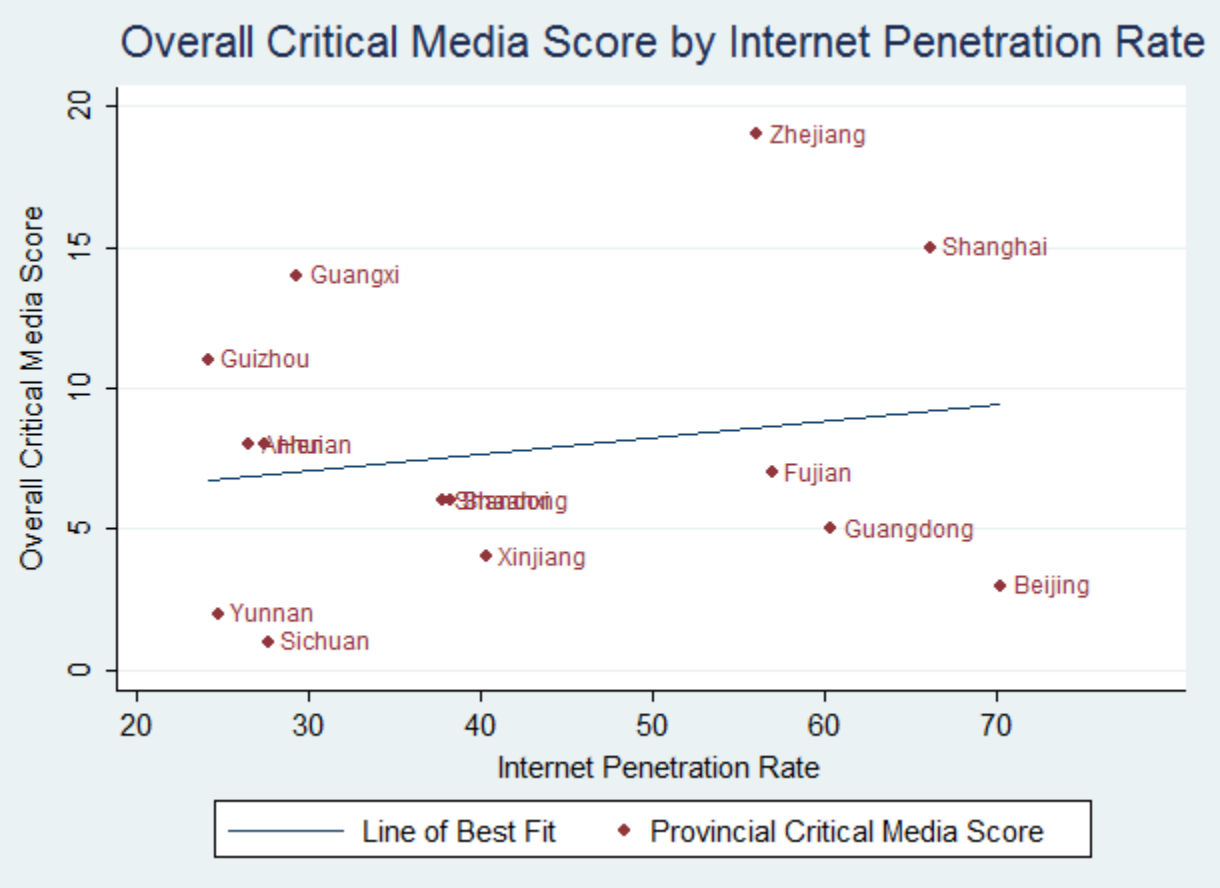
Figure 12: **Overall Critical Freedom Score by Internet Penetration Rate**

	Very High IPR (>60%)	**High IPR (50-59%)**	**Medium IPR (40-49%)**	**Low IPR (30-39%)**	**Very Low IPR (<29%)**
Very High Critical Freedom		Zhejiang			
High Critical Freedom	Shanghai				Guangxi
Medium Critical Freedom					Guizhou
Low Critical Freedom	Guangdong	Fujian		Shaanxi Shandong	Henan Anhui
Very Low Critical Freedom	Beijing		Xinjiang		Sichuan Yunnan

Using the Overall Critical Freedom score, rather than the Overall Media Freedom score, changes the strength of the trend between Internet penetration rate and media freedom. Contrary to my hypothesis, the Very High IPR category contains provinces with Low and Very Low Critical Freedom scores. Beijing's low media freedom score could perhaps be explained because of its position as capital of the People's Republic of China, making its political situation uniquely sensitive. However, Guangdong's low media freedom score is more difficult to explain. Similarly, while provinces in the Low and Very Low IPR category appear clustered in the Low and Very Low Critical Freedom categories, Guangxi Province received a score of High Critical Freedom despite its very low Internet penetration rate. Based on this chart, it is difficult to make any strong conclusions for or against my hypothesis. The inconclusive results could be due to my limited number of observations or due to my method of coding for criticalness. A future study could include more observations or measure criticalness in a different way.

Finally, I once again created a scatter plot showing the relationship between Internet penetration rate and media freedom, this time using the Overall Critical Freedom score. The graph again includes a line of best fit, showing the relationship between the two variables.

Figure 13:



The slope of this line is not as steep as the slope of the graph using Overall Media Freedom as the measure of media freedom; however, it still indicates a positive relationship between Internet penetration rate and the Overall Critical Freedom score. Once again, the graph does not use statistical controls to isolate the effect of Internet penetration rates, given the limitations of the data set.

The preceding regressions, charts, and graphs have examined the relationship between Internet penetration rates and media freedom. Based on these tests, I have found support for my

hypotheses, especially that Internet penetration rates affect whether or not a province reported on the Bo Xilai scandal. In any case, without the benefit of statistical significance, it is difficult to be absolutely certain of the effect of Internet penetration rates on media freedom. However, based on the trends I have observed and recorded in the data, there appears to be a definite relationship; future research could expand the amount of observations in order to achieve statistically significant results and meaningfully control for other variables. In my case study section, I will attempt to overcome the danger of confounding variables by isolating Internet penetration rate as a causal factor. First, however, I will conclude my examination of media coverage of the Bo Xilai scandal with some final observations.

ADDITIONAL OBSERVATIONS

While the small size of my data set has made statistical analysis difficult, it has allowed me to examine individual articles and trends in reporting with a level of scrutiny that would otherwise be impossible. In the following section, I outline additional observations I have made about the coverage of the Bo Xilai scandal. These observations are not related to Internet penetration rates; however, they are directly related to media freedom and patterns of self-censorship in the Chinese media.

Wang Lijun's Demotion

On February 2nd, 2012, Wang Lijun was demoted from his position as police chief, although he retained his position as vice mayor of Chongqing. Articles covering the incident varied in the level of detail provided about Wang; some simply stated the change in position, while others included detailed biographies of Wang's life, accomplishments, and official records, including his most recent job evaluation. Interestingly, no article that reported on this incident

explicitly stated that the change was a demotion[10]. Rather, the articles merely mention that Wang "no longer holds" the position of police chief. Additionally, no newspaper explained the reason behind Wang's demotion, nor did the reporters appear to question the decision. This apparent lack of curiosity could be indicative of a general hesitancy among Chinese reporters to inquire into potentially controversial cases.

