UNIVERSITY OF CALIFORNIA SAN DIEGO

# Harnessing the Media: A Computational Approach to Studying Media and Politics in China

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy

in

Political Science with a Specialization in Computational Social Science

by

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2023

The Dissertation of Leo Y. Yang is approved, and it is acceptable in quality and form for publication on microfilm and electronically.

University of California San Diego

2023

# EPIGRAPH

爱子心无尽，归家喜及辰。
寒衣针线密，家信墨痕新。
见面怜清瘦，呼儿问苦辛。
低徊愧人子，不敢叹风尘。

—- 清 蒋士铨

Love for the child knows no end, joy fills the heart upon return.
In cold garments, stitches tight, letters home with fresh ink burn.
Upon meeting, You see I'm lean, asking of the hardships I discern.
Shamed as your child, I dare not sigh for the twists and turns.

—- *Shiquan Jiang, Qing Dynasty*

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Chapter 1, in part, is a reprint of working paper that prepared to submit to a peer-review journal. The dissertation author was the primary investigator and author of this material.

Chapter 2, in full, is a reprint of the material as it appears in *Political Science Research and Methods* (2022, doi: 10.1017/psrm.2022.35). with Ji Yeon Hong. The dissertation author was the primary investigator and correspondent author of this paper.

Chapter 3, in full, is a working paper as it appears in *SSRN Working Paper* (2023, doi: 10.2139/ssrn.4560720) The dissertation author was the primary investigator and author of this material.

Chapter 4 offers a concise discussion of the key findings and contributions of this dissertation, as well as outlines potential directions for future research.

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ABSTRACT OF THE DISSERTATION

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by

Leo Y. Yang

Doctor of Philosophy in Political Science with a Specialization in Computational Social Science

University of California San Diego, 2023

Professor Margaret Earling Roberts, Chair

My dissertation employs computational methods to explore the complex relationship between media and politics in modern China. It consists of three interconnected studies. First, I analyze how the government uses newspapers to boost its legitimacy, focusing on the publicity of punitive actions against corrupt local officials. Second, I examine intra-party dynamics, revealing how media narratives on corruption are used to weaken rival factions within the Chinese Communist Party. Lastly, I explore the state's control over social media, specifically the implications of geographic tagging in online discourse on public matters. Overall, my work offers a data-driven insight into the intricate interplay of media, political actors, and societal norms in China.

# Introduction

In the digital tapestry of contemporary China, the interplay between media and politics emerges as a sophisticated ballet of control, influence, and power dynamics. This dissertation, titled *Harnessing the Media: A Computational Approach to Studying Media and Politics in China*, embarks on an intricate journey to unravel the multifaceted relationship between media channels—both traditional and digital—and political maneuvering within the Chinese context. Leveraging computational methodologies, this body of work delves into the nuanced mechanisms through which media is utilized as a strategic tool by political actors in China, revealing a complex landscape where media serves not only as a conduit of information but as an instrument of political machination.

The theoretical underpinning of this dissertation is rooted in the concept of media as a dual-edged sword in authoritarian regimes. On one hand, it acts as an extension of the state's propaganda apparatus, disseminating government narratives and bolstering regime legitimacy. On the other, it operates as a barometer of public sentiment and a platform for intra-party dynamics, offering a glimpse into the internal workings of political power. This dual role of media in authoritarian systems provides the foundation for the three distinct yet interrelated studies that comprise this dissertation.

**Study 1: Media as a Legitimacy Enhancer** The first study explores how traditional newspaper outlets are harnessed by the Chinese government to project its authority and legitimacy. By publicizing punitive actions against local officials' misconduct, the state not only reaffirms its commitment to anti-corruption but also reinforces its moral and political authority. This study illuminates the role of traditional media in shaping public perception and legitimizing state

actions, employing computational analysis to dissect the patterns and impacts of such media narratives.

**Study 2: Media in Intra-Party Power Dynamics** The second study shifts focus to the internal landscape of the Chinese Communist Party, examining how narratives surrounding corruption investigations in media are strategically utilized in factional power struggles. This component provides a unique lens into the role of media in political infighting, highlighting how the portrayal of corruption cases in media can serve to weaken rival factions and consolidate power within the party.

**Study 3: Control and Influence in Digital Public Discourse** The final study addresses the burgeoning realm of social media in China. It investigates how the central government exerts control over digital discourse, particularly through the geographic tagging of online comments on public affairs. This study underscores the strategic manipulation of social media to shape public opinion and maintain social stability, offering insights into the digital dimensions of media control in authoritarian regimes.

Collectively, these studies forge a comprehensive, data-driven narrative on the sophisticated use of media by political actors in China. This dissertation not only contributes to our understanding of the mechanics of media manipulation in authoritarian regimes but also provides a nuanced perspective on the interplay between media, politics, and society in a rapidly digitizing world. It bridges gaps in existing literature by employing computational techniques to analyze large-scale data, offering empirical insights into a realm often shrouded in opacity and conjecture.

In conclusion, my dissertation offers a pioneering exploration of the strategic employment of media in Chinese politics, shedding light on the intricate ways through which media serves as a pivotal instrument in the orchestration of political narratives, the consolidation of governmental power, and the shaping of public discourse. This dissertation stands as a testament to the evolving landscape of media and politics in China and as a beacon for future research in this crucial area of political science and media studies.

# Chapter 1

# Media Coverage and Government Legitimacy

My paper *Authoritarian Accountability or Performative Responsiveness? Examining Media Supervision in China* ventures into the critical sphere of media's role in autocratic regimes, and specifically whether such regimes employ media criticisms for image maintenance or real accountability. I compiled a comprehensive dataset of Chinese prefecture leaders from 2002 to 2012 and the severe coal mine accidents that occurred during their times in office. My findings reveal a clear impact of high media coverage on local leaders' promotion prospects. I find that a primary aim of the regime is to cultivate a positive image through media, rather than improving accountability. Given these findings, future research will focus on unearthing more underlying motives of autocratic regimes in using media supervision.

## 1.1 Introduction

Media criticism of governments is not uncommon in autocracies. There are some dictatorial regimes where media freedom level is even higher than some new democracies (Egorov, Guriev and Sonin 2009). It seems counterintuitive, because exposed government scandals can cause distrust and rebellion on the regime. Why would autocrats bear, or even encourage, media criticizing government, or "media supervision", in a regime with tight government control? Existing literature emphasize their needs of information to hold local subordinates accountable(Chen 2017, Egorov, Guriev and Sonin 2009, Repnikova 2017, Zhou 2000). The asymmetric information problem between autocrats and their subordinates would induce poor governance and high moral hazard in local government, threatening the rule of central authorities. Allowing media reports on local officials' scandals can help provide local information that central authority can use to hold subordinates accountable. However, this well-accepted mechanism that underlies media supervision has not been tested in empirical study, and the relative importance of other motivations also remains unexplored.

Besides taming local subordinates, autocrats can also benefit from actively responding to the scandals in the way of promoting their performative responsiveness (Chan 2007, Chen 2017). Punishing politicians involved in public scandals can help to ease citizens' dissatisfaction and encourage a positive view towards the central government (Cai 2008; 2014, Chen 2017, Egorov, Guriev and Sonin 2009, Lorentzen 2014*a*, Shirk 2011*a*, Zhao 1998, Zhou 2000). By exhibiting a commitment to public information, the "good" central government can isolate itself from the "bad" local governments, advancing the legitimacy of the regime (Cai 2008). Autocrats may reap numerous benefits from sanctioning local officials based on the information collected by media, thus have multiple intentions to support the operation of media supervision.

It is hard to perceive the autocrat's primary intentions as an outsider. However, by comparing the punishments imposed on local officials based the media reported information, certain insights can be gained. This paper sets out to compare two punishment criteria: the

crime-based one and the pressure-based one. If the primary goal of a sanction is to tame local subordinates, the punishments should be based on the severity of misconducts, i.e. the crime-based sanctions. If to promote positive image is the primary goal, then the punishment should be based on the publicity level of scandals, i.e. pressure-based sanctions. By comparing the adverse effects on local officials' promotion caused by the severity of scandals and the extent of media coverage, I can find out the more significant criterion.

To do so, a major identification challenge lies in disentangling the impact of media coverage from the impact of the severity of the misconduct. To meet the criteria of an ideal case study, both the severity and publicity levels should be measurable. China has a vast coal reserve and a long history of coal production. In the 2000s, China's coal industry was plagued by high fatality rates due to a lack of enforcement of safety regulations (Jia and Nie 2017). In response to the social unrest caused by heavy casualties in coal mine accidents, the central government placed coal mine safety high on its policy agenda. In this paper, I relate my research to coal mine accidents, a specific form of scandal in China, to explore whether the media coverage of such accidents impedes the elevation of prefectural party secretaries, the grass-roots leaders within the Chinese bureaucracy.

Using panel data of 311 prefectures in China from 2003 to 2012, I examine the sanctions imposed on local leaders who are responsible for fatal coal mine accidents. The daily-updated information of those coal mine accidents were open to public by the State Administration of Work Safety (SAWS), a central bureaucracy in charge of enforcing safety regulations. The open access information released by central government contain brief reports of accidents. Based on the reports, I use the number of deaths in an accident to measure the severity of local officials' misconducts. Using coal mine name, location, and accident time as keywords, I also collect relevant newspaper articles from WiseNews.[1] I use the number of relevant news

[1]A full-text newspaper database. It provides news articles from more than 600 Chinese newspapers. Despite the positive correlation between the level of media coverage and the number of deaths in coal mine accidents, this relationship is not perfect. There has been a variety of accidents with the same causalities but different numbers of reports.

articles to measure the publicity level of scandals. Therefore, I can regress local leaders' promotion probability on fatalities and publicity, and find their relative importance on sanctioning subordinates, conditioning on other contributing factors in political selection.

I find that the coal mine accidents receiving more media coverage, rather than those causing more causalities, significantly reduce the officials' chance of promotion. Considering that the information of accidents are possessed by the central government (SAWS), my findings suggest that autocratic rulers attach greater importance on the publicity scale of scandals than on subordinates' malfeasance. In other words, the purpose of permitting media supervision is for the autocrat to show the public that they are responsive to public scandals rather than to build a more accountable bureaucracy. Upon further examination of the types of newspapers, I find that the adverse effect on the careers of subordinates are largely affected by the exposure of national party newspapers and regional commercial newspapers, suggesting that power decentralization and media marketization are institutional conditions for effective media supervision in China.

An alternative explanation of the negative correlation between media coverage and promotion is the endogenous appointment of well-connected officials. If well-connected cadres are intentionally assigned to cities with fewer coal mines or safer mining environment, they are unlikely to be reported due to coal mine accidents. I have found, however, that neither the frequency nor the severity of coal mine accidents in a city before an official takes office is significantly correlated with the strength of their political connections. Another concern is the endogenous media coverage. Although it may have initially appeared to be a random appointment, a well-connected cadre can better shield himself from negative media coverage. In order to address this concern, for each large coal mine accident, I regress the number of news articles on variables measuring the press' commercial incentives and the strength of a local leader's political connections. According to the results, coal mine accidents in cities governed by well-connected individuals received no less newspaper coverage than accidents in cities ruled by those without such connections.

My findings contribute to several strands of the literature. Firstly, this paper empirically

tests the information story explaining the adoption of media supervision in autocracies. Egorov, Guriev and Sonin (2009) propose a theory reasoning why dictators allow free media. They demonstrate that free media allow a dictator to provide incentives to bureaucrats and therefore to improve the quality of government. Also, using theoretical approach, Chen (2017) explains why the authoritarian regimes allow criticism. He points out that criticism of local government bureaus and officials can help the central government ensure local compliance and create favorable public opinion. I find alternative explanation in the special case study on fatal coal mine accidents in China. Without denying the function of media on alleviating asymmetric information, either by exposing local politicians scandals or by providing incentives for accurate internal reporting, I find that autocrats focus more on promoting performative responsiveness than utilizing the information that they already have access to to discipline subordinates. This finding fills the gap of understanding the primary incentive of autocrats on allowing media criticism.

This paper contributes to the growing literature on consultative authoritarianism. Harding (1987), He and Thøgersen (2010) use the term "consultative authoritarianism" to describe the autocratic institution that channel public opinion into the political decision-making process without abandoning the principle of the ruling coalition's monopoly on political power. Truex (2016) finds evidence that limited reforms increase citizen participation in policy-making and improve perceptions of regime responsiveness. Guriev and Treisman (2020) provides a new informational theory of autocracy. They find dictators can survive by convincing the public that they are competent. My results confirm that the central government cares its public image among the citizens. Selective responding to scandals with high publicity level is a strategy to maximize the theatrical effect of showing responsiveness.

This study is also connected to the authoritarian resilience literature. To understand why some authoritarian states are more resilient than others, researchers have examined the role of parties (Brownlee 2007, Geddes 1999, Magaloni 2006), legislatures (Boix and Svolik 2015, Gandhi and Przeworski 2007), elections (Blaydes 2008, Lust-Okar 2006), and the bureaucracy (Slater 2003) in political systems. My finding suggests that autocrats may rely on the informa-

tion of media to relieve social tension and gain legitimacy by punishing local leaders whose misconducts have been widely exposed to the public.

The remainder of this paper proceeds as follows. The next section provides a review of the institutional background. Section 1.3 introduces the data sources and variables definition. Section 1.4 summarizes the empirical results and provides robustness checks to rule out alternative explanations. The final Section 1.6 offers my discussion and conclusion.

## 1.2 Institutional Background

### 1.2.1 Power Decentralization in China

The bad performance of centrally planned economy before 1970s created urgent needs on institutional reform in China. As part of the reforms in the 1990s, Chinese government delegated a greater amount of fiscal and administrative authority to lower levels of government. The purpose of this power decentralization is to enable more flexible governance and to foster regional competition. As a result, the reform boosted the economy but worsened the asymmetric information between autocrats and subordinates.

As illustrated in Figure 1.1, the top-down delegation of power follows the structural pattern of bureaucratic hierarchy. Regional governments have been assigned more authority over local issues and to control their lower-level subordinates. For example, the provincial governments can appoint leaders of prefectures, permit regional development plan, collect and redistribute regional tax, etc. In principle, regional governments have the power to decide all local issues and bear the responsibility to those decisions as well. The more adaptive a policy is, the better local endowment can be utilized to boost economy. The power delegation makes the competition for economic growth possible among incentivized local officials who want a promotion. Researchers believe that those incentives have contributed to the "China's miracle" on economic growth over the past thirty years (Lin and Liu 2000).

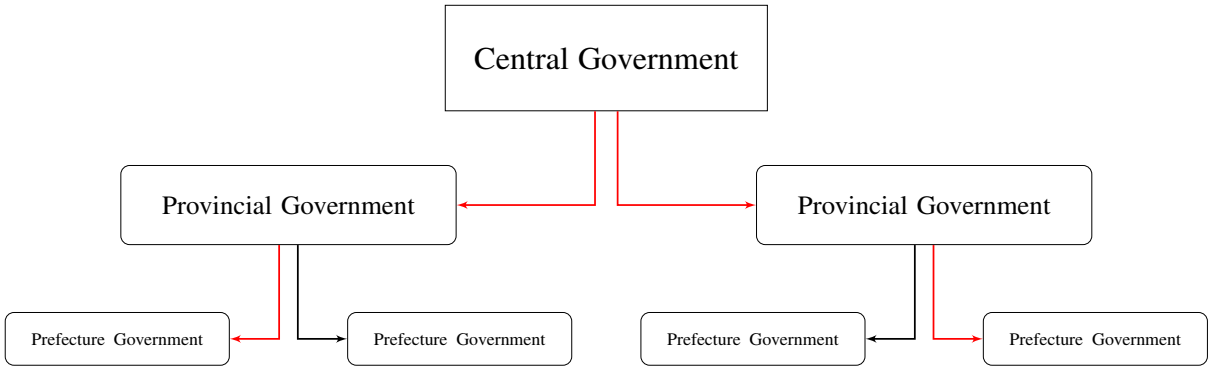



**Figure 1.1.** Pyramid Hierarchical Structure of Chinese Government

Note: Central government is on the top of the hierarchical structure of bureaucracy in China. More power was delegated to provincial and prefectural governments after the reform. Each level of governments are delegated the power to decide issues in all the nodes below them.

Decentralization of power, however, comes with a cost to the central government. More discretion to make decisions comes with more opportunities of rent seeking for local governments (Mattingly 2016). Driven by the corruption incentive, local officials tend to further disguise private information from central authority. A corrupted local government will erode the state capacity due to its low governance capability. Local power abuse, as a sign of autocrats' incapability to hold subordinates accountable, will also blemish central authority's image. Both the weakened administration capacity and the tarnished autocrat's image due to local power abuse threaten the rule of central government. Before taking any actions to neutralize those threats, autocrats need to grasp more local information.

### 1.2.2 Newspaper in China

China's newspapers are tightly controlled by the government, but in a more decentralized way. As one of the local affairs, the task to control and monitor regional media has been delegated to local governments (Sun 2012, Wang and Sparks 2018, Zhao 1998). For example, newspapers in prefecture X only directly respond to X's Publicity Department rather than prefecture Y's. Also, prefecture X is likely to cover up a scandal on itself. However, scandals in prefecture Y usually do no damage to and sometimes even benefit (Hong and Yang 2021) the politicians of

prefecture X. In that respect, local government in X has less incentive to silence its local media to cover up for Y. Considering that there are more than 300 city-level governments in China, any single one of them has little capability to silence all of the local newspapers in other cities.

In addition to the lack of political obstacles, the newly created commercial incentives encourage newspapers to expose local sandals. In the 1990s, the marketization of newspaper industry cut, or even fully removed, the subsidies newspapers received from government. To most newspapers – except for a few party newspapers – the survival became solely dependent on themselves. The profit pressure thus forced the newspapers to produce more reader-oriented articles, because a higher circulation meant higher advertisement revenues (Huang 2016, Shirk 2011*a*, Zhao 1998). With the ongoing marketization, some newspapers successfully transformed into lucrative enterprises. The rise of the *Southern Metropolis Daily (Nanfang Dushi Bao)* is a good example. Founded in 1997 as a small local newspaper, *Southern Metropolis Daily* has become one of the most influential newspapers in mainland China in less than ten years. According to the survey of World Association of Newspapers and News Publishers released in 2008, *Southern Metropolis Daily* ranked 6th in China, with a circulation of over 1,400,000. The commercial incentives driven by the pressure of survival have stimulated a rapid growth of Chinese media market. Now, Chinese newspapers have the world's largest circulations: approximately 2,600 newspapers sell 100 million copies every day.

The successful marketization has significantly reduced the local governments' fiscal burden. Moreover, an influential local media is more than beneficiary to its government. It is a lucrative mechanism with less cost but with stronger publicity impacts. In this regard, local governments have sufficient incentives to promote the development of local media. As long as it is not detrimental to its supervisor's interests, local media are allowed to pursue profit by reporting reader-oriented articles, even at the expense of other local governments' interests. One of readers' most favorite topics is the government scandal (Distelhorst 2012*a*, Qin, Strömberg and Wu 2018, Shirk 2011*a*). *Southern Metropolis Daily* is known for exposing the misconducts of local governments and many attribute its success to that characteristic.

Because of the reforms in the media control system and the press industry, regional and commercial interests have been intertwined in the news generation process of local media (Huang 2016). Local media want to seize every opportunity to attract more readers, as long as not hurting regional interests. For example, reporting on scandals of officials in other provinces could be a feasible way to match both interests. An active information seeker on officials' scandals can greatly increase the risk of covering up. It will also incentivise internal information collection system to deliver more credible information to the central authority.

### 1.2.3 Coal Mine Safety in China

Coal mine accidents are common scandals of local governments in the 2000s. China is the world's largest producer and consumer of coal. Fast industrialization in the 1990s resulted in a dramatic increase in coal consumption. Despite of the success of media marketization, decentralization led to the weakened enforcement of safety regulations, resulting in a number of high-profile coal mine accidents with mass casualties (Jia and Nie 2017). Figure 1.2 illustrates the geographic distribution of fatalities. Those accidents triggered sharp criticism both at home and abroad, posing threats to social stability and crises of legitimacy for the central government (Jia and Nie 2017, Nie, Jiang and Wang 2013).

Most coal mine accidents in China are caused by human factors: the violation of regulations or mismanagement (Chen et al. 2012). Governments' better enforcement of safety regulation can significantly reduce the coal mine casualties (Jia and Nie 2017). Facing huge domestic and foreign pressure, Chinese government ranked fatal coal mine accidents reduction on the top of its agenda in the 2000s. Since 2000, central government has issued a series of regulations (Nie, Jiang and Wang 2013) and tried to tie the promotion incentives of local officials to the safety record of the areas where they governed. According to the national regulations issued in 2001,[2] "When an extremely fatal accident occurs, local government officials are penalized

[2]"Provisions of the State Council on Investigation for Administrative Responsibility for Extraordinarily Serious Safety Accidents"

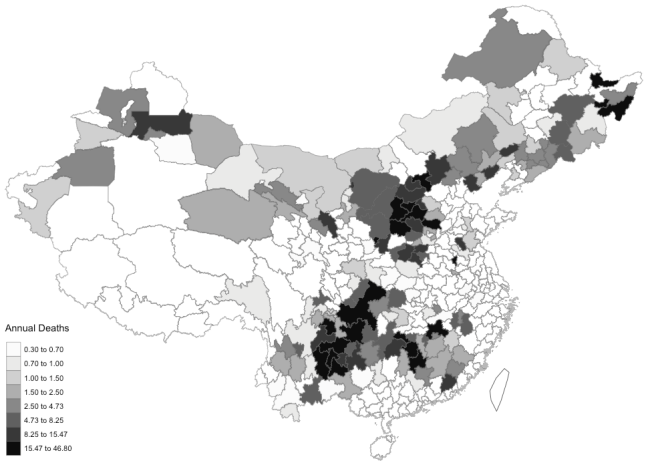



**Figure 1.2.** Geographic Distribution of Annual Deaths, 2003-2012

Note: Deaths in coal mine accidents between 2003 and 2012. Accidents with at least three fatalities are included. 174 out of 311 (55.9%) prefectures had coal mine accidents with at least three fatalities.

based on the severity of the accident, either through demotion or dismissal or through criminal procedures if dereliction of duty is involved." To protect themselves from punishment, local officials have strong incentives to cover coal mine accidents up once it cause fatalities. However, the attempt to disguise bears high risk of exposure under media supervision. Even though local officials can capture the branches of internal monitoring system like SAWS, it is hard to silence all the newspapers in China. For instance, on 26 April 2011, a severe accident happened in Guifa Coal Mine, a mine in Didao District in Jixi of Heilongjiang province, caused 9 deaths. Mine owner and local officials tried to cover it up but failed five days after owing to the exposure by journalists of the Xinhua News Press. Based on the information provided by media, the local officials, including the deputy head of that district and the leaders of local SAWS, were removed or sentenced.

The media exposure has made the cover-up a costly action, thus becomes a potential tool for the central government to better collect coal mine accidents information. One would expect the central government to dismiss anyone who fails to enforce the safety regulations and causes massive casualties. On the other hand, such dismissals might also be expensive for the central

government by disrupting local leadership, which could offset the benefit of decentralization. Then, How would local government reward and punish officials?

### 1.2.4 Political Selection in China

Without competitive election, Chinese politicians are appointed directly by their supervisors. After the decentralization of power, regional governments' authority of appointing subordinates is consolidated. For example, provincial government can appoint leaders of prefectures by evaluation. The two major criteria of selecting candidates are economic performance (Chen, Li and Zhou 2005, Li and Zhou 2005*a*, Maskin, Qian and Xu 2000, Xi, Yao and Zhang 2018) and loyalty to supervisors (Cai and Treisman 2006, Fisman et al. 2020, Jiang 2018*a*, Shih, Adolph and Liu 2012*a*). Jia, Kudamatsu and Seim (2015*a*) finds that for a candidate to receive promotion, he or she has to meet both criteria. Delegated personnel rights does not mean that the central authority can't intervene local political selection anymore. Instead, central government still holds the power to reward and punish local officials and is willing to exercise power based on its political agenda.

Political career is like a boat sailing against currents. The greatest reward to a politician in hierarchy is promotion. Central government can punish local officials in multiple ways, including but not limited to direct removal or demotion, redeploying to a new place with less power, or leaving them a stalled political career.

Punishing local officials who fail to enforce coal mine safety benefits the central authority. Firstly, ruling out incompetent subordinates can improve local bureaucracies' capability of fulfilling the assigned tasks. In the case of preventing fatal coal mine accidents, a more accountable local bureaucracy can better enforce central's safety regulations. Secondly, sanctioning officials can show central government's determination of reducing fatalities, creating an impression that central government's policy is good while local officials are bad at implementing it.

With the information of coal mine accidents, what is central government's primary goal of sanctioning local officials? We can speculate central authority's motivation by observing

the intentions behind punishments. If the purpose of allowing media to facilitate information collection of coal mine accidents is to help discipline local subordinates, we would observe crime-based punishment. But, if the central government is primarily motivated by seeming responsive to the public, we should see pressure-based punishment.

In the following section, I will review the data source and variables for the empirical analysis.

## 1.3 Data and Variables

### 1.3.1 Data

**Coal Mine Accidents.** I collect all coal mine accident reports from 2003 to 2012 published by SAWS, a central government agency of China overseeing work safety. SAWS posts online new coal mine accidents countrywide from 2000 to 2015.[3] I only consider large accidents with more than three fatalities, because they have higher chances of inducing punishment and attracting media attention. To avoid unobservable power shift when changes of central leadership may take place, I limit my analysis to the period of 2003-2012, the tenure of president Hu Jintao[4].

In total, the dataset contains 1528 cases from 27 provinces.[5] The records contain detailed information on accidents' dates and locations, which facilitate locating relevant news coverage. Of the 311 prefectures in China, 174 (55.9%) had coal mine accidents with at least three fatalities between 2003 and 2012. The geographic distribution of fatalities is illustrated in Figure 1.2. There is no clear distributive patterns of these 174 prefectures. They are from both developed provinces (like Guangdong) and underdeveloped provinces (like Inner Mongolia), distributing in both the north and the south of China. In fact, the location matches the geographic distribution

[3]The URL of the web page is http://media.chinasafety.gov.cn:8090/iSystem/shigumain.jsp, but it is no longer accessible after I collected all the data in 2015. Before January 2006, all coal mine accidents, with and without causalities, were posted. Henceforth, only large accidents with at least three fatalities will be updated on the website(Nie, Jiang and Wang 2013).

[4]Researchers consider the Hu administration to be more responsive to media (Cai 2004, He and Warren 2011, Stern and Hassid 2012, Stockmann 2013*a*).

[5]In the China mainland, five provinces are excluded due to a lack of large coal mine accidents. They are Zhejiang, Hainan, Shanghai, and Tianjin

of coal reservation better.

In the first two panels of Figure 1.3, I draw the monthly number of large coal mine accidents and their casualties. It shows that the coal mine accidents as serious socio-political issues — there were more than 100 victims in most of the months. However, both the monthly frequency and fatalities of large coal mine accidents gradually decreased during 2003 and 2012.

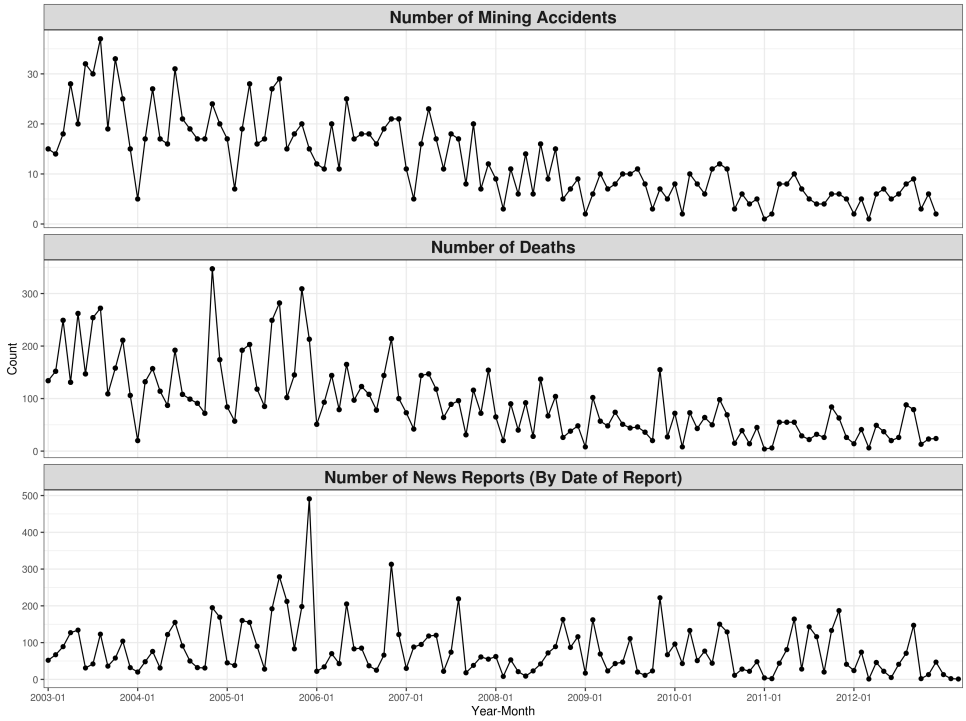



**Figure 1.3.** Monthly Coal Mine Accidents, Fatalities, and Media Coverage

Note: Coal mine accident data (Panel 1 and 2) comes from the *Disclosures of Work Safety Accidents* published by SAWS. News reports (Panel 3) are collected from the WiseNews Full-Text Chinese Newspaper Database. Dates in Panel 3 indicate the dates of article publication.

**News Reports.** Figure 1.4 illustrates how I extract information of coal mine accidents from SAWS's records. To find the news coverage of each coal mine accident, I first generate keywords composed of the date, location, and the coal mine name of accidents. More specific keywords can help increase the accuracy in searching for relevant news articles[6]. Using those

[6]Given that some news reports may only mention one or two elements of the accident (e.g. only the date and the location of the incident, but not the name of the coal mine), the news coverage I construct is a conservative count, and my results are likely to underestimate the potential negative effect of media coverage.

keywords, I collected 11,190 newspaper articles about those coal mine accidents in a full-text Chinese news database called the WiseNews[7]. These news articles come from 239 different newspapers, including national party line newspapers like the *People's Daily* and regional commercial newspapers like *Southern Metropolis Daily*.

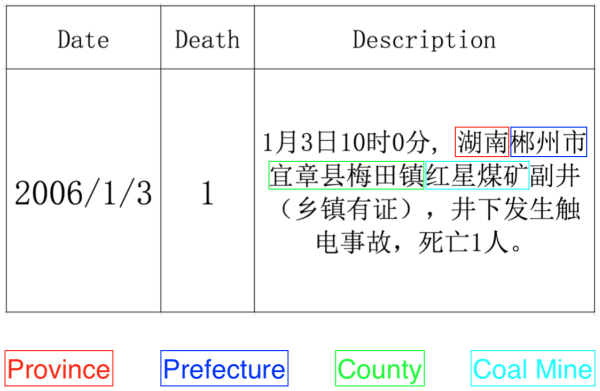



**Figure 1.4.** Example of a SAWS Coal Mine Accident Report

Note: The SAWS records contain detailed information of each accident, including the date, location, fatality, and the cause. To construct the search keywords, I extract the date and location for each entry in the record. The keyword extracted in this case would be "2006年1月3日(Accident Date) + 郴州(Prefecture Name) + 红星煤矿(Coal Mine Name)".

Besides those articles, I also obtain information of newspapers from the *Directory of Chinese Newspapers in China 2010 (Zhongguo Xinban Baozhi Minglu 2010)*[8]. Based on these information, I classify the newspapers into two: party line and commercial; national and local. These categories allow me to investigate the heterogeneous effects of media on political selection.

The number of deaths is not strictly correlated with the number of stories printed as the correlation coefficient is only 0.77. In 2004, two severe coal mine accidents with similar fatality scale (ten victims) happened in Beijing *Daanshan Coal Mine* and Guizhou *Liuhe Coal Mine*, respectively. The attention received from the newspapers, however, is quite different: there are ten times more articles reporting on the case of Beijing. The reason why the *Daanshan* accident

[7]WiseNews is a Hong Kong-based company that offers a database of 1.4 billion Chinese-language news articles dating back to 1998. More details could be found at http://wisenews.wisers.net.

[8]Published by the China Press and Publications Administration in 2011.

drew more media attention is that Beijing is the capital of China while the *Liuhe Coal Mine* is located in a small town of Guizhou Province. The imbalance of development between the two cities indicates that the accident in the former is expected to receive more exposure. To control for prefectures' attractiveness to media, I collect all news articles mentioning the name of a city from WiseNews.

**Cadre Resumes.** I construct a dataset of local cadre resumes by first obtaining the names of all prefecture party secretaries from each province's provincial yearbook (*Sheng Nianjian*). I also use Baidu Encyclopedia (*Baidu Baike*) to gather their personal information, such as age, gender, place of birth, education, and work history. In total, 967 cadres held the position of prefecture party secretary from 2003 to 2012; among those, 916 (94.7%) had detailed biographies that could be located.

### 1.3.2 Variables

**Political Turnover.** My outcome variable is the political turnover of prefecture party secretaries. Each year, an incumbent party secretary faces five possible career trajectories: 1) being promoted to a higher rank (as defined by the position's administration level and political influence), 2) being transferred laterally to positions of the same rank, 3) staying in the same office, 4) retiring due to age, and 5) being demoted due to misconduct.[9] Following Chen and Kung (2016), Li and Zhou (2005*a*), political turnover is coded as an ordinal variable, with promotion taking on the value of 3; lateral transfer and/or staying in office, 2; retirement, 1; and termination or demotion, 0. Figure 1.5 shows the distribution of political turnover for the 3,139 prefecture-year observations. We see the proportion of promotions only accounts for 11%, while an overwhelming percentage (83.40%) is "no change" or lateral transfers. Moreover, the ratio of

[9]In cases where there are two prefecture party secretaries serving in the same year - one outgoing and the other incoming - I follow Jia, Kudamatsu and Seim (2015*a*), Li and Zhou (2005*a*), Shih, Adolph and Liu (2012*a*) and match the data of those whose terms ended before (or, alternatively, started from) the 1st of July of a given year. See Table A.4 and A.5 for more detailed coding rules.

retirements and moving to the "rubber stamp" parliament together is 4.94%[10], and only 0.48% of the observations are terminations because of corruption charges or natural deaths.

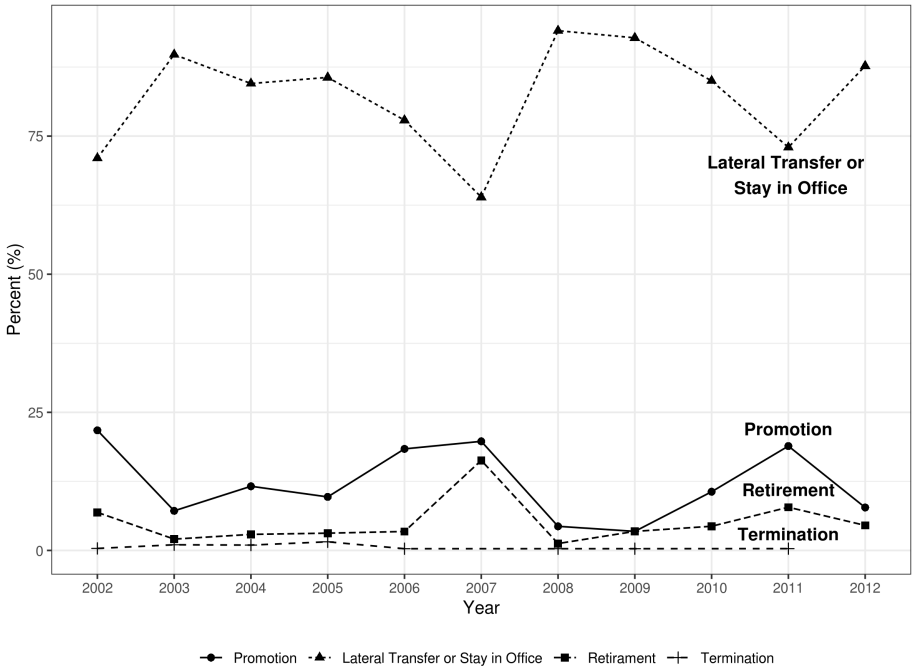



**Figure 1.5.** Political Turnover of Prefecture Party Secretaries, 2003-2012

Note: The distribution of political outcomes for the 3,139 prefecture-year observations. Of these, a mere 11.18% is promotions. An overwhelming percentage, 83.40%, is lateral transfers or staying the same. Less than 5% is retirements, and 0.48% for terminations or demotions.

**Coal Mine Accidents.** I use the number of deaths as the measure of the severity of coal mine accidents. By aggregating the fatalities in coal mine accidents to year interval, I can further link the causalities to local officials' turnover. I also apply a dummy variable denoting the existence and the number of large coal mine accidents in a year.