Wang Lijun's "Vacation-Style Treatment"

After his departure from the US Embassy on February 7th, Wang disappeared into the waiting arms of the law. The following day, the Chongqing city government announced that Wang was suffering from stress and was now receiving "vacation-style treatment" at an undisclosed location. This statement, following so closely on the heels of Wang's bizarre and still-unexplained trip to the US Embassy, seems an obvious falsehood. In scoring the "Accuracy/Explicitness" portion of my media freedom variable, I gave articles that claimed Wang was receiving "vacation-style treatment" a negative score. However, it is possible that both newspapers and their readers were aware of the ludicrousness of this statement. Perhaps newspapers directly reported the Chongqing government's statement, knowing that their readers would be aware that something suspicious was occurring. In this sense, reporting on the incident could be a way for newspapers to draw their readers' attention to a controversial issue without provoking authorities.

Premier Wen Jiabao's Press Conference

Few articles expressed any criticism over the Bo Xilai scandal; this could be due to the time frame selected or the exceptionally sensitive nature of a scandal involving a prominent and high-ranking official. However, in the one instance in which a critical opinion was published, the

[10] Wang's demotion was later revealed to be due to his investigation into ties between the Bo family and Neil Haywood's death.

quotation came directly from Premier Wen Jiabao. At a press conference on March 14th, Wen indirectly criticized Bo's handling of the Wang Lijun affair. He also emphasized the need for China to continue along the path of reform, warning against the dangers of returning to the days of the Cultural Revolution; many interpreted this statement as a criticism of Bo's neo-Maoist leanings. The following day, Bo was removed from his post as party chief in Chongqing. Many newspapers published the question and answer session from this press conference. By quoting directly from a prominent official, it appears newspapers were able to report critically and directly on a sensitive issue without risk or angering the government. This suggests that newspapers are willing to publish critical articles, but only if the criticism has been sanctioned by the government.

Xinhua News Agency

Many newspapers relied on previously released articles from Xinhua News Agency, the official press agency of China (and the largest news agency in the country), for reports on the Bo Xilai and Wang Lijun affair. This is especially true for announcements of Wang Lijun's demotion from police chief, Wang Lijun's stay at the US Consulate, and Bo Xilai's demotion from party chief of Chongqing. These three events all marked major points in the scandal, and were all potentially controversial. It appears that, by using the brief, non-descriptive, and official news release from Xinhua, provincial newspapers were attempting to avoid controversy in reporting on these events.

CASE STUDY

In the previous section, I have examined the "large"-N portion of my analysis; unfortunately, 31 provinces does not give much room for statistical analysis, especially when half of the selected newspapers for these provinces did not report on the Bo Xilai scandal during

my selected time period. Because of the quantitative limitations of this study, I have chosen to include a case study portion to analysis. In order to isolate Internet penetration rate as a causal factor, I have selected three pairs of provinces to study in depth. Both cities in each pair are as alike as possible except for their Internet penetration rate. For these six provinces, I have examined the coverage of two additional politically sensitive cases: the 2012 Feng Jianmei forced abortion case, and the 2011 Wenzhou Line train crash. This leads me to the following hypothesis:

H3: Among the selected province pairs, the province with the higher Internet penetration rate will demonstrate a higher degree of media freedom in reporting on sensitive political cases.

In the following sections, I will justify my selection of these provinces and cases.

SELECTION OF PROVINCES

In choosing my provinces for the case study portion of this paper, I wanted to find pairs of provinces that were alike in all aspects except for Internet penetration rate. In this way, I would be able to compare the media freedom in these two provinces; any variation in the media freedom score would likely be caused by Internet penetration rate. Unfortunately, a number of factors appear to vary with Internet penetration rate. For example, provinces with the same level of wealth, education, and urbanization generally have similar Internet penetration rates. Finding provinces that are completely alike except for Internet penetration rates thus proves impossible. To overcome this barrier, I decided that each pair of provinces would be similar mainly along one important variable, but differ in respect to Internet penetration rate. Each pair would test a different main variable, and in this way I could test my hypothesis that Internet penetration rate drives media freedom.

In order to choose my province pairs, I first needed to decide what factors I want to hold constant in each pair of provinces. My goal is to isolate Internet penetration rate, so I needed to eliminate the effect of variables that could be driving both Internet penetration rates and media freedom. I created a linear regression in order to test what variables affect Internet penetration rate. I created four models for this test. The first model tests the effect of provincial urbanization and GDP on Internet penetration rates. The second model adds a measure for college enrollment. The third model again tests urbanization and college enrollment, but uses GDP per capita as a measure for wealth, rather than GDP. The fourth and final model tests urbanization, college enrollment, and average wage of workers in the province. Below are the results for this regression.

Figure 14: **What Drives Internet Penetration Rate?**

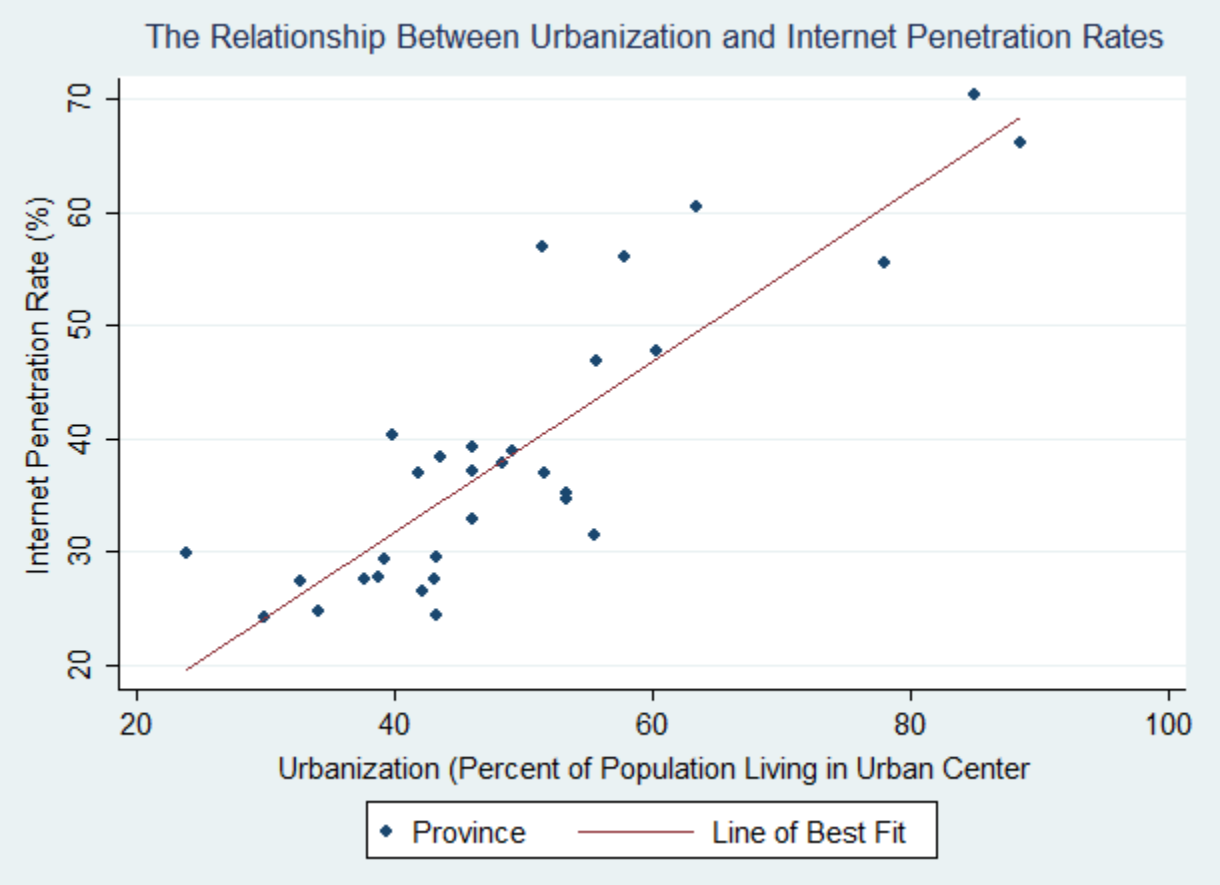
Model	**1**	**2**	**3**	**4**
Constant	1.535 (4.24)	2.381 (4.381)	12.120 (5.530)	-.921 (4.790)
Urbanization	.718** (.088)	.797** (.130)	.359 (.224)	.696** (.148)
GDP	.001 (.000)	.000 (.000)	-	-
College Enrollment	-	-.271 (.325)	-.365 (.299)	-.250 (.317)
GDP Per Capita	-	-	.000* (.000)	-
Average Wage of Worker	-	-	-	.000 (.000)

N=31
Note: *p<0.05; **p<0.01

Urbanization is a statistically significant factor in Internet penetration rate in three of the four models. I am still limited by the sample size of 31 provinces in China, meaning that statistical testing is difficult with such a small N; however, looking at a simple scatterplot of

provinces' Internet penetration rates by urbanization again confirms that urbanization and Internet penetration rates are positively correlated (Figure 15). Logically, citizens in urban centers are more likely to have access to computers and the Internet, when compared to citizens living in rural areas; this is especially true in a country like China, where the urban-rural divide is especially deep.

***Figure 15*: The Urban-Rural Divide in Internet Penetration Rates**



The graph above clearly demonstrates that higher levels of urbanization are positively correlated with higher levels of Internet penetration rates, suggesting that urbanization could increase internet usage.

Because urbanization plays such an important role, I selected one pair of my provinces based on these criteria: Zhejiang Province and Jiangsu Province.[11] In 2009, 57.9 percent of the population of Zhejiang Province lives in urban centers, while a similar 55.6 percent of the population of Jiangsu Province lived in urban centers. The two provinces also have similar GDP per capita for the year 2010; Zhejiang Province has a GDP per capita of 51,711 yuan per person, while Jiangsu Province has a GDP per capita of 52,840 yuan per person. The Internet penetration rate for these two provinces differs by almost ten percentage points; Zhejiang Province has an Internet penetration rate of 56.1 percent, while Jiangsu Province has an Internet penetration rate of 46.8 percent. While a ten-point difference is not an incredibly large margin, these two provinces represent the largest difference in Internet penetration rate while retaining similarities in urbanization levels.

Because my goal is to study similar provinces with differing Internet penetration rates, I looked for other ways provinces could be held similar while still allowing for variation in Internet penetration rates. For my second pair of provinces, I chose Shanghai and Chongqing. This pair was selected because both are municipalities, or province-level cities, but the two provinces have extremely different Internet penetration rates: Shanghai has an Internet penetration rate of 66.2 percent, while Chongqing has an Internet penetration rate of 37 percent. While the two provinces admittedly differ in terms of GDP, GDP per capita, and FDI[12], they both achieved the municipality ranking, and Chongqing has increasingly been viewed as a rising economic powerhouse (attributed, in part, to the policies of the fallen Bo Xilai) (BBC 2012d).

For my third and final pair of provinces, I chose Xinjiang and Inner Mongolia. Both provinces are autonomous regions, a distinction given to provinces with higher percentages of

[11] For a full descriptive table of the provinces used in this case study, please see Appendix V.
[12] For further descriptive statistics of the provinces, please see Appendix V.

non-Han minority ethnic groups. The western province of Xinjiang, formally known as Xinjiang Uyghur Autonomous Region, has a substantial ethnic minority population, with 43.3% of its population belonging to the Uyghur ethnic group[13]. The northern province of Inner Mongolia, also known as Inner Mongolia Autonomous Region, also has a substantial ethnic minority population, with 17% of its population belonging to the Mongol ethnic minority group.[13] The Chinese Communist Party has historically had a strained relationship with the ethnic minority populations of China, resulting in tighter governmental controls within provinces with high ethnic minority populations (Gunaratna, Acharya, Wang, 2010). One might expect to see this control extended into the realm of traditional media, and for this reason I believe it is important to compare traditional media in these two provinces.[14]Of my three pairs of provinces, these two provinces have the closest Internet penetration rate; Xinjiang has an Internet penetration rate of 40.4 percent, while Inner Mongolia has an Internet penetration rate of 34.6 percent. I believe a 6 percent difference is still significant enough to study variation between the two provinces, although the comparatively small size of the difference is important to bear in mind while analyzing the results.

SELECTION OF POLITICAL EVENTS

For my two additional politically sensitive events, I wanted to choose events that represented a different type of controversy than the Bo Xilai scandal, in order to cover possible variation in reporting trends. Coverage of the Bo Xilai scandal is indicative of how events surrounding high-ranking government officials are covered in Chinese newspapers, but other

[13]National Bureau of Statistics of China, http://www.stats.gov.cn/english/

[14] One might expect Tibet to be included as one of the provinces in this pair, given the extremely high ethnic minority population in this autonomous region. However, it is my opinion that Tibet differs too greatly from other provinces; its political situation is uniquely tense and the level of conflict between the ethnic population and Chinese authorities is uniquely strong. The separatist movement in Tibet and the religious suppression in this region make it difficult to compare to other regions.

types of controversial cases exist. One of the most contentious and sensitive topics in China is the one-child policy and the forced abortions that have occasionally (and technically illegally) been performed in order to enforce this policy. In order to study how Chinese newspapers report on this topic, I selected the Feng Jianmei forced abortion case, which occurred in July 2012. Additionally, safety concerns have become an increasingly contentious and prominent topic of discussion in Chinese society, as Chinese citizens become more and more unwilling to sacrifice their safety for economic development at a breakneck speed. This type of topic becomes especially sensitive when combined with loss of life; frequently, in the event of a disaster, Chinese government officials will attempt to cover up or minimize the loss of life in order to preserve face, as seen with disastrous results in the 2002-2004 SARS epidemic (Lam 2004). To study the coverage of this type of politically sensitive event, I examined the 2011 Wenzhou train collision, a disaster that tragically combined safety concerns and large-scale loss of life. In the following section, I will briefly describe the events of the two cases before going into the case study analysis.

Feng Jianmei

On June 2, 2012, 23-year-old Shaanxi native Feng Jianmei was forced by local family planning officials to terminate her pregnancy in its seventh month after failing to pay the 40,000 yuan fine for violating China's one-child policy. At some point during the next week, pictures of Feng Jianmei next to the body of her fetus were posted online, and by June 14 the images went viral, sparking outrage both within China and abroad. After the event gained such a high level of attention, the Chinese government launched an investigation into the case. While it was determined that Feng Jianmei had broken the law by having a second child, the Chinese government condemned the forced abortion as a violation of her rights. Ultimately, two family

planning officials were fired and five additional officials were punished; Feng's family was promised compensation for the trauma, although they suffered harassment from local officials (Wong, 2012; BBC 2012c; Gu 2012). I will examine this case from June 1, 2012 to June 30, 2012.