**Media Coverage of Accidents.** Besides the number of fatalities in coal mine accidents, another independent variable of interest is the media coverage. Similar to the number of deaths, I want to aggregate all the relevant news articles to year interval. But newspapers might need considerable time to cover the accidents. To avoid under-weighting media coverage of accidents

[10]Although a move to a political body at provincial level like People's Congress or People's Political Consultative conference may seem like a promotion, it is in fact widely considered to be *de facto* retirement in Chinese political system, because the party secretary will loses substantive power and cease to be a candidate for further promotion.

happened at the end of each year, I consider different time windows to define valid media coverage. More inclusively, I accept all the news articles published between the date of one accident and the last year the local official at work. Alternatively, I limit all articles to a fixed time window with 365 days after the accidents. To control for newspapers' attention on certain city, I generate an variable by counting the total number of news reports mentioning the name of prefecture $i$ in year $t$.

**Loyalty and Performance.** Existing research emphasizes the importance of candidates' loyalty and performance on receiving promotion. To find the influence of coal mine accidents, we should condition on those two factors. I use multiple variables to measure a candidate's loyalty. First, if a prefecture leader is governing a city in his home province, he may enjoy some benefits by virtue of his local connections. Usually, a local cadre knows the local officialdom better or has a stronger social network in the provincial government (Shih, Adolph and Liu 2012*a*, Zhang and Liu 2019). The acquaintance network may give candidate's advantages in the campaign. Thus, I generate a dummy variable indicating the candidate is native, and there are 602 (64.80%) secretaries working in the provinces of birth. Secondly, a candidate who shares factional ties with his supervisor is more likely to be promoted (Opper and Brehm 2007, Shih, Adolph and Liu 2012*a*). I generate dummy variables indicating the workplace and birthplace ties to supervisors. Specifically, workplace dummy equals to one if a prefecture secretary used to work with his or her supervisor; while birthplace dummy equals to one if candidate and supervisor，the provincial party secretary, are from the same hometown.

In the context of economy competition, I follow (Jia, Kudamatsu and Seim 2015*a*, Li and Zhou 2005*a*) and use the annual economic growth of a prefecture as the measure of an incumbent's performance. To be more specific, I control for the size and the development of a prefecture's economy, measured by GDP per capita (log), population (log), and GDP growth rate.

**Personal Demographics.** Besides political connection and economic performance, candidates' demographics also matter in the political selection. This study captures the demographic

information of candidate's age, seniority, and education. In Chinese political system, prefecture leader older than 55 will probably be forced to retire with mere promotion chances. Thus, their behaviors may differ from others'. The seniority of candidates matters in the way that the longer one stays in the same office, the more chances of promotion he holds. However, there is also evidence suggesting that promotion would be impossible if one spends too much time at the same position(Guo 2009). Therefore, I include both year in office, the squared term, and a dummy variable indicating a cadre' s second term in my estimations. On average, a prefecture party secretary spends 4.5 years in one position. Another factor influencing promotion is education (Shih, Adolph and Liu 2012*a*). As illustrated in those cases, the majority of prefecture leaders (92.52%) have earned a bachelor degree or above.

In Table 1.1, I show the statistical summary of some variables I used in the empirical analysis.

**Table 1.1.** The Statistical Summary (Prefecture (Cadre) x Year)

| Statistic | N | Mean | St. Dev. | Min | Max |
|---|---|---|---|---|---|
| Political Turnover | 3,139 | 2.053 | 0.421 | 0 | 3 |
| Accident Dummy | 3,139 | 0.220 | 0.415 | 0 | 1 |
| Deaths in Accident (log) | 3,139 | 0.501 | 1.044 | 0 | 5.193 |
| Relevant News Stories (log) | 3,139 | 0.297 | 0.884 | 0 | 5.908 |
| Number of Accidents (log) | 3,139 | 0.228 | 0.479 | 0 | 3.332 |
| News Stories about City (log) | 3,139 | 6.288 | 1.173 | 0 | 10.789 |
| Age | 3,112 | 51.675 | 3.813 | 27 | 70 |
| Time in Office | 3,139 | 2.790 | 1.687 | 1 | 11 |
| Local Cadre | 3,095 | 0.662 | 0.473 | 0 | 1 |
| Political Connection (Colleague) | 3,085 | 0.274 | 0.446 | 0 | 1 |
| Political Connection (Hometown) | 3,095 | 0.121 | 0.327 | 0 | 1 |

## 1.4 Empirical Results

### 1.4.1 Relationship between Coal Mine Deaths, Media Coverage and Promotion

How would autocrats react to the severity and publicity around coal mine accidents? The answer to this question can help us understand the underlying mechanism of media supervision. If the central authority punishes local officials based on the deaths in coal mine accidents, we can speculate that they want to use these information to hold local officials accountable. If only officials with mass negative media coverage are sanctioned, we can reasonably suspect that the purpose of autocrats is to seem responsive to the public. Therefore, I want to first compare which factor, deaths or reports, induces more serious punishment on local officials. Using a Linear Probability Model, I regress political turnover on the annual deaths in the coal mine accidents and the number of relevant news articles using the following equation:

$$\begin{aligned} Turnover_{ijt} =& \beta_1 Accident_{ijt} + \beta_2 Accident_{ijt} \times Deaths_{ijt} + \\ & \beta_3 Accident_{ijt} \times News_{ijt} + X_{ijt} + \phi_i + \delta_t + \varepsilon_{ijt} \end{aligned} \tag{1.1}$$

Where $i$ indexes prefecture, $j$ indexes a party secretary, and $t$ indexes a year. $Turnover_{ijt}$ denotes the political turnover of city $i$'s top leader $j$ in year $t$; $Accident_{ijt}$ is a dummy variable indicating the existence of large coal mine accidents; the key explanatory variables $Death_{ijt}$ and $News_{ijt}$ are the number of casualties and relevant news stories (in logarithmic form,) respectively. I am thus interested in $\beta_1$, $\beta_2$ and $\beta_3$. $X_{ijt}$ is an array of control variables including the number of accidents (log), the newspaper's attention on city $i$(log), the personal demographics (age, time in office and its square term, second-term dummy, education, and political connections), and the economic performance (GDP growth rate, log of GDP per capita, and log of population). $\phi_i$ is the prefecture-fixed effect, and $\delta_t$ is the year-fixed effect.

Based on this model, I first draw the residual scatter plot to visualize the the impact of $Death_{ijt}$ and $News_{ijt}$ on $Turnover_{ijt}$. In Figure 1.6, each dot represents a city leader who came across at least one large coal mine accident in a year, while the dashed line is the average turnover (2.0613) of those who did not. The y-axis is the residuals of turnover controlling candidate's loyalty and demographics. This residual, $\varepsilon_{ijt}$, is generated by equation $Turnover_{ijt} = Age_{ijt} + Education_{ijt} + Time\ in\ Office_{ijt} + Connection_{ijt} + \varepsilon_{ijt}$. I also draw the LOWESS (Locally Estimated Weighted Scatter plot Smoothing) line (in blue) and its 95% confidence interval (gray area). In the left subfigure, the x-axis is the log of annual deaths caused by coal mine accidents in a city. In the right subfigure, the x-axis is the residuals of media coverage controlling the deaths. In the left subfigure, I barely find any differences between the blue line and the dashed line, suggesting that neither the existence of coal mine accidents nor the casualties has critical impact on local leaders' promotion. In contrast, the right subfigure shows a strong correlation: the probability of promotion decreases substantially as the residuals of media coverage increase. The growing gap between the blue line and the dashed line indicates that it is the negative news coverage on coal mine accidents, rather than the accident per se, that makes local cadres' promotion harder.

More formally, in Table 1.2, I show the benchmark results based on Equation 1.1. Column (1) shows that neither the existence of coal mine accidents nor the casualties has significant impact on prefecture party secretaries' promotion. Column (2), however, shows that the media coverage on the coal mine accidents is negatively correlated with the chances of promotion. These findings are consistent with Figure 1.6. In Columns (3) to (6), I add more control variables including the number of coal mine accidents(log), the number of articles mentioning city *i* (log), and various measures of political connections, and the results remain stable. It can be implied that only those coal mine accidents with large-scale media exposure would have a negatively effect on cadres' promotion.

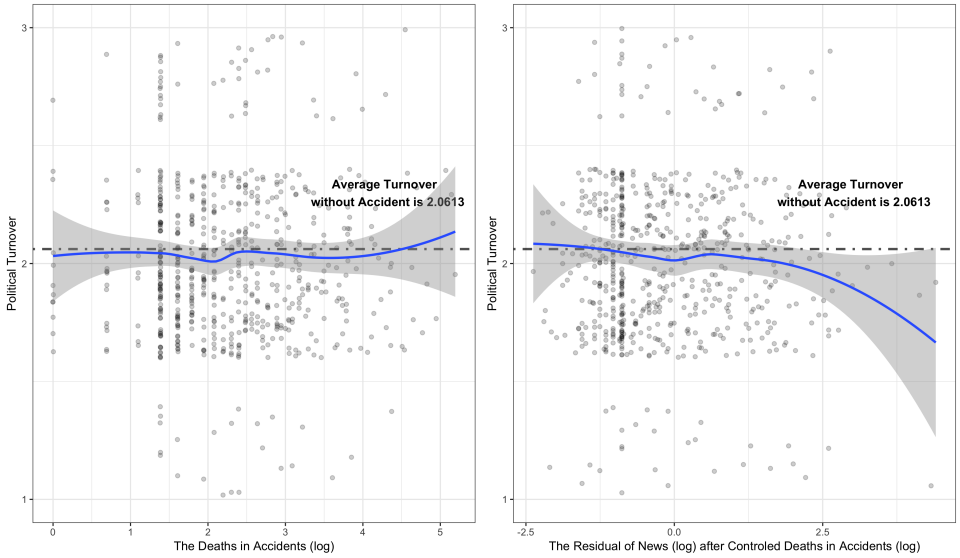



**Figure 1.6.** Relationship between Deaths, Media Coverage, and Promotion

Note: I use this scatter plot to visualize the relation between coal mine accident, media coverage, and politician's turnover. Each dot represents a prefecutre leader who comes across at least one large coal mine accident in a year, while the dashed line is the average turnover (2.0613) of those who does not. The y-axis is the residuals of turnover controlling candidate's loyalty and demographics. This residuals, $\varepsilon_{ijt}$, is generated by equation $Turnover_{ijt} = Age_{ijt} + Education_{ijt} + Time\ in\ Office_{ijt} + Connection_{ijt} + \varepsilon_{ijt}$. I also draw the LOWESS (Locally Estimated Weighted Scatter plot Smoothing) line (in blue) and its 95% confidence interval (gray area). In the left subfigure, the x-axis is the log of annual deaths caused by coal mine accidents in a city. In the right subfigure, the x-axis is the residuals of media coverage controlling for deaths.

**Table 1.2.** Relation between Coal Mine Deaths, Media Coverage and Promotion, Baseline Model

| | *Dependent Variable: Political Turnover* | | | | | |
|---|---|---|---|---|---|---|
| | *(Termination=0; Retirement=1; Same Level=2; Promotion=3)* | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Accident | −0.014 | −0.045 | −0.082 | −0.083 | −0.086 | −0.092 |
| | (0.050) | (0.052) | (0.055) | (0.055) | (0.056) | (0.056) |
| Accident x Death (log) | −0.023 | 0.016 | −0.017 | −0.015 | −0.023 | −0.009 |
| | (0.020) | (0.026) | (0.031) | (0.031) | (0.032) | (0.032) |
| Accident x Media Coverage (log) | | −0.040** | −0.037** | −0.037** | −0.035** | −0.035** |
| | | (0.017) | (0.017) | (0.017) | (0.017) | (0.017) |
| Accident x Number of Accidents (log) | | | 0.114* | 0.113* | 0.135** | 0.107 |
| | | | (0.064) | (0.065) | (0.066) | (0.068) |
| Accident x News Stories about City (log) | | | | −0.022 | −0.022 | −0.024 |
| | | | | (0.017) | (0.017) | (0.017) |
| Local Cadre | | | | | −0.042 | −0.036 |
| | | | | | (0.027) | (0.028) |
| Political Connection (Colleague) | | | | | | −0.007 |
| | | | | | | (0.029) |
| Political Connection (Hometown) | | | | | | −0.034 |
| | | | | | | (0.033) |
| Control Variables† | Yes | Yes | Yes | Yes | Yes | Yes |
| Pref- and Year-FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| $R^2$ | 0.154 | 0.156 | 0.157 | 0.158 | 0.159 | 0.163 |
| Adj. $R^2$ | 0.043 | 0.045 | 0.046 | 0.046 | 0.046 | 0.048 |
| Num. obs. | 2989 | 2989 | 2989 | 2989 | 2956 | 2911 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$.

Standard errors clustered at the prefecture level are reported in parentheses.

†Regressions control for age, time in office, second-term dummy, education, GDP growth rate, GDP per capita(log), and population(log).

In addition to the linear model, the ordinal nature of my dependent variable suggests to use the Ordered Logistic model (controlling for both prefecture and year fixed effects) as a robustness check. The results in Appendix Table A.1 confirm that the conclusion remains the same.

### 1.4.2 Problem of Endogenous Appointment

Although the benchmark results in Table 1.2 suggest a negative correlation between media exposure and promotion, the result could also be stemmed from the endogenous appointment of well-connected officials. If the loyal candidates are intentionally appointed to cities with few coal mine accidents, then the probability of being reported is also minimized. If this is true, one would expect the measure of connections to be negatively correlated with historical records of coal mine accidents in the year before they are appointed. I perform a falsification test by regressing a city's number of coal mine accidents, deaths in those accidents, and an accident dummy in the previous year of appointment, on candidates' personal demographics and political connection.

**Table 1.3.** The Effect of Politicians' Personal Demographics and Political Connection on Coal Mine Accidents Before They Assume Office

| | *(Value of One Year before Cadre Assume Office)* | | |
|---|---|---|---|
| | Number of Accidents (log) | Deaths in Accidents (log) | Accident Dummy |
| Age | 0.055 | 0.051 | 0.035 |
| | (0.057) | (0.116) | (0.047) |
| $Age^2$ | −0.001 | −0.000 | −0.000 |
| | (0.001) | (0.001) | (0.000) |
| Education | −0.003 | −0.004 | −0.007 |
| | (0.009) | (0.021) | (0.009) |
| Local Cadre | −0.005 | 0.011 | −0.015 |
| | (0.043) | (0.097) | (0.042) |
| Political Connection (Colleague) | −0.030 | −0.040 | −0.026 |
| | (0.039) | (0.092) | (0.041) |
| Political Connection (Hometown) | −0.071 | −0.147 | −0.081 |
| | (0.066) | (0.150) | (0.071) |
| Pref-FEs | Yes | Yes | Yes |
| Year-FEs | Yes | Yes | Yes |
| $R^2$ | 0.673 | 0.633 | 0.630 |
| Adj. $R^2$ | 0.442 | 0.374 | 0.368 |
| Num. obs. | 834 | 834 | 834 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$.

Standard errors clustered at the prefecture level are reported in parentheses.

The test finds none evidence supporting the endogenous appointment hypothesis. Results in Table 1.3 show that all variables are insignificantly correlated with candidate's demographics and political connections.

### 1.4.3 Problem of Endogenous Exposure

An alternative explanation, besides the endogenous appointment, is the endogenous exposure. While the former concern has been mitigated, it might be the case that the well-connected cadres would be better "protected" from media exposure regardless of the relatively random initial appointment. Even though a prefecture party secretary has limited power to control all newspapers even after power decentralization, their supervisors might help them to cover things up through direct order (the media under his control) or interest exchange (with the media beyond his control.) If true, one would be expected to see that those coal mine accidents in a city governed by a well-connected cadre would get less media coverage.

To test this hypothesis, I first investigate the factors influencing the news generation in China. News generation process is a mechanism for selecting stories and developing them into the news. Within and across the fields of political science and communications, scholars have offered different approaches to understand that process. The commercial media in democracy has incentives to report "bigger" events, to continue following ongoing storylines, and to mimic other outlets' coverage due to scarce resources (Boydstun 2013). Sharing similar commercial incentives, I assume newspapers in autocracy are, at least partially, following comparable news generation process. Therefore, for each large coal mine accident, I regress the number of news articles on two groups of variables: 1) a set of variables measuring commercial incentives motivating media coverage and 2) a set of variables measuring the political intervention probability.

To investigate the role of the commercial incentives, I first use the deaths in a coal mine accident to proxy the "size" of real-world event. Further, news outlets are motivated to follow the ongoing storylines by the notion that readers are more likely to return to that news outlet if they are captivated by the stories that are sustained parts of a larger unfolding storyline (Boydstun 2013). If there are recent stories about one coal mine accident, a new accident would be more likely to be reported. Thus, I use the number of coal mine accidents happening in the previous

three days with larger causalities to proxy the possibility of featuring a storyline. Thirdly, since the news outlets fear to be left outside a big news item, they tend to track their competitors closely (Boydstun 2013). If influential media cover one event, other newspapers are more likely to reprint it. Therefore, I generate the dummy variables indicating that there are coverage from commercial, national, and foreign newspapers on the same day when disaster broke.

For the probability of protection, I use measures of political connection to represent how much likely their supervisors would help them cover things up.

**Table 1.4.** The Determination of News-Generation Process

| | *Dependent Variable: Media Coverage on Each Accident* | | | | | | |
|---|---|---|---|---|---|---|---|
| | All News | | | | | Incident Province | Other Province |
| Deaths (log) | 1.498*** | 1.500*** | 0.985*** | 0.973*** | 0.982*** | 0.272*** | 0.992*** |
| | (0.053) | (0.053) | (0.057) | (0.057) | (0.062) | (0.056) | (0.062) |
| Recent Larger Accidents Elsewhere | | 0.034 | 0.168*** | 0.158*** | 0.132** | 0.026 | 0.128** |
| | | (0.073) | (0.059) | (0.057) | (0.065) | (0.050) | (0.058) |
| First Day Reports from Commercial Media | | | 0.868*** | 0.879*** | 0.868*** | 0.274*** | 0.587*** |
| | | | (0.065) | (0.064) | (0.076) | (0.086) | (0.100) |
| First Day Reports from National Media | | | 1.329*** | 1.325*** | 1.367*** | 0.152*** | 1.308*** |
| | | | (0.066) | (0.065) | (0.065) | (0.047) | (0.067) |
| First Day Reports from Foreign Media | | | | 0.823*** | 0.844*** | 0.051 | 0.852*** |
| | | | | (0.133) | (0.146) | (0.092) | (0.151) |
| Local Cadre | | | | | 0.113* | 0.054 | 0.107 |
| | | | | | (0.066) | (0.063) | (0.070) |
| Political Connection (Workplace) | | | | | 0.078 | −0.002 | 0.068 |
| | | | | | (0.069) | (0.062) | (0.073) |
| Political Connection (Hometown) | | | | | −0.013 | 0.055 | −0.059 |
| | | | | | (0.095) | (0.101) | (0.086) |
| Prefecture-FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year- and Month-FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| $R^2$ | 0.658 | 0.658 | 0.809 | 0.815 | 0.822 | 0.501 | 0.814 |
| Adj. $R^2$ | 0.609 | 0.609 | 0.781 | 0.788 | 0.790 | 0.410 | 0.780 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$.

Standard errors clustered at the prefecture level are reported in parentheses.

In Columns (1) - (5) of Table 1.4, the results suggest that the volume of media coverage on coal mine accidents are only driven by commercial incentives. More specifically, the coal mine accidents would receive more exposure if it caused more deaths, happened right after other accidents, and was reported immediately by influential media. On contrast, none of the political connection measures in Column (5) is correlated with the number of news articles at 0.05 significance level. It can thus be suggested that the better connected officials cannot enjoy protection from the media exposure when the coal mine accidents caused deaths; One might argue that a provincial supervisor's capability to intervene is limited to media in his province. Therefore, I further distinguish whether the offices of newspapers is located in the province of incidents. In Columns (6) and (7) I find that those better connected are not better protected, no matter if the media agency is under the direct control of the supervisors or not.

### 1.4.4 Which Type of Newspapers hurts the officials most?

After confirming the negative impact of media exposure on officials' promotion, I want to further explore the heterogeneous effects of different newspapers. Using the information about newspapers, I classify the newspapers into two categories: local media located in the province of coal mine accidents, and non-local media. For non-local media, I further categorize them into national media, commercial media, party media, and foreign media.

**Table 1.5.** Which Type of Newspapers hurts the most?

| | *Dependent Variable: Political Turnover* *(Termination=0; Retirement=1; Same Level=2; Promotion=3)* | | | | | |
|---|---|---|---|---|---|---|
| | All Newspaper | | Non-Local Newspaper | | | |
| | Local | Non-Local | National | Commercial | Party | Foreign |
| Accident | −0.066 | −0.097* | −0.099* | −0.101* | −0.085 | −0.080 |
| | (0.055) | (0.057) | (0.058) | (0.057) | (0.056) | (0.056) |
| Accident x Death | −0.051* | −0.005 | −0.009 | −0.013 | −0.025 | −0.035 |
| | (0.028) | (0.032) | (0.032) | (0.031) | (0.031) | (0.030) |
| Accident x Local Media Coverage | 0.021 | 0.052 | 0.052 | 0.046 | 0.037 | 0.034 |
| | (0.033) | (0.032) | (0.032) | (0.032) | (0.032) | (0.034) |
| Accident x Other Media Coverage | | −0.048*** | −0.061*** | −0.055** | −0.041* | −0.076* |
| | | (0.018) | (0.023) | (0.022) | (0.021) | (0.044) |
| Accident x Number of Accidents (log) | 0.121* | 0.098 | 0.104 | 0.099 | 0.102 | 0.108 |
| | (0.068) | (0.068) | (0.068) | (0.068) | (0.068) | (0.069) |
| Accident x News Stories about City (log) | −0.026 | −0.025 | −0.024 | −0.025 | −0.025 | −0.025 |
| | (0.017) | (0.017) | (0.017) | (0.017) | (0.017) | (0.017) |
| Other Media Coverage Mean | 0.065 | 0.278 | 0.200 | 0.151 | 0.135 | 0.043 |
| Control Variables† | Yes | Yes | Yes | Yes | Yes | Yes |
| Pref- and Year-FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| $R^2$ | 0.161 | 0.164 | 0.164 | 0.164 | 0.163 | 0.162 |
| Adj. $R^2$ | 0.046 | 0.049 | 0.049 | 0.048 | 0.047 | 0.047 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$.

Standard errors clustered at the prefecture level are reported in parentheses.

†Regressions control for age, time in office, second-term dummy, education, local origin dummy, political connection (workplace), political connection (hometown), GDP growth rate, GDP per capita(log), and population(log).

Conditioning on the same sets of control variables in Table 1.2 Column (6), I show the results in Table 1.5. In Columns (1) and (2), I find that the coefficients of non-local media coverage is negative and significant after controlling the local media coverage. In contrast, the local media coverage has null effect on the promotion; In Columns (3) - (6), I further divide the

non-local media into four categories. The results suggest that only the reports from the national newspaper and regional commercial newspapers have significant negative impact on the local officials' promotion. In addition, the effect of national newspaper's articles is larger than that of the commercial newspaper.

## 1.5 Discussion

In summary, the empirical results show only coal mine accidents with mass media exposure can induce punishment on local officials. In other words, local officials are not sanctioned the severity of the accidents resulted from their failure to enforce safety regulations, but to the pressure caused by the publicity of those crimes. The pressure-based sanction suggests that the central government's primary goal of adopting media supervision is to show performative responsiveness rather than hold local officials accountable. The responsiveness is performative because, otherwise, all local officials should be punished based on the substantial mistakes they have made. Only by doing so, the central government can expect to send a clear signal and effectively motivate local officials to enforce the safety regulations. Whereas, my results suggest the central government only respond to scandals with wide publicity to maximize the return.

To some extent, this strategy could be optimal for the Chinese central authority. First, tolerating public criticism enhances and economizes the central authority's channels of information collection. While the worsened information asymmetry drives central government to hunt for local information, media can directly provide information by exposing local scandals. Facing the threats of media exposure, the internal monitoring system risks a potential charge of malfeasance if it fails to lead the process of information gathering. Therefore, allowing media criticism can also indirectly facilitate information collection by incentivising internal monitoring system. In addition, media as an agency providing external oversight is less costly. With commercial incentives, newspapers' interests parallel the central government's in a way of exposing local scandals. With hundreds of incentivized information collectors who do not

need any fiscal subsidies, the central government can economically grasp the local information. Second, the pressure-based sanction makes sure the response meets the most urgent demands. Even though an accountable local bureaucracy can contribute to social stability in the long run, an exposed scandal can posit instant threats to the central government. Without prompt and proper response, the scandals of local officials could turn into social unrest immediately. Compared to hold every local official accountable, only punishing those with broad publicity can help central authority select and neutralize the most urgent threats. In that perspective, newspapers are not only an information collector, but also an information filter. Considering that only those scandals attracting readers has the potential to cause high social pressure, sanctioning local officials based on scandals selected by media could be an effective strategy for the central government to kill two birds with one stone — to enjoy the benefits of local information and legitimacy of responsiveness simultaneously.

However, this strategy could also be seen as a compromise in certain periods. From 2002 to 2012, newspapers were still the major source of information for citizens. The central government had to rely on the journalists of news press to collect information at the cost of allowing certain criticism. However, the rise of social media makes every user a journalist to post information on a platform where every local scandal can be exposed and spread much faster and broader. Therefore, local information become more accessible and cheaper in the era of social media. The reduced dependency on newspapers, we can predict, will further constrict newspapers' space of criticism on government.

## 1.6 Conclusion

This study sets out to provide the first quantitative test of the ruler's incentives and strategies of promoting media supervision in autocratic countries. Allowing media criticism on local governments can help autocrats collect necessary information, but the purpose of information collection is different from the existing theory which emphasizes the function of

holding subordinates accountable. The empirical analysis of a special case in China shows a robustly negative correlation between the news coverage and the local cadres' likelihood of promotion, controlling the severity of causality. This study suggests that autocrats attach more weight to its image among citizen than an effective and accountable bureaucracy. Moreover, I find that the negative impact on local governments is generated by the reports from national newspapers and regional commercial newspapers, which are less likely to be captured by local governments reported in the news. These findings imply that the media can provide useful information to the central government if there are distinctive political interests in bureaucracy and commercial interests for media.

This study leaves a few critical questions for future research. First, the data of coal mine accidents are collected through the internal channel and released by the central government. Regarding that, I cannot, at least empirically, test to what extent the existence of the external channel facilitates the internal information collection. Second, this study only focuses on the sanctions of prefecture cadres whose power of controlling media is limited. But, the question concerning how the central government responds to a scandal involving higher-level politicians is still worthy of future investigation. Third, newspapers were still the most influential type of media during the period of research (2002-2012), but the recent development of social media has posed a new challenge to the central government. Besides, social media is more decentralized than newspapers since every individual can voice their discontent. In that view, more research are needed to account for that change. Future research might build on this study to examine those aspects of authoritarian media control.

Chapter 1, in part, is a reprint of working paper that prepared to submit to a peer-review journal. The dissertation author was the primary investigator and author of this material.

# Chapter 2

# Media Narratives and Factional Politics

Building on the results of my paper on coal mine accidents that showed that media coverage of scandals during a politician's reign impedes their promotion, I was wondering if media narratives might be weaponized in the power play of factional politics that was particularly prevalent in the Hu-Wen Administration. In 2022, with Jean Hong at University of Michigan, I dove into the influence of factional competition on local media's coverage of politically damaging news. This investigation was supported by a thorough connection between news reports from Chinese national and local newspapers (2000–2014) and elite network data. Results demonstrated that officials connected to stronger national leaders exploit damaging news reports against weaker factions. Adverse reports indeed have a substantial impact on the promotion prospects of the leaders in focus, tipping the balance of power towards stronger factions. Building upon these findings, future research will probe further into the competitive dynamics among political elites in China and analyze other potential strategies used by powerful factions to extend their influence. This paper, *Do winners spread more words? Factional competition and local media reports on corruption investigation in China*, is published in the *Political Science Research and Methods*.

## 2.1 Introduction

To understand the unique logic of non-democratic governance and regime stability, scholars of authoritarianism have debated the role of formal and informal competition among authoritarian elites. Numerous recent studies suggest that power-sharing institutions, such as constitutional constraints, elections, legislatures, and political parties, contribute to the dictator's survival and the regime's longevity by allowing limited competition among elites (Boix and Svolik 2013, Gandhi 2008, Gandhi and Przeworski 2006, Geddes 2003, Geddes, Wright and Frantz 2014, Magaloni and Kricheli 2010, Myerson 2008, Svolik 2009; 2013). At the same time, theoretical and empirical studies have also noted the existence and importance of non-institutional political factions in authoritarian politics, arguing that informal competition among elites helps extend and stabilize authoritarian rule (Shih, Adolph and Liu 2012*b*, Zakharov 2016). Using a novel approach that employs extensive media data from China, our study offers empirical analyses showing how informal factional competitions shape local media coverage of negative political events such as corruption investigation.

China features a single-party authoritarian regime in which the Chinese Communist Party (CCP) monopolizes political power. Observers of Chinese politics have long noted that political power is fundamentally concentrated among a small handful of top leaders (MacFarquhar 1997, Shambaugh 2008). These leaders also have their own political followers, developed through past interactions, industrial or occupational proximity, or ideological orientation (Jiang 2018*b*, Nathan 1973, Shih 2008*a*, Shih, Adolph and Liu 2012*b*, Tsou 1976). Scholars, however, have disagreed over the character of factional politics in China. Some suggest that the factions create a balance of power among national leaders allowing for checks and balances against the strongest faction (Dittmer and Wu 1995, Nathan 1973, Nathan and Tsai 1995). In contrast, others argue that factional competition resembles a process of natural selection in which the strongest faction dominates the others (Tsou 1976; 1995). Our paper provides an empirical test for this long-standing debate on the political consequences of factional competition by investigating whether

and how stronger faction members behave differently from their weaker counterparts, *vice versa*.

Empirically, our study focuses on measuring and analyzing the competitive behavior of lower-level bureaucrats who are directly connected to national leaders, instead of the largely unobservable top-level competition. Authoritarian elites at various levels compete informally against their peers for a larger share of political power, as the system lacks formal competition such as elections. Yet daily competition among elites, particularly top leaders, is largely unobservable due to the tight media control over central politics and the informal nature of authoritarian political competition. Likewise, while numerous studies in Chinese politics illustrate the importance of factional competition among elites, observing and measuring competitive behavior across factions remains particularly difficult. As a result, competition among Chinese top elites is frequently the subject of viral rumors among citizens, especially as social media platforms expand (Huang 2017, Zhu, Lu and Shi 2013), but less often a topic of systematic analysis. Recent studies on Chinese factional politics use advanced methodological techniques to examine the outcomes of factional connections, such as political promotions (Keller 2014, Shih, Adolph and Liu 2012*b*) and decisions about resource allocation (Jiang and Zhang 2020, Shih 2008*a*), but rarely directly elucidate the competitive behaviors of faction members. To fill this gap, we construct a rich dataset consisting of millions of media reports in Chinese regional newspapers, along with information on the political networks of elite Chinese bureaucrats.

To measure the distribution of political power among national leaders, the patrons of factions, we generate various indicators of political influence capturing the power distribution among members of the Chinese Politburo Standing Committee (PSC) and the changes in power over time. Our principal measurement uses the frequency with which a leader's name appears in the text of major national newspapers as an indicator of the leader's political influence at the time. We also use alternative measurements such as time-invariant official rankings, network-based influence, and the frequency with which a leader's name appears in headlines. Using these indicators, we analyze how a patron's political power shapes the competitive behavior of connected local leaders, measured via inter-provincial news reports on corruption

investigations. As corruption investigations are conducted by a CCP organ, the Commission for Discipline Inspection (CDI), which potentially involves top-level politics, decisions about whether a bureaucrat is corrupt go beyond factional competition at the local level. Our measure instead captures the "amplification" and "resonance" effects local news outlets have on specific corruption investigations in other provinces and their implications for informal factional politics in China.[1] As promotion decisions at the top level, such as for provincial party secretaries, is exceptionally opaque in an authoritarian system like China, details of the decision-making process are little known to the public. However, given the intensity of competition at the top, it is entirely possible that negative political news spread to the public through media reports may convey political significance or function as a convenient excuse in close cases near the final stage of decision-making.

Our empirical analyses indicate that strong factions create greater resonance effects on corruption cases in weaker factions: provincial leaders linked to a strong political patron publish more news on corruption investigations in other provinces than do their weaker counterparts. More importantly, when reporting on others, provincial party secretaries are more likely to target provinces connected to weaker political patrons. By reducing the promotion chances of the provincial leaders who appear in the reports, negative news reporting by members of strong factions indeed threatens the political survival of weaker factions. Interestingly, strong political patrons do not necessarily protect their clients from negative news coverage: we find that a connection to a strong patron does not reduce the probability of being reported on in a corruption investigation by other provincial news media, conditional on a corruption investigation taking place within the province. This means that a factional connection does not work as a political safety net for a client facing political hardship.

Our study contributes to the literature on authoritarian politics in a number of ways. First, we provide empirical evidence relevant to a current academic debate on informal factional

[1] Our data show a large variation in regional media's coverage of corruption investigations in other provinces. News content also varies from that of national newspapers.

competition. By measuring authoritarian elites' competitive behavior directly, we show that strong factions tend to amplify negative news coverage of politically weaker factions. Our findings thus imply that informal factional competition is unlikely to produce a stable power-sharing outcome, as powerful factions will consistently challenge the weaker factions' status using their political resources. At the same time, we challenge the conventional wisdom that elite competition is a signal of regime weakness. We show that, on the contrary, strong faction leaders, having a larger stake in regime stability, allow more extensive competition among lower-level elites, rather than restraining their competitive behaviors. In doing so, the leaders can constrain the range of competition to a smaller number of regime followers. Lastly, our study broadens the scope of the data applied to authoritarian politics research by employing largely guided and biased media reports in Chinese media (King, Pan and Roberts 2013, Lorentzen 2014*b*, Stockmann 2013*b*) to measure the political intentions of authoritarian elites who supervise or operate the media (Chen and Hong 2021).

## 2.2 Informal Elite Competition and Media Reports under Authoritarianism

Popular descriptions of dictatorships have long suggested that an autocracy with non-monopolized power is a weak regime (O'donnell and Schmitter 1986, Przeworski 1991). However, the literature on authoritarian power-sharing challenges such perceptions, arguing that political power-sharing institutions, such as political parties, elections, and legislatures, help dictators enhance regime sustainability by successfully limiting their unilateral power (Boix and Svolik 2013, Gandhi 2008, Geddes 2003, Magaloni 2008, Myerson 2008, Pepinsky 2014, Svolik 2009; 2013). In particular, power-sharing studies link single-party or dominant-party dictatorships to regime durability, as those parties more effectively contain power struggles among ruling elites (Geddes 2003, Magaloni 2008, Magaloni and Kricheli 2010).

In this paper, we examine how power-sharing in a party dictatorship works when the main channel of power distribution and competition consists of non-institutionalized and informal political networks, i.e., factions. As a single-party authoritarian regime, the Chinese political system does not adopt many democratic institutions that are intended to decentralize de facto political power; although a few political reforms have been attempted, the extent of institutionalized power sharing remains quite limited. Scholars have viewed the Politburo Standing Committee (PSC) as a key power-sharing institution in China as it provides a system of collective leadership (Lin 2004, Svolik 2013). While this collective leadership is the fundamental basis of the Chinese political system, beyond a nominal division of labor among PSC members, the broad political process that influences the composition and management of the PSC is not formally institutionalized and thus hinges on an informal power struggle among past, current and potential national leaders.

Scholars of Chinese politics have discussed whether power distribution across informal political groups can induce a power-sharing or power-balance outcome. The seminal work by Nathan (1973) and a subsequent study by Dittmer and Wu (1995) claim that policy and ideological struggles between factions create an inter-factional balance of power in which multiple factions compete and maintain balance among themselves. In contrast, Tsou (Tsou 1976; 1995) argues that elite pluralism is an empirical exception in Chinese politics and that the power struggle among Chinese elites "always involves one side winning all and/or the other side losing all" (Tsou 1995; p.97). Countering Tsou's point, Nathan and Tsai (1995) argue that an outcome with a balance of power is a not only frequent but also stable feature of Chinese politics. More recently, Li (2012) characterizes the collective leadership of the CCP as a system of checks and balances through "one party, two coalitions," where equally powerful factions representing different social and political groups in China hold each other in check.

Despite the long-standing theoretical debate, few studies have used empirical data to illustrate the competitive behaviors of authoritarian elites across factions. Our study contributes by providing an empirical examination of how members of strong factions and weak factions

behave differently. Our period of research (2000–2014) ranges from the end of the Jiang Zemin administration (1989–2002) to the beginning of Xi Jinping's regime (2012–present). The Hu Jintao and Wen Jiabao administrations (2002–2012), which constitute the bulk of the period under analysis, are not typically framed as a period in which one faction or one top leader dominated others. Furthermore, during this period intellectuals within the party actively debated the possibility of intra-party democracy (*dangneiminzhu*) (Bing 2014).