Wenzhou Train Crash

On July 23, 2011, two high-speed trains collided in Wenzhou, Zhejiang Province, killing forty passengers and injuring 192 others. The accident, which was ultimately determined to have been caused by a faulty signal system, drew widespread criticism. Chinese citizens took to the internet to express their anger over both the accident and its handling by the government officials. Rescue efforts were concluded less than a day after the accident and the train was swiftly buried, allegedly to prevent the theft of the train's technology; however, a two-year-old girl was found alive hours after the rescuers had been ordered to stop their efforts. This incident, followed by a disastrous press conference by the spokesman of the Railway Ministry Wang Yongping, further inflamed public opinion. In a rare show of rebellion, both state-owned and independent media continued to criticize the Ministry of Railways and report on the case despite directives from the Propaganda Department to stop running stories on the case (Blanchard and Wee 2011; Lafraniere 2011; Epatko 2011).

Both cases are also significant in that the internet played a prominent role in these events. Feng Jianmei's forced abortion received such attention from the traditional media, and subsequently the government, only after the pictures of her fetus went viral on the Chinese Internet. In the case of the Wenzhou train collision, online complaints about the government's perceived incompetency helped fuel the fire of outrage in traditional media. In the following section, I will analyze the coverage of these two cases, as well as the Bo Xilai case, in the six

provinces described above, testing for further relationships between Internet usage and media freedom.

ANALYSIS

In analyzing these additional cases, I have followed the same methods used for my larger-scale analysis. My assistants and I conducted site searches of the websites for each provincial newspaper, using 冯建梅 (Feng Jianmei) as a keyword search for the forced abortion case and 甬温线 (Wenzhou Line), 铁路事故 (railway accident), and 列车追尾 (train rear-end (collision)) as keywords for the Wenzhou train crash, limiting each search to the time period described in the preceding section. I then used the same methods described in the Data Analysis section to quantify media freedom in each province for each politically sensitive event, creating measures for Overall Media Freedom and Overall Critical Freedom for each event, and then summing them together for a total score of provincial media freedom. The chart below outlines the results for the first measure, Overall Media Freedom; as explained in the Data Analysis section, this is the broadest measure of media freedom: a summation of the article-level characteristics of character count, number of articles, level of detail, level of criticism, level of accuracy/explicitness, and originality of the story.

***Figure 16*: Case Study Breakdown by Overall Media Freedom Score**

	Provinces	Internet Penetration Rate	Bo Xilai Overall Media Freedom	Feng Jianmei Overall Media Freedom	Wenzhou Train Crash Overall Media Freedom	Combined Overall Media Freedom
Pair 1	Zhejiang	56.1	42	0	76	118
	Jiangsu	46.8	0	23	8	31
Pair 2	Shanghai	66.2	32	20	0	52
	Chongqing	37.1	0	0	12	12
Pair 3	Xinjiang	40.4	13	21	0	34
	Inner Mongolia	34.6	0	12	0	12

The following chart provides data on the same set of cases, this time using the measure for Overall Critical Freedom rather than Overall Media Freedom; recall that this value only includes the data for measures of level of criticism, level of accuracy/explicitness, and originality of the story. I have included both measures in order to ensure that the measure of media freedom is truly capturing the "freeness" of the media; otherwise I risk giving a high media freedom score to a province whose media is not necessarily free, but rather simply more prolific.

Figure 17: **Case Study Breakdown by Overall Critical Freedom Score**

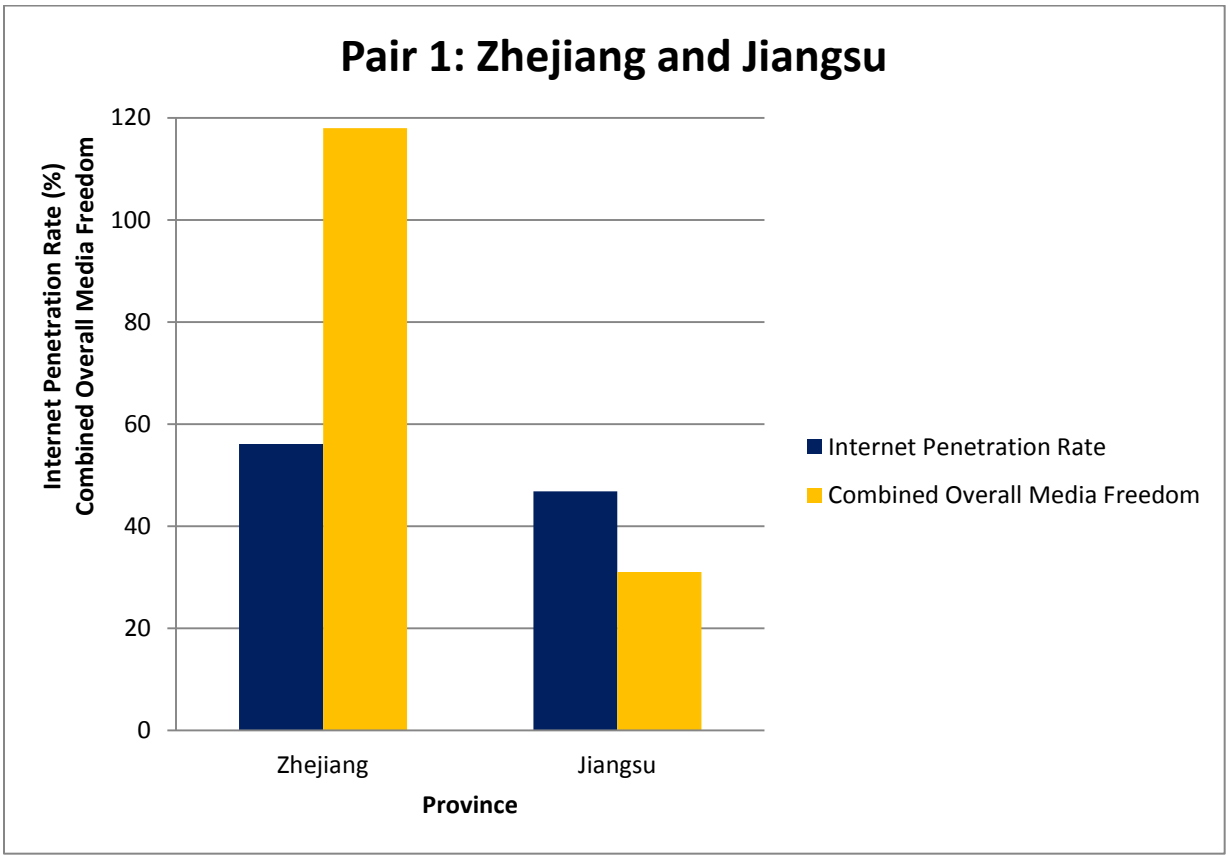
	Provinces	Internet Penetration Rate	Bo Xilai Overall Critical Freedom	Feng Jianmei Overall Critical Freedom	Wenzhou Train Crash Overall Critical Freedom	Combined Overall Critical Freedom
Pair 1	Zhejiang	56.1	19	0	41	60
	Jiangsu	46.8	0	15	4	10
Pair 1	Shanghai	66.2	15	9	0	24
	Chongqing	37.1	0	0	6	6
Pair 2	Xinjiang	40.4	4	11	0	15
	Inner Mongolia	34.6	0	6	0	6

The results of both measures support my hypothesis that within each pair of provinces, the province with the higher Internet penetration rate has a higher media freedom score. However, there is some interesting variation within the data. The newspaper selected for Zhejiang Province did not report on the Feng Jianmei forced abortion case, and neither Xinjiang nor Inner Mongolia reported on the Wenzhou train crash. It is difficult to determine why this variation exists; perhaps the events were covered by other newspapers in the province, or perhaps the event occurred so far away that the newspapers did not feel it was relevant to their readers. Regardless, a clear trend is still observable among the data, despite the fact that not every province reported on every case. The benefit of this case study is that, with scores from three different political events, failure to report on one of the cases has less of a severe effect on

the data. It is also important to note that, although the two measures of media freedom yield different results, in no case does it reverse the position of the provinces in terms of which province has a higher or lower media freedom score.

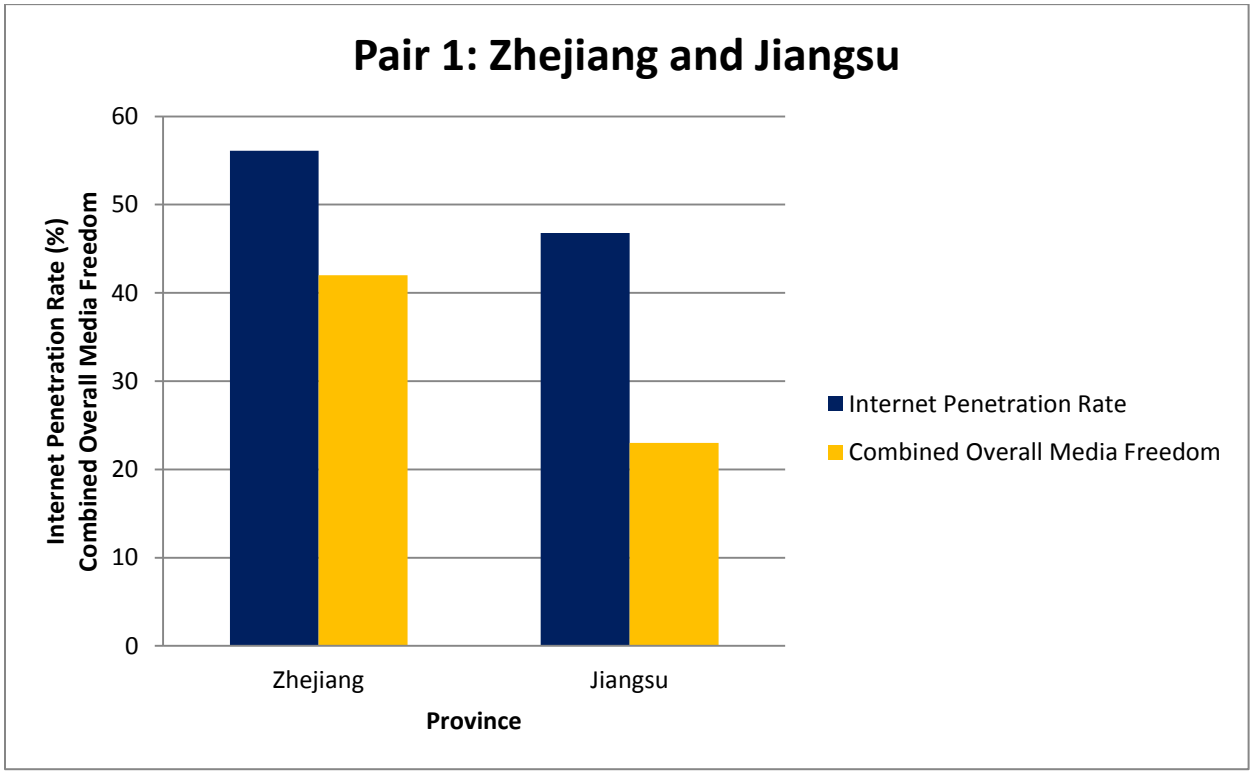
In order to clearly compare the two provinces in each pair, I have created graphs comparing each province's Internet penetration rate with its combined overall freedom score. The first graph compares Zhejiang Province and Jiangsu Provinces, which were paired together based on their similar degrees of urbanization. For this case and the rest of the case study section, the graphs are made using the Combined Overall Media Freedom score; the Combined Overall Critical Freedom score did not yield significantly different results, so I have refrained from displaying the results here in order to avoid repetition.

Figure 18: **Comparison of Zhejiang and Jiangsu (All Cases)**



The graph above demonstrates the drastic difference in the two provinces' Combined Overall Media Freedom score. Much of this difference, however, has been driven by Zhejiang Province's heavy reporting on the Wenzhou train crash, which occurred within this province. Because this could be skewing the relationship, I created another graph comparing the scores of Zhejiang Province and Jiangsu Province, this time using only data from the Bo Xilai case and the Feng Jianmei case.

Figure 19: **Comparison of Zhejiang and Jiangsu (Excluding Wenzhou Train Crash Case)**