If this seemingly balanced period is indeed characterized by power-sharing and power-balancing among political factions, our analyses will show that the relatively dominant factions are criticized or challenged by weaker counterparts alleging corruption equally or more frequently than the reverse (Hypothesis I). Previous faction politics theories support this pattern and potential balancing effects. Nathan (1973) claims that "the flexibility of the weaker factions and their capability for intermittent functioning" enhance weak factions' ability to defend. Furthermore, when a strong leader emerges, weaker factions perceives it as a common threat and band together against the strong faction (Nathan and Tsai 1995).

HYPOTHESIS I: Powerful factions are more or equally likely to receive negative news coverage than are weaker factions.

If, on the contrary, the intrinsic nature of Chinese elite competition is to remove threats from one's political competitors in order to obtain more power as Tsou (1976; 1995) theorize, the analyses will reveal an imbalanced pattern of attacks in which stronger factions aggressively attack their weaker counterparts, using the opportunity and power to do so. However, empirical patterns may differ depending on how these political attacks are strategized and constrained at the client level in the factional structure. On the one hand, strong faction members may hold the members of the most challenging factions in check, as the rise of these factions could threaten the status and resources enjoyed by the most powerful faction. The recent literature of elite purges in autocracies provides insights supporting this claim. Several studies investigate the targets

of purges under dictatorship and find that competent and experienced elites are more likely to be purged by a dictator as they are perceived as greater threats (Bokobza et al. Forthcoming, Goldring and Matthews 2021, Wong and Chan 2021).

HYPOTHESIS II: Media reports by strong factions are more likely to target the second strongest faction than to target weaker factions.

Nonetheless, attacking the second strongest faction members may come with potential political costs, especially as a client, if the attacked faction's patron retaliates in the future. This risk may induce the members of strong factions to attack an easy target, such as members of the weaker or weakest faction. This strategization is similar to the logic that dictators purge the opposing elites when the elites' capabilities to fight back is low (Sudduth 2017) or that coup-entry dictators are more likely to purge civilian elites because the cost of purging is lower than purging military elites (Goldring and Matthews 2022).

HYPOTHESIS III: Strong factions are more likely to attack the weakest faction(s) rather than targeting other strong factions.

We measure the competitive behavior of Chinese political elites by observing regional news reports on corruption investigations in other provinces. One principal reason for relying on local news reports is the unavailability of information on central-level political competition. While autocracies are in general less transparent than democracies (Hollyer, Rosendorff and Vreeland 2015), political competition among top national leaders in non-electoral autocracies like China tends to be even more opaque. One way to overcome this data limitation is to incorporate behavioral data from lower-level political elites who are directly connected to the top national leaders. The justification is that, in a hierarchical political system such as China's, the behavior of lower-level elites ought to benefit their political patrons (Shih 2008*b*). In particular, this study

investigates the possibility that strong factions may benefit by being able to be more vocal in criticizing the defects of other factions, as an alternative benefit of factional connection to a strong patron, creating greater legitimacy for the promotion of strong faction members not only within the party but also among the public.

Another reason for employing local media reports is the limited discretion that local governments and local media have on reporting negative political incidents such as corruption investigations. For this, it is worth discussing how news articles are published in Chinese regional newspapers. It is well-known that media freedom is restricted in China as in many other authoritarian countries (King, Pan and Roberts 2013, Stockmann 2013*b*). However, total concealment of negative information on governance is not optimal to the regime as a media environment that only allows glorifying news reports fails to provide adequate incentives for bureaucrats to perform better (Lorentzen 2014*b*). Furthermore, the information provided by such a government lacks credibility among citizens, leading them to look for alternative channels (Huang 2017, Zhu, Lu and Shi 2013). In particular, when the legitimacy of the regime depends on internal discipline and reform efforts, information on self-discipline and reform progress must be transmitted to the public to maximize regime support. Thus, allowing negative or critical reports on local affairs can be a useful strategy for the state to maximize regime stability (Lorentzen 2014*b*). As our data exemplify, it is not impossible to find news reports on corruption cases in local newspapers in China, and some reports discuss the details of local officials' corruption.[2]

This does not imply, however, that Chinese local media serve as a watchdog with regard to local government. Although there is much variation in local media in terms of the extent to which different outlets criticize the government or report on sensitive social issues (Lei 2016), surveillance or criticism by the media are still structurally unlikely and rare. This is because all local media are either operated or supervised by the local propaganda department, and the local propaganda department, in turn, is supervised by the party committee at the corresponding

[2]Due to the limited space, we discuss the publication process of corruption investigation news in Chinese local media in detail in Figure A.2 in the Appendix.

level, which is under the authority of the local party secretary.[3] Therefore, by design, there is little incentive for editors and managers of local media companies to criticize their own local government, as their career paths are largely decided via local leaders' evaluations. However, media outlets have much more latitude to criticize other localities' misgovernance. Criticizing other local governments does not interfere with the political fortunes of their own supervisor, and may actually contribute to the supervisor's success by disparaging local leaders who are in competition with the supervisor.

In summary, while the freedom of the Chinese media is among the most limited in the world, what circulates and resonates in media does matter in China (Distelhorst 2012*b*, Yang 2020). As corruption investigations are conducted by a CCP organ, news reports about ongoing corruption investigations do not provide new information to national leaders, but the leaders still cannot necessarily control which cases are circulated by the media or which become well-known to the public (Lorentzen 2014*b*, Lu and Ma 2019). At the same time, in a strictly hierarchical governance system like China, a corruption investigation of subordinates, especially one widely known of by the public, can damage one's career and thus one's promotion chances, as it signals incompetence, negligence of political responsibility, or potentially one's own corruption (Chen and Hong 2021).

## 2.3 Empirical Strategy

### 2.3.1 Data and Variables

Our key **explanatory variable** is the distribution of power among PSC members. The Chinese political system depends on collective leadership at the top level; seven to nine members constituting the PSC collectively hold central authority in the Chinese government. However, measuring the dynamic changes in relative political influence among these PSC members is not

[3] At the same time, local news providers are also guided by the Publicity Department of the Communist Party of China (CCPPD, *zhongxuanbu*). Sometimes, the CCPPD bans local media from reporting on certain provocative topics or allows only copied reports from the national outlets Xinhua News and the People's Daily. Otherwise, local media are generally able to publish news reports without central intervention (Zhou 2011).

a straightforward process. The most accessible method is to employ the official rank of PSC members, but since the ranking of PSC members only renews every five years at the National Party Congress, it remains static during that period and is thus of limited use.

To measure the dynamic changes in the actual power distribution among PSC members, we generate alternative power indicators. The first alternative measure is based on national media exposure of the PSC members.[4] We take advantage of the Chinese media's close relationship with the central authority and their tendency to adapt to power shifts to measure the dynamic changes in power distribution among PSC members (Jaros and Pan 2018, Shirk 2011*b*). We interpret the more frequent appearance of a PSC member's name in major national newspapers as a signal of his political importance and influence in China's politics relative to other members.

To construct this dynamic power measure, we collect all news reports that appeared in major news media from 2000 to 2014 that contained the names of PSC members at the time. We use the following four national newspapers in China: the *Peoples' Daily* (*Renmin Ribao*), the *Guangming Daily* (*Guangming Ribao*), and *China Youth Daily* (*Zhongguo Qingnian Bao*). All of these newspapers are national, official party-line media, closely controlled by the CCPPD. To collect the news articles, we use the Hong-Kong based data vendor *WiseNews*, which provides the largest content database of mainland Chinese news media.[5]

The time trends of newspaper articles mentioning the names of top national leaders are illustrated in the following figures. Figure 2.1 presents the annual trend of all PSC members. It is notable that the top two leaders, the president and the premier, are cited in the vast majority of our data. Figure A.1 shows the monthly trend of newspaper articles mentioning the top two leaders.

Finally, we build a yearly dynamic power indicator by calculating the share of news

[4]Recently, the same method was used by Ban et al. (2019) to identify the relative power of political actors in US history. The authors use coverage in major US newspapers, i.e., the relative amount of space devoted to particular subjects in newspapers, as their data.

[5]In the final dataset, out of total 72,231 articles mentioning national leaders, observations collected from the *Peoples' Daily* constitute the vast majority, contributing 81%, followed by and the *Guangming Daily* and *China Youth Daily*, representing 18% and 1%, respectively.

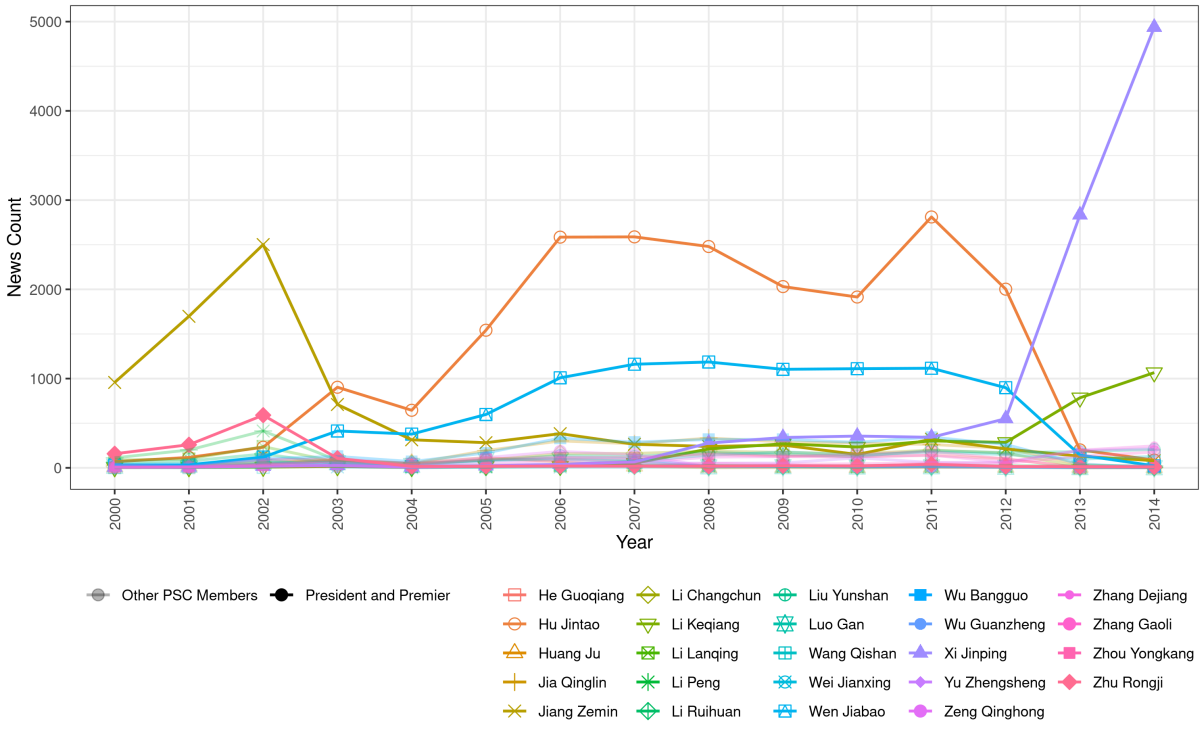



**Figure 2.1.** Annual News Reports on the Politburo Standing Committee Members

reports on a certain PSC member ($p$) out of the total number of news reports on all PSC members in each year ($t$):

$$\text{Patron Power}_{pt} = \frac{\text{News}_{pt}}{\sum_p \text{News}_{pt}} \tag{2.1}$$

Using this power measure, we also generate a variable measuring the power gap between the patron of the leader of the province producing the negative reporting ($p_i$) and the patron of the leader of the province being reported on ($p_j$). For province leaders with ties to more than one PSC member, we employ the sum of their patrons' power, the highest-ranked patron's power and the average power of their patrons in the analyses in order to rule out the possibility that the results are driven by a particular identification strategy.

$$\text{Power Difference}_{p_i p_j t} = \text{Patron Power}_{p_i t} - \text{Patron Power}_{p_j t}$$

In the empirical analyses, we employ these two dynamic power indicators as the main

independent variables. To confirm that the empirical findings are not based on a specific measurement strategy, we use the various alternative measures, including one based on the official ranking and a power index based on the connectedness of the patron's political network. In addition, we generate another power index from national news media reports, in which we restrict the media exposure to those articles that mention a PSC member's name in the headline, rather than in the text of the article.

Our main **dependent variable** is political competition among provincial leaders, measured through inter-provincial "negative" news reports. We employ regional news media coverage of corruption investigations that took place in other provinces. To capture the competitive nature of news reporting on corruption, we create a province dyad pairing a news reporting province (news province, *i*) and a reported-on province (event province, *j*).

To collect the news reports from each province, we scraped the news contents of 143 local mainstream newspapers, i.e., provincial and prefectural newspapers, in China from *WiseNews*. Among these 143 newspapers, 49 are party-line newspapers directly controlled by the provincial or major prefectural party committees, and the remaining 94 are commercial newspapers operated by regional news corporations (Table A.6 and A.7). After selecting newspapers, we searched for news reports on corruption investigations using the keyword "*shuanggui*."[6]

We then created direct data for each province dyad for each year. We include 30 provincial-level administrative divisions, excepting Beijing.[7] Each province is coded as a news province and an event province for each year. In other words, the unit of observation is a pair of provinces consisting of one news (reporting) province and one event (reported on) province, with a value that captures the number of news reports published by the news province on corruption

[6] *Shuanggui* refers to a unique intra-party CCP disciplinary process for party members suspected of corruption, conducted by the Central Commission for Discipline Inspection (CCDI, *zhongjiwei*) or the provincial CDI. Information on *shuanggui* is monopolized by the CCDI, and any related information is released selectively by the CCDI after consideration of the political impacts. Hence the coverage of any *shuanggui* case in a Chinese newspaper is only possible with the CCDI's approval. Local newspaper editors have some autonomy with regard to how deeply and frequently they cover a specific case, unless directed otherwise by the central propaganda department (CCPPD) or their local leaders.

[7] Many Beijing newspapers serve as *de facto* national newspapers or are known to have a close connection to nationwide newspapers due to the geographic proximity of operation units.

investigations in the event province in a specific year. This design of the dependent variable results in 13,050 province dyads (30 news provinces $\times$ 29 event provinces $\times$ 15 years) consisting of 450 leader-years (30 provincial party secretaries $\times$ 15 years).[8]

To identify the political network that exists between regional political leaders and top central leaders, we constructed a political elites dataset that captures details about the political careers of all provincial party secretaries and all CPS members during the period 2000–2014. We first incorporate the names of those provincial party secretaries from the *China Communist Yearbook* (*zhonggongnianbao*). We then extract biographical and career information from their personal biographies, including age, gender, place of birth, education and work history, using the Chinese search engine *Baidu Baike*. Finally, we match the personal information and work histories of provincial leaders with information on the incumbent PSC members to construct faction networks for each provincial official. We assume a provincial party secretary is connected to a PSC member if they were born in the same province, graduated from the same school, or previously served in the same work unit for over a year, following Shih, Adolph and Liu (2012*b*). More recently, scholars have argued that workplace connections are a more accurate measure of factional relationships (Jia, Kudamatsu and Seim 2015*b*, Jiang 2018*b*, Keller 2016). As the first robustness check, we employ the workplace connection exclusively.[9]

[8]The cutoff date for leadership is June 30 of each year, following Li and Zhou (2005*b*).

[9]The definition and measurement of a workplace connection has varied across previous studies. We employ Shih, Adolph and Liu (2012*b*)'s definition; we identify an official as being in a patron's faction if the official worked within two administrative steps of the leader within the same work unit for over a year. Jia, Kudamatsu and Seim (2015*b*) use a broader definition; officials are connected if they work in the same branch of the CCP or of the government at the same time. Jiang (2018*b*) employs a more limited definition; two officials are connected when one is promoted by the other to a leadership position.

### 2.3.2 Specification

The analyses are based on the following empirical specification.

$$\begin{aligned} NegNewsCount_{ijt} &= \beta_1 PatronPower_{it} + \beta_2 PatronPower_{jt} + \\ &\quad \beta_3 PS\text{-}GN\ SameFaction_{it} + \beta_4 PS\text{-}GN\ SameFaction_{jt} + \\ &\quad \beta_5 AgeGap_{ijt} + \beta_6 TenureGap_{ijt} + \\ &\quad X_{ijt}\mu + \eta_{ij} + \lambda_t + \varepsilon_{ijt} \end{aligned} \tag{2.2}$$

Our key dependent variable *NegNewsCount* represents the number of bilateral news reports published in province $i$ (news province) on corruption investigations that occurred in province $j$ (event province) in year $t$. To capture the dyadic reporting dynamics, we create two different news report variables: 1) the *number* of corruption investigation reports by $i$ on corruption scandals in $j$ and 2) the *share* of total news reports by $i$ on event province $j$ and $j$'s prefectures that cover corruption investigations. Our independent variable is the power of the patrons connected to the leaders of the reporting and the reported-on provinces. We additionally examine the relative power of the patrons of the reporting and the reported-on provinces ($PatronPower_{it} - PatronPower_{jt}$).

We control for covariates affecting local leaders' political incentives or competitive behavior. First, *PS-GN Faction* is an indicator variable for cases where the party secretary and the governor of a province belong to the same faction. The rationale behind this variable is that belonging to the same faction may encourage a province's leadership team to attack another province or may insulate a province from negative media reports. It is also necessary to consider other individual-level confounders that may lead certain leaders to compete more intensely with each other. For instance, all else being equal, public officials with similar ages or years of tenure are more likely to be in competition for promotion in the following evaluation cycle. To address these incentives, we control for the age gap and the years-in-current-office gap between the party

secretaries in the two provinces that form each dyad. Our variables are summarized in Table A.8.

Furthermore, to control for any unobserved characteristics specific to individual provinces, inter-provincial relationships, or particular years, we employ two sets of fixed effects: for province dyad ($\eta_{ij}$) and for year ($\lambda_t$). Province dyad fixed effects address not only province-specific effects but also dyad-specific effects. Province-specific effects are particularly important to address because Chinese provinces enjoy considerably different levels of media availability and freedom (Lei 2016, Stockmann 2013*b*). They also address the estimation bias caused by certain provinces being reported on more frequently because their officials tend to be more corrupt, as in the case of Shanxi province (Lorentzen and Lu 2018). Addressing dyad-specific effects is also crucial, as they will absorb the potential bias created from rivalry-prone provinces. Year fixed effects along with dyad fixed effects also prevent the possibility that certain events, i.e., a major event such as Bo Xilai's corruption case, drive our results. Finally, we use a linear model for panel data in the main analysis.[10] All errors are clustered at the dyad level to address the unique structure of dyadic data (Aronow, Samii and Assenova 2015, Cameron and Miller 2014).

## 2.4 Results

### 2.4.1 Media Reports Analysis

Before presenting the regression results, we draw a scatter plot with a lowess line to describe the pattern (Figure 2.2). The figure illustrates that the power of a news province's patron has a strong correlation with negative news reporting on other provinces. The results in Table 2.1 confirm the pattern and reject Hypothesis I. When a local leader is connected to a PSC member with greater political influence, the local leader is more likely to promote negative news reports on corruption investigations in other provinces. This suggests that factional competition encourages strong factions to attack weaker factions more frequently than the reverse. The

[10]We employ a linear regression with many levels of fixed effects using the command *reghdfe* in STATA (Correia 2015), as we regress with multiple levels of fixed effects and clustered standard errors.

findings are consistent in Models (1) to (3), where we use the absolute number of negative reports, and in Models (4) through (6) where we employ negative reports as a share of total news articles.

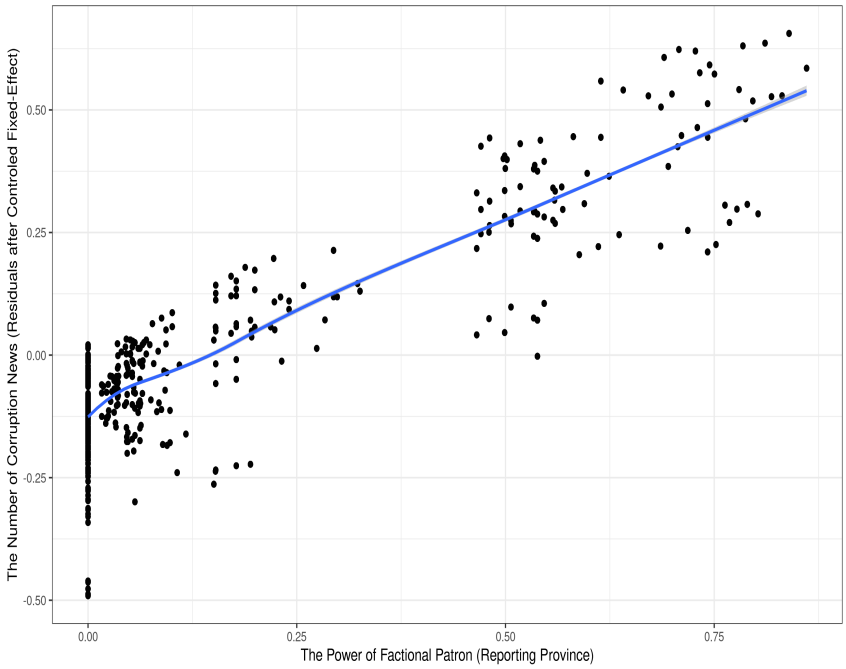



**Figure 2.2.** Lowess Plot over News Province Patron's Power

The analysis in Table 2.1 presents another interesting and important finding. While a strong patron facilitates negative news reporting on other provinces, having a strong political patron does not prevent provincial leaders from being the subject of reporting in provinces with rival leaders. The patron power of the leader of an event province fails to pass standards of statistical significance in all models. This finding implies that a factional relationship with a strong patron does not or cannot offer insurance against a provincial leader's political downfall.

To investigate whether the pattern of negative news reporting relies on the type of factional tie, we further examine the details of factional ties across provincial dyads. Models (2) and (5) further control for the factional ties of each provincial dyad to see if a particular type of dyad leads to more hostile news reporting. We control for cases where only the event province's party secretary has a factional tie (News= 0 and Event= 1), only the news province's party secretary

**Table 2.1.** Patron's Power and Interprovincial News Reports on Corruption Cases

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| Patron Power for PS (News) | 1.146*** | 1.108*** | 1.082*** | 0.216*** | 0.053 | 0.286*** |
| | (0.221) | (0.218) | (0.219) | (0.055) | (0.065) | (0.076) |
| Patron Power for PS (Event) | 0.173 | 0.196 | -0.003 | -0.039 | -0.057 | -0.108 |
| | (0.176) | (0.175) | (0.173) | (0.055) | (0.060) | (0.094) |
| PS-GN Same Faction (News) | 0.192+ | 0.175+ | 0.170 | -0.088** | -0.165*** | -0.140*** |
| | (0.101) | (0.104) | (0.104) | (0.029) | (0.042) | (0.037) |
| PS-GN Same Faction (Event) | 0.088 | 0.098 | 0.072 | 0.072 | 0.064 | 0.062 |
| | (0.096) | (0.103) | (0.107) | (0.069) | (0.067) | (0.066) |
| Age Gap | -0.017 | -0.017+ | -0.014 | -0.002 | -0.004 | -0.009 |
| | (0.010) | (0.010) | (0.011) | (0.005) | (0.006) | (0.006) |
| Years in Office Gap | -0.093*** | -0.094*** | -0.095*** | 0.005 | 0.007 | 0.008 |
| | (0.016) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | -0.058 | | | 0.490 | |
| | | (0.215) | | | (0.312) | |
| News=1 and Event=0 | | 0.061 | | | 0.891* | |
| | | (0.211) | | | (0.395) | |
| News=1 and Event=1 | | 0.019 | | | 0.816* | |
| | | (0.212) | | | (0.339) | |
| Single Faction Ties (News) | | | 0.056 | | | 0.598*** |
| | | | (0.109) | | | (0.171) |
| Multiple Faction Ties (News) | | | 0.093 | | | 0.212* |
| | | | (0.103) | | | (0.103) |
| Single Faction Ties (Event) | | | -0.163 | | | 0.013 |
| | | | (0.101) | | | (0.066) |
| Multiple Faction Ties (Event) | | | 0.116 | | | 0.089 |
| | | | (0.136) | | | (0.075) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.353 | 0.353 | 0.353 | 0.127 | 0.128 | 0.129 |

*Notes.* Standard errors clustered at the dyad level are reported in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

has a factional tie (News= 1 and Event= 0), and where both party secretaries have a factional tie ((News= 1 and Event= 1); the reference category consists of dyads in which neither party secretary has any factional tie. The analysis indicates that no particular type of dyad is more likely to promote negative news reports in terms of the absolute number of reports (Model (2)). Regarding negative news as a share of total news, whereas this is the only model in which no significant effect of the patron's political influence is found, connected province leaders are more likely to report negatively on unconnected provinces (Model (5)). In addition, we test whether having factional ties to a single patron versus multiple patrons affects the behaviors of provincial party secretaries (Model (3) and Model (6)). Again, the reference categories are the provincial leaders with no factional ties. We find no statistically significant difference emerging from having a multiplicity of factional ties.[11]

Next, we examine whether relative power differentials between the patrons of an event province and a news province affect the competitive behaviors of clients. The scatter plot with lowess line in Figure 2.3 and the analyses in Table 2.2 elucidate the motivation behind the promotion of negative news reports in regional newspapers, and the nature of elite competition. As we hypothesize, on one hand, if a power struggle among factions relates to policy or ideological competition, one should expect more negative reporting among provincial leaders whose patrons have similar political influence, and strong factions should challenge one another. On the other hand, if factional competition is undertaken to limit winning coalitions, province leaders should be more likely to attack clients with weak patrons than clients backed by a strong patron. Our results show that the bigger the power gap between the patrons, the more frequent the negative reporting is, rejecting the former hypothesis and supporting the latter: provincial leaders connected to a strong patron are more likely to target members of the weakest faction.

[11]One possibility is that the effects may differ between those whose patron is one of the top two leaders (i.e., president or the premier) and those not. In Table A.9 we divide the types of patrons and rerun the analysis. We find clear evidence of heterogenous effects that the negative interprovincial news reports increase when the patron of the reporting province is either the president or the premier and their power is large. We also find another heterogenous effect that when the patrons are not the top two leaders, the clients are more likely to be targeted when their patron's power is strong. These findings imply that the overall effects are not entirely driven by the factions of top two leaders.

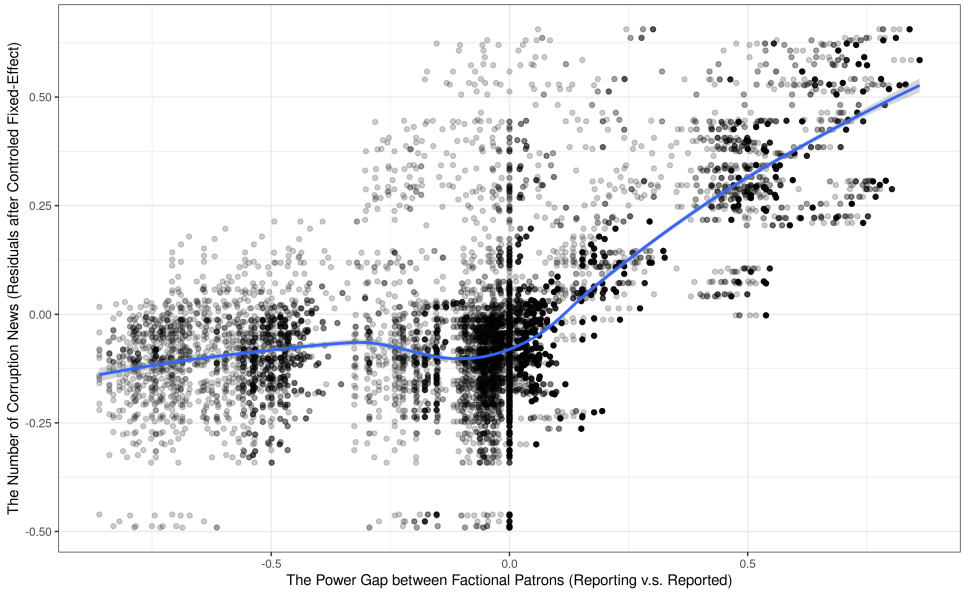



**Figure 2.3.** Lowess Plot over News-Event Province Patrons' Power Difference

**Table 2.2.** Power Gap between News and Event Patrons and Interprovincial News Report on Corruption Cases

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| ΔPatron Power | 0.486*** | 0.456*** | 0.542*** | 0.127** | 0.055 | 0.200** |
| | (0.120) | (0.125) | (0.130) | (0.042) | (0.046) | (0.064) |
| PS-GN Same Faction (News) | 0.285** | 0.232* | 0.197+ | -0.074** | -0.165*** | -0.133*** |
| | (0.110) | (0.109) | (0.107) | (0.027) | (0.042) | (0.036) |
| PS-GN Same Faction (Event) | 0.181+ | 0.154 | 0.099 | 0.082 | 0.064 | 0.065 |
| | (0.094) | (0.101) | (0.107) | (0.067) | (0.065) | (0.065) |
| Age Gap | -0.013 | -0.016 | -0.011 | -0.001 | -0.004 | -0.008 |
| | (0.010) | (0.010) | (0.011) | (0.005) | (0.006) | (0.006) |
| Years in Office Gap | -0.084*** | -0.087*** | -0.093*** | 0.006 | 0.007 | 0.008 |
| | (0.015) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) |
| News-Event Provinces connected | No | Yes | No | No | Yes | No |
| Single/multiple patrons | No | No | Yes | No | No | Yes |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.351 | 0.351 | 0.352 | 0.127 | 0.129 | 0.129 |

### 2.4.2 Promotion Analysis

Finally, we analyze whether these negative reports indeed harm the reported-on cadres and their factions. We expect that implicit trends in informal factional competition, measured by inter-provincial news reporting on corruption investigations, impair the weaker elite factions and concentrate power within smaller ruling coalitions. To support the argument, we should not only show that strong factions target their weaker counterparts, but also that the consequence of such negative reporting is indeed the diminishment of the weaker faction's political power. To show this link in our empirical data, we examine how the promotion prospects of provincial party secretaries are affected by negative news reports from other provinces, above and beyond the effect of factional strength and the negative effects of the corruption investigations themselves.

To capture the effects of actual corruption cases, we collect data on all provincial- and prefecture-level corruption investigations from *Procuratorial Daily* (*Jiancha Ribao*) and include the number of these within a province each year as a key explanatory variable in the promotion regression. Faction politics have long been suspected to affect anti-corruption investigations (Zhu and Zhang 2017). By including the variable capturing the number of local corruption cases, we attempt to distinguish the impact of faction politics on anti-corruption investigations from the effect of factional politics on regional media reporting. Another critical variable we control for in all models is a patron's political influence, i.e., a faction's power. This variable addresses the boosting effect of a connection to a strong patron on a client's chances of promotion (Keller 2014, Shih, Adolph and Liu 2012*b*). We also include the interaction term between corruption and patron power to address the possibility that the personnel outcome of a corruption investigation is influenced by a strong leader. That is, a provincial party secretary belonging to a strong faction may be less likely to be punished or even rewarded for anti-corruption efforts (Zhu and Zhang 2017). We control for a number of covariates that previous studies have found to be related to cadre promotion such as local GDP growth, local GDP per capita, cadre's factional ties, age (in quadratic form), and education level (Li and Zhou 2005*b*, Shih, Adolph and Liu 2012*b*, Yao and

Zhang 2015).

The results in Table 2.3 highlight several notable features of factional competition and promotion mechanisms in China. First, corruption investigations conducted within a province significantly diminish the promotion prospects of the provincial party secretary. In all models, we find that corruption cases within a province have significant negative effects on the promotion prospects of the party secretary. In China's hierarchical leadership system, the regional leaders, especially party secretaries, who are considered to be political leaders rather than administrative leaders, are more likely to hold the political responsibility and suffer a substantial disadvantage with regard to promotion if more corrupt cadres are caught within their region. Second, a faction's power *per se* does not systematically increase the client's promotion probability. In all models, the estimates for patron's power are positive but statistically insignificant.[12] This finding suggests that factional connections are not a sufficient condition for promotion, particularly when one approaches the peak of the political pyramid. This does not mean, however, that there is no benefit to belonging to a strong faction. First, although the results are only marginally significant, strong faction members tend to benefit from major corruption cases. Furthermore, our results also show that news reports on corruption substantially reduce the promotion chances of the reported-on province's party secretary, while leaders of provinces where the media reports on other provinces' corruption cases enjoy a higher probability of promotion. In previous analyses, we showed that provinces where party secretaries are connected to strong patrons publish more negative news articles on other provinces. Together with the results in Table 2.3, our analyses suggest that imbalanced negative reporting indeed works to promote strong faction members. As a result, such reporting patterns strengthen the strong faction while weakening weaker factions. We do not intend to claim that negative news reporting "determines" the promotion probability of provincial leaders. Rather, together with existent studies on factional ties and career advancement in China, this study sheds light on another channel through which faction competition may affect

[12]We also examine whether the number of major corruption cases is correlated to patron's power and find no correlation.

the promotion probability.

**Table 2.3.** Patron Power, Corruption News Reports and Provincial Party Secretaries' Promotion

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Political Turnover (4=Promotion; 3=Lateral Transfer/Stay; 2=Retirement; 1=Termination) | | | | | |
| Major Corruption Cases | -0.033*** | -0.032*** | -0.032*** | -0.033*** | -0.039*** | -0.040*** |
| | (0.006) | (0.007) | (0.006) | (0.007) | (0.007) | (0.007) |
| Patron Power | 0.064 | 0.123 | 0.010 | 0.071 | 0.132 | 0.017 |
| | (0.148) | (0.175) | (0.145) | (0.158) | (0.207) | (0.181) |
| Patron Power × Major Corruption Cases | 0.182* | 0.176* | 0.179* | 0.185* | 0.045 | 0.060 |
| | (0.088) | (0.089) | (0.087) | (0.088) | (0.123) | (0.120) |
| Reported by Other Province | -0.156** | | -0.187*** | | | |
| | (0.048) | | (0.036) | | | |
| Reporting on Other Province | | 0.070* | 0.119*** | | | |
| | | (0.034) | (0.030) | | | |
| Reported by Other Province (share) | | | | -0.951 | | -1.129 |
| | | | | (0.769) | | (0.749) |
| Reporting on Other Province (share) | | | | | -0.000 | 0.000 |
| | | | | | (0.001) | (0.001) |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Province Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 420 | 420 | 420 | 406 | 308 | 295 |
| Adjusted $R^2$ | 0.259 | 0.220 | 0.283 | 0.236 | 0.197 | 0.246 |

*Notes.* Robust standard errors are shown in parentheses. Variables not shown include factional ties (single tie, multiple ties), GDP growth, local GDP per capita, cadre's age, age$^2$, and cadre's years of education. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Why may the cumulative effects of regional news reports affect the promotion probability of provincial cadres in an authoritarian system? It is well-known that the career paths of public officials are determined by the organization department of the upper-level government, in our case, the organization department of the CCP. It is unlikely that the organization department follows all regional newspapers in China. However, while the Chinese personnel system, including promotion, demotion, and allocation of party cadres, is not transparent, one of the factors that the CCP formally emphasizes in cadre evaluation is public perception (Ding 2020, Tang 2016). Without an electoral mechanism, it is not straightforward to elicit the public's evaluation of a cadre or its governance, but the media strongly affect public opinion in China (Young 2012). In such circumstances, the media's role is critical, as a channel through which both information from the government is delivered to citizens and the public's evaluations of the Party governance are shaped and conveyed to the regime (Lu and Ma 2019).

### 2.4.3 Robustness checks

**Alternative definition of factional connection**

While the seminal empirical works by Shih (Shih 2008*a*, Shih, Adolph and Liu 2012*b*) adopt a broad definition based on the traditional Chinese concept of *guanxi*, more recent empirical analyses find that coworker networks best capture the underlying social networks among Chinese elites (Jia, Kudamatsu and Seim 2015*b*, Jiang 2018*b*, Keller 2016). Taking the more recent approaches into account, we limit the definition of a factional connection to a connection through the workplace. The results shown in Table A.10 and Table A.11 are largely consistent with the results in Table 2.1 and Table 2.2.

**Alternative measure of faction**

Previously, we define each PSC member as a patron of a faction. Here, we adopt an alternative definition of factions as the two or three major groups involved in top-level politics in China, such as the Shanghai Clique, the Youth League, and the Princelings. Table A.12 describes how we group the PSC members under this new definition. Table A.13 and Table A.14 replicates the main analyses using the new definition of factions, with different methods of classifying the patrons and clients with no clear connection to the major factions.[13] The findings remain similar.