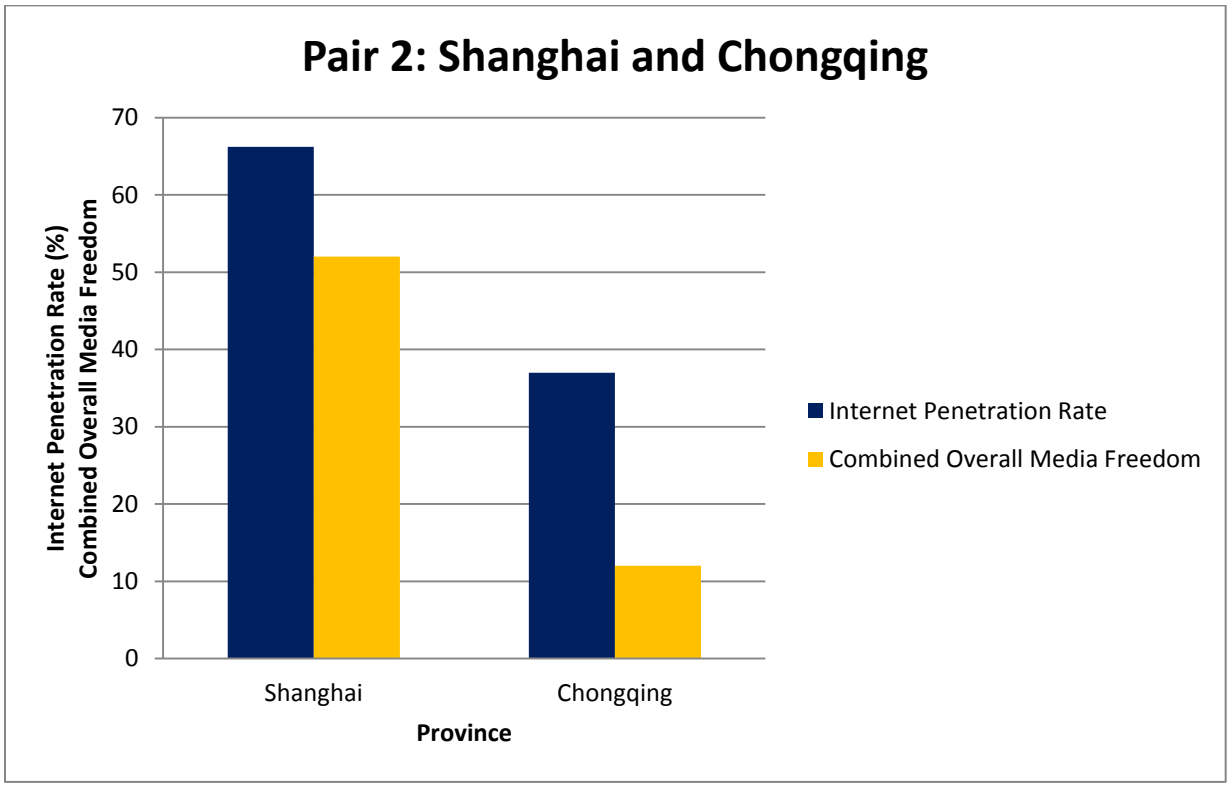


As this graph demonstrates, the relationship still exists, even when the data from the Wenzhou train crash is removed. Based on this comparison, it appears that Internet penetration rates, rather than urbanization levels, are driving the difference between the media freedom scores in these provinces.

The second two provinces are Shanghai and Chongqing; recall that both are municipalities, or province-level cities, as well as thriving economic centers, although

Chongqing is more of a rising star while Shanghai has been established as an economic powerhouse for decades. Below is a graph that compares their Internet penetration rates and Combined Overall Media Freedom scores.

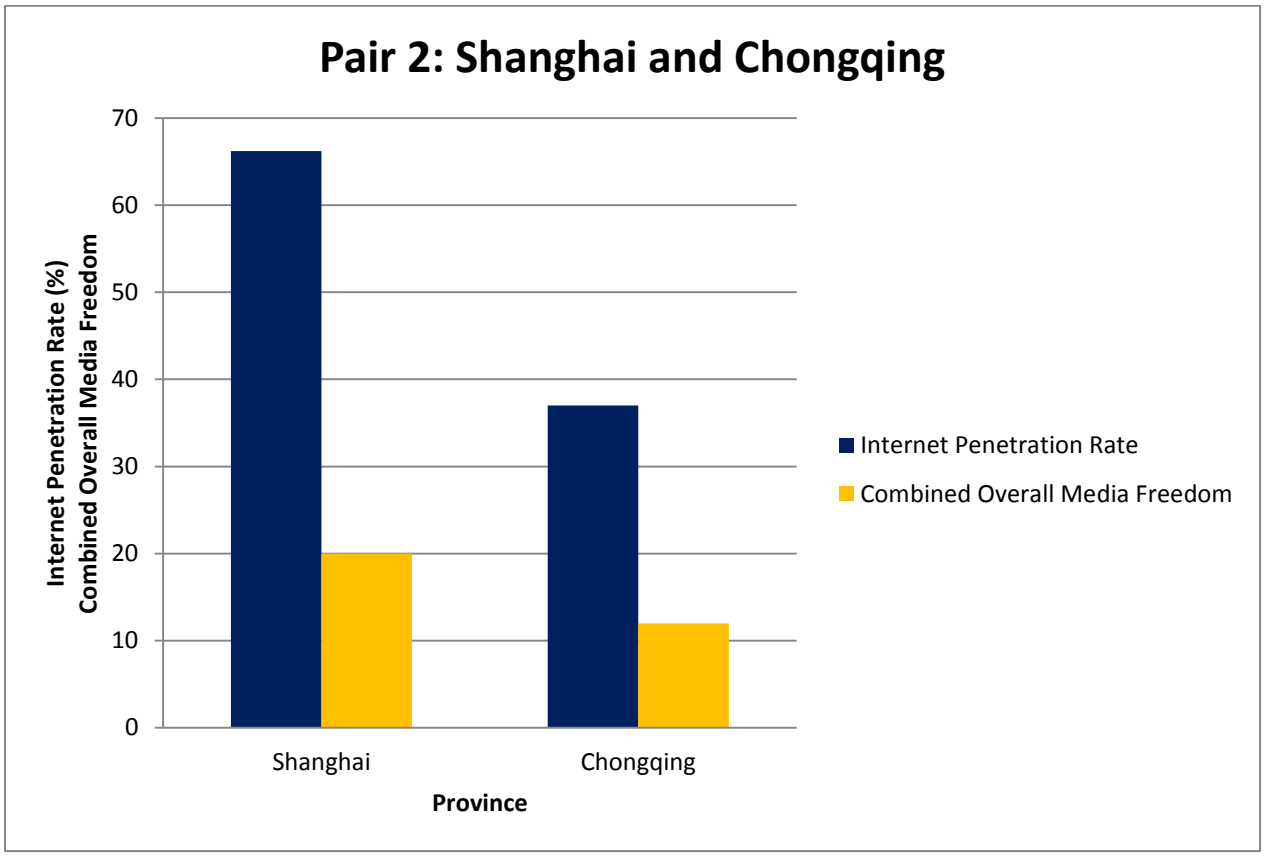
***Figure 20*: Comparison of Shanghai and Chongqing (All Cases)**



Once again, the province with the higher Internet penetration rate, Shanghai, has a correspondingly higher Combined Overall Media Freedom score. However, the Bo Xilai case unfolded in Chongqing, meaning the newspapers in this province might have been exceptionally hesitant to publish stories on the event. Indeed, the newspaper selected for Chongqing did not publish any stories on either Bo Xilai or Wang Lijun, and this lack of reporting could be misrepresentative. In order to ensure that this has not biased my results, I again graphed the relationship between the two provinces and the measures of internet usage and media freedom,

but this time only included data from the Wenzhou train crash and the Feng Jianmei case. The results are below.