**Power concentration**

Our findings may counter the views of many China scholars and researchers of authoritarian regimes, who have often observed a pattern in which the top political leader tends to suppress power struggles and political disputes in the name of national integration, if only as a matter of political rhetoric. More specifically, when the top central leaders amass significantly more power than other potential challengers, they tend to publicly stress strength in unity. In Table A.15, we test whether power concentrated in a top leader has a repressive effect on competitive behaviors within the ruling party. The findings are somewhat mixed. Models (1) to (3) show

[13] For analysis in Table A.13 we merge the PSC members with not connection to the major factions as one separate faction, while Table A.14 defines them as individual factions.

that a powerful president, measured by the degree of media exposure, significantly reduces the number of negative media reports about political elites. Nevertheless, interestingly, the share of negative news (corruption reports divided by total news reports on the event province) increases significantly to the extent that the president's political power exceeds that of other patrons, indicating that the proportion of negative reports increases when the president is powerful. Our explanation is that when the president exerts greater influence, news reports concentrate on the president rather than on local issues in other provinces (Figure A.3).

**Political uncertainty**

We test whether the pattern of negative news reporting changes according to the political cycle by looking at the year of the National Party Congress (NPC), which is held every five years. The NPC is considered the most important event in Chinese politics, mostly because it selects the central leadership, including PSC members. In other words, the distribution of power is most uncertain in an NPC year, as a number of PSC members will be replaced, but future leadership has not yet been appointed. In our period of analysis, three NPCs took place, in 2002, 2007, and 2012. In Table A.16, we use an interaction term between the NPC year variables and the patron power of provincial leaders.While in non-NPC years the patron power of reporting province leaders is significantly associated with negative reporting, during the NPC year, there is a clear repressive tendency.

**Type of newspaper**

In addition, we examine how the unit of operation affects the inter-provincial reporting patterns described above. In China, while all local newspapers are supervised by the local government agency, the operating unit varies, especially across the commercial news press and the party or government press (Stockmann 2013*b*). If our argument is true, we should expect the findings to be more dramatic in party-line newspapers than in commercial newspapers, as party-line newspapers reflect the political incentives of local leaders more directly. The results

presented in Table A.17 support our claim Analyses restricted to party-line newspapers show much larger effects than those of commercial newspapers.

**Alternative measures of patron power**

Next, we examine alternative measures of patron power to show that an arbitrary definition of the distribution of power does not drive our core findings.

First, we employ a power measure based on PSC members' official ranking (Table A.18). The outcomes from the official rankings are consistent with the previous findings but somewhat weaker. For both measures of negative reporting, the patron power of a reporting province's leaders still has a significant and positive correlation with news reports on other provinces.

Second, in the main results section, our measure of patron power was based on the total number of newspaper articles covering all of a client's connected patrons. This measurement method inevitably assigns much greater patron power to clients with multiple factional ties. While there is no conclusion in the literature as to whether multiple ties indicate more political resources available to clients, we nevertheless wish to prevent any potential bias stemming from our measurement strategy. We employ the average patron power instead of total patron power as the independent variable. Table A.19 replicates the main analyses in Table 2.1 and 2.2. We find the results are qualitatively identical.

Third, instead of counting the appearance of the patron's name in the national news papers, we take a logarithmic transformation (Table A.20).

Fourth, in Table A.21, we use the appearance of a patron's name in the headlines of major newspaper articles, rather than the text of the articles, to construct a more conservative measure of patron power. Using this more conservative measure, we find that the results remain the same as the main findings.

Lastly, we generate and employ a power index for connectedness. We take the number of connected provincial party secretaries in a PSC member's network as a proxy of his political power. Table A.22 shows that the results of this network measure confirm that faction members

of well-connected patrons are more likely to encourage negative reporting on other province.

## 2.5 Conclusion

This study examines whether local officials behave differently depending on their patron's political power. We use observations of inter-provincial news reports on corruption investigations to show competitive behaviors among members of different factions. Our analyses show that provincial leaders connected to politically strong patrons are more likely to promote negative news reporting on other provinces. Moreover, they are more likely to promote negative news reporting when the political power of their own patron is far greater than that of the patron of the event province's leader. While we do not intend to argue that local media competition determines the promotion prospects of public officials, the promotion probability of reported-on cadres diminishes with the reports. These findings imply that competition among informal political groups tends toward power concentration rather than power sharing.

Our findings suggest that informal factional competition in China has a tendency to further skew the unlevel playing field. Strong faction members attempt to limit power to a smaller coalition to maximize their survival and promotion probability, and no institution exists to check this power consolidation. Hence, our study implies that the recent personalization of power in China's central politics might not be a unique feature of the current leadership, but an outcome of latent behavioral patterns in China's elite politics.

Our study leaves a few critical questions for future research. First, we take our key explanatory variable, the power distribution among national leaders, as a given. Yet distributions of power may not be exogenous but rather an outcome of complex and consistent political interactions among elites at various levels. While our research design attempts to circumvent the reverse causality problem by using competitive behavior among local cadres as the dependent variable, we refrain from labeling the findings as causal, as we do not address the endogeneity of national leaders' power distributions. Second, and more fundamentally, we do not address the conditions

under which some authoritarian regimes introduce formal power-sharing institutions while others allow transitory power-sharing outcomes as a consequence of internal competition. We also do not address how this difference affects long-term regime stability. Future research might build on our study to examine these aspects of authoritarian institutions and elite competition.

Chapter 2, in full, is a reprint of the material as it appears in *Political Science Research and Methods* (2022, doi: 10.1017/psrm.2022.35). with Ji Yeon Hong. The dissertation author was the primary investigator and correspondent author of this paper.

# Chapter 3

# Social Media and Information Control

The third focal area of my research pivots towards social media in China. In recent years, the widespread availability of high-speed internet and the proliferation of digital platforms have led to a notable shrinkage in the audience of traditional media. Upon President Xi Jinping's ascension to power in 2012, the reins on media control have been pulled tighter. Measures such as a more rigorous journalist registration system and enhanced control over online media content creation have culminated in a significant reduction of investigative journalism, leading to a gradual dissolution of traditional media's watchdog role. Simultaneously, social media platforms, with Sina Weibo leading the charge, have stepped into the limelight as major players in China's public discourse. Most contemporary societal issues gain initial exposure and spark extensive debates on Weibo, making it a critical platform for public deliberation. The government, recognizing this trend, has begun to establish a more prominent presence on these platforms by encouraging bureaucratic organizations to set up accounts and using a number of creative new methods, thereby engaging directly with citizens. However, the inherent characteristics of social media, such as its real-time updates and decentralization, challenge the government's traditional media control mechanisms, such as pre-publication scrutiny and in-house journalist accountability. This shift opens up a myriad of new research opportunities as we explore the evolving dynamics between the state and society in the digital communication era.

## 3.1 Introduction

In 2022, the Russo-Ukrainian War erupted, eliciting widespread condemnation of Russia. Despite its close ties with Russia, China maintained an ambiguous stance on the conflict, outwardly asserting neutrality. This self-proclaimed neutrality, however, placed China in a challenging position within its domestic public sphere. It found itself unable to suppress local discussions about the war without arousing suspicion, nor could it openly favor any side without inviting criticism. A greater apprehension for the Chinese government was the potential interference from oversea users, attempting to manipulate domestic opinions by disseminating disinformation or provoking conflicts, which could, in turn, compel the government to alter its stance.[1]

To mitigate such risks, the Chinese government implemented a new strategy aimed at limiting the involvement of overseas users in public discourse[2]. Initially, this policy was tested only on posts concerning the Russo-Ukrainian War but was later expanded across the platform. Starting from April 28, 2022, geographic information tied to the IP addresses of all authors posting or commenting on Sina Weibo was publicly disclosed.

The policy was crafted based on the assumption that highlighting users' locations would incite other users to flag what they perceive as "misinformation." For example, if a user claims to have witnessed a large-scale massacre by Russia in Ukraine but is revealed to be operating from an IP address in Taiwan, their credibility could potentially be questioned by the

[1] In the *Speech at the National Cyber Security and Informatization Work Conference* (April 20, 2018), Xi Jinping emphasized that "we must resolutely win the battle of cyber ideological struggle and safeguard national political security. History and reality have repeatedly proven that to disrupt a society or overthrow a regime, a breach is often first created in the field of ideology, starting by confusing people's thoughts. The Internet is the biggest variable we face, and on the battlefield of the Internet, whether we can stand firm and win directly relates to national political security.

[2] When asking the purpose of displaying the IP address information on social media at the press conference of the Taiwan Affairs Office of the State Council (2022-05-11), the speaker replied with examples: ".. some people with ulterior motives from Taiwan deliberately created trouble on relevant website platforms, disrupted the atmosphere of cross-strait exchanges, and provoked opposition among cross-strait compatriots. This measure can help cross-strait compatriots sharpen their eyes, more precisely identify, and oppose the vicious behavior that alienates the feelings of cross-strait compatriots."

community, regardless of whether their information is factual or not. The policy aimed to harness the nationalist sentiments of domestic users to undermine the credibility of information from overseas users, thereby creating a "national information wall" against overseas users.

This crowd-sourced strategy of information control, as opposed to technological measures such as "the Great Firewall" that blocks foreign websites, is not only cost-effective—since it requires no additional technology or hardware—but also more adept at identifying regime-threatening information. It relies on crowd-sourced, human-driven detection of regime threatening information rather than automated censor algorithms, which can sometimes misinterpret or overlook content that is implicit or satirical. The practice of tagging users to isolate or marginalize specific groups is fairly common on social media platforms such as Twitter and YouTube. However, previous research has yielded inconsistent findings regarding its effectiveness (Bradshaw, Elswah and Perini 2023, Liang, Zhu and Li 2022, Mader, Marinov and Schoen 2022, Nassetta and Gross 2020). Thus, did this policy achieve its goal of reducing participation from overseas users in public discourse on Weibo? If there is indeed a diminished presence of overseas users, has this resulted in a decrease in the dissemination of regime-threatening information? As the emphasis on geographic identity intensifies in public discussions, it potentially leads individuals to favor interactions with in-group members while discriminating against those from out-groups, consequently escalating inter-group conflict (Brewer 1999, Brown 2000, Hewstone, Rubin and Willis 2002, Sen 2007, Tajfel 1982). However, engaging with individuals from different groups can also foster understanding and cooperation, diminishing stereotypes (McAdam, Tarrow and Tilly 2003, Pettigrew 1998, Tarrow 2022). Consequently, this raises a pressing question: given these opposing dynamics, will people from different regions ultimately exhibit a greater propensity for hostility or friendship towards one another?

To address these questions, this study must overcome two empirical challenges: accurately measuring the variables of interest and identifying the treatment's causal impact on them. For measurement, the focus is on accurately quantifying abstract user behaviors and their changes over time. For example, to measure the regime-threatening stances in public discourse from

public dialog requires Natural Language Processing (NLP) techniques. To capture real-time changes in these expressed stances requires high-frequency monitoring of users' posts and comments to detect volume changes before the platform can censor them.

The second challenge, identification, involves establishing the causal relationship between the implementation of the policy and subsequent alterations in user behavior. Purely static cross-sectional analysis struggles to track changes within the same unit, effectively manage time-variant confounding factors, assess long-term intervention effects, or handle autocorrelation within time series data. These limitations hamper the data's ability to facilitate a robust causal inference.

To overcome these empirical challenges, this study narrows its focus to discussions that reference specific geographic locales such as China and its provincial regions, thereby encompassing a broader spectrum of public affairs topics. These discussions are segmented into national and provincial categories, reflecting their diverse appeal to users from various regions. Since two weeks before the policy took effect, I started closely monitoring the status change and took numerous snapshots of public discourse initiated by nearly 200 influential accounts. These accounts, with more that 11 million followers on average, stand as the primary conduits for initiating and circulating public affairs posts on Weibo. Between April 17 and May 17, 2022, these accounts published around 94,811 individual posts about public affairs, and I took over 28 million snapshots on their comments section. Leveraging NLP techniques and a Time-Series Cross-Sectional (TSCS) data structure, I quantifies both the volume and content shifts in the comment sections of these posts; To pinpoint the causal relationship between the policy implementation and subsequent alterations in user behavior, I exploit the abrupt nature of the policy change, treating it as a quasi-natural experiment. This strategy utilize an Interrupted Time Series (ITS) design on TSCS data. Employing pre-treatment baseline observation data, I control for unobserved time-variant confounding factors, thereby facilitating a more accurate causal evaluation of the policy's impact. Moreover, the research capitalize on a data leakage incident during the first 12 hours of policy enforcement, granting me access to pre-treatment geographic data of historical discourse participants and facilitating geo-group level comparisons

without potential concerns on sorting problem.

Upon analyzing user behavior changes before and after the implementation of the policy at noon on April 28, I observe several unforeseen outcomes. The volume of national-level public affairs discussions, typically assumed to be of primary interest to overseas users, remained fairly consistent. However, there was a noticeable reduction in the extent of provincial-level discourse. Within national affairs discussions, the proportion of regime-threatening comments, those with stances differing from the Chinese government, stayed stable, while in provincial-level discussions, it declined by approximately 3%. Intriguingly, the decline is not driven by a reduction in overseas users' participation in domestic public discussions, as evidenced by the relatively consistent number of comments that threaten the regime. On the other hand, domestic users curtailed their involvement in provincial-level public affairs, paralleled by a marked decrease in both the volume and proportion of harmful information they circulated. Furthermore, the data shows that out-of-province users reduced critical comments on the government's position to a much greater extent than local users did. These asymmetrical reductions, in both engagement levels and the expression of dissent, impact on the overall structure of local public discourse. Specifically, there is an increase in the proportion of comments contributed by local users, effectively leading to a more localized origin of public dialogue. Beyond the impact on the volume and quality of public discourse, I also find its unintended side effects on social cleavages. After the treatment, I find that If a out-of-province user made comment on local affairs, his IP location was more frequently referenced in the reply, indicating that geographic identity has become a salient feature in public discourse. Upon further investigation of the user report data, I discovered an increased proportion of cross-provincial reports involving personal attacks. This trend provides a more direct evidence on heightened group conflicts.

The results I find uncover a surprising outcome in the policy's impact. Contrary to the policy's intended design of constructing a wall between overseas and domestic users, and thus curtailing overseas participation in China's public affairs discussions, it ended up building walls between the domestic users themselves, resulting in reduced participation among these groups.

While unintended, this did lead to a decrease in the spread of regime-threatening information by domestic users, aligning with the government's intention of maintaining information control. However, these effects are with their significant drawbacks. Following the policy's implementation, the volume of local public discussions decreased, and the sources of information became increasingly localized and homogenized. This situation amplifies the dictator's information dilemma: while a stringent control over information can prevent dissent from spreading, it may also blindside the government to growing social dissatisfaction and looming threats, which can compromise its ability to make well-informed decisions. Furthermore, geographic identity has become increasingly prominent in public discourse. This has led to users being differentiated based on their geographic origins, fostering an "us vs. them" mentality. Such division contributes to a growing homogeneity in discussions about local affairs, which could ultimately diminish the quality of public debate over time. Additionally, I've observed a rise in cross-provincial reports of personal attacks, indicating escalating tensions between different geographic groups.

This study offers a detailed examination of policies designed to isolate and marginalize specific groups in public discourse through user tagging. The existing research on the impact of user tagging is limited, and the results are inconsistent. In an analysis of such policy, Liang, Zhu and Li (2022) found that labeling channels as "state-affiliated media" resulted in both immediate and long-term reductions in news sharing from China's media accounts on Twitter. Similarly, Nassetta and Gross (2020) discovered that labeling media outlets on YouTube as state media could effectively counter foreign disinformation by fostering skepticism and diminishing trust in the information provided by such outlets. However, these findings are not uniform. Bradshaw, Elswah and Perini (2023) reported mixed results, showing that the labels had no impact on the number of likes received by videos from most accounts labeled as "state-media." A similar inconsistency was observed in an experiment by Mader, Marinov and Schoen (2022), where identifying the source of information as the Russian government did not significantly change German respondents' attitudes towards foreign policy and domestic issues. In my examination of Weibo, I found that policies aimed at limiting the engagement of overseas users through

geographic tagging were not only ineffective but also had malicious side effects. Therefore, this study adds to the growing body of literature that emphasizes the complexities of implementing user tagging on various platforms. It highlights the necessity for careful consideration and a nuanced understanding of the potential consequences, underscoring the importance of a more thoughtful approach to policy design and execution.

My research provides compelling evidence that the salience of specific identities can be manipulated through framing techniques employed by social media platforms, leading to detrimental societal outcomes (Abrajano, Hajnal and Hassell 2017, Sen 2007). Existing literature in identity politics acknowledges that individuals possess multiple, overlapping identities related to family, profession, nationality, and religion. However, when a policy like geographic tagging emphasizes a particular identity, it can overshadow other identities, fostering an "us versus them" mentality and creating fertile ground for conflict (Bonomi, Gennaioli and Tabellini 2021, Charness and Chen 2020, Huettel and Kranton 2012, Sen 2007). This increase in the prominence of geographic identities among domestic users has been shown to catalyze heightened divisions and conflicts, lending empirical support to Social Identity Theory (Turner et al. 1994). These findings align with insights from Anderson (1991) and Fearon and Laitin (2000), suggesting that online policies can inadvertently bring latent societal divisions to the surface. Overall, my research contributes to the understanding that government policy can selectively amplify one identity over others, thereby intensifying group divisions and conflicts.

My research unveils a novel method of information control, focusing on its effects and underlying mechanisms. This approach diverges from traditional centralized censorship methods employed by governments or platforms, such as deleting sensitive content, subtly influencing opinion leaders, or blocking specific websites. Instead, it adopts a more decentralized and crowd-sourced strategy, making it less conspicuous than conventional means. Traditional measures, being easily detectable, are prone to inciting backlash. For instance, Hobbs and Roberts (2017) uncovered unintended shifts in behavior after the Chinese government restricted access to Instagram, leading to increased censorship evasion and migration to other censored platforms like

Twitter and Facebook. Huang (2018) demonstrated that while hard propaganda may bolster users' perception of state strength, it can simultaneously deteriorate individual opinions of the regime. Pan and Siegel (2020) found that arresting social media opinion leaders curtailed government criticism but inadvertently galvanized their followers to amplify anti-regime sentiment on Twitter. Contrastingly, the method I introduce in this paper fosters a culture where users censor each other, negating the need for direct intervention by policy implementers. This subtler approach not only achieves significant results but also skillfully evades direct backlash against policymakers. By exploring this more concealed means of control, my research contributes a fresh perspective to the study of information control measures under authoritarian regimes, underscoring the potential for more covert, community-driven strategies.

The remainder of this paper is structured as follows. The next section offers a review of the institutional background. Section 3.4 introduces the data sources and variables definition. Section 3.5 summarizes the empirical results and provides robustness checks to rule out alternative explanations. The final Section 3.6 presents my discussion and conclusion.

## 3.2 Theoretical Motivation

In the rapidly evolving landscape of digital communication, the implementation of geographic tagging policies by social media platforms has emerged as a focal point of scholarly discourse. This paper seeks to navigate the complex terrain of this discourse by addressing two central theoretical debates: the effectiveness of geographic tagging policies and their overarching impact on identity formation and group dynamics.

### 3.2.1 Effectiveness of Geographic Tagging Policy

The first strand of the debate scrutinizes the effectiveness of policies designed to isolate and marginalize specific groups in public discourse through user tagging. Existing research in this domain presents a fragmented picture, with inconsistent results delineating the impact of user tagging.

Liang, Zhu and Li (2022) illustrated that labeling channels as "state-affiliated media" could potentially lead to both immediate and long-term reductions in news sharing from China's media accounts on Twitter. This sentiment is echoed by Nassetta and Gross (2020), who found that labeling media outlets on YouTube as state media could effectively counter foreign disinformation by fostering skepticism and diminishing trust in the information provided by such outlets.

Contrastingly, a study by Bradshaw, Elswah and Perini (2023) reported mixed results, indicating that such labels had no substantial impact on the number of likes received by videos from most accounts labeled as "state-media." This inconsistency is further corroborated by Mader, Marinov and Schoen (2022), who found that identifying the source of information as the Russian government did not significantly alter German respondents' attitudes towards foreign policy and domestic issues.

The inconsistency in results may stem from the diverse methodologies employed in prior studies. These studies have primarily utilized either experimental designs (Mader, Marinov and

Schoen 2022, Nassetta and Gross 2020), or observational designs with a small *N*—specifically, 30 accounts as highlighted in (Liang, Zhu and Li 2022), or 5 channels as indicated in (Bradshaw, Elswah and Perini 2023). By monitoring a substantially larger number of accounts and encompassing a broader scope of public discourse, my research endeavors to address this methodological gap. I provide a meticulous examination of Weibo's geographic tagging policy within China, aiming to discern whether such policies act as effective instruments for information control by deterring overseas users.

### 3.2.2 Impact of Geographic Tagging on Group Interaction

The second strand of the debate is grounded in the Social Identity Theory (Tajfel et al. 1979), exploring the overarching effects of geographic tagging on identity formation and group dynamics. This theory delineates two potential outcomes of geographic tagging: escalating group conflict by encouraging in-group favoritism and out-group discrimination, or fostering group harmony by promoting inter-group understanding and cooperation.

In the context of in-group favoritism and out-group discrimination, focusing too much on one identity, like geographic, can foster illusions of a singular identity (Sen 2007). This narrow view of identity often enhance individuals' affinity towards their in-group based on geographic locality, fostering a sense of community and belonging but also potentially leading to increased conflict and division towards other groups (Brewer 1999, Brown 2000, Hewstone, Rubin and Willis 2002, Tajfel 1982).

Conversely, the theory also suggests the potential for geographic tagging to encourage understanding and cooperation between groups. Inter-group contact and dialogue can reduce prejudice and stereotyping, thus fostering harmony. Public discourse between groups can facilitate communication and the exchange of perspectives among different geographic groups, potentially creating conditions conducive to collective action across regions (McAdam, Tarrow and Tilly 2003, Pettigrew 1998, Tarrow 2022).

The existing research presents divergent predictions regarding the effects of geographic

tagging on group interactions, largely due to a broad, generalized focus that may overlook the nuanced dynamics present in online interactions. In contrast, this paper hones in on online interactions, particularly through social media platforms like Weibo, employing advanced computational methodologies and big data analytics. This approach allows me to delve deeper into how geographic tagging influences group dynamics online, bridging the identified gaps in existing literature and enhancing the reliability of my conclusions. Through this nuanced analysis, this paper aims to significantly contribute to the ongoing debate by offering empirical insights into the complex dynamics of identity formation and group dynamics in the digital age.

## 3.3 Background

### 3.3.1 Information Control

Information control in China is not a recent phenomenon but a longstanding and integral part of the country's governance. The Chinese government has systematically implemented a comprehensive range of measures to regulate the flow of information. These measures, both offline and online, are strategically designed to maintain social stability, reinforce political control, and preserve the legitimacy of the ruling Communist Party. This multifaceted approach to information control permeates various aspects of Chinese society, encompassing traditional media, the burgeoning internet landscape, and the ever-evolving realm of social media platforms (Shirk 2011*a*).

In China, the state's control over information is not limited to mere censorship but extends to shaping the very narrative that reaches the public. News organizations must obtain licenses and adhere to strict boundaries defined by the government. This regulatory framework has historically allowed the authorities to guide public discourse. However, the rise of the internet and digital communication technologies has introduced new complexities. The online environment has become a vibrant platform where individuals can freely express opinions, share information, and even mobilize social movements. Faced with these new challenges, the Chinese government has

been compelled to innovate, devising sophisticated mechanisms to regulate and censor online content, ensuring that the digital realm aligns with state interests.

Among the myriad measures employed to control the digital information landscape in China, the Great Firewall stands as a particularly notable example. This system of internet censorship not only blocks access to foreign websites but also meticulously filters online content within China's borders (Roberts 2018). The firewall's reach is extensive, but it is not the sole tool at the government's disposal. For websites that escape outright blocking, the Chinese authorities deploy proactive censorship techniques, leveraging advanced technologies such as machine learning and NLP. These cutting-edge methods enable real-time scanning and removal of prohibited content, ensuring that sensitive information is intercepted and neutralized before it can reach the public's eyes.

However, these measures are effective but also easily detected by the public. The awareness of such censorship tools can cause an opposite reaction, drawing users toward the hidden information (Hobbs and Roberts 2017, Nabi 2014) or creating backlash (Huang 2018, Pan and Siegel 2020). Therefore, the Chinese government employs more subtle censorship measures, utilizing both friction, such as the reordering of search results, and flooding, such as deploying social media bots to inundate platforms with state-approved content (Roberts 2018). These sophisticated techniques operate beneath the surface, exerting influence without arousing users' awareness, aligning more closely with the government's objectives and demonstrating a refined understanding of the complex dynamics of information control.

### 3.3.2 Revealing User IP Locations

Given the rising costs and complexities associated with information control, social media platforms like Facebook (Eldon 2010), Twitter (Coleman 2021), and Weibo (Zhao and Hu 2023), have turned to crowd-sourced methods, inviting ordinary users to report inappropriate content or misconduct. However, the impact of such reporting systems tends to be localized, targeting only the specific users who have been reported. As a result, the overall censorship effect remains

limited.[3]

Aiming to influence a much larger user base, On March 17th, 2022, Weibo embarked on another policy trial to display users' IP locations in posts concerning specific hot topics. As delineated in the official announcement[4], this policy was especially pertinent given the prevalence of "burning issues such as the Russia-Ukraine situation and domestic pandemic conditions." Although claimed the policy aimed to "protect user rights and enhance the overall user experience on the platform", it is widely believed that the prime goal of this policy was to curb foreign users' endeavors to circulate non-compliant information on the platform. This conjecture is supported by the illustrative example in the announcement, showcased in Figure 3.1b, which highlights a user's IP location in Ukraine, subtly insinuating Ukrainian users as potential purveyors of "misinformation." In a later press conference, A speaker from the Taiwan Affairs Office of the State Council even made the purpose of the policy clear: "to pinpoint and neutralize individuals from Taiwan who could be intentionally stirring the pot in cross-strait relations."[5]

During the trial phase, the disclosure of IP location was confined to posts related to "the Russia-Ukraine conflict and the domestic pandemic." However, roughly a month and a half later, at noon on April 28th, and without any prior notice, Weibo abruptly broadened this policy to include all users and posts[6]. For domestic users, the location displayed corresponded to their provincial administrative region, while for overseas users, it denoted their country of residence. This feature, once activated, became permanent, persisting even if users deactivated location services on their devices.

In the initial stages of this sudden policy shift, Weibo momentarily exposed IP addresses for historical data—posts and comments crafted before the policy's implementation—during the first 12 hours of the policy's enforcement. This brief window allowed a retrospective observation

[3]From 2012 to 2021, a total of 4.18 million unique users filed reports or been reported through Weibo's reporting system. According to Weibo's official report, the platform had 573 million monthly active users in 2021. Therefore, only about 0.73% of users have engaged with this reporting system.

[4]https://weibo.com/1934183965/Lk9Uv04Ty, also in Figure 3.1a

[5]Press Conference Note of Taiwan Affairs Office of the State Council (May 11th, 2022). http://www.gwytb.gov.cn/m/speech/202205/t20220511_12435159.htm

[6]https://weibo.com/1934183965/LqvYeCdBu


**(a)** Trial Announcement **(b)** Official Example Image

**Figure 3.1.** Trial Announcement for Displaying User's IP Location

*Note: The announcement, translated from Chinese, reads: "Recently, hot topics such as the Russia-Ukraine conflict and the domestic pandemic have sparked extensive discussion among netizens. While I have intensified my efforts to identify and handle non-compliant information, I have noticed that there are still individuals posing as local netizens to publish and spread false information. In order to maintain order in information dissemination, I will launch the feature 'Displaying recent posting locations on user's personal profile page' in the coming week based on my previous function." On the right, an example image is provided where the user's IP location is displayed as Ukraine.*

of the geographical origins of past Weibo activities. I will delve into more detail concerning this accidental "data leakage" in Section 3.4.

Subsequent to Weibo's move, other prominent Chinese social media platforms such as Douyin, Toutiao, Zhihu, Kuaishou, and Xiaohongshu, adopted analogous policies. This extended the influence of this novel standard to the vast majority of China's internet users.

### 3.3.3 Geographical Discrimination

Geographical discrimination in China has been a longstanding issue, intricately woven into its complex historical, economic, and social contexts. The uneven pace of economic development and urbanization across different regions has created distinct regional identities and disparities, often fostering stereotypes and biases (Li and Wei 2010).

Historically, geographical disparities in China are primarily driven by the unequal distribution of resources and opportunities across the country. Coastal regions, which experienced accelerated economic development due to globalization and market-oriented reforms, are often

contrasted with the less developed and traditional rural regions in the interior. This economic disparity has led to social and cultural divisions, often reflected in the perspectives and attitudes of individuals from different regions (Young 2013).

Furthermore, the Household Registration System, or Hukou, an essential demographic policy tool in China, has played a significant role in institutionalizing these geographical disparities (Wing Chan and Buckingham 2008). The system, which restricts migration and access to public services based on one's registered place of birth, has inadvertently reinforced regional stereotypes and prejudices (Wu and Treiman 2007).

While social media has the potential to mitigate group conflict by fostering dialogue and understanding (Tufekci and Wilson 2012), it can also exacerbate divisions and encourage radicalization (Moule, Decker and Pyrooz 2017). Weibo's geographic tagging policy adds complexity to this dynamic by introducing a new dimension to regional divides. By displaying users' provincial locations, the platform can inadvertently fuel online discrimination and bias. This visibility makes users more aware of the geographic origins behind differing opinions, which can intensify existing prejudices often tied to specific regions or provinces. The policy's introduction has made provincial location a prominent feature on Weibo, further highlighting these geographical distinctions.

## 3.4 Data and Variables

### 3.4.1 Data

To assess the impact of the policy change on public discourse, I conducted real-time data collection from Weibo's posts and comment sections, with a specific emphasis on discussions related to public affairs. This approach enables me to capture and analyze subtle, real-time shifts in online dialogue. Importantly, by collecting data prior to post-publish manipulation by China's extensive censorship system, I can examine the discourse in its natural state and gain insights into the immediate effects of the policy change. This methodology provides a valuable opportunity to

understand the dynamics of public discussion and the influence of information control measures in a timely and nuanced manner.

To have a more representative sample of public discussion on Weibo, I selected 192 Weibo accounts to track their timeline and comment section. These accounts included various government agencies, media outlets, opinion leaders, and foreign embassy. They are frequent initiators of public discussion and influential in shaping Weibo's public discourse. These accounts have large number of followers, more than 2.2 trillion in total, from diverse administrative levels and organizations. Their follower numbers were considerable, with the most followed account, People's Daily, having 152 million followers and the least followed one, Qinghai Daily, having 25 thousand, making their comment sections key to public discourse. The full list of accounts can be found in Table A.23.

To effectively capture the dynamism of online dialogue, I employ a high-frequency data collection strategy, systematically tracking the status of Weibo posts every five minutes for 24 hours following a post's creation. As the activity around a post tends to stabilize after the initial 24 hours, I continue to monitor these posts for the subsequent ten days, capturing a daily snapshot of each. This method is illustrated in Figure 3.2. The data collected encompassed various elements such as reposts, comments, likes, and comment moderation status, among others. Additionally, I also collect the "top 20" comments of each post. Comments on Weibo are ranked based on their "popularity", a dynamic metric calculated through algorithms.[7] Because this ranking system is constantly changing, comments with high "popularity" are more likely to appear at the top, making them more visible to a wider audience.[8]

[7]This metric takes into account various factors such as the number of likes, replies, and the time of posting.

[8]Due to the changing "popularity" rankings, the number of comments I collect may exceed 20 as each collection round may include new, higher-ranked comments, making the total set larger than the initial Top 20.

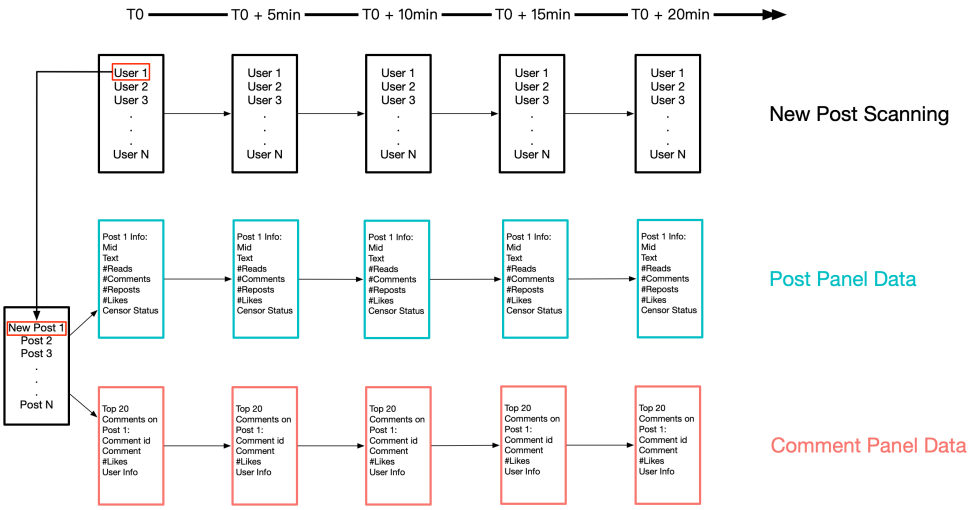



**Figure 3.2.** Data Collection Process

Using this approach, I collected 158,065 posts from the 192 accounts, and 1,685,571 comments from April 17 to May 17 2022. These accounts posted more frequently than ordinary users, with an average of 27 posts per day per account. Among the posts, 94,811 mentioned mainland provincial administrative regions or "China" or "my country", covering diverse aspects of each region. There are 603,988 associating comments to those posts. These accounts are the main sources of local affairs discussion on Weibo due to their high posting frequency, broad audience, and varied topics.

Additionally, I collected detailed data on the commenters. This included user ID, username, and gender. These users, more than 279,332 in total and each making an average of 2.16 comments, came from all of China's provinces and 108 overseas countries. Their diversity offered a wide range of perspectives on public affairs.

Interestingly, an unexpected event significantly enhanced the quality of my dataset. In the initial 12 hours following the implementation of the IP location policy on April 28, 2022, Weibo inadvertently disclosed user IP locations in historical data. As a result, by visiting posts published before April 28 during this period, one could view the IP locations of commentators in the comment sections. This unexpected disclosure of pre-treatment IP locations helped partially offset potential sorting issues when using post-policy user metadata to compare their

pre-treatment geographic information. Comparing user activity and discourse before and after the policy implementation thus allows for a more precise causal inference concerning the policy's impacts.

In addition to Weibo posts and comments, I also gathered report data from the platform. Users on Weibo can report others' misbehavior, such as personal attacks, copyright violations, and the spreading of misinformation. According to the "Weibo Report Handling Guidelines"[9], Personal Attacks are explicitly defined as Insults and Abuse, which pertain to direct and offensive language; Unfriendly Remarks, referring to disrespectful and impolite online behavior; and Promoting Hatred and Discrimination, which involves maliciously targeting specific groups or individuals based on various attributes. The results of these reports are made public[10], including information about both the reporter and the defendant. Between April 17 and May 17, a total of 6,813 users were involved in 12,086 cases related to personal attacks, as reported by 4,932 reporters. This dataset offers valuable insights into the dynamics of user interactions, allowing me to analyze the shifts and trends in group conflict.

### 3.4.2 Variables

Leveraging the novel data collected, I can construct several variables of interest to facilitate the investigation of behavior changes among users from diverse groups. Some of these variables are objective and can be directly obtained from the data, while others are derived using specific machine learning techniques.

**Public Affairs Discussion** Public affairs discussion is defined as the comments on posts related to China's public affairs. I divide public affairs into two categories: China's national issues and China's local issues. To be specific, I choose those posts mentioning "China" or "My Country", plus exact provincial names.[11] This distinction is critical for three reasons.

[9]Available at this link https://service.account.weibo.com/roles/xize

[10]Weibo's community management center, https://service.account.weibo.com/

[11]The list of keywords are {中国, 我国}, plus {北京, 上海, 重庆, 天津, 黑龙江, 吉林, 辽宁, 河北, 河南, 山东, 山西, 安徽, 江西, 江苏, 浙江, 福建, 广东, 湖南, 湖北, 海南, 云南, 贵州, 四川, 青海, 甘肃, 陕西, 内蒙古, 新疆, 广西, 宁夏, 西藏}

Firstly, from a foreign user's perspective, national policy debates might attract more engagement as they carry broader implications and are more likely to affect foreign interests, especially when they have "malicious intention". For example, the alleged Russian interference in the 2016 US elections is often cited as a case of foreign influence on national matters. Secondly, from the policy designers' standpoint, the policy was primarily aimed at limiting foreign users' involvement in public discussions, particularly on national issues. Thus, the policy's impact may diverge between these two types of discussions. lastly, from a local user's perspective, discussions about local affairs often provoke stronger reactions due to their immediate relevance to daily life.

I use the count of comments from various user groups as a measure of participation in discussion. It's important to note that for each snapshot, I am able to gather the top 20 comments, resulting in the potential for the total number of comments to exceed 20 over time. This is due to the possibility of newer, more popular comments rising in rank and replacing older ones. Given that the display of the IP location is contingent upon the post's publish time rather than the time of the comments, my analysis is conducted at the post level. To facilitate a more accurate comparison of the level of discussion engendered by Weibo posts published at different times, I employ the total number of comments I collected within an eleven-day tracking window for each Weibo post as a metric for Discussion Participation.