Figure 21: **Comparison of Shanghai and Chongqing (Excluding Bo Xilai Case)**

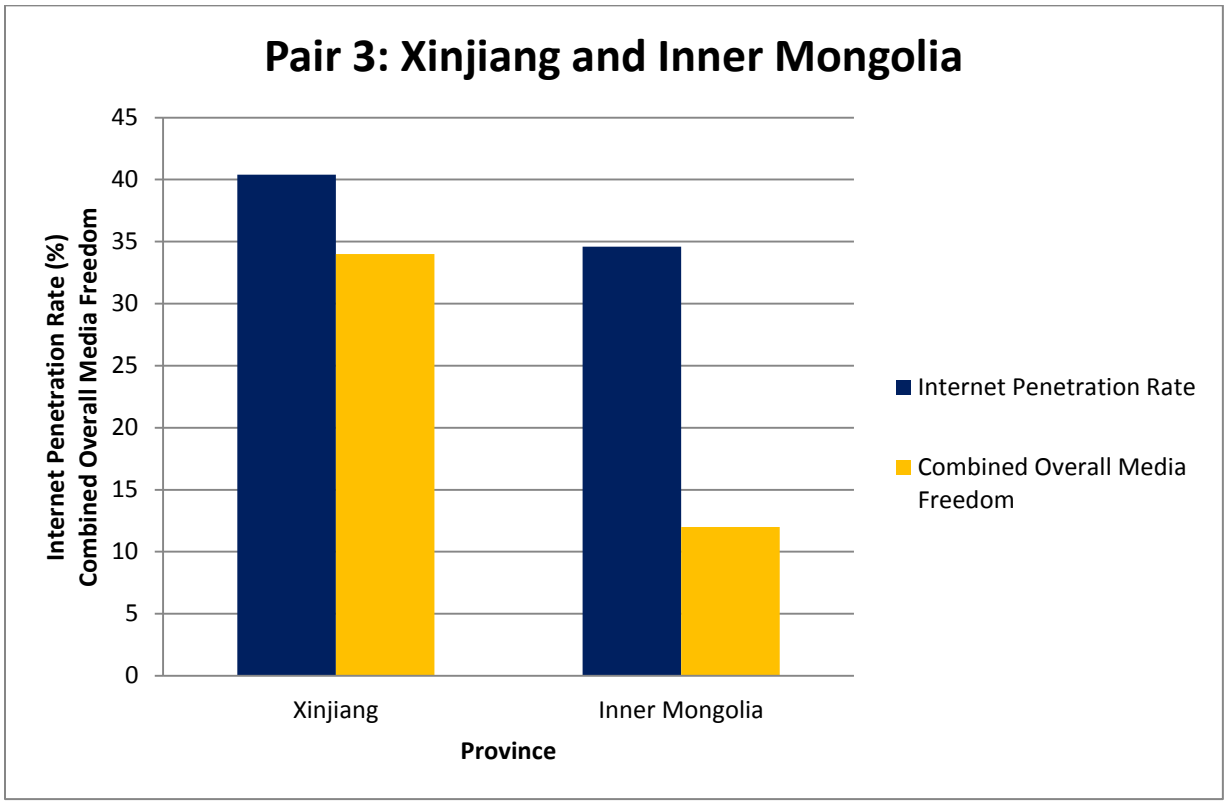


Leaving out the data from the Bo Xilai case decreases the difference between the provinces' Combined Overall Media Freedom scores, but Shanghai still appears to have the freer press, once again supporting my hypothesis—although the difference between the two scores is much smaller than one might expect, given the gap between the two provinces' Internet penetration rates.

My third and final pair of provinces, Xinjiang and Inner Mongolia, are both Autonomous Regions, and both contain substantial ethnic minority populations. The Internet penetration rates of these two provinces are only six percentage points apart, so one would expect to see a smaller

difference in their levels of media freedom, especially considering Xinjiang's history of ethnic conflict and its troubled relationship with the Internet[15] (Hogg 2010). Below are the results of this study.

Figure 22: **Comparison of Xinjiang and Inner Mongolia**



Despite the closeness of these two provinces' Internet penetration rate, and the relatively tense political situation of Xinjiang Province, the same relationship between is exhibited between higher Internet penetration rates and media freedom.

CONCLUSION

More than perhaps any previous human innovation, the Internet possesses unprecedented potential to transform societies by lowering the barriers to communication and information-sharing within a population. Because of this potential, many political scientists have hailed the

[15] In July 2009, ethnic violence between Muslim Uighurs and Han Chinese resulted in 197 deaths; in response, the Chinese government shut down the Internet in the entire province of Xinjiang for ten months.

Internet as an intrinsically democratizing force. However, governments in both democratic and nondemocratic nations have become increasingly skilled at monitoring and controlling communication and information flows online, meaning that the exact effect of the Internet varies by nation and by situation. In this study, I have chosen to focus on one particular aspect of the Internet's impact in one specific location: its influence on traditional print media in the People's Republic of China. Using both quantitative and qualitative methods, I have endeavored to answer the question: does increased Internet use lead to a freer and more critical press?

Based on the measures I have created for this study, I find that a definite correlation exists between Internet penetration rates and media freedom within a province. While my small sample size has made statistical tests difficult, more qualitative examinations of the data indicate that provinces with higher Internet penetration rates also tend to have higher media freedom scores. Considerable variation does exist among the 31 provinces of China, which all differ greatly in terms of population composition, educational levels, economies, and even culture. However, as a whole, provinces were more likely to receive high media freedom scores if they also had high Internet penetration scores, and provinces with low Internet penetration scores were similarly more likely to receive low media freedom scores.

Because of the variation among provinces, it has been difficult to isolate Internet penetration rates as the causal variable in this relationship; perhaps variation is due to another, untested factor, or due to natural geographic, economic, or cultural differences in the provinces. I focused on resolving this question in the case study portion of my paper, and found that even in provinces with otherwise similar characteristics but differing Internet penetration rates, provinces with higher Internet penetration rates received correspondingly higher media freedom scores.

While this study contains considerable limitations, I believe my research has clearly indicated a relationship between Internet penetration rates and media freedom, a relationship that has not yet been studied in detail in the current literature. This has important implications for the debate surround e-democracy theory and other "cyberutopian" theories, which have been coming under attack due to the sophistication of Internet control mechanisms used in countries such as the People's Republic of China. Building on previous research that indicates that, while the Chinese Internet remains controlled, Chinese citizens are still able to make an impact through networks formed and information shared online, this study indicates that the increased information found on the Internet, and the increased ease of sharing this information, has made traditional Chinese media more accurate and accountable to their readership. Although the Internet might not bring about the radical democratization predicted by some theorists, a freer press is nonetheless an important and noteworthy step towards a more open and accountable government.

FUTURE RESEARCH

Future research on the impact of the Chinese Internet could concentrate on the realm of Chinese social media. Already in the past year, many studies have emerged on the impact of, and trends within, Chinese social media sites such as Sina Weibo. Unfortunately, due to the huge number of users and massive volume of content on such sites, studies focusing on Chinese social media would require computing resources and expertise beyond the level of an undergraduate thesis paper. However, provided these resources are available, a future study could test the impact of social media, or specific social media sites, on the coverage of news events in the traditional media. Cases in which the Internet has raised awareness on an issue, even to the point of drawing a response from the government, have become increasingly common during the past

few years—for instance, the case of Feng Jianmei covered in this paper would never have received national attention, and a government response, were it not for the attention gained online. With more time and resources, I would have studied whether bursts of online "viral" fame, such as that experienced by Feng Jianmei, impact the dialogue of traditional media in China.

Additionally, like all studies attempting to measure unquantifiable variables such as press freedom, this study runs the risk of falling short of accurately capturing the true level of the variable. Because no data exists for press freedom in the People's Republic of China at the provincial level, I have been forced to create my own data, and time and resource constraints have made that body of data fairly slim. However, the research design of this paper can work as a foundation for future research to build upon. I used only one newspaper per province for my study; a future study could add additional newspapers for every province. Similarly, I covered only the Bo Xilai case in every province, and added only two additional cases for the case studies; future studies could survey a larger number of politically sensitive cases over a larger number of newspapers. With more time and resources, I would greatly expand the number of cases and newspapers studied, thus creating a dataset large enough to actually yield meaningful, statistically significant results.