**User Geo-Group** Depending on the users' IP locations, either disclosed or inferred, I can categorize them into different geographic groups. Each user $i$'s identity falls into one of three groups: Domestic Local, Domestic Non-Local, and Foreign[12]. The identities of local and non-local commenters are relative and interchangeable based on the topic of discussion – it is contingent on whether they are engaging in discussions about issues occurring in their own provinces. If a post mentions multiple province names, then all the users from mentioned provinces will be considered local group. If a post references multiple province names, then all

[12]Non-mainland Chinese administrative regions such as Hong Kong, Macao, and Taiwan are also categorized in the Foreign group, given that they operate under different internet regulation rules compared to mainland China.

users from the mentioned provinces will be classified as part of the local group.

**Expressed Stance** In addition to observing changes in the frequency of participation in public discussions, I am also interested in variations in the content of these discussions—specifically, changes in the opinions expressed by different user groups. It's important to note that we're not primarily concerned with whether comments are semantically positive or negative. More crucially, I aim to gauge public attitudes towards government policies, i.e., whether they are supportive or critical, in the context of these discussions.

In the Chinese context, the semantic positivity or negativity of a comment doesn't necessarily correlate with the degree of support or opposition towards government policies. For instance, during the discussion on the easing of pandemic restrictions in Shanghai in March 2022, many out-of-province commenters expressed anger (semantically negative) while simultaneously supporting the government's enforcement of the "dynamic zero-COVID policy". Conversely, certain comments may seem positive on the surface, like satire, but they could be implicitly critical of the government's stance. Therefore, I developed my own model that can accurately identify the stance conveyed in the comments for this study.

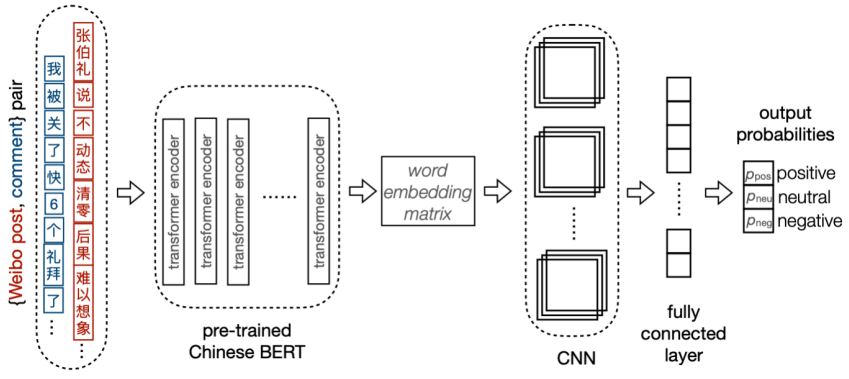



**Figure 3.3.** Model to Learn Comment Stance

In this model, the stance of comments needs to be determined in the context of the original Weibo post, and be compared to the Chinese government's stance on specific issues. I train a supervised machine learning model, using 10,000 hand-labeled post-comment pairs

as the training set. This model, composed of pre-trained Chinese BERT for embeddings and a convolutional neural network (CNN) layer, is used to classify the stance of each comment. As shown in Figure 3.3, my model achieves close to 70% accuracy on the three-classification task of identifying critical, neutral, and supportive comments. The performance metrics of this model can be found in Appendix Table A.24.

**Group Division and Conflict** To investigate the influence of geographical-based group division and conflict, I utilize several measures. First, I gauge the localized and homogenized nature of discussions on local matters by calculating the proportion of comments originating from local users. An increase in this proportion reinforces the informal norm that only local residents may engage in discussions pertaining to local affairs.

Second, I measure the saliency of geographic information as a basis for group division by counting the number of times a commenter's IP address is mentioned in the responses to their comments. This approach can illuminate the extent to which these groups emphasize their shared identity based on geographical location.

Lastly, I assess the intensity of conflict between different groups by examining the proportion of cross-provincial reports that involve personal attacks. An increase in these reports could stem from either a rise in personal attacks or a greater willingness to report such behavior. In either scenario, it indicates a heightened level of group conflict.

## 3.5 Empirical Results

Utilizing the collected data and generated variables, this section aims to address several crucial questions. First, did the policy of revealing user IP locations result in a decrease in user participation in public discussions or in expressing criticism towards government policies? Second, did this change primarily deter foreign users, as the policy designers may have anticipated? Lastly, if not, how does this policy function, and what costs does it impose?

### 3.5.1 Reduced Public Discourse

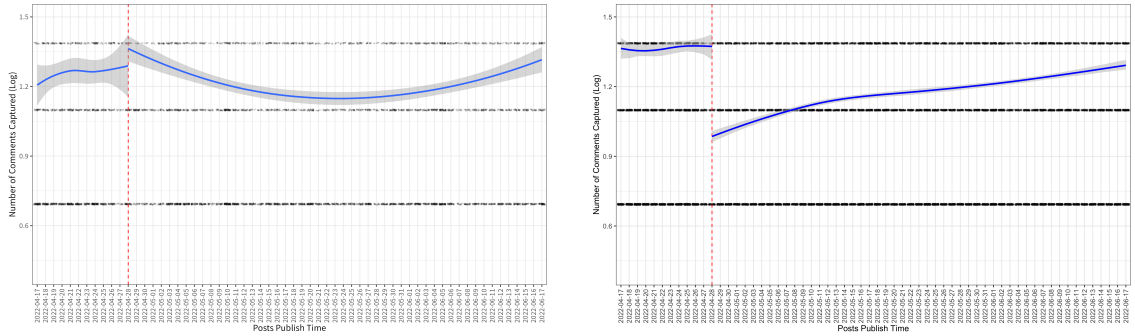
There are two questions here about the policy effectiveness — the policy was aimed at foreign users, so did it decrease participation of foreign users? And two, does it decrease government criticism overall because it reminds people that they can be traced online?

First, did user participation in public discussions and government criticism decrease as anticipated once user IP locations were made public? To explore this, I differentiate between discussions concerning national affairs and those focused on local affairs. The purpose of this distinction is to understand the heterogeneous impacts of the policy on different geo-based groups. Given that national and local affairs have varying degrees of appeal to domestic and overseas users, their attention to these subjects also differs. Thus, discerning these nuances helps us better appreciate the policy's effects across diverse user groups.

In Figure 3.4, I use a scatter plot to illustrate the changes in public discussion volume before and after the revelation of users' IP locations. I expected to see a less active discussion on national affairs since overseas users—being the primary target of the policy—tend to focus more on national affairs. However, surprisingly, Figure 3.4a demonstrates that the number of comments on national affairs did not change as significantly as expected after noon on April 28th (indicated by the red dashed line). On the other hand, the volume of comments on local affairs experienced a noticeable drop after the implementation of the policy, as can be seen in Figure 3.4b.

The scatter plot provides intriguing insights: public discussions on national affairs, which theoretically should be more appealing to the supposed hostile foreign users, did not witness a significant decline as planned. In contrast, local affairs, which primarily should attract domestic users, experienced a substantial reduction in comments.

Taking a more formal approach, I model the interrupted time series (ITS) data with the following equation:




**(a)** On National Affairs **(b)** On Local Affairs

**Figure 3.4.** Volume of Public Discussion

*Note: In this figure, the x-axis represents the publishing time of the Weibo posts, and the y-axis indicates the number of comments received by a post, displayed in log form. Each dot signifies a post that mentions certain geographic keywords. The blue line represents the LOWESS (locally weighted scatterplot smoothing) line, with the gray area denoting the 95% confidence interval. The smooth line and the corresponding confidence interval are generated through bootstrapping.*

$$\mathbf{Y} = \beta_0 + \beta_1 \mathbf{Time} + \beta_2 \mathbf{D} + \beta_3 \mathbf{Time\ Since\ Treatment} + \varepsilon \tag{3.1}$$

In this model, the variable **Y** represents the outcome. **Time** stands for the time elapsed from the start of the observation period, specifically the number of days since April 17th. The indicator variable **D** signifies the post-interruption interval: it is coded as 0 during the pre-treatment period, and 1 during the post-treatment period. **Time Since Treatment** is the time variable indicating the time elapsed since the intervention, used to examine the sustained effect. Before the intervention, this value is set to 0, and increments by 1 for each day afterward.

The parameter $\beta_1$ represents the baseline level of the outcome ($\beta_0$) and the preinteruption slope; $\beta_2$ shows the change in level at the interruption or the immediate effect after the intervention; and $\beta_3$ marks the difference between the slope prior to and following the intervention, also known as the sustained effect.

Considering the number of top comments captured as **Y**, I show the results of this regression in Table 3.1. These comments are made on national affairs (Column 1) and local affairs (Column 2), respectively. The policy intervention marginally increased the number of

comments on national affairs. The coefficient of treatment dummy, "IP Location Displayed", is positive, albeit not significant. Contrarily, the intervention considerably decreased the public discussion on local affairs. The regression results echo the conclusions drawn from the scatter plots in Figure 3.4.

**Table 3.1.** The Overall Chilling Effect

| | Number of Comments on | |
|---|---|---|
| | National Affairs (Log) | Local Affairs (Log) |
| (Intercept) | $1.229^{***}$ | $1.353^{***}$ |
| | (0.034) | (0.016) |
| IP Location Displayed | $0.097^{*}$ | $-0.326^{***}$ |
| | (0.051) | (0.019) |
| Time | 0.005 | 0.002 |
| | (0.006) | (0.003) |
| Time Since Treatment | $-0.022^{***}$ | 0.003 |
| | (0.007) | (0.003) |
| $R^2$ | 0.003 | 0.006 |
| Adj. $R^2$ | 0.003 | 0.006 |
| Num. obs. | 13680 | 133814 |
| RMSE | 1.349 | 1.294 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$

It's worth noting that the dependent variable I use is proxied by the number of top comments collected. While the average number of comments on these posts is approximately 6.37, which is far less than 20, there's a potential for bias in my results if comments become more heavily concentrated on specific posts after the policy implementation. This could lead to more comments falling outside the top 20, making them unavailable for my collection and thus potentially underestimating the comment volume. To ensure the robustness of my analysis, I use the maximum number of comments per post collected from the post information in the eleven days since its creation and re-run the same model. The results are displayed in Table A.25. The coefficients exhibit a similar pattern, thereby corroborating my conclusion regarding the reduction in public discussion.

Furthermore, if the policy under investigation influenced the actions of government-affiliated accounts, or if other information control measures were simultaneously implemented,

the observed decline in public discourse might be attributable to these factors. One such measure could involve tighter regulation of comment sections. If that were the case, I would expect to see a comparable decrease in public discourse. To address this possibility, I plot the number and proportion of posts with regulated comment sections in Figures A.5 and A.6. As it turns out, both values remain stable after the policy was implemented, suggesting the policy itself is likely responsible for the observed changes in public discourse.

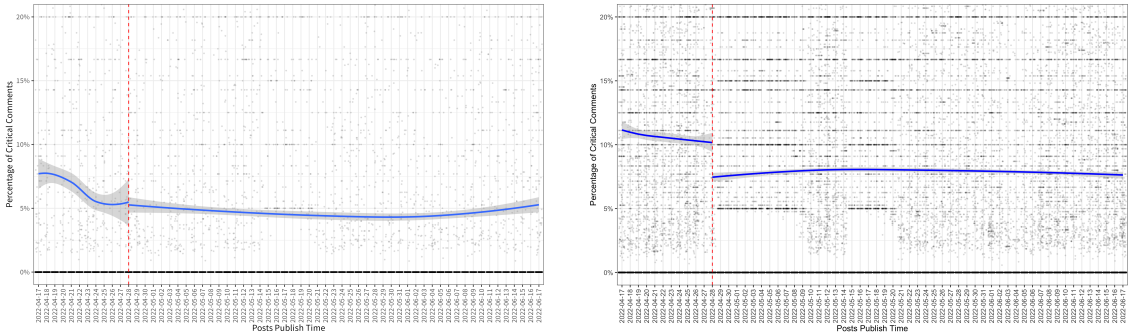
Another plausible measure could be a reduction in the frequency of posts mentioning geographic names. As geographic names are often associated with local or national events, policies, or circumstances, curbing their mention can exert control over the breadth and detail of public discourse, thereby stifling discussions related to potentially sensitive or contentious local or national issues. I perform a robustness check, presented in Appendix Figure A.4, to account for this potential confounding factor. The figure demonstrates that the number of posts mentioning geographic names remains consistent following the policy's implementation.

### 3.5.2 Deterred Political Criticism

Besides the volume of comments, to stop critical comments threatening the regime could be the more prime goal of policy planner. Though the volume of public discussion doesn't change much on national affairs, there is still possibility that this policy successfully hinder the hostile foreign users from making critical comments on Chinese government.

To examine this hypothesis, I look at the percentage of critical comments on national affairs in Figure 3.5a. Contrary to expectations, this proportion does not show a significant change after users' IP locations are revealed. However, in Figure 3.5b, I notice a clear decrease in the proportion of critical comments on local issues. The proportion of critical comments falls by approximately 3% immediately after the policy's implementation and remains low thereafter. This result suggests a significant impact of the policy on the tone of discussions about local affairs.

In Table 3.2, I can have similar conclusion that proportion of critical comments on




**(a)** On National Affairs **(b)** On Local Affairs

**Figure 3.5.** Proportion of Critical Comments

*Note: In this figure, the x-axis represents the publishing time of the Weibo posts, and the y-axis indicates the percentage of critical comments received by a post. Each dot signifies a post that mentions certain geographic keywords. The blue line represents the LOWESS (locally weighted scatterplot smoothing) line, with the gray area denoting the 95% confidence interval. The smooth line and the corresponding confidence interval are generated through bootstrapping.*

local issues reduces significantly while on national issues remains the stable after treatment. The coefficient of the treatment dummy "IP Location Displayed" is negative and significant in Column 2, while not significant in Column 1.

**Table 3.2.** Reduced Critical Comments

| | Proportion of Critical Comments on | |
|---|---|---|
| | National Affairs | Local Affairs |
| (Intercept) | $0.081^{***}$ | $0.110^{***}$ |
| | (0.004) | (0.002) |
| IP Location Displayed | $-0.002$ | $-0.027^{***}$ |
| | (0.006) | (0.003) |
| Time | $-0.003^{***}$ | $-0.001^{**}$ |
| | (0.001) | (0.000) |
| Time Since Treatment | $0.004^{***}$ | $0.001^{***}$ |
| | (0.001) | (0.000) |
| $R^2$ | 0.004 | 0.004 |
| Adj. $R^2$ | 0.004 | 0.004 |
| Num. obs. | 13680 | 81131 |
| RMSE | 0.164 | 0.202 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$

In summary, if I assume that potential overseas influencers primarily aim to affect national policies, the policy of displaying user IPs appears to be unsuccessful. It has not reduced public

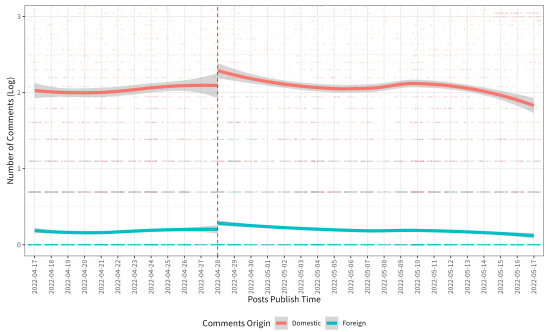
discussions about national affairs, nor has it effectively decreased the proportion of critical harmful comments. However, what might be unexpected to policy makers is that this policy has significantly reduced domestic discussions about local affairs, and within these discussions, the proportion of comments critical of the government has also markedly decreased.

### 3.5.3 Differential Impact across User Groups

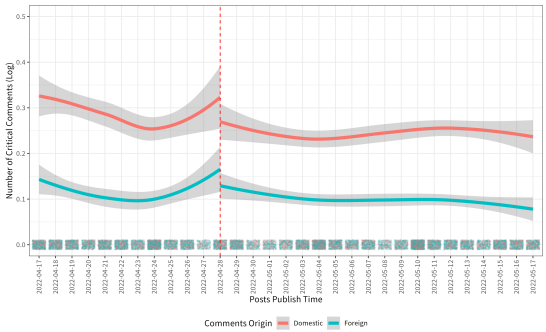
In this subsection, let's turn our attention to further dissecting the origins of users involved in public discussions, building upon my findings in the previous sections. I categorize users into distinct groups: foreign users, domestic local users, and domestic non-local users. This classification allows us to draw a more direct comparison between these geographic groups and to investigate the policy's differential impacts. The insights gained from this granular examination will shed light on how the changes in user behaviors, as observed in the total volume of comments and critical comments, are distributed among these user groups.

In Figure 3.6, we observe that the impact of the policy varies when we distinguish users based on their geographical origin. Firstly, the number of comments from foreign users did not significantly change, even seeing a slight uptick in discussions about local affairs, whether in terms of total volume or the quantity of negative comments (The red line in Figure 3.6). This direct evidence underscores that the original effectiveness pathway envisioned by policy designers was not successful; the policy did not effectively deter foreign users from participating in public discussions or from expressing negative comments.

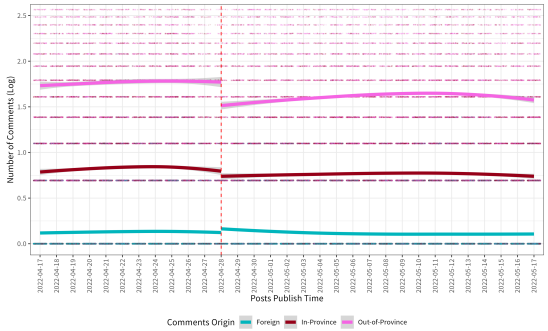
However, surprisingly, in discussions about domestic local affairs, I observed a precipitous drop in both the number of comments and critical comments from non-local domestic users (The blue line in Figure 3.6c and 3.6d). In other words, domestic non-local users were, in fact, the group most affected by this policy. Coupled with the decreased total volume of public discussion and proportion of negative comments about local affairs observed in the first two subsections, we can conclude that the policy did achieve the policy designers' goal of information control, albeit not via the channels they anticipated. The policy of displaying user IP locations did not reduce



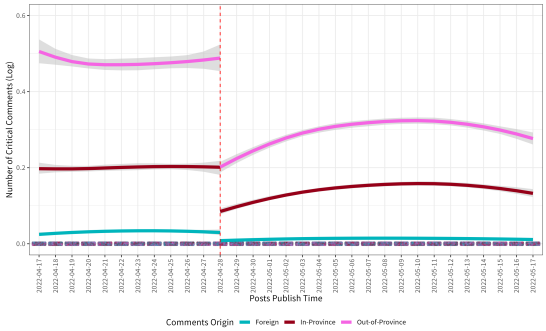

**(a)** Comments on National Affairs




**(b)** Critical Comments on National Affairs




**(c)** Comments on Local Affairs




**(d)** Critical Comments on Local Affairs

**Figure 3.6.** Number of Total and Critical Comments

*Note: In this figure, the x-axis denotes the time of publication for Weibo posts, while the y-axis signifies the total number of comments (represented on the left side) or critical comments (depicted on the right side) received per post. The top pair of subfigures pertain to posts discussing national affairs, whereas the bottom pair relate to posts concerning local affairs.*

**Table 3.3.** Comments on National Affairs

| | Number of ... On National Affairs (Log) | | | |
|---|---|---|---|---|
| | Comments from | | Critical Comments from | |
| | Foreign | Domestic | Foreign | Domestic |
| (Intercept) | $0.161^{***}$ | $1.989^{***}$ | $0.123^{***}$ | $0.318^{***}$ |
| | (0.013) | (0.037) | (0.012) | (0.016) |
| IP Location Displayed | $0.059^{***}$ | $0.105^{*}$ | 0.005 | $-0.010$ |
| | (0.020) | (0.055) | (0.017) | (0.024) |
| Time | 0.004 | 0.010 | $-0.001$ | $-0.006^{**}$ |
| | (0.002) | (0.006) | (0.002) | (0.003) |
| Time Since Treatment | $-0.010^{***}$ | $-0.022^{***}$ | $-0.000$ | $0.006^{**}$ |
| | (0.003) | (0.007) | (0.002) | (0.003) |
| $R^2$ | 0.006 | 0.003 | 0.001 | 0.001 |
| Adj. $R^2$ | 0.005 | 0.003 | 0.000 | 0.001 |
| Num. obs. | 8081 | 8081 | 13680 | 13680 |
| RMSE | 0.404 | 1.133 | 0.459 | 0.641 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$

interference from foreign forces in domestic affairs as anticipated by the designers, but rather discouraged domestic users from participating in public discussions and expressing criticism towards the government.

While this policy has unintentionally achieved its goal in the short term for information control, suppressing domestic public participation in discussions, especially those concerning local affairs, can lead to a series of adverse effects.

**Table 3.4.** Comments on Local Affairs

| | Number of ... On Local Affairs (Log) | | | | | |
|---|---|---|---|---|---|---|
| | Comments from | | | Critical Comments from | | |
| | Foreign | Domestic Local | Domestic Non-Local | Foreign | Domestic Local | Domestic Non-Local |
| (Intercept) | $0.123^{***}$ | $0.807^{***}$ | $1.740^{***}$ | $0.028^{***}$ | $0.195^{***}$ | $0.480^{***}$ |
| | (0.004) | (0.012) | (0.015) | (0.002) | (0.005) | (0.009) |
| IP Location Displayed | $-0.000$ | $-0.084^{***}$ | $-0.221^{***}$ | $-0.023^{***}$ | $-0.086^{***}$ | $-0.208^{***}$ |
| | (0.006) | (0.017) | (0.022) | (0.002) | (0.007) | (0.012) |
| Time | $0.001^{*}$ | 0.003 | $0.005^{*}$ | $0.001^{**}$ | 0.001 | $-0.001$ |
| | (0.001) | (0.002) | (0.003) | (0.000) | (0.001) | (0.001) |
| Time Since Treatment | $-0.003^{***}$ | $-0.003$ | $-0.001$ | $-0.000$ | $0.001^{*}$ | $0.004^{**}$ |
| | (0.001) | (0.002) | (0.003) | (0.000) | (0.001) | (0.002) |
| $R^2$ | 0.001 | 0.001 | 0.005 | 0.003 | 0.004 | 0.012 |
| Adj. $R^2$ | 0.001 | 0.001 | 0.005 | 0.003 | 0.004 | 0.012 |
| Num. obs. | 46985 | 46985 | 46985 | 81131 | 81131 | 81131 |
| RMSE | 0.304 | 0.880 | 1.107 | 0.158 | 0.452 | 0.813 |

Firstly, it could undermine democratic processes by limiting the diversity of voices and viewpoints in public discourse, thus reducing the breadth and depth of debates. Secondly, this could impede policy development and implementation by stifling essential feedback channels crucial for policy refinement. Public discussions on local affairs often serve as a critical medium for governments to understand citizen concerns and adjust their policies accordingly (Meng, Pan and Yang 2017, Su and Meng 2016). Thirdly, it could escalate public dissatisfaction and mistrust in the government. When citizens feel unheard or marginalized due to the lack of a platform to voice their concerns or criticisms, it could breed resentment, further widening the gap between the government and its citizens. Lastly, it could inadvertently increase the attractiveness of alternative, potentially unreliable, sources of information. As official or mainstream platforms become less hospitable for public discourse, people might turn to fringe platforms that could spread misinformation or incite conflict.

Therefore, it's crucial to recognize that even though the policy may have achieved its goal of information control, the unintended silencing of domestic voices could potentially lead to broader societal and political complications in the long run.

### 3.5.4 Amplified Geo-based Group Division and Conflict

My exploration into the policy's unexpected consequences continues with an observation of increased group division and conflict, particularly among domestic users. The dynamics of this division are primarily characterized by three phenomena: a increase in the proportion of local users engaging in local affairs discussions, a heightened frequency of mentioning the commenter's IP location in responses to out-of-province users, and an increase in the proportion of cross-provincial reports concerning personal attacks.

#### Increased Proportion of Comments from Local Users

In Figure 3.7, I noticed a significant increase in the proportion of comments made by local users following the policy intervention. This finding can be attributed to the chilling effect

of the policy on non-local users, as discussed in previous sections. It creates a situation where less non-local voices are heard in the discussions, potentially marginalizing non-local users' perspectives.

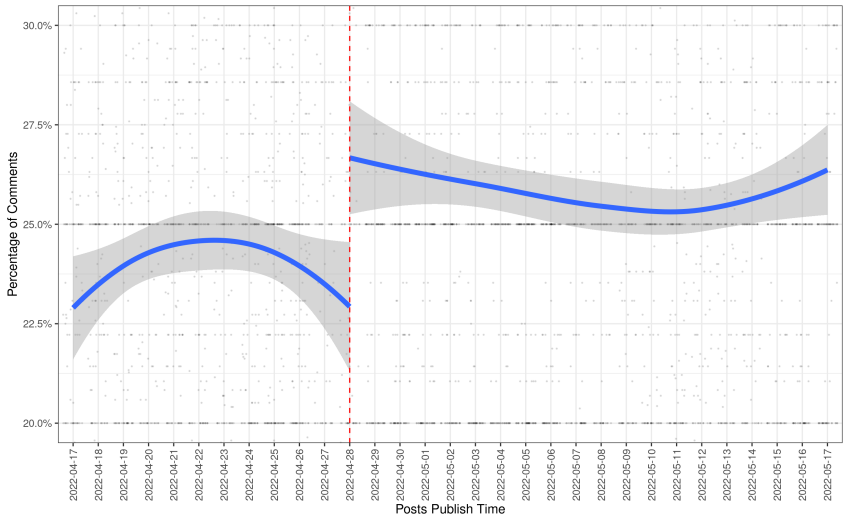



**Figure 3.7.** Increased Proportion of Comments from Local Users

*Note: In this figure, the x-axis represents the publication time of Weibo posts, whereas the y-axis indicates the percentage of comments contributed by local users. These figures pertain to posts discussing local affairs. Commenters are classified as local users if their disclosed IP location corresponds to the location mentioned in the posts.*

### Increased Mentioning of IP Location in Responses to Non-Local Users

Moving on, I noted an intriguing behavioral change in the comments section: an increase in the frequency of mentioning a commenter's IP region in the reply to non-local users. This behavior emphasizes the geographical identity of users and can be seen as a response to the policy's attempt to make geographical locations more visible.

To verify this finding, I visualize the percentage of replies to comments from out-of-province users that include mentions of their specific geographic tags. In Figure 3.8, We can see the references to a commenter's IP region in the reply increased significantly after the policy intervention.

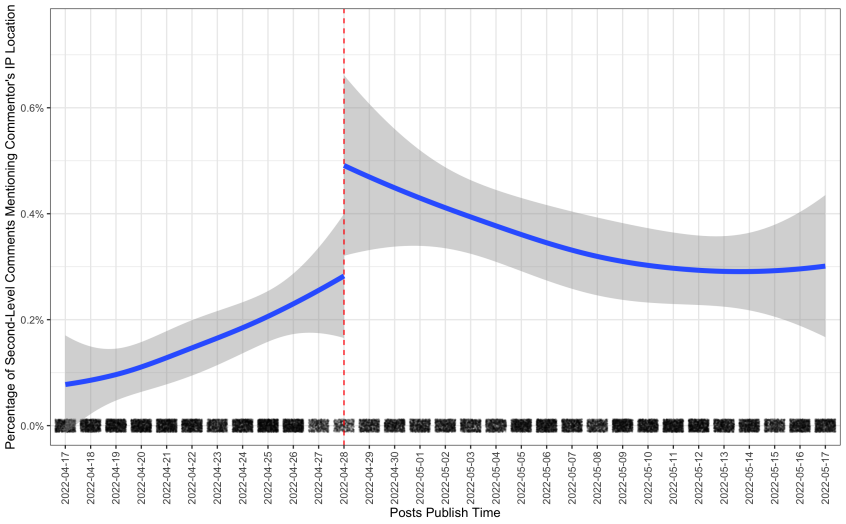



**Figure 3.8.** Increased Proportion of Reply Mentioning commenters' IP Locations

*Note: In this figure, the x-axis depicts the publication time of Weibo posts, while the y-axis represents the percentage of replies received by non-local commenters in which their IP locations are mentioned. Mentioning non-local commenters' IP locations can exacerbate existing geographical divisions and bias, contributing to a more polarized and less inclusive online environment. It can transform online discussions into platforms for identity politics and discrimination, which can detract from the quality of discourse and discourage diverse participation.*

### Increased Cross-Provincial Reports

A more direct piece of evidence that illustrates the intensification of group conflict is the significant increase in both the proportion of cross-provincial reports involving personal attacks. Sina Weibo provides a convenient channel for users to file reports regarding personal attacks. By analyzing the geographic IP information of both the reporters and the defendants, in Figure 3.9, I found that after the implementation of this policy, the proportion of cross-provincial reports related to personal attacks has markedly risen. The average proportion of reports origin from each cross-provincial dyad in daily total reports increased about 1%.

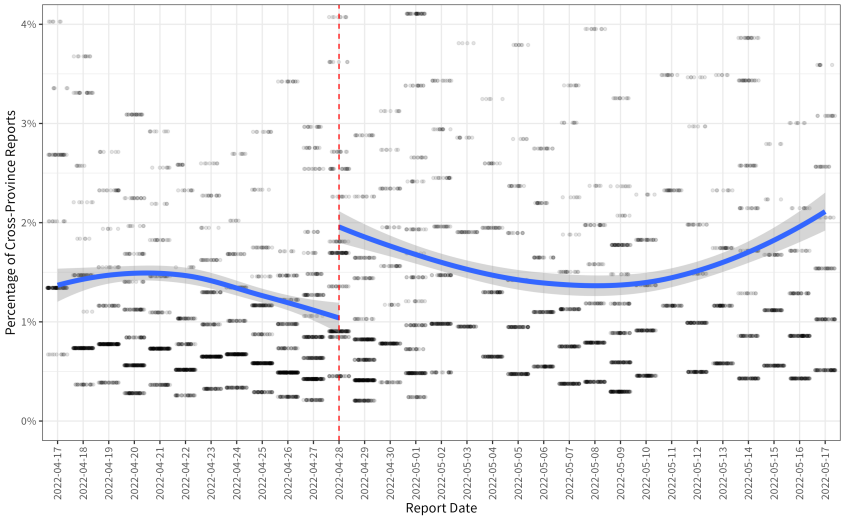



**Figure 3.9.** Increased Proportion of Cross-Province Reports related to Personal Attacks

*Note: In the figure, the x-axis represents the issue time of reports on personal attacks, while the y-axis shows the percentage of cross-province reports. Each dot in the figure symbolizes a specific province-to-province relationship between the reporter and the defendant. If the reporter and the defendant are from different provinces, then the report is classified as cross-provincial. The sudden jump after the treatment illustrates a 1% increase, on average, in the proportion of total reports for each cross-provincial dyad per day.*

Collectively, these two phenomena indicate that the geographic tagging policy exacerbates geographical divisions among users and deteriorate the online discussion environment. The amplified local voices in discussions concerning local affairs foster an "us versus them" dynamic, potentially alienating non-local users and further increasing the homogeneity of local affairs discussion. In the long run, such an increase in homogeneity could potentially degrade the quality of public debate in local affairs.

### Qualitative Evidence

Complementing the quantitative data, a striking example of how geographic tagging can exacerbate group division emerges from a local affairs post and its subsequent comments. In this case, out-of-province users faced significant criticism, vividly illustrating the divisive potential of displaying IP locations.

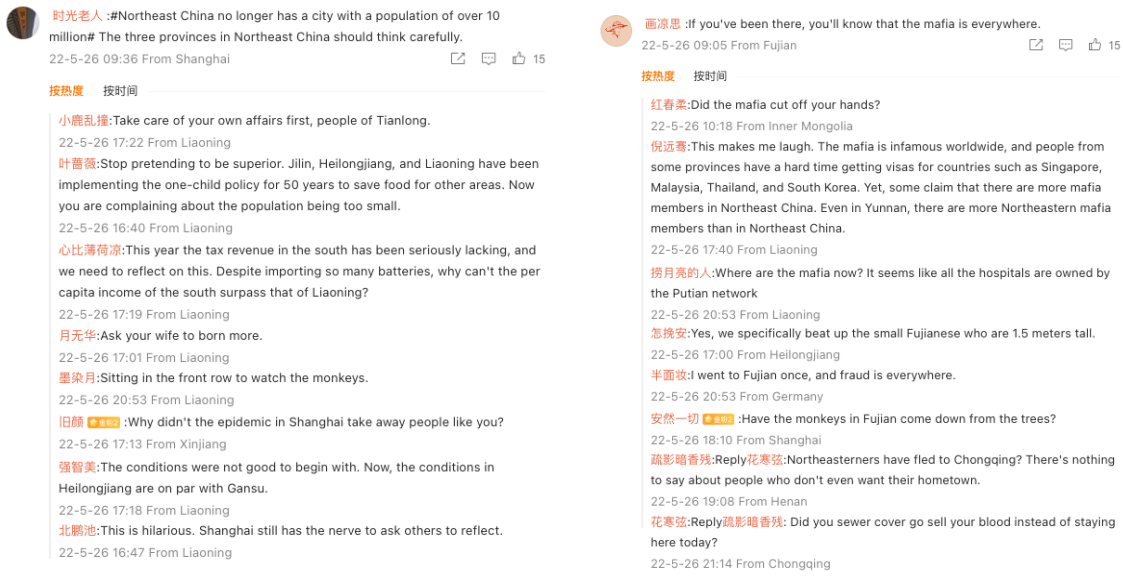
**Table 3.5.** The Group Division and Conflict

| | Proportion of Comments | Proportion of Reply |
|---|---|---|
| (Intercept) | $0.239^{***}$ | 0.001 |
| | (0.005) | (0.001) |
| IP Location Displayed | $0.019^{***}$ | $0.002^{**}$ |
| | (0.007) | (0.001) |
| Time | 0.000 | $0.000^{**}$ |
| | (0.001) | (0.000) |
| Time Since Treatment | $-0.001$ | $-0.000^{***}$ |
| | (0.001) | (0.000) |
| $R^2$ | 0.001 | 0.001 |
| Adj. $R^2$ | 0.001 | 0.001 |
| Num. obs. | 46985 | 34322 |
| RMSE | 0.349 | 0.031 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$

In a post published by ChinaNews on May 26th, 2022, the focus is on the decline of Harbin's population at the end of 2021. The post emphasizes that no city in the provinces of Heilongjiang, Jilin, and Liaoning now has a population exceeding 10 million. This post serves as a typical example of Weibo's coverage on provincial affairs and has attracted a considerable number of comments. For this analysis, I've selected two representative comments from out-of-province users—one from Shanghai and another from Fujian—along with the replies they received. To safeguard user privacy, all usernames have been anonymized.

In Figure 3.10a, a comment from a Shanghai-based user elicits numerous sarcastic and hostile replies from local users in Liaoning province. These replies feature geographically discriminatory language, including terms such as "people of Tianlong" and "monkeys," as well as emotionally charged statements like "ask your wife to born more." In another example, shown in Figure 3.10b, a commenter from Fujian expresses concerns about safety, claiming "mafia is everywhere" in those three provinces. The responses aggressively question the basis for this claim and employ discriminatory language targeting Fujian, using phrases like "monkeys on the trees," "fraud is everywhere," and "1.5 meters tall." Intriguingly, two users from Chongqing and Henan also engage in a heated exchange, utilizing geographic stereotypes such as "immigrant from the Northeast" and "sell blood."




**(a)** Comments from Shanghai **(b)** Comments from Fujian

**Figure 3.10.** Example of Comments Suggesting Intensified Group Division and Conflict

These derogatory terms reinforce existing stereotypes based on geographic discrimination. The language laced with regional bias serves as a strong indicator of heightened group conflict. Without the use of geographic tagging, participants in these conversations would not have such a clear basis for launching targeted attacks.

In sum, these findings suggest that the policy of displaying user's IP location inadvertently amplified geographical divisions and sparked conflict among users. While the policy managed to chill public discussion and political criticism, it also led to unforeseen social discord, an outcome that policymakers should take into account when designing similar measures in the future.

## 3.6 Conclusion

This paper has examined the unintended yet far-reaching effects of the user tagging policy implemented by Weibo, one of China's most prominent social media platforms. My analysis reveals a nuanced and somewhat unexpected narrative. Contrary to the policy designers' intentions to curb foreign influence on domestic affairs, the policy does not significantly deter foreign users. Instead, it inadvertently dampens domestic users' participation in local public

discourse, with non-local users being particularly affected.

While the policy appears to have achieved its aim of information control, it has done so in an unanticipated way, and thus comes with unintended side effects. In the short term, the reduction in regime-threatening discourse is beneficial to the regime. However, in the long run, the shrunken public discourse amplifies the dictator's information dilemma: the more stringent the control over information, the harder it becomes for the dictator to perceive looming threats. Furthermore, we observe side effects such as a deepening rift and conflict among domestic users. Geographic identity becomes more frequently mentioned in discourse; the public discourse of local affairs becomes more localized and homogenized; and reported personal attacks are more common across geo-groups. These phenomena fuel societal tension and, more importantly, enhance the internal cohesion of many smaller geo-groups. These smaller, more concentrated, and homogeneous communities may be more incentivized to cooperate and partake in collective action. These unintended adverse effects could ultimately threaten the regime in the long run.

My research significantly contributes to the understanding of the complex effects of user tagging policy on social media, particularly within the context of authoritarian regimes. I demonstrate that while the policy may not be effective as originally designed, it still meets its information control purpose through an unintended pathway. It highlights that pre-existing geographical discrimination serves as a catalyst for division and conflict. These findings provide a compelling example of how a more covert, crowd-sourced measure of information control can be effective while evading direct backlash at the same time in authoritarian regimes.

Future research can further explore the social and psychological mechanisms underlying the observed effects. Moreover, research can also extend the scope of this analysis by considering other social media platforms and geographical contexts to fully understand the generalizability of my findings.

While the user tagging policy may have facilitated information control in a roundabout way, it serves as a cautionary tale of how well-designed policies can lead to unexpected and potentially harmful social consequences. The policy's subtle impact on social dynamics reminds

us that, in the era of digital communication, seemingly technical changes can have profound social implications. In the end, the issue extends beyond merely who speaks; it also encompasses who is silenced and the resulting social costs that may quietly accrue. Understanding these dynamics is essential for policymakers, scholars, and practitioners who navigate the complex interplay between technology, governance, and society.

Chapter 3, in full, is a working paper as it appears in *SSRN Working Paper* (2023, doi: 10.2139/ssrn.4560720) The dissertation author was the primary investigator and author of this material.

# Chapter 4

# Discussion

The findings of this dissertation make significant theoretical contributions to the study of media and politics in authoritarian regimes, particularly within the context of China. Each component of this research not only advances our empirical understanding but also engages in a critical dialogue with existing theories and literature in China studies.

**1. Media Coverage and Government Legitimacy:** The study on media coverage and government legitimacy in China challenges and extends existing theories on authoritarian accountability and media's role in image construction. Traditional perspectives often view media in authoritarian regimes as mere tools for propaganda. However, this research suggests a more complex interaction, where media is used strategically for image management, affecting officials' career trajectories. This finding bridges the gap between theories of authoritarian control and practical mechanisms of legitimacy enhancement, contributing to a more nuanced understanding of the interplay between media coverage and political legitimacy.

**2. Media Narratives and Factional Politics:** The exploration of factional politics through media narratives contributes to the growing body of literature on intra-party dynamics in authoritarian systems. By demonstrating how media narratives are manipulated in factional power struggles, this study provides empirical evidence supporting theories of elite politics in authoritarian regimes. It highlights the role of media as a strategic tool in the arsenal of competing factions, a perspective often overlooked in traditional China studies. This adds depth

to our understanding of the complex mechanisms of power consolidation and distribution within the Communist Party of China.

**3. Social Media and Information Control:** The third study on social media and information control engages with contemporary discussions on digital authoritarianism. It contributes to the theory by illustrating how traditional methods of media control are adapted to the digital era, revealing the unintended consequences of such adaptations. This research extends current literature on information control in authoritarian regimes, particularly by highlighting the trade-offs and challenges in managing digital discourse, a relatively unexplored area in China studies.

This dissertation makes significant strides in engaging with and contributing to the existing literature on China studies, particularly in the realms of authoritarian legitimacy and control, intra-party dynamics and elite politics, and digital authoritarianism and information control. By providing a novel perspective on how media serves as a key instrument in maintaining the legitimacy and control of authoritarian regimes, it enriches the debate on the subtleties of governance in such systems. The research also delves deep into the internal dynamics of the Chinese Communist Party, offering empirical insights that enhance our understanding of elite politics within authoritarian contexts. Furthermore, it addresses the critical and rapidly evolving field of digital authoritarianism. The work explores how traditional media control mechanisms are being adapted and extended in the digital era, highlighting the challenges and trade-offs faced by authoritarian regimes in managing online discourse and information flow. Collectively, these contributions not only bridge gaps in current academic discourse but also pave the way for future explorations into the intricate interplay between media, politics, and society in authoritarian settings.

Building on the theoretical contributions of this dissertation, several pathways open up for future research. One promising direction is to examine how the findings from this study apply to other authoritarian regimes, which could lead to the development of a more generalized theory of media and politics in such settings. This comparative approach would offer broader insights

into the universality of these media strategies and their implications across different political landscapes. Additionally, there is a pressing need to investigate how digital control strategies are evolving amidst the rapidly changing landscape of media and technology. Understanding these adaptations is crucial in assessing the future of information control in digital spaces. Lastly, it is imperative to study the long-term effects of media manipulation strategies on societal stability and the durability of authoritarian regimes. This line of inquiry could reveal the potential risks and repercussions of sustained media manipulation, providing a more comprehensive understanding of its impact on societal dynamics and political structures.

In summary, my dissertation not only advances our empirical understanding of media's role in the politics of contemporary China but also makes significant theoretical contributions to the fields of political science and China studies. It bridges existing gaps in literature, offering fresh insights and perspectives on the nuanced interplay between media, politics, and society in authoritarian regimes.

Chapter 4 offers a concise discussion of the key findings and contributions of this dissertation, as well as outlines potential directions for future research.

# Bibliography


Abrajano, Marisa A., Zoltan Hajnal and Hans J. G. Hassell. 2017. "Media Framing and Partisan Identity: The Case of Immigration Coverage and White Macropartisanship." *The Journal of Race, Ethnicity, and Politics* 2(1):5–34.

Anderson, B.R.O.G. 1991. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. Verso.
**URL:** *https://books.google.com.sg/books?id=4mmoZFtCpuoC*

Aronow, Peter M., Cyrus Samii and Valentina A. Assenova. 2015. "Cluster-Robust Variance Estimation for Dyadic Data." *Political Analysis* 23(4):564–577.

Ban, Pamela, Alexander Fouirnaies, Andrew B Hall and James M Snyder. 2019. "How Newspapers Reveal Political Power." *Political Science Research and Methods* 7(4):661–678.

Bing, Ngeow Chow. 2014. "Discourses on Chinese-Style Democracy in China." *China: An International Journal* 12(2):94–114.

Blaydes, L. 2008. "Authoritarian elections and elite management: Theory and evidence from Egypt." *Princeton University Conference on Dictatorships* .

Boix, Carles and Milan W. Svolik. 2013. "The Foundations of Limited Authoritarian Government: Institutions, Commitment, and Power-Sharing in Dictatorships." *Journal of Politics* 75(2):300–316.

Boix, Carles and Milan W Svolik. 2015. "The Foundations of Limited Authoritarian Government: Institutions, Commitment, and Power-Sharing in Dictatorships." *The Journal of Politics* 75(2):300–316.

Bokobza, Laure, Suthan Krishnarajan, Jacob Nyrup, Casper Sakstrup and Lasse Aaskoven. Forthcoming. "The Morning After: Cabinet Instability and the Purging of Ministers after Failed Coup Attempts in Autocracies." *Journal of Politics* .

Bonomi, Giampaolo, Nicola Gennaioli and Guido Tabellini. 2021. "Identity, Beliefs, and Political Conflict." *The Quarterly Journal of Economics* 136(4):qjab034–.

Boydstun, Amber. 2013. *Making the News: Politics, the Media, and Agenda Setting*. University of Chicago Press.

Bradshaw, Samantha, Mona Elswah and Antonella Perini. 2023. "Look Who's Watching: Platform Labels and User Engagement on State-Backed Media Outlets." *American Behavioral Scientist* .

Brewer, Marilynn B. 1999. "The psychology of prejudice: Ingroup love and outgroup hate?" *Journal of social issues* 55(3):429–444.

Brown, Rupert. 2000. "Social identity theory: Past achievements, current problems and future challenges." *European journal of social psychology* 30(6):745–778.

Brownlee, Jason. 2007. *Authoritarianism in an Age of Democratization*. Cambridge University Press.

Cai, Hongbin and Daniel Treisman. 2006. "Did government decentralization cause China's economic miracle?" *World politics* 58(4):505–535.

Cai, Yongshun. 2004. "Managed participation in China." *Political Science Quarterly* 119(3):425–451.

Cai, Yongshun. 2008. "Power structure and regime resilience: contentious politics in China." *British Journal of Political Science* pp. 411–432.

Cai, Yongshun. 2014. *State and agents in China: Disciplining government officials*. Stanford University Press.

Cameron, A. Colin and Douglas L. Miller. 2014. "Robust inference for dyadic data." *Working Paper* .
**URL:** *http://cameron.econ.ucdavis.edu/dyadic_cameron_miller_june2014.pdf*

Chan, Alex. 2007. "Guiding Public Opinion through Social Agenda-Setting: China's media policy since the 1990s." *Journal of Contemporary China* 16(53):547–559.

Charness, Gary and Yan Chen. 2020. "Social Identity, Group Behavior, and Teams." *Annual Review of Economics* 12(1):691–713.

Chen, Dan. 2017. ""Supervision by Public Opinion" or by Government Officials? Media Criticism and Central-Local Government Relations in China." *Modern China* 43(6):620–645.

Chen, Hong, Hui Qi, Ruyin Long and Maolong Zhang. 2012. "Research on 10-year tendency of China coal mine accidents and the characteristics of human factors." *Safety Science* 50(4):745–750.

Chen, Ting and James Kai-sing Kung. 2016. "Do land revenue windfalls create a political resource curse? Evidence from China." *Journal of Development Economics* 123:86–106.

Chen, Ting and Ji Yeon Hong. 2021. "Rivals within: political factions, loyalty, and elite competition under authoritarianism." *Political Science Research and Methods* 9(3):599–614.

Chen, Ye, Hongbin Li and Li-An Zhou. 2005. "Relative performance evaluation and the turnover of provincial leaders in China." *Economics Letters* 88(3):421–425.

Coleman, Keith. 2021. "Introducing Birdwatch, a Community-based Approach to Misinformation.".
**URL:** *https://blog.twitter.com/en%5Fus/topics/product/2021/introducing-birdwatch-a-community-based-approach-to-misinformation*

Correia, Sergio. 2015. "reghdfe: Stata module to perform linear or instrumental-variable regression absorbing any number of high-dimensional fixed effects." *Statistical Software Components* .

Ding, Iza. 2020. "Performative Governance." *World Politics* 72(4):525–556.

Distelhorst, Greg. 2012*a*. "Publicity-driven official accountability in China: Qualitative and experimental evidence." *MIT Political Science Department Research Paper* .

Distelhorst, Greg. 2012*b*. "Publicity-driven official accountability in China: Qualitative and experimental evidence." *MIT Political Science Department Research Paper* .

Dittmer, Lowell and Yu-shan Wu. 1995. "The Modernization of Factionalism in Chinese Politics." *World Politics* 47:467–94.

Egorov, Georgy, Sergei Guriev and Konstantin Sonin. 2009. "Why Resource-poor Dictators Allow Freer Media: A Theory and Evidence from Panel Data." *American Political Science Review* 103:645–668.

Eldon, Eric. 2010. "Facebook Begins Testing Advanced Crowd-Sourced Content Moderation.".
**URL:** *https://www.adweek.com/performance-marketing/facebook-begins-testing-advanced-crowd-sourced-content-moderation/*

Fearon, James D. and David D. Laitin. 2000. "Violence and the Social Construction of Ethnic Identity." *International Organization* 54(4):845–877.

Fisman, Raymond, Jing Shi, Yongxiang Wang and Weixing Wu. 2020. "Social Ties and the Selection of China's Political Elite." *American Economic Review* 110(6):1752–81.

Gandhi, J. 2008. *Political Institutions under Dictatorship*. New York: Cambridge University

Press.

Gandhi, J. and A. Przeworski. 2006. "Cooperation, Cooptation, and Rebellion under Dictatorship." *Economics & Politics* 18(1):1–26.

Gandhi, Jennifer and Adam Przeworski. 2007. "Authoritarian Institutions and the Survival of Autocrats." *Comparative Political Studies* 40(11):1279–1301.

Geddes, Barbara. 1999. "What Do We Know About Democratization After Twenty Years?" *Annual Review of Political Science* 2(1):115–144.

Geddes, Barbara. 2003. *Paradigms and Sand Castles: Theory Building and Research Design in Comparative Politics*. University of Michigan Press.

Geddes, Barbara, Joseph Wright and Erica Frantz. 2014. "Autocratic breakdown and regime transitions: A new data set." *Perspectives on Politics* 12(02):313–331.

Goldring, Edward and Austin S. Matthews. 2021. "To Purge or Not to Purge? An Individual-Level Quantitative Analysis of Elite Purges in Dictatorships." *British Journal of Political Science* p. 1–19.

Goldring, Edward and Austin S. Matthews. 2022. "Brothers in Arms No Longer: Who Do Regime Change Coup-Entry Dictators Purge?" *Working Paper* .

Guo, Gang. 2009. "China's Local Political Budget Cycles." *American Journal of Political Science* .

Guriev, Sergei and Daniel Treisman. 2020. "A theory of informational autocracy." *Journal of Public Economics* 186:104158.

Harding, Harry. 1987. *China's Second Revolution*. Reform after Mao Brookings Institution Press.

He, Baogang and Mark E Warren. 2011. "Authoritarian deliberation: The deliberative turn in Chinese political development." *Perspectives on politics* 9(2):269–289.

He, Baogang and Stig Thøgersen. 2010. "Giving the People a Voice? Experiments with consultative authoritarian institutions in China." *Journal of Contemporary China* 19(66):675–692.

Hewstone, Miles, Mark Rubin and Hazel Willis. 2002. "Intergroup bias." *Annual review of psychology* 53(1):575–604.

Hobbs, William R. and Margaret E. Roberts. 2017. "How Sudden Censorship Can Increase

Access to Information." *American Political Science Review* 112(3):621 – 636.
**URL:** *https://www.semanticscholar.org/paper/1e1eced2d251a6608309ff4b4e237ceb58e7f994*

Hollyer, James R, B Peter Rosendorff and James Raymond Vreeland. 2015. "Transparency, protest, and autocratic instability." *American Political Science Review* 109(04):764–784.

Hong, Ji Yeon and Leo Y. Yang. 2021. "Do Winners Spread More Words? Factional Competition and Local Media Reports on Negative News in Autocracy." *Working Paper* pp. 1–51.

Huang, Haifeng. 2017. "A War of (Mis)Information: The Political Effects of Rumors and Rumor Rebuttals in an Authoritarian Country." *British Journal of Political Science* 47(2):283–311.

Huang, Haifeng. 2018. "The Pathology of Hard Propaganda." *The Journal of Politics* 80(3):1034–1038.

Huang, Rong. 2016. *The System Selection in Industrialization Process of China's Newspaper: From the Perspective of Game Theory*. China Social Science Press.

Huettel, Scott A. and Rachel E. Kranton. 2012. "Identity economics and the brain: uncovering the mechanisms of social conflict." *Philosophical Transactions of the Royal Society B: Biological Sciences* 367(1589):680–691.

Jaros, Kyle and Jennifer Pan. 2018. "China's Newsmakers: Official Media Coverage and Political Shifts in the Xi Jinping Era." *The China Quarterly* 233:111–136.

Jia, Ruixue and Huihua Nie. 2017. "Decentralization, Collusion, and Coal Mine Deaths." *Review of Economics and Statistics* 99(1):105–118.

Jia, Ruixue, Masayuki Kudamatsu and David Seim. 2015*a*. "Political Selection in China: the Complementary Roles of Connections and Performance." *Journal of the European Economic Association* .

Jia, Ruixue, Masayuki Kudamatsu and David Seim. 2015*b*. "Political Selection in China: The Complementary Roles of Connections and Performance." *Journal of the European Economic Association* 13(4):631–668.

Jiang, Junyan. 2018*a*. "Making Bureaucracy Work: Patronage Networks, Performance Incentives, and Economic Development in China." *American Journal of Political Science* 62:982–999.

Jiang, Junyan. 2018*b*. "Making Bureaucracy Work: Patronage Networks, Performance Incentives, and Economic Development in China." *American Journal of Political Science* 62(4):982–999.

Jiang, Junyan and Muyang Zhang. 2020. "Friends with Benefits: Patronage Politics and Distributive Strategies in China." *Journal of Public Economics* 184:104–143.

Keller, Franziska Barbara. 2014. "Networks of Power. A Social Network Analysis of the Chinese Central Committee 1982-2012." *Working Paper* .
**URL:** *http://www.fbkeller.net/page4*

Keller, Franziska Barbara. 2016. "Moving Beyond Factions: Using Social Network Analysis to Uncover Patronage Networks Among Chinese Elites." *Journal of East Asian Studies* 16(1):17–41.

King, Gary, Jennifer Pan and Margaret E Roberts. 2013. "How Censorship in China Allows Government Criticism but Silences Collective Expression." *American Political Science Review* 107(2):1–18.

Lei, Ya-Wen. 2016. "Freeing the Press: How Field Environment Explains Critical News Reporting in China." *American Journal of Sociology* 122(1):1–48.

Li, Cheng. 2012. "The Battle for China's Top Nine Leadership Posts." *The Washington Quarterly* 35(1):131–145.

Li, Hongbin and Li-An Zhou. 2005*a*. "Political turnover and economic performance: the incentive role of personnel control in China." *Journal of Public Economics* 89(9-10):1743–1762.

Li, Hongbin and Li-An Zhou. 2005*b*. "Political turnover and economic performance: the incentive role of personnel control in China." *Journal of Public Economics* 89:1743–1762.

Li, Yingru and Y.H. Dennis Wei. 2010. "The spatial-temporal hierarchy of regional inequality of China." *Applied Geography* 30(3):303–316.
**URL:** *https://www.sciencedirect.com/science/article/pii/S0143622809000745*

Liang, Fan, Qinfeng Zhu and Gabriel Miao Li. 2022. "The Effects of Flagging Propaganda Sources on News Sharing: Quasi-Experimental Evidence from Twitter." *The International Journal of Press/Politics* .

Lin, Gang. 2004. "Leadership Transition, Intra-Party Democracy, and Institution Building in China." *Asian Survey* 44(2):255–275.

Lin, Justin Yifu and Zhiqiang Liu. 2000. "Fiscal decentralization and economic growth in China." *Economic development and cultural change* 49(1):1–21.

Lorentzen, Peter. 2014*a*. "China's strategic censorship." *American Journal of Political Science* 58(2):402–414.

Lorentzen, Peter. 2014*b*. "China's Strategic Censorship." *American Journal of Political Science* 58(2):402–414.

Lorentzen, Peter and Xi Lu. 2018. "Personal Ties, Meritocracy, and China's Anti-Corruption Campaign.".

Lu, Fengming and Xiao Ma. 2019. "Is Any Publicity Good Publicity? Media Coverage, Party Institutions, and Authoritarian Power-Sharing." *Political Communication* 36(1):64–82.

Lust-Okar, Ellen. 2006. "Elections under authoritarianism: Preliminary lessons from Jordan." *Democratization* 13(3):456–471.

MacFarquhar, Roderick. 1997. *The Politics of China: The Eras of Mao and Deng*. Cambridge University Press.

Mader, Matthias, Nikolay Marinov and Harald Schoen. 2022. "Foreign Anti-Mainstream Propaganda and Democratic Publics." *Comparative Political Studies* 55(10):1732–1764.

Magaloni, Beatriz. 2006. "Voting for Autocracy." Cambridge: Cambridge University Press.

Magaloni, Beatriz. 2008. "Credible Power-Sharing and the Longevity of Authoritarian Rule." *Comparative Political Studies* 41(4-5):715–741.

Magaloni, Beatriz and Ruth Kricheli. 2010. "Political Order and One-Party Rule." *Annual Review of Political Science* 13(1):123–143.

Maskin, Eric, Yingyi Qian and Chenggang Xu. 2000. "Incentives, Information, and Organizational Form." *The Review of Economic Studies* 67(2):359–378.

Mattingly, Daniel C. 2016. "Elite Capture: How Decentralization and Informal Institutions Weaken Property Rights in China." *World Politics* 68(3):383–412.

McAdam, Doug, Sidney Tarrow and Charles Tilly. 2003. "Dynamics of contention." *Social Movement Studies* 2(1):99–102.

Meng, Tianguang, Jennifer Pan and Ping Yang. 2017. "Conditional Receptivity to Citizen Participation." *Comparative Political Studies* 50:399 – 433.

Moule, Richard K., Scott H. Decker and David C. Pyrooz. 2017. "Technology and conflict: Group processes and collective violence in the Internet era." *Crime, Law and Social Change* 68(1-2):47–73.

Myerson, Roger B. 2008. "The Autocrat's Credibility Problem and Foundations of the Constitutional State." *American Political Science Review* 102(1):125–139.

Nabi, Zubair. 2014. "Resistance censorship is futile." *First Monday* .

Nassetta, Jack and Kimberly Gross. 2020. "State media warning labels can counteract the effects of foreign disinformation." *Harvard Kennedy School Misinformation Review* .

Nathan, Andrew J. 1973. "A Factionalism Model for CCP Politics." *China Quarterly* 53:34–66.

Nathan, Andrew J. and Kellee S. Tsai. 1995. "Factionalism: A New Institutionalist Restatement." *China Journal* 34:157–192.

Nie, Huihua, Minjie Jiang and Xianghong Wang. 2013. "The impact of political cycle: Evidence from coalmine accidents in China." *Journal of Comparative Economics* 41(4):995–1011.

O'donnell, Guillermo and Philippe C Schmitter. 1986. *Transitions from authoritarian rule: Tentative conclusions about uncertain democracies*. Johns Hopkins Universtiy Press.

Opper, Sonja and Stefan Brehm. 2007. "Networks versus Performance: Political Leadership Promotion in China." *Working Paper* .

Pan, Jennifer and Alexandra A. Siegel. 2020. "How Saudi Crackdowns Fail to Silence Online Dissent." *American Political Science Review* 114(1):109–125.

Pepinsky, Thomas. 2014. "The Institutional Turn in Comparative Authoritarianism." *British Journal of Political Science* 44(3):631–53.

Pettigrew, Thomas F. 1998. "Intergroup contact theory." *Annual review of psychology* 49(1):65–85.

Przeworski, Adam. 1991. *Democracy and the Market: Political and Economic Reforms in Eastern Europe and Latin America*. Cambridge University Press.

Qin, Bei, David Strömberg and Yanhui Wu. 2018. "The Determinants of Media Bias in China." *American Economic Review, forthcoming* .

Repnikova, Maria. 2017. *Media Politics in China: Improvising Power under Authoritarianism*. Cambridge University Press.

Roberts, Margaret E. 2018. *Censored: Distraction and Diversion Inside China's Great Firewall*. Princeton University Press.
**URL:** *https://www.semanticscholar.org/paper/b6fb7ac759cf48d3acc3f51c328166f1a61127f0*

Sen, Amartya. 2007. *Identity and violence: The illusion of destiny*. Penguin Books India.

Shambaugh, David L. 2008. *China's Communist Party: Atrophy and Adaptation*. University of California Press.

Shih, Victor. 2008*a*. *Factions and Finance in China: Elite Conflict and Inflation*. Cambridge: Cambridge University Press.

Shih, Victor, Christopher Adolph and Mingxing Liu. 2012*a*. "Getting Ahead in the Communist Party: Explaining the Advancement of Central Committee Members in China." *American Political Science Review* 106(01):166–187.

Shih, Victor, Christopher Adolph and Mingxing Liu. 2012*b*. "Getting Ahead in the Communist Party: Explaining the Advancement of Central Committee Members in China." *American Political Science Review* 106(1):166–187.

Shih, Victor Chung-Hon. 2008*b*. ""Nauseating" Displays of Loyalty: Monitoring the Factional Bargain through Ideological Campaigns in China." *Journal of Politics* 70(4):1177–1192.

Shirk, Susan. 2011*a*. *Changing Media, Changing China*. Oxford University Press Oxford University Press.

Shirk, Susan L. 2011*b*. Changing Media, Changing China. In *Changing Media, Changing China*, ed. Susan L. Shirk. New York: Oxford University Press.

Slater, Dan. 2003. "Iron Cage in an Iron Fist: Authoritarian Institutions and the Personalization of Power in Malaysia." *Comparative Politics* 36(1):81–101.

Stern, Rachel E and Jonathan Hassid. 2012. "Amplifying silence: uncertainty and control parables in contemporary China." *Comparative Political Studies* 45(10):1230–1254.

Stockmann, Daniela. 2013*a*. *Media Commercialization and Authoritarian Rule in China*. Communication, Society and Politics Cambridge University Press.
**URL:** *https://books.google.com/books?id=699d2QxF6nkC*

Stockmann, Daniela. 2013*b*. *Media Commercialization and Authoritarian Rule in China*. New York: Cambridge University Press.

Su, Zheng and Tianguang Meng. 2016. "Selective responsiveness: Online public demands and government responsiveness in authoritarian China." *Social Science Research* 59:52–67.

Sudduth, Jun Koga. 2017. "Strategic Logic of Elite Purges in Dictatorships." *Comparative Political Studies* 50(13):1768–1801.

Sun, Wanning. 2012. Localizing Chinese media: A geographic turn in media and communication research. In *Mapping media in China*. Routledge pp. 31–46.

Svolik, Milan W. 2009. "Power Sharing and Leadership Dynamics in Authoritarian Regimes." *American Journal of Political Science* 53(2):477–494.

Svolik, Milan W. 2013. *The Politics of Authoritarian Rule*. New York: Cambridge University Press.

Tajfel, Henri. 1982. "Social psychology of intergroup relations." *Annual review of psychology* 33(1):1–39.

Tajfel, Henri, John C Turner, William G Austin and Stephen Worchel. 1979. "An integrative theory of intergroup conflict." *Organizational identity: A reader* 56(65):9780203505984–16.

Tang, Wenfang. 2016. *Populist Authoritarianism – Chinese Political Culture and Regime Sustainability*. Oxford University Press.

Tarrow, Sidney. 2022. *Power in movement*. Cambridge university press.

Truex, Rory. 2016. "Consultative Authoritarianism and Its Limits." *Comparative Political Studies* 50(3):329–361.

Tsou, Tang. 1976. "Prolegomenon to the Study of Informal Groups China Quarterly." *China Quarterly* 65:98–114.

Tsou, Tang. 1995. "Chinese Politics at the Top: Factionalism or Informal Politics? Balance-of-Power Politics or a Game to Win All?" *China Journal* 34:95–156.

Tufekci, Zeynep and Christopher Wilson. 2012. "Social media and the decision to participate in political protest: Observations from Tahrir Square." *Journal of communication* 62(2):363–379.

Turner, John C., Penelope J. Oakes, S. Alexander Haslam and Craig McGarty. 1994. "Self and Collective: Cognition and Social Context." *Personality and Social Psychology Bulletin* 20(5):454–463.
**URL:** *https://doi.org/10.1177/0146167294205002*

Wang, Haiyan and Colin Sparks. 2018. "Chinese Newspaper Groups in the Digital Era: The Resurgence of the Party Press." *Journal of Communication* 69(1):94 119.

Wing Chan, Kam and Will Buckingham. 2008. "Is China Abolishing the Hukou System?" *The China Quarterly* 195:582–606.

Wong, Stan Hok-Wui and Kelvin Chun-Man Chan. 2021. "Determinants of political purges in autocracies: Evidence from ancient Chinese dynasties." *Journal of Peace Research* 58(3):583–598.

Wu, Xiaogang and Donald J Treiman. 2007. "Inequality and equality under Chinese socialism: The hukou system and intergenerational occupational mobility." *american Journal of sociology* 113(2):415–445.

Xi, Tianyang, Yang Yao and Muyang Zhang. 2018. "Capability and opportunism: Evidence from city officials in China." *Journal of Comparative Economics* 46.

Yang, Y. Leo. 2020. "Burn in the Sunlight: Negative Media Coverage and Publicity-Induced Accountability in China." *Working Paper* pp. 1–31.

Yao, Yang and Muyang Zhang. 2015. "Subnational leaders and economic growth: evidence from Chinese cities." *Journal of Economic Growth* 20(4):405–436.

Young, Doug. 2012. *The Party Line: How The Media Dictates Public Opinion in Modern China*. Wiley.

Young, Jason. 2013. *China's Hukou System: Markets, Migrants and Institutional Change*. Palgrave Macmillan UK.
**URL:** *https://books.google.com.hk/books?id=iXy3AieHeWQC*

Zakharov, Alexei V. 2016. "The loyalty-competence tradeoff in dictatorships and outside options for subordinates." *Journal of Politics* 78(2):457–466.

Zhang, Qi and Mingxing Liu. 2019. *Revolutionary legacy, power structure, and grassroots capitalism under the red flag in China*. Cambridge University Press.

Zhao, Andy and Lily Hu. 2023. "Platform, Jurors, and Reporters: How Different Actors Facilitate Community-driven Content Moderation on Weibo." *SocArXiv* .

Zhao, Yuezhi. 1998. *Media, Market, and Democracy in China*. Between the Party Line and the Bottom Line University of Illinois Press.

Zhou, Yi-hu. 2011. *From hard control to soft control: State-media relationship in China since 1978 (Zhongguo chaoji chuanmei gongchang de xingcheng)*. Taipei: Shouwei Information Co.

Zhou, Yuezhi. 2000. "Watchdogs on Party Leashes? Contexts and implications of investigative journalism in post-Deng China." *Journalism Studies* 1(4):577–597.

Zhu, Jiangnan and Dong Zhang. 2017. "Weapons of the Powerful: Authoritarian Elite Competition and Politicized Anticorruption in China." *Comparative Political Studies* 50(9):1186–1220.

Zhu, Jiangnan, Jie Lu and Tianjian Shi. 2013. "When Grapevine News Meets Mass Media: Different Information Sources and Popular Perceptions of Government Corruption in Mainland China." *Comparative Political Studies* 46(8):920–946.

# APPENDIX:

# Harnessing the Media: A Computational Approach to Studying Media and Politics in China

**Table A.1.** The Benchmark Results (Ordered Logistic)

| | *Dependent variable: Political Turnover* | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Accident | 0.911 | 0.717 | 0.550 | 0.540 | 0.523 | 0.492* |
| | (0.336) | (0.263) | (0.218) | (0.215) | (0.213) | (0.201) |
| Accident x Death (log) | 0.825 | 1.100 | 0.872 | 0.883 | 0.827 | 0.900 |
| | (0.125) | (0.197) | (0.196) | (0.197) | (0.192) | (0.207) |
| Accident x Media Coverage (log) | | 0.744*** | 0.757** | 0.761** | 0.768** | 0.767** |
| | | (0.085) | (0.088) | (0.089) | (0.094) | (0.093) |
| Accident x Number of Accidents (log) | | | 2.245* | 2.229* | 2.683** | 2.310* |
| | | | (1.044) | (1.041) | (1.285) | (1.147) |
| Accident x Total Coverage (log) | | | | 0.869 | 0.871 | 0.855 |
| | | | | (0.098) | (0.099) | (0.102) |
| Local Cadre | | | | | 0.750 | 0.789 |
| | | | | | (0.131) | (0.143) |
| Political Connection (Colleague) | | | | | | 0.917 |
| | | | | | | (0.180) |
| Political Connection (Hometown) | | | | | | 0.769 |
| | | | | | | (0.171) |
| Cut Point 1 | −37.702*** | −37.970*** | −38.115*** | −36.775*** | −37.362*** | −33.639** |
| | (13.872) | (13.897) | (13.911) | (13.929) | (14.278) | (14.327) |
| Cut Point 2 | −40.322*** | −40.593*** | −40.739*** | −39.400*** | −40.041*** | −36.395** |
| | (13.864) | (13.889) | (13.903) | (13.918) | (14.267) | (14.312) |
| Cut Point 3 | −46.495*** | −46.788*** | −46.945*** | −45.610*** | −46.280*** | −42.683*** |
| | (13.897) | (13.922) | (13.936) | (13.951) | (14.301) | (14.347) |
| Prefecture-fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Year-fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 2,989 | 2,989 | 2,989 | 2,989 | 2,956 | 2,911 |
| $R^2$ | 0.237 | 0.240 | 0.241 | 0.242 | 0.245 | 0.252 |

*Note:* *p<0.1; **p<0.05; ***p<0.01
Odds Ratios shows in the table.
Standard errors clustered at the prefecture level are reported in parentheses.
Regressions control for age, time in office, second-term dummy, education, GDP growth rate, GDP per capita(log), and population(log).

**Table A.2.** Relation between Coal Mine Deaths, Media Coverage and Promotion, Articles Published in T + 365 days

| | *Dependent Variable: Political Turnover (Termination=0; Retirement=1; Same Level=2; Promotion=3)* | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Accident | −0.014 | −0.045 | −0.081 | −0.083 | −0.087 | −0.092 |
| | (0.050) | (0.052) | (0.055) | (0.055) | (0.056) | (0.056) |
| Accident x Death (log) | −0.023 | 0.016 | −0.016 | −0.015 | −0.022 | −0.008 |
| | (0.020) | (0.026) | (0.031) | (0.031) | (0.032) | (0.032) |
| Accident x Media Coverage (log) | | −0.040** | −0.037** | −0.037** | −0.035** | −0.035** |
| | | (0.016) | (0.016) | (0.017) | (0.017) | (0.017) |
| Accident x Number of Accidents (log) | | | 0.113* | 0.112* | 0.134** | 0.106 |
| | | | (0.064) | (0.065) | (0.066) | (0.068) |
| Accident x News Stories about City (log) | | | | −0.022 | −0.022 | −0.024 |
| | | | | (0.017) | (0.017) | (0.017) |
| Local Cadre | | | | | −0.042 | −0.036 |
| | | | | | (0.027) | (0.028) |
| Political Connection (Colleague) | | | | | | −0.007 |
| | | | | | | (0.029) |
| Political Connection (Hometown) | | | | | | −0.034 |
| | | | | | | (0.033) |
| Control Variables† | Yes | Yes | Yes | Yes | Yes | Yes |
| Pref- and Year-FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| $R^2$ | 0.154 | 0.156 | 0.157 | 0.158 | 0.159 | 0.163 |
| Adj. $R^2$ | 0.043 | 0.045 | 0.046 | 0.046 | 0.046 | 0.048 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$.

Standard errors clustered at the prefecture level are reported in parentheses.

†Regressions control for age, time in office, second-term dummy, education, GDP growth rate, GDP per capita(log), and population(log).

**Table A.3.** Relation between Coal Mine Deaths, Media Coverage and Promotion, Articles Published in The Same Year of Accidents

| | *Dependent Variable: Political Turnover (Termination=0; Retirement=1; Same Level=2; Promotion=3)* | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Accident | −0.014 | −0.048 | −0.083 | −0.085 | −0.089 | −0.095* |
| | (0.050) | (0.052) | (0.055) | (0.055) | (0.056) | (0.057) |
| Accident x Death (log) | −0.023 | 0.019 | −0.013 | −0.012 | −0.019 | −0.005 |
| | (0.020) | (0.026) | (0.031) | (0.031) | (0.032) | (0.032) |
| Accident x Media Coverage (log) | | −0.043** | −0.041** | −0.040** | −0.039** | −0.038** |
| | | (0.017) | (0.017) | (0.017) | (0.018) | (0.018) |
| Accident x Number of Accidents (log) | | | 0.111* | 0.110* | 0.132** | 0.105 |
| | | | (0.064) | (0.064) | (0.066) | (0.068) |
| Accident x News Stories about City (log) | | | | −0.022 | −0.022 | −0.024 |
| | | | | (0.017) | (0.017) | (0.017) |
| Local Cadre | | | | | −0.042 | −0.036 |
| | | | | | (0.027) | (0.028) |
| Political Connection (Colleague) | | | | | | −0.007 |
| | | | | | | (0.029) |
| Political Connection (Hometown) | | | | | | −0.034 |
| | | | | | | (0.033) |
| Control Variables† | Yes | Yes | Yes | Yes | Yes | Yes |
| Pref- and Year-FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| $R^2$ | 0.154 | 0.157 | 0.158 | 0.158 | 0.159 | 0.163 |
| Adj. $R^2$ | 0.043 | 0.046 | 0.046 | 0.046 | 0.046 | 0.048 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$.

Standard errors clustered at the prefecture level are reported in parentheses.

†Regressions control for age, time in office, second-term dummy, education, GDP growth rate, GDP per capita(log), and population(log).