APPENDIX (I) PROVINCIAL NEWSPAPERS USED

Province (Chinese)	Province (English)	Newspaper (Chinese)	Newspaper (English)
重庆	Chongqing	重庆晚报	Chongqing Evening News
浙江	Zhejiang	钱江晚报	Qianjiang Evening News
广西	Guangxi	南国早报	Southern China Morning News
上海	Shanghai	新民晚报	Xinmin Evening News
内蒙古	Inner Mongolia	呼和浩特晚报	Hohhot Evening News
新疆	Xinjiang	乌鲁木齐晚报	Urumqi Evening News
安徽	Anhui	新安晚报	Xinan Evening News
福建	Fujian	海峡都市报	Haixia Metropolis News
甘肃	Gansu	兰州晨报	Lanzhou Morning News
广东	Guangdong	广州日报	Guangzhou Daily news
贵州	Guizhou	贵州都市报	Guizhou Metropolis News
海南	Hainan	海南日报	Hainan Daily news
河北	Hebei	燕赵都市报	Yanzhou Metropolis News
黑龙江	Heilongjiang	新晚报	New Evening News
河南	Henan	大河报	Dahe News
湖北	Hubei	楚天都市报	Chutian Metropolis News
湖南	Hunan	潇湘晨报	Xiaoxiang Morning News
江西	Jiangxi	江西日报	Jiangxi Daily News
吉林	Jilin	吉林日报	Jilin Daily News
辽宁	Liaoning	辽沈晚报	Liaoshen Evening News
宁夏	Ningxia	银川晚报	Yinchuan Evening News
青海	Qinghai	青海日报	Qinghai Daily News
陕西	Shaanxi	三秦都市报	Sanqin Metropolis News
山东	Shandong	齐鲁晚报	Qilu Evening News
四川	Sichuan	成都日报	Chengdu Daily News
天津	Tianjin	天津日报	Tianjin Daily News
西藏	Tibet	西藏日报	Tibet Daily News
云南	Yunnan	云南日报	Yunnan Daily News
北京	Beijing	北京晚报	Beijing Evening News
山西	Shanxi	山西日报	Shanxi Daily News
江苏	Jiangsu	扬子晚报	Yangtze Evening News

APPENDIX (II) CODING RULES

Variable	Description	Range
Character Count Index	0-199 characters: 1 200-399 characters: 2 400-599 characters: 3 600-799 characters: 4 800+ characters: 5	1-5
Level of Detail	Does the article go into detail about the event, or does it merely state facts? Differs from Accuracy/Explicitness in that the details do not necessarily need to be accurate. Details can be numbers and statistics that are not necessarily related to the politics of the situation.	1-5
Level of Criticism	Does the article place the blame on a particular person? Does the article find fault with the government, a government official, or government policies?	1-5
Accuracy/Explicitness	Does the article tell the whole story? Does it explicitly state the reasons behind actions or events, or just state the events? Differs from Level of Detail in that it reflects the political details of the event and goes beyond laying out bare facts. Especially relevant for Wang Lijun and his "vacation"- this is detailed but not accurate. Newspapers who report false information receive a negative score.	-1-5
Originality of Story	Did the article originate from the provincial	0 or 3

	newspaper or from Xinhua? This is a dichotomous score of 0 or 3. The number 3 was chose so that this variable would have a substantive effect on the measure of freedom, but would not have as strong an affect as detail or criticism.	
Article Media Freedom Score	The summation of the following scores: Character Count Index, Level of Detail, Level of Criticism, Accuracy/Explicitness, and Originality of Story	No limit
Article Critical Freedom Score	The summation of the following scores: Level of Criticism, Accuracy/Explicitness, and Originality of Story	No limit
Overall Media Freedom Score	Within each province, the summation of every individual Article Media Freedom Score, plus the number of articles total.	No limit
Overall Critical Freedom Score	Within each province, the summation of every individual Article Critical Freedom Score.	No limit

APPENDIX (III) INTERNET PENETRATION RATES BY PROVINCE

Province	Internet Penetration Rate	Internet Penetration Index
Beijing	70.3	Very High
Shanghai	66.2	Very High
Guangdong	60.4	Very High
Fujian	57	High
Zhejiang	56.1	High
Tianjin	55.6	High
Liaoning	47.8	Medium
Jiangsu	46.8	Medium
Xinjiang	40.4	Medium
Shanxi	39.3	Low
Hainan	38.9	Low
Shaanxi	38.3	Low
Shandong	37.8	Low
Hubei	37.2	Low
Chongqing	37	Low
Qinghai	36.9	Low
Jilin	35.2	Low
Inner Mongolia	34.6	Low
Ningxia	32.8	Low
Heilongjian	31.5	Low
Tibet	29.9	Very Low
Hunan	29.5	Very Low
Guangxi	29.4	Very Low
Sichuan	27.7	Very Low
Hebei	27.5	Very Low
Henan	27.5	Very Low
Gansu	27.4	Very Low
Anhui	26.6	Very Low
Yunnan	24.8	Very Low
Jiangxi	24.4	Very Low
Guizhou	24.2	Very Low

Source: CNNIC, 2011

APPENDIX (IV) MEDIA FREEDOM INDICES

Overall Media Freedom Score and Overall Media Freedom Index by Province

Province	Overall Media Freedom Score	Overall Media Freedom Index
Beijing	20	High
Shanghai	32	Very High
Guangdong	14	Medium
Fujian	18	Medium
Zhejiang	42	Very High
Xinjiang	13	Medium
Shaanxi	16	Medium
Shandong	13	Medium
Guangxi	28	High
Sichuan	4	Low
Henan	27	High
Anhui	19	Medium
Yunnan	8	Low
Guizhou	15	Medium

Overall Critical Freedom Score and Overall Media Freedom Index by Province

Province	Overall Critical Province Score	Overall Critical Media Score
Beijing	3	Very Low
Shanghai	15	High
Guangdong	5	Low
Fujian	7	Low
Zhejiang	19	Very High
Xinjiang	4	Very Low
Shaanxi	6	Low
Shandong	6	Low
Guangxi	14	High
Sichuan	1	Very Low
Henan	8	Low
Anhui	8	Low
Yunnan	2	Very Low
Guizhou	11	Medium

APPENDIX (V) DESCRIPTIVE STATISTICS FOR CASE STUDY PROVINCES

Province	**IPR**	**GDP (100 million yuan, 2010)**	**GDP per capita (yuan/person, 2010)**	**Average Wage of Workers (yuan, 2010)**	**FDI (USD 10000, 2010)**
Zhejiang	56.1	27722.3	51711	41505	1100175
Jiangsu	46.8	41425.5	52840	40505	2849777
Shanghai	66.2	17166.0	76074	71874	1112100
Chongqing	37	7925.6	27596	35326	634397
Xinjiang	40.4	5418.8	24978	32361	23700
Inner Mongolia	34.6	11655.0	47347	35507	338500

Source: China Data Online 2010, China Statistical Database 2009

Province	**Percent of Population Enrolled in Higher Education (2010)**	**Number of Newspapers Published (100 million copies, 2010)**	**Total Population (year end, 10000 persons, 2010)**	**Percent of population living in urban centers (2009)**
Zhejiang	16.2	32.5	5446.5	57.9
Jiangsu	21.0	27	7869.3	55.6
Shanghai	22.4	15.8	2302.7	88.6
Chongqing	18.1	5.9	2884.6	51.6
Xinjiang	11.5	4.6	2185.1	39.8
Inner Mongolia	15.0	2.7	2472.2	53.4

Source: China Data Online 2010, China Statistical Database 2009

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