**Table A.4.** Political Turnover Coding Rules

| Position in Chinese | Code | Position in English |
|---|---|---|
| A secretary is "promoted" if he/she attains one of the following positions upon the end of term: | | |
| A secretary is "promoted" if he/she attains one of the following positions upon the end of term: | | |
| 省委副书记 | 3 | Secretary of Provincial Party Committee (Shengwei Fushuji) |
| 省委组织部长 | 3 | Minister of Party Committee Organization Department (Shengwei Zuzhibu Buzhang) |
| 省纪检委书记 | 3 | Secretary of the Discipline Inspection Commission (Sheng Jiwei Shuji) |
| 省委宣传部部长 | 3 | Minister of Party Committee Propaganda Department (Shengwei Xuanchuanbu Buzhang) |
| 省委秘书长 | 3 | Secretary General of Provincial Party Committee(Shengwei Mishuzhang) |
| 省政法委书记 | 3 | Secretary of Political and Legal Affairs Commission (Sheng Zhengfawei Shuji) |
| 副省长 | 3 | Vice Provincial Governor （Fu Shengzhang） |
| 省政府秘书长 | 3 | Secretary General of Provincial Government （Sheng Zhengfu Mishuzhang） |
| 省发改委主任 | 3 | Secretary of the Development and Reform Commission (Sheng Fagaiwei Zhuren) |
| 省公安厅厅长 | 3 | Chief of Public Security Bureau (Sheng Gonganju Juzhang) |
| 省高级人民法院院长 | 3 | Chief Judge of the Higher People's Court (Sheng Gaoji Renminfayuan Yuanzhang) |
| 省高级人民检察院检察长 | 3 | Chief Procurator of the Higher People's Procuratorate (Sheng Gaoji Renminjianchayuan Yuanzhang) |
| 省财政厅厅长 | 3 | Department Head of Provincial Department of Fince (Sheng Caizhengting Tingzhang) |
| 省地税厅厅长 | 3 | Department Head of Provincial Department of Tax (Sheng Dishui Tingzhang) |
| 副省级城市市委书记 | 3 | Secretary of sub-provincial cities (Fushengji Chengshi Shiwei Shuji) |
| 副省级城市市长 | 3 | Mayor of sub-provincial cities (Fushengji Chengshi Shizhang) |
| A secretary is "transferred laterally" or "stayed in the same position" if he/she ends up with one of the following position upon the end of term | | |
| 地级市市委书记 | 2 | Prefecture Party Secretary (Shiwei Shuji) |
| 省政府副秘书长 | 2 | Deputy Secretary General of Provincial Party Committee(Shengwei Fumishuzhang) |
| 省委副秘书长 | 2 | Secretary General of Provincial Party Committee(Shengwei Mishuzhang) |
| 省委组织部副部长 | 2 | Vice Minister of Party Committee Organization Department (Shengwei Zuzhibu Fubuzhang) |
| 省委宣传部副部长 | 2 | Vice Minister of Party Committee Propaganda Department (Shengwei Xuanchuanbu Fubuzhang) |
| 省委政法委副书记 | 2 | Deputy Secretary of Political and Legal Affairs Commission (Sheng Zhengfawei FuShuji) |
| 省政府省长助理 | 2 | Assistant Provincial Governor (Shengzhengfu Shengzhang Zhuli) |
| 省政府巡视员 | 2 | Provincial Government Counselor (Shengzhengfu Xunshiyuan) |
| 省发改委副书记 | 2 | Deputy Secretary of the Development and Reform Commission (Sheng Fagaiwei Fushuji) |
| 省公安局副局长 | 2 | Vice Chief of Public Security Bureau (Sheng Gonganju Fujuzhang) |
| 省高级人民法院副院长 | 2 | Vice Chief Judge of the Higher People's Court (Sheng Gaoji Renminfayuan Yuanzhang) |
| 省高级人民检察院副院长 | 2 | Vice Chief Procurator of the Higher People's Procuratorate (Sheng Gaoji Renminjianchayuan Fuyuanzhang) |
| 省政府各厅厅长（如教育厅厅长) | 2 | Department Head of Provincial Functnaiol Bureau （e.g. Head of Education Bureau）(Tingzhang) |

**Table A.5.** Political Turnover Coding Rules (Continued)

| Position in Chinese | Code | Position in English |
|---|---|---|
| A secretary is "retired" if he/she ends up with one of the following position upon the end of term | | |
| 现任职地级市市长 | 1 | Mayor (shizhang) of the same prefecture |
| 其他地级市市长 | 1 | Mayor (shizhang) of another prefecture |
| 省人大主席，副主席 | 1 | Chairman and Vice-Chairman of the provincial Standing Committee of the People's Congress (Sheng Renda Changweihui Fu/Zhuren) |
| 省政协主席，副主席 | 1 | Chairman and Vice-Chairman of the Provincial People's Political Consultative Conference (Sheng Zhengxie Fu/Zhuxi) |
| 省人大秘书长，副秘书长 | 1 | Secretary General of Standing Committee of the Provincial People's Congress (Shengrenda Changweihui Fu/Mishuzhang) |
| 省政协秘书长，副秘书长 | 1 | Secretary General of Standing Committee of the Provincial People's Political Consultative Conference (Shengzhengxie Fu/Mishuzhang) |
| 省政府各厅副厅长（如教育厅副厅长) | 1 | Vice Department Head of Provincial Functiol Bureau （e.g. Vice Head of Education Bureau)（Fu Tingzhang) |
| 地级市人大常委会主任，副主任 | 1 | Chairman and Vice-Chairman of the Prefectural Standing Committee of the People's Congress (Dijishi Shirenda Changweihui Fu/Zhuren) |
| 地级市政协主席，副主席 | 1 | Chairman and Vice-Chairman of the Prefectural People's Political Consultative Conference (Sheng Zhengxie Fu/Zhuxi) |
| 省总工会主席 | 1 | Chairman of Prefectural Trade Union (Sheng Zhonggonghui Zhuxi) |
| 省妇联主席 | 1 | Chairman of Prefectural Women's Federation (Dijishi Fulian Zhuxi) |
| 地级市总工会主席 | 1 | Chairman of Prefectural Trade Union (Dijishi Shizhonggonghui Zhuxi) |
| 地级市妇联主席 | 1 | Chairman of Prefectural Women's Federation (Dijishi Fulian Zhuxi) |
| 地级市政府各局局长(如教育局局长) | 1 | Department Head of Prefectural Functiol Bureau (e.g. Head of Education Bureau) (Juzhang) |
| 退休 | 1 | Retirement |
| A secretary is "terminated" if he/she ends up with one of the following position upon the end of term | | |
| 自然死亡 | 0 | Had Their Office Terminated Due to natural Death |
| 辞职 | 0 | Had Their Office Terminated Due to Resignation |
| 涉嫌贪污渎职被调查 | 0 | Had Their Office Terminated Due to Corruption |

**Table A.6.** List of the 143 Local Mainstream Newspapers

| Newspaper | Party-line | Newspaper | Party-line |
|---|---|---|---|
| Chongqing Morning News | 1 | Digest Weekly | 0 |
| Securities Times | 1 | Wen Wei Po | 0 |
| Zhejiang Daily | 1 | Communication World Weekly | 0 |
| Changsha Evening News | 1 | Daily new newspaper | 0 |
| Yangtze River Daily | 1 | Sichuan Economic Daily | 0 |
| Yunnan Daily | 1 | Sichuan Workers Daily | 0 |
| Yinchuan Evening News | 1 | Market Guide | 0 |
| Yangcheng Evening News | 1 | Daily Life Report | 0 |
| Xi'an Evening News | 1 | Shenyang Evening News | 0 |
| Xi'an Daily | 1 | Shenzhen Evening News | 0 |
| Wuxi Daily | 1 | Shenzhen Business Daily | 0 |
| Tianjin Daily | 1 | Shenzhen Metropolis Daily | 0 |
| Sichuan Daily | 1 | Shenjiang Service Guide | 0 |
| Shijiazhuang Daily | 1 | Shanghai Securities News | 0 |
| Shenyang Daily | 1 | Shanghai Youth Daily | 0 |
| Shenzhen Special Zone Daily | 1 | Shantou Daily | 0 |
| Shanghai Financial News | 1 | Shanxi Daily | 0 |
| Shantou Special Zone Evening News | 1 | Qianjiang Evening News | 0 |
| Shantou Metropolis Daily | 1 | Entrepreneur daily | 0 |
| Three Gorges Evening News | 1 | Qilu Evening News | 0 |
| Youth news | 1 | Rural new newspaper | 0 |
| Qinghai Daily | 1 | Southern Morning Post | 0 |
| Qingdao Daily | 1 | South China Today | 0 |
| Rural public | 1 | Southern Weekend | 0 |
| Ningxia Daily | 1 | Southern Metropolis Daily | 0 |
| Nanjing Daily | 1 | Private Economic Newspaper | 0 |
| Southern Daily | 1 | Weekly Digest | 0 |
| Liaoning Daily | 1 | Daily News | 0 |
| Lanzhou Daily | 1 | Daily Economic News | 0 |
| Kunming Daily | 1 | Luzhong Morning News | 0 |
| Tonight News | 1 | Liaoshen Evening News | 0 |
| Liberation Daily | 1 | Financial Management for 1 Week | 0 |
| Jiangxi Daily | 1 | Lanzhou Evening News | 0 |
| Jinan Daily | 1 | Lanzhou Morning News | 0 |
| Hubei Daily | 1 | Crystal Newspaper | 0 |
| Henan Daily | 1 | Economic Observer | 0 |
| Henan Legal News | 1 | Jinling Evening News | 0 |
| Hefei Evening News | 1 | Morning Newspaper Today | 0 |
| Hainan Daily | 1 | Jiangnan Evening News | 0 |
| Haikou Evening News | 1 | Jiangnan Times | 0 |
| Harbin Daily | 1 | Jiangnan Metropolis Daily | 0 |
| Guangzhou Daily | 1 | Jianghuai Morning News | 0 |
| Gansu Daily | 1 | Huaxi Metropolis News | 0 |
| Fujian Daily | 1 | Henan Business Daily | 0 |
| Metropolitan time | 1 | Henan Daily Rural Edition | 0 |
| Public daily | 1 | Straits Metropolis Daily | 0 |
| Dalian Daily | 1 | Hainan Special Zone Daily | 0 |
| Chengdu Daily | 1 | International Financial Newspaper | 0 |
| Anhui Daily | 1 | Guangxi Daily | 0 |

**Table A.7.** List of the 143 Local Mainstream Newspapers (Continued)

| Newspaper | Party-line | Newspaper | Party-line |
|---|---|---|---|
| Chongqing Evening News | 0 | Gansu farmers report | 0 |
| Chongqing Business Daily | 0 | Panyu Daily | 0 |
| Middle-aged Times | 0 | Oriental Morning Post | 0 |
| Quality Service Report | 0 | Dianchi Morning News | 0 |
| Securities Market Weekly | 0 | First Financial Daily | 0 |
| Securities Market Red Weekly | 0 | Contemporary Life Newspaper | 0 |
| Yangzi Evening News | 0 | Dalian Evening News | 0 |
| Yan Zhao Evening News | 0 | Dahe News | 0 |
| Information Times | 0 | Spring City Evening News | 0 |
| Information Daily | 0 | Chutian Gold News | 0 |
| Evening News | 0 | Chutian Metropolis Daily | 0 |
| News World | 0 | City Morning Newspaper | 0 |
| Morning News | 0 | City Evening News | 0 |
| New Evening News | 0 | Chengdu Evening News | 0 |
| Xinmin Weekly | 0 | Chengdu Business Daily | 0 |
| Xinmin Evening News | 0 | Newspaper Abstracts | 0 |
| New Express | 0 | Baoan Daily | 0 |
| New Newspaper | 0 | Peninsula Metropolis News | 0 |
| Xihai Metropolis Daily | 0 | Peninsula Morning News | 0 |
| Western Business Daily | 0 | Anhui Business Daily | 0 |
| Wuhan Evening News | 0 | 21$^{st}$ Century Business Herald | 0 |
| Wuhan Morning News | 0 | | |

**Table A.8.** Summary Statistics

| Variable | Mean | Std. Dev. | Min. | Max. | N |
|---|---|---|---|---|---|
| Corruption News | 1.211 | 4.743 | 0 | 161 | 13050 |
| Corruption News/Total News | 0.14 | 3.469 | 0 | 200 | 9396 |
| Total News | 727.257 | 1302.433 | 1 | 14217 | 8795 |
| Patron Power (News) | 0.151 | 0.239 | 0 | 0.861 | 13050 |
| Patron Power (Event) | 0.151 | 0.239 | 0 | 0.861 | 13050 |
| Power Difference | 0 | 0.341 | -0.861 | 0.861 | 13050 |
| President Power | 0.536 | 0.092 | 0.415 | 0.708 | 13050 |
| PS-GN Same Faction (News) | 0.229 | 0.42 | 0 | 1 | 13050 |
| PS-GN Same Faction (Event) | 0.229 | 0.42 | 0 | 1 | 13050 |
| Age Gap | 4.414 | 3.59 | 0 | 18 | 12992 |
| Years in Office Gap | 2.236 | 2.168 | 0 | 13 | 13050 |

**Table A.9.** Distinct President and Premier Power from Other Committee Members

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| Patron Power (News, PP) | 0.972*** | 0.948*** | 0.926*** | 0.177*** | 0.066 | 0.221*** |
| | (0.194) | (0.190) | (0.185) | (0.043) | (0.045) | (0.057) |
| Patron Power (Event, PP) | -0.003 | 0.036 | -0.017 | -0.029 | -0.042 | -0.073 |
| | (0.144) | (0.145) | (0.141) | (0.050) | (0.053) | (0.071) |
| Patron Power (News, NoPP) | -0.164 | -0.195 | -0.246 | -0.084+ | -0.250** | 0.210** |
| | (0.320) | (0.328) | (0.337) | (0.049) | (0.088) | (0.075) |
| Patron Power (Event, NoPP) | 1.533*** | 1.584*** | 1.461*** | 0.004 | -0.003 | -0.105 |
| | (0.418) | (0.410) | (0.397) | (0.119) | (0.117) | (0.166) |
| PS-GN Same Faction (News) | 0.222* | 0.207+ | 0.206+ | -0.072* | -0.136*** | -0.156*** |
| | (0.106) | (0.108) | (0.108) | (0.029) | (0.037) | (0.041) |
| PS-GN Same Faction (Event) | -0.054 | -0.031 | -0.034 | 0.071 | 0.063 | 0.067 |
| | (0.104) | (0.111) | (0.112) | (0.065) | (0.064) | (0.065) |
| Age Gap | -0.017+ | -0.017+ | -0.015 | -0.002 | -0.004 | -0.009 |
| | (0.010) | (0.010) | (0.011) | (0.005) | (0.006) | (0.006) |
| Years in Office Gap | -0.095*** | -0.095*** | -0.096*** | 0.005 | 0.007 | 0.008 |
| | (0.016) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | -0.126 | | | 0.488 | |
| | | (0.211) | | | (0.312) | |
| News=1 and Event=0 | | 0.062 | | | 0.900* | |
| | | (0.211) | | | (0.396) | |
| News=1 and Event=1 | | -0.053 | | | 0.824* | |
| | | (0.210) | | | (0.341) | |
| Single Faction Ties (News) | | | 0.051 | | | 0.599*** |
| | | | (0.109) | | | (0.170) |
| Multiple Faction Ties (News) | | | 0.100 | | | 0.191+ |
| | | | (0.105) | | | (0.103) |
| Single Faction Ties (Event) | | | -0.164 | | | 0.012 |
| | | | (0.101) | | | (0.067) |
| Multiple Faction Ties (Event) | | | -0.044 | | | 0.096 |
| | | | (0.128) | | | (0.080) |
| Constant | 1.171*** | 1.206*** | 1.185*** | 0.122* | -0.562+ | -0.145+ |
| | (0.077) | (0.196) | (0.122) | (0.048) | (0.287) | (0.085) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.355 | 0.355 | 0.355 | 0.126 | 0.128 | 0.129 |

Robust standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

**Table A.10.** Alternative Definitions of Factional Connection (Workplace Connection Only)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| Patron Power (News) | 1.174*** | 0.839*** | 0.869*** | 0.267*** | 0.045 | 0.360*** |
| | (0.227) | (0.218) | (0.236) | (0.059) | (0.071) | (0.084) |
| Patron Power (Event) | 0.155 | 0.085 | -0.333 | -0.029 | -0.040 | -0.079 |
| | (0.177) | (0.181) | (0.209) | (0.063) | (0.069) | (0.102) |
| PS-GN Same Faction (News) | 0.096 | -0.047 | -0.044 | -0.182*** | -0.292*** | -0.210*** |
| | (0.111) | (0.111) | (0.112) | (0.045) | (0.069) | (0.052) |
| PS-GN Same Faction (Event) | 0.097 | 0.064 | -0.018 | 0.102 | 0.097 | 0.089 |
| | (0.101) | (0.106) | (0.111) | (0.082) | (0.079) | (0.075) |
| Age Gap | -0.015 | -0.015 | -0.011 | -0.002 | -0.000 | -0.005 |
| | (0.010) | (0.010) | (0.010) | (0.005) | (0.005) | (0.005) |
| Years in Office Gap | -0.094*** | -0.100*** | -0.104*** | 0.004 | 0.003 | 0.006 |
| | (0.016) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | 0.227 | | | 0.237 | |
| | | (0.164) | | | (0.173) | |
| News=1 and Event=0 | | 0.599*** | | | 0.608* | |
| | | (0.138) | | | (0.249) | |
| News=0 and Event=0 | | 0.654*** | | | 0.533** | |
| | | (0.157) | | | (0.200) | |
| Single Faction Ties (News) | | | 0.496*** | | | 0.600*** |
| | | | (0.081) | | | (0.168) |
| Multiple Faction Ties (News) | | | 0.455*** | | | 0.138+ |
| | | | (0.087) | | | (0.080) |
| Single Faction Ties (Event) | | | -0.143 | | | -0.010 |
| | | | (0.103) | | | (0.044) |
| Multiple Faction Ties (Event) | | | 0.397** | | | 0.047 |
| | | | (0.131) | | | (0.059) |
| Constant | 1.275*** | 0.880*** | 0.957*** | 0.119* | -0.280+ | -0.095 |
| | (0.075) | (0.142) | (0.106) | (0.048) | (0.150) | (0.065) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.352 | 0.354 | 0.355 | 0.127 | 0.128 | 0.130 |

Standard errors clustered at News-Event province dyad in parentheses.

$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

**Table A.11.** Alternative Definitions of Factional Connection (Workplace Connection Only, Power Difference)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| Δ Patron Power | 0.509*** | 0.377** | 0.601*** | 0.149** | 0.043 | 0.225** |
| | (0.122) | (0.125) | (0.150) | (0.046) | (0.055) | (0.070) |
| PS-GN Same Faction (News) | 0.203+ | -0.013 | -0.038 | -0.163*** | -0.291*** | -0.205*** |
| | (0.122) | (0.114) | (0.112) | (0.041) | (0.069) | (0.051) |
| PS-GN Same Faction (Event) | 0.205* | 0.098 | -0.012 | 0.119 | 0.097 | 0.091 |
| | (0.099) | (0.105) | (0.111) | (0.079) | (0.078) | (0.075) |
| Age Gap | -0.011 | -0.013 | -0.010 | -0.001 | -0.000 | -0.004 |
| | (0.010) | (0.010) | (0.010) | (0.005) | (0.005) | (0.005) |
| Years in Office Gap | -0.085*** | -0.097*** | -0.103*** | 0.005 | 0.003 | 0.006 |
| | (0.015) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | 0.324* | | | 0.238 | |
| | | (0.165) | | | (0.171) | |
| News=1 and Event=0 | | 0.696*** | | | 0.609* | |
| | | (0.142) | | | (0.246) | |
| News=0 and Event=0 | | 0.849*** | | | 0.534** | |
| | | (0.169) | | | (0.193) | |
| Single Faction Ties (News) | | | 0.513*** | | | 0.609*** |
| | | | (0.083) | | | (0.169) |
| Multiple Faction Ties (News) | | | 0.535*** | | | 0.176* |
| | | | (0.096) | | | (0.082) |
| Single Faction Ties (Event) | | | -0.125 | | | -0.001 |
| | | | (0.103) | | | (0.045) |
| Multiple Faction Ties (Event) | | | 0.477*** | | | 0.091+ |
| | | | (0.132) | | | (0.050) |
| Constant | 1.388*** | 0.845*** | 0.936*** | 0.139** | -0.280+ | -0.107+ |
| | (0.069) | (0.145) | (0.110) | (0.049) | (0.149) | (0.065) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.351 | 0.353 | 0.355 | 0.127 | 0.128 | 0.130 |

Standard errors clustered at News-Event province dyad in parentheses.

$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

**Table A.12.** Major Factions in the 15th - 18th Party Congress

| Name | Major Factions | Name | Major Factions |
|---|---|---|---|
| **15th Congress** : | Shanghai Clique vs. Youth League | **17th Congress**: | Youth League vs. Shanghai Clique |
| Jiang Zemin | Shanghai Clique | Hu Jintao | Youth League |
| Li Peng | | Wu Bangguo | Shanghai Clique |
| Zhu Rongji | Shanghai Clique | Wen Jiabao | |
| Li Ruihuan | Youth League | Jia Qinglin | Shanghai Clique |
| Hu Jintao | Youth League | Li Changchun | Shanghai Clique |
| Wei Jianxing | | Xi Jinping | (Princeling) |
| Li Lanqing | Shanghai Clique | Li Keqiang | Youth League |
| | | He Guoqiang | |
| | | Zhou Yongkang | Shanghai Clique |
| **16th Congress**: | Shanghai Clique vs. Youth League | **18th Congress**: | Princeling vs. Youth League |
| Hu Jintao | Youth League | Xi Jinping | Princeling |
| Wu Bangguo | Shanghai Clique | Li Keqiang | Youth League |
| Wen Jiabao | | Zhang Dejiang | Princeling |
| Jia Qinglin | Shanghai Clique | Yu Zhengsheng | Princeling |
| Zeng Qinghong | Shanghai Clique | Liu Yunshan | Youth League |
| Huang Ju | Shanghai Clique | Wang Qishan | Princeling |
| Wu Guanzheng | Shanghai Clique | Zhang Gaoli | (Shanghai Clique) |
| Li Changchun | Shanghai Clique | | |
| Luo Gan | | | |

**Table A.13.** Alternative Definitions of Factions (No faction as single faction)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| Patron Power (News) | 0.483*** | 0.726*** | 0.797*** | -0.035 | 0.050 | 0.060 |
| | (0.135) | (0.160) | (0.173) | (0.070) | (0.072) | (0.043) |
| Patron Power (Event) | -0.088 | -0.149 | -0.204 | 0.066 | -0.071 | -0.149 |
| | (0.111) | (0.166) | (0.186) | (0.105) | (0.198) | (0.215) |
| PS-GN Same Faction (News) | -0.319+ | -0.136 | -0.096 | -0.574* | -0.510* | -0.512* |
| | (0.168) | (0.160) | (0.148) | (0.260) | (0.234) | (0.228) |
| PS-GN Same Faction (Event) | -0.138+ | -0.140 | -0.143+ | -0.071 | -0.096 | -0.099 |
| | (0.078) | (0.086) | (0.086) | (0.067) | (0.074) | (0.075) |
| Age Gap | -0.008 | -0.009 | -0.008 | -0.003 | -0.003 | -0.002 |
| | (0.010) | (0.010) | (0.010) | (0.005) | (0.005) | (0.005) |
| Years in Office Gap | -0.089*** | -0.089*** | -0.089*** | 0.006 | 0.006 | 0.007 |
| | (0.015) | (0.015) | (0.015) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | -0.041 | | | 0.221 | |
| | | (0.167) | | | (0.254) | |
| News=1 and Event=0 | | -0.540** | | | -0.039 | |
| | | (0.169) | | | (0.137) | |
| News=1 and Event=1 | | -0.423* | | | 0.008 | |
| | | (0.178) | | | (0.221) | |
| Single Faction Ties (News) | | | -0.402** | | | -0.150* |
| | | | (0.147) | | | (0.076) |
| Multiple Faction Ties (News) | | | -0.631** | | | -0.143 |
| | | | (0.218) | | | (0.141) |
| Single Faction Ties (Event) | | | 0.053 | | | 0.140 |
| | | | (0.126) | | | (0.173) |
| Multiple Faction Ties (Event) | | | 0.104 | | | 0.224 |
| | | | (0.162) | | | (0.222) |
| Constant | 1.444*** | 1.635*** | 1.581*** | 0.241** | 0.201 | 0.252* |
| | (0.090) | (0.130) | (0.112) | (0.087) | (0.139) | (0.113) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.350 | 0.350 | 0.350 | 0.127 | 0.127 | 0.127 |

Robust standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

**Table A.14.** Alternative Definitions of Factions (No faction as one united faction)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| Patron Power (News) | 0.484*** | 0.725*** | 0.795*** | -0.042 | 0.052 | 0.053 |
| | (0.136) | (0.161) | (0.174) | (0.071) | (0.071) | (0.041) |
| Patron Power (Event) | -0.067 | -0.156 | -0.244 | 0.139 | 0.055 | 0.018 |
| | (0.111) | (0.166) | (0.187) | (0.124) | (0.154) | (0.135) |
| PS-GN Same Faction (News) | -0.385* | -0.228 | -0.187 | -0.511* | -0.445* | -0.450* |
| | (0.160) | (0.154) | (0.142) | (0.232) | (0.205) | (0.199) |
| PS-GN Same Faction (Event) | -0.181* | -0.189* | -0.197* | -0.094 | -0.106 | -0.109 |
| | (0.076) | (0.083) | (0.084) | (0.070) | (0.078) | (0.080) |
| Age Gap | -0.008 | -0.008 | -0.008 | -0.002 | -0.002 | -0.002 |
| | (0.010) | (0.010) | (0.010) | (0.005) | (0.005) | (0.005) |
| Years in Office Gap | -0.089*** | -0.088*** | -0.089*** | 0.006 | 0.006 | 0.006 |
| | (0.015) | (0.015) | (0.015) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | -0.016 | | | 0.169 | |
| | | (0.168) | | | (0.225) | |
| News=1 and Event=0 | | -0.515** | | | -0.059 | |
| | | (0.170) | | | (0.143) | |
| News=1 and Event=1 | | -0.372* | | | -0.067 | |
| | | (0.179) | | | (0.201) | |
| Single Faction Ties (News) | | | -0.386** | | | -0.173* |
| | | | (0.147) | | | (0.083) |
| Multiple Faction Ties (News) | | | -0.595** | | | -0.150 |
| | | | (0.224) | | | (0.148) |
| Single Faction Ties (Event) | | | 0.086 | | | 0.083 |
| | | | (0.127) | | | (0.142) |
| Multiple Faction Ties (Event) | | | 0.168 | | | 0.119 |
| | | | (0.165) | | | (0.164) |
| Constant | 1.463*** | 1.637*** | 1.582*** | 0.226** | 0.207 | 0.260* |
| | (0.091) | (0.131) | (0.112) | (0.084) | (0.141) | (0.115) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.350 | 0.351 | 0.351 | 0.127 | 0.127 | 0.127 |

Robust standard errors in parentheses

$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

**Table A.15.** President's Power and Interprovincial News Reports on Corruption Cases

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| President Power | -5.932*** | -5.862*** | -5.888*** | -0.104 | -0.274** | -0.237* |
| | (0.399) | (0.406) | (0.409) | (0.083) | (0.100) | (0.100) |
| Patron Power for PS (News) | 1.186*** | 1.204*** | 1.211*** | 0.216*** | 0.033 | 0.236** |
| | (0.215) | (0.213) | (0.216) | (0.059) | (0.079) | (0.084) |
| Patron Power for PS (Event) | 0.214 | 0.291+ | 0.126 | -0.023 | -0.066 | -0.151 |
| | (0.166) | (0.167) | (0.167) | (0.051) | (0.058) | (0.097) |
| PS-GN Same Faction (News) | 0.231* | 0.238* | 0.236* | -0.069* | -0.150*** | -0.128*** |
| | (0.104) | (0.108) | (0.109) | (0.028) | (0.037) | (0.033) |
| PS-GN Same Faction (Event) | 0.126 | 0.160 | 0.138 | 0.068 | 0.053 | 0.048 |
| | (0.095) | (0.101) | (0.105) | (0.068) | (0.066) | (0.064) |
| Age Gap | -0.020* | -0.018+ | -0.016 | -0.006 | -0.009 | -0.013* |
| | (0.010) | (0.010) | (0.010) | (0.006) | (0.006) | (0.007) |
| Years in Office Gap | -0.088*** | -0.087*** | -0.088*** | 0.006 | 0.010 | 0.010 |
| | (0.015) | (0.015) | (0.015) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | -0.182 | | | 0.554+ | |
| | | (0.214) | | | (0.323) | |
| News=1 and Event=0 | | -0.063 | | | 0.952* | |
| | | (0.212) | | | (0.409) | |
| News=1 and Event=1 | | -0.211 | | | 0.919* | |
| | | (0.209) | | | (0.361) | |
| Single Faction Ties (News) | | | -0.035 | | | 0.624*** |
| | | | (0.111) | | | (0.178) |
| Multiple Faction Ties (News) | | | -0.044 | | | 0.288* |
| | | | (0.105) | | | (0.121) |
| Single Faction Ties (Event) | | | -0.254* | | | 0.039 |
| | | | (0.100) | | | (0.065) |
| Multiple Faction Ties (Event) | | | -0.022 | | | 0.164* |
| | | | (0.130) | | | (0.082) |
| Constant | 4.381*** | 4.482*** | 4.453*** | 0.184* | -0.484+ | -0.088 |
| | (0.240) | (0.287) | (0.243) | (0.080) | (0.286) | (0.100) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | No | No | No | No | No | No |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.344 | 0.343 | 0.344 | 0.118 | 0.120 | 0.120 |

Robust standard errors in parentheses

$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

**Table A.16.** Political Cycle and Interprovincial News Reports on Corruption Cases

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| Patron Power for PS (News) | 1.336*** | 1.299*** | 1.274*** | 0.276*** | 0.118 | 0.342*** |
| | (0.261) | (0.259) | (0.259) | (0.069) | (0.074) | (0.088) |
| Patron Power for PS (Event) | 0.321 | 0.344 | 0.144 | -0.043 | -0.061 | -0.112 |
| | (0.215) | (0.211) | (0.205) | (0.068) | (0.071) | (0.105) |
| Year of NPC x Patron Power (News) | -0.760+ | -0.760+ | -0.758+ | -0.241*** | -0.262*** | -0.229*** |
| | (0.419) | (0.418) | (0.419) | (0.063) | (0.067) | (0.062) |
| Year of NPC x Patron Power (Event) | -0.590+ | -0.590+ | -0.579+ | 0.016 | 0.018 | 0.018 |
| | (0.305) | (0.305) | (0.304) | (0.061) | (0.063) | (0.066) |
| PS-GN Same Faction (News) | 0.184+ | 0.167 | 0.163 | -0.091** | -0.169*** | -0.144*** |
| | (0.099) | (0.102) | (0.103) | (0.030) | (0.043) | (0.038) |
| PS-GN Same Faction (Event) | 0.082 | 0.092 | 0.066 | 0.072 | 0.064 | 0.062 |
| | (0.096) | (0.103) | (0.107) | (0.069) | (0.067) | (0.066) |
| Age Gap | -0.017 | -0.017+ | -0.014 | -0.002 | -0.004 | -0.009 |
| | (0.010) | (0.010) | (0.011) | (0.005) | (0.006) | (0.006) |
| Years in Office Gap | -0.092*** | -0.093*** | -0.095*** | 0.005 | 0.007 | 0.008 |
| | (0.016) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | -0.061 | | | 0.490 | |
| | | (0.214) | | | (0.312) | |
| News=1 and Event=0 | | 0.058 | | | 0.892* | |
| | | (0.210) | | | (0.395) | |
| News=1 and Event=1 | | 0.018 | | | 0.817* | |
| | | (0.211) | | | (0.339) | |
| Single Faction Ties (News) | | | 0.058 | | | 0.598*** |
| | | | (0.109) | | | (0.171) |
| Multiple Faction Ties (News) | | | 0.092 | | | 0.214* |
| | | | (0.103) | | | (0.103) |
| Single Faction Ties (Event) | | | -0.161 | | | 0.013 |
| | | | (0.101) | | | (0.066) |
| Multiple Faction Ties (Event) | | | 0.114 | | | 0.089 |
| | | | (0.136) | | | (0.075) |
| Constant | 1.234*** | 1.229*** | 1.185*** | 0.116* | -0.568* | -0.150+ |
| | (0.076) | (0.196) | (0.123) | (0.047) | (0.288) | (0.086) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.353 | 0.353 | 0.353 | 0.126 | 0.128 | 0.129 |

Robust standard errors in parentheses, Year of NCP and Years to NCP are dropped because of year fixed effects.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

**Table A.17.** Media Types and Interprovincial News Report on Corruption Cases

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Party Line Newspaper | | | | | | Commercial Newspaper | | | | | |
| | Corruption News | | | Corruption News/Total News | | | Corruption News | | | Corruption News/Total News | | |
| Patron Power for PS (News) | 0.951*** | 0.892*** | 0.867*** | 2.866** | 2.695** | 4.682*** | 0.194** | 0.216*** | 0.215*** | -4.279 | 0.563 | 1.133 |
| | (0.186) | (0.187) | (0.153) | (0.917) | (0.879) | (0.616) | (0.063) | (0.054) | (0.060) | (9.883) | (8.134) | (7.636) |
| Patron Power for PS (Event) | 0.153 | 0.169 | 0.034 | -0.356 | -0.277 | -0.383 | 0.020 | 0.027 | -0.037 | -1.535 | -2.813 | -0.387 |
| | (0.136) | (0.136) | (0.153) | (0.524) | (0.536) | (0.643) | (0.069) | (0.069) | (0.072) | (7.052) | (6.761) | (8.636) |
| PS-GN Same Faction (News) | 0.181* | 0.155+ | 0.150+ | -0.813 | -0.890+ | -0.745* | 0.011 | 0.021 | 0.020 | -3.867 | -2.065 | -1.916 |
| | (0.078) | (0.082) | (0.077) | (0.505) | (0.520) | (0.327) | (0.044) | (0.045) | (0.048) | (5.723) | (4.997) | (4.984) |
| PS-GN Same Faction (Event) | 0.082 | 0.089 | 0.071 | -0.019 | 0.022 | 0.022 | 0.006 | 0.009 | 0.001 | -2.664 | -3.381 | -2.996 |
| | (0.074) | (0.079) | (0.077) | (0.286) | (0.285) | (0.332) | (0.037) | (0.039) | (0.041) | (3.937) | (4.402) | (4.378) |
| Age Gap | -0.017* | -0.018* | -0.016+ | 0.100* | 0.100* | 0.057 | 0.001 | 0.001 | 0.002 | 0.099 | 0.235 | 0.151 |
| | (0.008) | (0.008) | (0.009) | (0.048) | (0.049) | (0.038) | (0.004) | (0.004) | (0.004) | (0.333) | (0.351) | (0.345) |
| Years in Office Gap | -0.079*** | -0.079*** | -0.081*** | -0.146* | -0.142* | -0.120+ | -0.015* | -0.014* | -0.015* | 0.082 | 0.099 | 0.153 |
| | (0.012) | (0.012) | (0.015) | (0.071) | (0.070) | (0.069) | (0.006) | (0.006) | (0.006) | (0.885) | (0.888) | (0.874) |
| News=0 and Event=1 | | -0.036 | | | 0.104 | | | -0.021 | | | 8.831 | |
| | | (0.165) | | | (0.438) | | | (0.093) | | | (10.165) | |
| News=1 and Event=0 | | 0.112 | | | 0.727 | | | -0.051 | | | -5.793 | |
| | | (0.160) | | | (0.543) | | | (0.094) | | | (6.758) | |
| News=1 and Event=1 | | 0.084 | | | 0.478 | | | -0.064 | | | -4.267 | |
| | | (0.165) | | | (0.402) | | | (0.090) | | | (6.385) | |
| Single Faction Ties (News) | | | 0.102 | | | 1.843*** | | | -0.046 | | | -10.562* |
| | | | (0.094) | | | (0.410) | | | (0.042) | | | (5.147) |
| Multiple Faction Ties (News) | | | 0.138 | | | -1.458*** | | | -0.044 | | | -12.283+ |
| | | | (0.100) | | | (0.432) | | | (0.046) | | | (6.531) |
| Single Faction Ties (Event) | | | -0.110 | | | -0.222 | | | -0.053+ | | | 4.280 |
| | | | (0.094) | | | (0.408) | | | (0.032) | | | (4.548) |
| Multiple Faction Ties (Event) | | | 0.079 | | | -0.043 | | | 0.037 | | | 0.128 |
| | | | (0.100) | | | (0.435) | | | (0.049) | | | (3.537) |
| Constant | 0.954*** | 0.906*** | 0.879*** | 0.543** | 0.120 | 0.881* | 0.279*** | 0.321*** | 0.306*** | 7.709* | 8.767 | 14.647* |
| | (0.056) | (0.148) | (0.098) | (0.194) | (0.408) | (0.448) | (0.031) | (0.088) | (0.051) | (3.330) | (7.542) | (6.547) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 8364 | 8364 | 8364 | 12992 | 12992 | 12992 | 2460 | 2460 | 2460 |
| Adjusted $R^2$ | 0.348 | 0.348 | 0.348 | 0.070 | 0.070 | 0.081 | 0.195 | 0.195 | 0.195 | 0.023 | 0.024 | 0.024 |

Robust standard errors in parentheses

$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

**Table A.18.** Official Ranking of Patrons and Interprovincial News Reports on Corruption Case

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | Corruption News | | | | Corruption News/Total News | | | |
| Total Patron Official Rank (News) | 0.347*** | | | | 0.099*** | | | |
| | (0.070) | | | | (0.028) | | | |
| Total Patron Official Rank (Event) | 0.238*** | | | | -0.041 | | | |
| | (0.069) | | | | (0.047) | | | |
| Average Patron Official Rank (News) | | 1.242*** | | | | 0.113 | | |
| | | (0.187) | | | | (0.132) | | |
| Average Patron Official Rank (Event) | | 0.647*** | | | | -0.056 | | |
| | | (0.148) | | | | (0.115) | | |
| Highest Patron Rank (News) | | | 0.490*** | | | | 0.122+ | |
| | | | (0.100) | | | | (0.066) | |
| Highest Patron Rank (Event) | | | 0.229* | | | | -0.062 | |
| | | | (0.094) | | | | (0.085) | |
| Power Difference (Rank) | | | | 0.055 | | | | 0.072** |
| | | | | (0.043) | | | | (0.027) |
| PS-GN Same Faction (News) | 0.116 | 0.160 | 0.157 | 0.207+ | -0.158*** | -0.122*** | -0.137*** | -0.146*** |
| | (0.102) | (0.105) | (0.105) | (0.108) | (0.041) | (0.034) | (0.037) | (0.040) |
| PS-GN Same Faction (Event) | -0.003 | 0.041 | 0.041 | 0.088 | 0.069 | 0.060 | 0.066 | 0.078 |
| | (0.109) | (0.107) | (0.108) | (0.106) | (0.070) | (0.067) | (0.069) | (0.067) |
| Single Faction Ties (News) | 0.077 | -0.141 | 0.030 | 0.118 | 0.600*** | 0.594** | 0.596*** | 0.604*** |
| | (0.110) | (0.116) | (0.111) | (0.111) | (0.171) | (0.185) | (0.174) | (0.170) |
| Multiple Faction Ties (News) | 0.086 | 0.036 | 0.109 | 0.357** | 0.193+ | 0.258* | 0.221+ | 0.219* |
| | (0.105) | (0.103) | (0.117) | (0.113) | (0.105) | (0.124) | (0.120) | (0.100) |
| Single Faction Ties (Event) | -0.200* | -0.303** | -0.209* | -0.159 | 0.012 | 0.016 | 0.017 | 0.016 |
| | (0.100) | (0.104) | (0.102) | (0.101) | (0.065) | (0.061) | (0.063) | (0.066) |
| Multiple Faction Ties (Event) | -0.109 | -0.082 | -0.027 | 0.163 | 0.095 | 0.073 | 0.094 | 0.124+ |
| | (0.125) | (0.126) | (0.135) | (0.135) | (0.087) | (0.073) | (0.091) | (0.071) |
| Age Gap | -0.016 | -0.020+ | -0.016 | -0.011 | -0.009 | -0.009 | -0.009 | -0.008 |
| | (0.011) | (0.011) | (0.011) | (0.011) | (0.006) | (0.006) | (0.006) | (0.006) |
| Years in Office Gap | -0.094*** | -0.085*** | -0.093*** | -0.093*** | 0.008 | 0.008 | 0.008 | 0.008 |
| | (0.016) | (0.016) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) | (0.011) |
| Constant | 1.178*** | 1.180*** | 1.166*** | 1.133*** | -0.149+ | -0.157+ | -0.157+ | -0.155+ |
| | (0.126) | (0.126) | (0.128) | (0.128) | (0.086) | (0.085) | (0.086) | (0.085) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.353 | 0.355 | 0.352 | 0.352 | 0.129 | 0.129 | 0.129 | 0.129 |

Robust standard errors in parentheses

$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

**Table A.19.** Patron's Power and Interprovincial News Reports on Corruption Cases (Average of Patron Power)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | Corruption News | | | | Corruption News/Total News | | | |
| Average Patron Power for PS (News) | 3.303*** | 3.287*** | 3.161*** | | 1.071*** | 0.705* | 0.789* | |
| | (0.515) | (0.507) | (0.490) | | (0.293) | (0.325) | (0.324) | |
| Average Patron Power for PS (Event) | 0.235 | 0.272 | 0.073 | | -0.167 | -0.221 | -0.240 | |
| | (0.364) | (0.360) | (0.352) | | (0.219) | (0.238) | (0.260) | |
| Average Power Difference | | | | 1.544*** | | | | 0.516* |
| | | | | (0.291) | | | | (0.204) |
| PS-GN Same Faction (News) | 0.246* | 0.242* | 0.216* | 0.219* | -0.081** | -0.166*** | -0.122*** | -0.120*** |
| | (0.106) | (0.109) | (0.108) | (0.108) | (0.028) | (0.042) | (0.034) | (0.034) |
| PS-GN Same Faction (Event) | 0.109 | 0.116 | 0.075 | 0.077 | 0.074 | 0.062 | 0.058 | 0.058 |
| | (0.093) | (0.102) | (0.108) | (0.108) | (0.068) | (0.065) | (0.064) | (0.064) |
| Age Gap | -0.022* | -0.022* | -0.017 | -0.011 | -0.004 | -0.005 | -0.010+ | -0.008 |
| | (0.010) | (0.010) | (0.011) | (0.011) | (0.005) | (0.005) | (0.006) | (0.006) |
| Years in Office Gap | -0.086*** | -0.086*** | -0.090*** | -0.093*** | 0.007 | 0.007 | 0.009 | 0.008 |
| | (0.015) | (0.015) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | -0.046 | | | | 0.496 | | |
| | | (0.214) | | | | (0.316) | | |
| News=1 and Event=0 | | -0.005 | | | | 0.854* | | |
| | | (0.210) | | | | (0.397) | | |
| News=1 and Event=1 | | -0.029 | | | | 0.787* | | |
| | | (0.212) | | | | (0.345) | | |
| Single Faction Ties (News) | | | -0.071 | 0.026 | | | 0.572** | 0.586*** |
| | | | (0.110) | (0.111) | | | (0.176) | (0.172) |
| Multiple Faction Ties (News) | | | 0.093 | 0.254* | | | 0.232* | 0.250* |
| | | | (0.103) | (0.109) | | | (0.111) | (0.105) |
| Single Faction Ties (Event) | | | -0.165 | -0.067 | | | 0.021 | 0.036 |
| | | | (0.102) | (0.102) | | | (0.066) | (0.066) |
| Multiple Faction Ties (Event) | | | 0.106 | 0.267+ | | | 0.081 | 0.107+ |
| | | | (0.133) | (0.140) | | | (0.071) | (0.063) |
| Constant | 1.225*** | 1.249*** | 1.197*** | 1.133*** | 0.099* | -0.565+ | -0.155+ | -0.163+ |
| | (0.073) | (0.196) | (0.125) | (0.128) | (0.050) | (0.289) | (0.086) | (0.084) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.354 | 0.354 | 0.354 | 0.353 | 0.127 | 0.129 | 0.129 | 0.129 |

Robust standard errors in parentheses

$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

**Table A.20.** Patron's Power and Interprovincial News Reports on Corruption Cases (Log of Patron Power)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| Patron Power (News Log) | 0.074*** | 0.074*** | 0.069*** | 0.013** | -0.008 | 0.013 |
| | (0.012) | (0.013) | (0.013) | (0.004) | (0.008) | (0.008) |
| Patron Power (Event Log) | 0.047** | 0.061*** | 0.054*** | -0.001 | -0.002 | -0.007 |
| | (0.014) | (0.014) | (0.013) | (0.005) | (0.004) | (0.008) |
| PS-GN Same Faction (News) | 0.149 | 0.149 | 0.144 | -0.089** | -0.144*** | -0.135*** |
| | (0.101) | (0.103) | (0.103) | (0.032) | (0.038) | (0.036) |
| PS-GN Same Faction (Event) | -0.017 | 0.015 | 0.009 | 0.070 | 0.064 | 0.066 |
| | (0.105) | (0.108) | (0.110) | (0.067) | (0.067) | (0.066) |
| Age Gap | -0.019+ | -0.018+ | -0.016 | -0.002 | -0.004 | -0.009 |
| | (0.010) | (0.010) | (0.011) | (0.005) | (0.006) | (0.006) |
| Years in Office Gap | -0.091*** | -0.089*** | -0.091*** | 0.006 | 0.006 | 0.008 |
| | (0.015) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | -0.250 | | | 0.486 | |
| | | (0.207) | | | (0.311) | |
| News=1 and Event=0 | | -0.003 | | | 0.923* | |
| | | (0.219) | | | (0.407) | |
| News=1 and Event=1 | | -0.246 | | | 0.846* | |
| | | (0.214) | | | (0.351) | |
| Single Faction Ties (News) | | | -0.022 | | | 0.593*** |
| | | | (0.115) | | | (0.176) |
| Multiple Faction Ties (News) | | | 0.052 | | | 0.226+ |
| | | | (0.127) | | | (0.122) |
| Single Faction Ties (Event) | | | -0.282** | | | 0.019 |
| | | | (0.101) | | | (0.061) |
| Multiple Faction Ties (Event) | | | -0.165 | | | 0.093 |
| | | | (0.127) | | | (0.081) |
| Constant | 1.056*** | 1.184*** | 1.165*** | 0.102* | -0.563* | -0.157+ |
| | (0.083) | (0.199) | (0.127) | (0.049) | (0.286) | (0.086) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.353 | 0.353 | 0.353 | 0.126 | 0.128 | 0.129 |

Standard errors in parentheses
$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

**Table A.21.** Patron's Power and Interprovincial News Reports on Corruption Cases (Patron Power in News Title)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | Corruption News | | | | Corruption News/Total News | | | |
| Patron Power (News Title) | 1.663*** | 1.645*** | 1.690*** | | 0.190*** | -0.064 | 0.295*** | |
| | (0.294) | (0.295) | (0.301) | | (0.054) | (0.080) | (0.086) | |
| Patron Power (Event Title) | 0.524* | 0.603* | 0.372 | | -0.030 | -0.050 | -0.139 | |
| | (0.257) | (0.256) | (0.245) | | (0.072) | (0.079) | (0.144) | |
| Power Difference (Title) | | | | 0.659*** | | | | 0.223** |
| | | | | (0.174) | | | | (0.082) |
| PS-GN Same Faction (News) | 0.150 | 0.145 | 0.147 | 0.194+ | -0.080** | -0.153*** | -0.137*** | -0.132*** |
| | (0.098) | (0.102) | (0.103) | (0.106) | (0.028) | (0.040) | (0.037) | (0.036) |
| PS-GN Same Faction (Event) | 0.048 | 0.069 | 0.055 | 0.102 | 0.071 | 0.063 | 0.063 | 0.065 |
| | (0.097) | (0.103) | (0.107) | (0.106) | (0.069) | (0.067) | (0.066) | (0.065) |
| Age Gap | -0.018+ | -0.017+ | -0.016 | -0.011 | -0.002 | -0.004 | -0.009 | -0.008 |
| | (0.010) | (0.010) | (0.011) | (0.011) | (0.005) | (0.006) | (0.006) | (0.006) |
| Years in Office Gap | -0.094*** | -0.094*** | -0.095*** | -0.093*** | 0.005 | 0.007 | 0.008 | 0.008 |
| | (0.016) | (0.016) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) | (0.011) |
| News=0 and Event=1 | | -0.110 | | | | 0.486 | | |
| | | (0.212) | | | | (0.312) | | |
| News=1 and Event=0 | | 0.016 | | | | 0.907* | | |
| | | (0.211) | | | | (0.397) | | |
| News=1 and Event=1 | | -0.087 | | | | 0.829* | | |
| | | (0.210) | | | | (0.341) | | |
| Single Faction Ties (News) | | | 0.036 | 0.089 | | | 0.599*** | 0.603*** |
| | | | (0.109) | (0.111) | | | (0.171) | (0.170) |
| Multiple Faction Ties (News) | | | -0.005 | 0.246* | | | 0.216* | 0.233* |
| | | | (0.106) | (0.111) | | | (0.104) | (0.101) |
| Single Faction Ties (Event) | | | -0.182+ | -0.129 | | | 0.013 | 0.017 |
| | | | (0.101) | (0.101) | | | (0.066) | (0.066) |
| Multiple Faction Ties (Event) | | | 0.023 | 0.274+ | | | 0.092 | 0.112 |
| | | | (0.133) | (0.144) | | | (0.082) | (0.069) |
| Constant | 1.162*** | 1.215*** | 1.195*** | 1.133*** | 0.117* | -0.567* | -0.152+ | -0.157+ |
| | (0.080) | (0.197) | (0.124) | (0.128) | (0.047) | (0.288) | (0.086) | (0.085) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.354 | 0.353 | 0.354 | 0.352 | 0.126 | 0.128 | 0.129 | 0.129 |

Robust standard errors in parentheses

$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

**Table A.22.** Patron's Network Power and Interprovincial News Reports on Corruption Case

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Corruption News | | | Corruption News/Total News | | |
| Total Patron Network Power (News) | 0.027*** | | | 0.011*** | | |
| | (0.006) | | | (0.003) | | |
| Total Patron Network Power (Event) | 0.024*** | | | -0.004 | | |
| | (0.007) | | | (0.004) | | |
| Average Patron Network Power (News) | | 0.062*** | | | -0.002 | |
| | | (0.010) | | | (0.009) | |
| Average Patron Network Power (Event) | | 0.043*** | | | -0.004 | |
| | | (0.012) | | | (0.005) | |
| Network Power Difference | | | 0.002 | | | 0.007** |
| | | | (0.004) | | | (0.002) |
| PS-GN Same Faction (News) | 0.128 | 0.173+ | 0.219* | -0.162*** | -0.113*** | -0.147*** |
| | (0.103) | (0.105) | (0.108) | (0.041) | (0.032) | (0.039) |
| PS-GN Same Faction (Event) | -0.015 | 0.035 | 0.076 | 0.068 | 0.059 | 0.080 |
| | (0.116) | (0.110) | (0.110) | (0.069) | (0.065) | (0.066) |
| Single Faction Ties (News) | 0.042 | -0.116 | 0.122 | 0.589*** | 0.624** | 0.597*** |
| | (0.112) | (0.123) | (0.114) | (0.170) | (0.192) | (0.170) |
| Multiple Faction Ties (News) | 0.135 | 0.199+ | 0.393** | 0.196+ | 0.291* | 0.224* |
| | (0.118) | (0.115) | (0.125) | (0.103) | (0.119) | (0.102) |
| Single Faction Ties (Event) | -0.243* | -0.337*** | -0.163 | 0.014 | 0.015 | 0.023 |
| | (0.101) | (0.100) | (0.101) | (0.066) | (0.067) | (0.066) |
| Multiple Faction Ties (Event) | -0.131 | -0.035 | 0.127 | 0.090 | 0.068 | 0.125+ |
| | (0.120) | (0.122) | (0.129) | (0.085) | (0.066) | (0.070) |
| Age Gap | -0.012 | -0.010 | -0.011 | -0.009 | -0.008 | -0.008 |
| | (0.011) | (0.011) | (0.011) | (0.006) | (0.006) | (0.006) |
| Years in Office Gap | -0.095*** | -0.090*** | -0.093*** | 0.009 | 0.007 | 0.009 |
| | (0.016) | (0.016) | (0.016) | (0.011) | (0.011) | (0.011) |
| Constant | 1.184*** | 1.166*** | 1.133*** | -0.150+ | -0.159+ | -0.158+ |
| | (0.125) | (0.127) | (0.128) | (0.086) | (0.086) | (0.085) |
| News-Event Province Dyad FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 12992 | 12992 | 12992 | 9380 | 9380 | 9380 |
| Adjusted $R^2$ | 0.353 | 0.353 | 0.351 | 0.129 | 0.129 | 0.129 |

Standard errors in parentheses
$^{+}$ $p < 0.10$, $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$

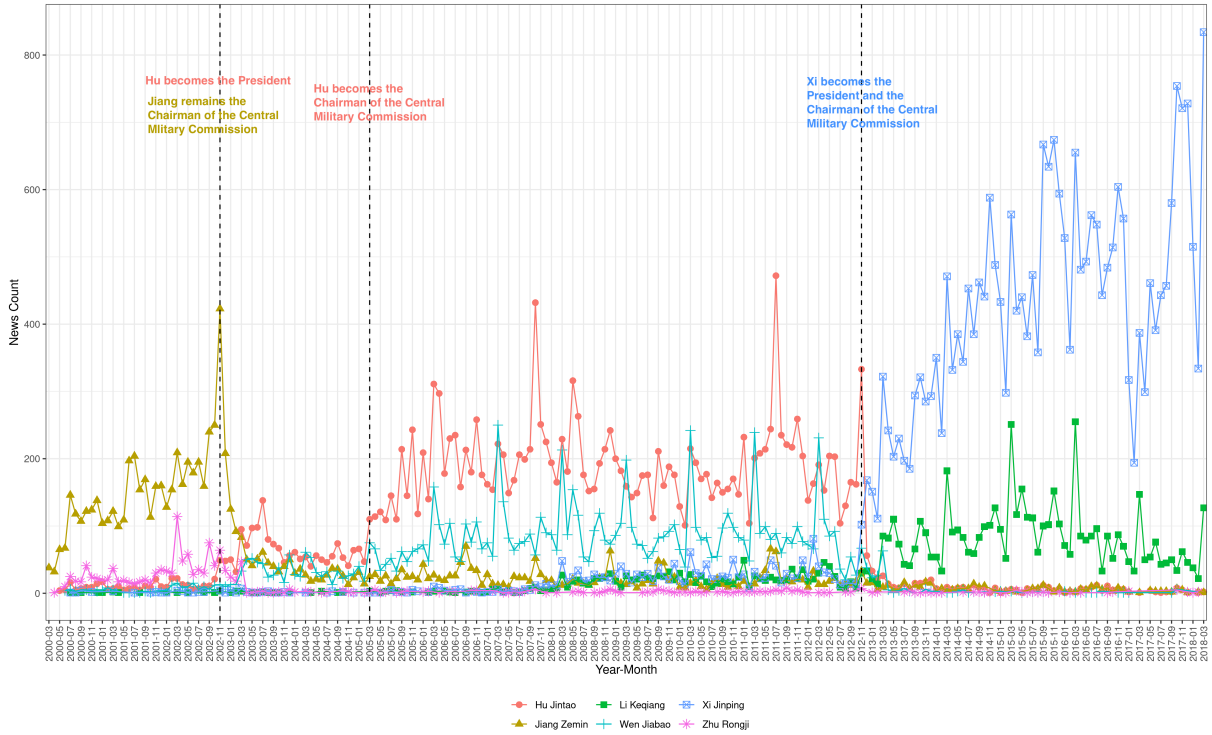



**Figure A.1.** Monthly News Reports on Presidents and Premiers

### Validation of Power Measure

Here we discuss the trends in our power measures shown in Figure A.1 vis-a-vis the common observations made by the scholars and observers of Chinese politics. First, when the leadership transferred from Jiang Zemin and Zhu Rongji to Hu Jintao and Wen Jiabao, Jiang did not hand over all powers to Hu and maintained his position as the Chairman of the Central Military Commission. Many analysts interpreted this as a phenomenon of power balancing and Jiang maintaining a significant share of power. Our power measure reflects this well, showing that the major media coverage of Hu, Jiang, and Wen are comparable to one another in the first few years when Jiang held the responsibility of the military authority. In the second term of Hu and Wen, this pattern disappeared. Second and relatedly, Hu's near disappearance after the succession in 2012 shows the features of power transition at the time. Unlike Jiang, Hu did not maintain any official position after serving two terms as a president and played nearly zero influence on central politics, which is well-captured in our power measure. Additionally, we collect more data and draw the political influence measure for Xi Jinping and Li Keqiang until recent periods. Scholars and observers have stated an unprecedented and increasing power imbalance between the two top leaders, in contrast to the relative power balance between Hu and Wen in the previous leadership. Some observers note that the recent concentration of political power on Xi was comparable to the period of Mao Zedong. Our power measure corresponds well with such observations. Soon after the succession, both Xi and Li's news coverage increased. Nonetheless, whereas the coverage of Li remains at a similar level to Wen's, the coverage of Xi has increased exponentially, resulting in a large gap between Xi and Li. Especially after the second term began, the disparity between the two top leaders enlarged further.

### Selection Process of Corruption Investigation Reporting in Local Media

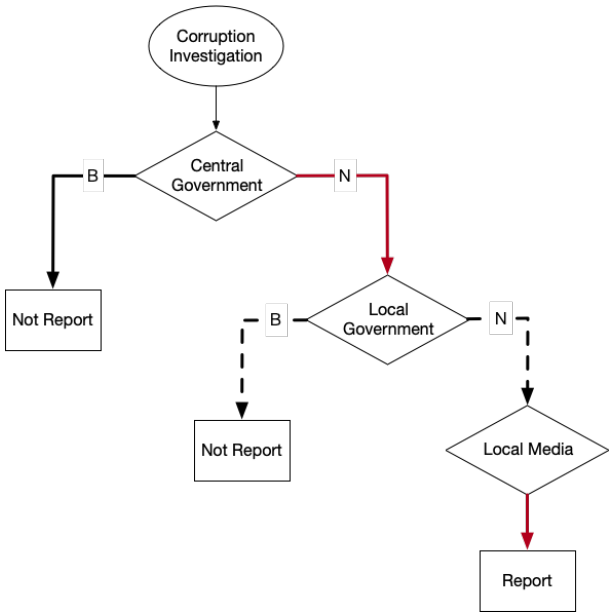



**Figure A.2.** News Selection Process of Local Media

Note: Both the central and local government can **B**an local media from reporting specific corruption investigation. Only when the governments do **N**ot issue such orders, local media would cover the corruption investigations.

• Publicizing the anti-corruption achievements of local officials is relevant to the central government's agenda to improve local governance and social justice. Therefore, the central government does not have an incentive to ban all news reporting on corruption investigations. However, over-reporting may also harm the legitimacy of the regime as local governance is also under the responsibility of the central government.
• Corruption investigations are usually announced by the central or local discipline inspection department with full consideration of the social impact. If the central or provincial government decides not to publicize certain cases, those cases will not be announced. The media cannot report unannounced cases.
• Because the anti-corruption news has a high news value, local media are willing to report to maximize their political and economic benefits.
• Since the central government does not directly control which corruption case will be more widely publicized in local media, the extent to which corruption incidents are reported is largely and collectively decided by local media.

The logic explained above is supported by data. If the central government controls the news reports on corruption investigations, we would expect to observe a little variance in the number of reports in local media. Our data show significant variance in the number of news articles across provinces covering corruption investigations in a certain province. The mean variance of article numbers reporting the same event province per year is 21, with a maximum of 1177.6, a minimum of 0 in our data. This high variance reflects the different incentives of local media and potentially local government officials. To elaborate an example of such variance, we identify the largest number of news reporting, which is reports from Guangdong (news province) on corruption investigations in Chongqing (event province): 161 articles in 2009. Meanwhile, many other provinces including Tianjin, Hebei, Shanxi, Yunnan, and Henan, did not report any article on corruption in Chongqing during the same period. At the time, the

party secretary of Chongqing was Bo Xilai, one of the leading figures among Princelings, and the party secretary of Guangdong was Wang Yang, a member of Youth League faction.

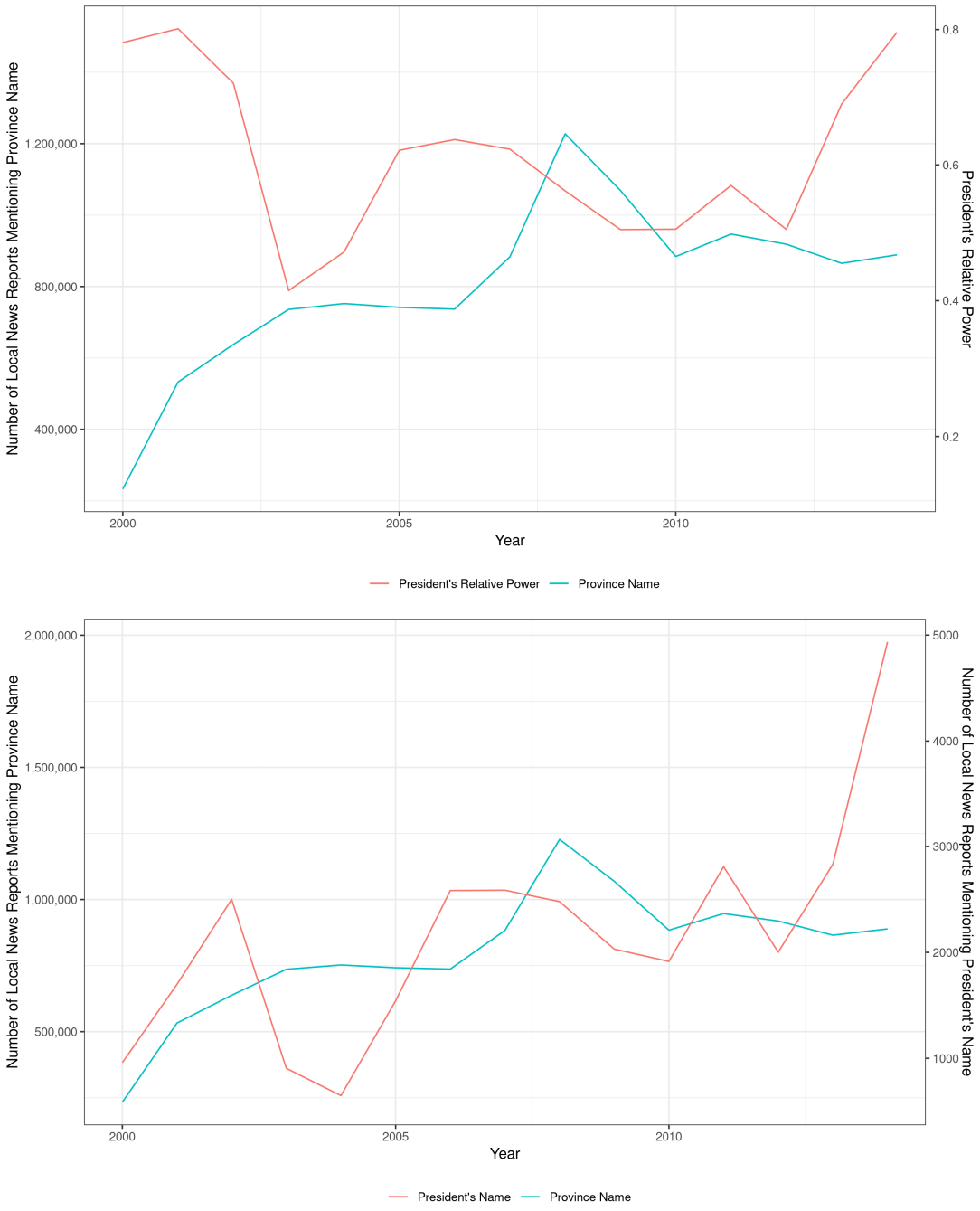



**Figure A.3.** President's power and local news on other provinces and the President

**Table A.23.** List of Weibo Accounts

| Screen Name | User ID | Screen Name | User ID |
|---|---|---|---|
| **Pro-Regime Opinion Leader** | | | |
| 赵立坚个人微博 | 7286955267 | 子午侠士 | 5067914848 |
| 胡锡进 | 1989660417 | 上帝之鹰_5zn | 1647486362 |
| 沈逸 | 1157864602 | 乌合麒麟 | 1566936885 |
| 孤烟暮蝉 | 2150758415 | 兔主席 | 1221171697 |
| 地瓜熊老六 | 3939426052 | 赛雷三分钟 | 5996241771 |
| **National Commercial Media** | | | |
| 澎湃新闻 | 5044281310 | 封面新闻 | 1496814565 |
| 每日经济新闻 | 1649173367 | 封面西洋镜 | 5710586189 |
| 红星新闻 | 6105713761 | 头条新闻 | 1618051664 |
| 沸点视频 | 5145725878 | 大米Video | 2481441215 |
| 荔枝新闻 | 1796087453 | 海客新闻 | 7360594450 |
| 新浪财经 | 1638782947 | 南方周末 | 1639498782 |
| 财经网 | 1642088277 | 南方都市报 | 1644489953 |
| 凤凰网 | 2615417307 | 新京报 | 1644114654 |
| 新浪新闻 | 2028810631 | 紧急呼叫 | 1951123110 |
| 梨视频 | 6004281123 | 新京报我们视频 | 6124642021 |
| **National Official Media** | | | |
| 人民日报 | 2803301701 | 中新视频 | 2769885021 |
| 人民网 | 2286908003 | 环球资讯 | 1656831930 |
| 人民日报海外版-海外网 | 3057540037 | 观察者网 | 1887344341 |
| 新华社 | 1699432410 | 观察者网微丢视频 | 2596119483 |
| 新华网 | 2810373291 | 中国新闻周刊 | 1642512402 |
| 央视新闻 | 2656274875 | 财新网 | 1663937380 |
| 央视网 | 3266943013 | 中国青年报 | 1726918143 |
| 央视网快看 | 1977460817 | 检察日报 | 3183107112 |
| 央视财经 | 2258727970 | 人民公安报 | 5140353001 |
| 央视频 | 7211561239 | 中国气象科普 | 3194920592 |
| 环球时报 | 1974576991 | 科技日报 | 3515639462 |
| 环球网 | 1686546714 | 人民网评 | 7452068877 |
| 中国新闻网 | 1784473157 | 玉渊谭天 | 7040797671 |
| 侠客岛 | 5476386628 | | |
| **National Government** | | | |
| 中国警方在线 | 2328516855 | 最高人民法院 | 3908755088 |
| 共青团中央 | 3937348351 | 中国地震台网速报 | 1904228041 |
| 中国长安网 | 5617030362 | 中国警察网 | 1859428970 |
| 中国消防 | 3549916270 | 中国妇女报 | 2606218210 |
| 中国反邪教 | 1590753120 | 中青报-温暖的BaoBao | 2056394313 |
| 中国禁毒在线 | 5703799536 | 正义网 | 1896650227 |
| 中国气象局 | 2117508734 | 人民法院报 | 3268047813 |
| 最高人民检察院 | 5053469079 | 交通发布 | 3928511449 |
| 中国交通 | 7073634525 | 全国妇联女性之声 | 2738546443 |
| 国资小新 | 2752396553 | 公安部刑侦局 | 5031100920 |
| 战略安全与军控在线 | 5594165638 | 国家反诈中心 | 7548696560 |
| 公安部交通管理局 | 2501519087 | 牛弹琴 | 1277071452 |
| 应急管理部 | 5342220662 | 长安街知事 | 1697601814 |
| 中国历史研究院 | 7060281712 | 青蜂侠Bee | 5347795977 |
| 健康中国 | 2834480301 | 市说新语 | 6535805862 |
| **Regional Commercial Media** | | | |
| 钱江晚报 | 1700720163 | 都市快报 | 1847582585 |
| 极目新闻 | 1720962692 | 我苏特稿 | 7474091977 |
| 成都商报 | 1700648435 | 时间视频 | 6250824982 |
| **Regional Official Media** | | | |
| 广州日报 | 1887790981 | 湖北日报 | 2827102952 |
| 北京日报 | 1893892941 | 湖南日报 | 2618638282 |
| 四川观察 | 3203137375 | 吉林日报 | 3242792887 |
| 陕视新闻 | 3229962754 | 新华日报 | 3881380517 |
| 解放日报 | 3114175427 | 江西日报 | 1991123083 |
| 天津日报 | 3546332963 | 辽宁日报 | 2093606665 |

**Table A.23.** List of Weibo Accounts

| Screen Name | User ID | Screen Name | User ID |
|---|---|---|---|
| 重庆日报 | 2271051770 | 内蒙古日报 | 3919603060 |
| 安徽日报 | 3120845115 | 青海日报 | 5592771266 |
| 福建日报 | 3365993480 | 大众日报 | 5396094153 |
| 甘肃日报 | 5384625531 | 山西日报 | 3901624042 |
| 南方日报 | 1682207150 | 陕西日报 | 3204836204 |
| 贵州日报官微 | 5167503212 | 四川日报 | 3167104922 |
| 海南日报 | 3204782330 | 西藏日报 | 6897939130 |
| 河北日报 | 1623340585 | 新疆日报 | 2308711425 |
| 河南日报 | 3288875501 | 云南日报 | 3198471403 |
| 黑龙江日报 | 2815663917 | 浙江日报 | 1708763410 |
| **Regional Government** | | | |
| 河北新闻网 | 2698146894 | 重庆发布 | 1988438334 |
| 山西发布 | 2726922721 | 四川共青团 | 1718699234 |
| 辽宁发布 | 5537781788 | 江苏共青团 | 2710077380 |
| 吉林发布 | 3229450293 | 青春山东 | 2630570525 |
| 黑龙江发布 | 3950759014 | 浙江团省委 | 3142846247 |
| 微博江苏 | 2784361770 | 安徽团省委 | 7532796319 |
| 浙江发布 | 5131766197 | 广州共青团 | 2081933265 |
| 安徽发布 | 3011694992 | 三秦青年 | 2241948204 |
| 福建发布 | 5033508400 | 河南共青团 | 1982753487 |
| 江西发布 | 3687019147 | 青春上海 | 1964619957 |
| 山东发布 | 2993099575 | 青春北京 | 2590506090 |
| 精彩河南 | 3655703714 | 甘肃共青团 | 2633651743 |
| 湖北发布 | 2607972104 | 青春江西 | 2757691921 |
| 这里是湖南 | 7307826391 | 云南共青团 | 1761616742 |
| 广东发布 | 2775872784 | 青年湖南 | 2178873290 |
| 四川发布 | 1905843503 | 青春湖北 | 2321615032 |
| 这里是贵州 | 6979067213 | 辽宁共青团 | 2079751412 |
| 云南发布 | 1662558237 | 黑龙江共青团 | 2645654357 |
| 陕西发布 | 3097688767 | 广西共青团 | 2540201414 |
| 甘肃发布 | 1937187173 | 津彩青春 | 3074181393 |
| 青海发布 | 2782520515 | 共青团福建省委 | 2730549204 |
| 活力内蒙古 | 2270636837 | 河北共青团 | 2427989561 |
| 广西日报 | 3514732862 | 山西共青团 | 2489596935 |
| 西藏发布 | 2620622835 | 重庆共青团 | 2355658474 |
| 宁夏日报 | 3675657612 | 贵州共青团 | 2707274307 |
| 新疆发布 | 2541592687 | 内蒙古团委 | 2442273073 |
| 北京发布 | 2418724427 | 吉林共青团 | 2762892110 |
| 天津发布 | 2489610225 | 宁夏共青团 | 2723708584 |
| 上海发布 | 2539961154 | 海南共青团 | 1929676450 |
| 西藏共青团 | 3045822553 | | |
| **Foreign Embassy** | | | |
| 美国驻华大使馆 | 1743951792 | 印度驻华大使馆 | 2261322181 |
| 俄罗斯卫星通讯社 | 2181597154 | 韩国驻华大使馆 | 2394895404 |
| 今日俄罗斯RT | 6244553417 | 日本国驻华大使馆 | 1938487875 |
| 欧盟在中国 | 1974271741 | 塞尔维亚驻华大使馆 | 7414294062 |
| 英国驻华使馆 | 1663026093 | 巴基斯坦在北京 | 7512012640 |
| 法国驻华大使馆 | 1987630007 | 加拿大大使馆官方微博 | 2165090317 |
| 德国驻华大使馆 | 2209621235 | 古巴驻华大使馆 | 3213889125 |
| 乌克兰信使 | 5235562548 | 伊朗驻华大使馆 | 2312751365 |
| 澳大利亚驻华使领馆 | 1918101143 | 以色列驻华使馆 | 2297867557 |
| 土耳其驻华大使馆 | 6430733485 | | |

**Table A.24.** Performance Metrics for Text Classification

| | Precision | Recall | F1 Score |
|---|---|---|---|
| Supportive | 0.66 | 0.79 | 0.72 |
| Neutral | 0.76 | 0.68 | 0.72 |
| Critical | 0.60 | 0.53 | 0.56 |

**Table A.25.** The Overall Chilling Effect - Use All Comments

| | Number of All Comments on | |
|---|---|---|
| | National Affairs (Log) | Local Affairs (Log) |
| (Intercept) | $1.651^{***}$ | $1.810^{***}$ |
| | (0.047) | (0.022) |
| IP Location Displayed | $-0.023$ | $-0.068^{**}$ |
| | (0.069) | (0.030) |
| Time | 0.010 | $0.008^{**}$ |
| | (0.008) | (0.004) |
| Time Since Treatment | $-0.017^{*}$ | $-0.016^{***}$ |
| | (0.009) | (0.004) |
| $R^2$ | 0.000 | 0.001 |
| Adj. $R^2$ | 0.000 | 0.001 |
| Num. obs. | 13680 | 67141 |
| RMSE | 1.831 | 1.793 |

$^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$

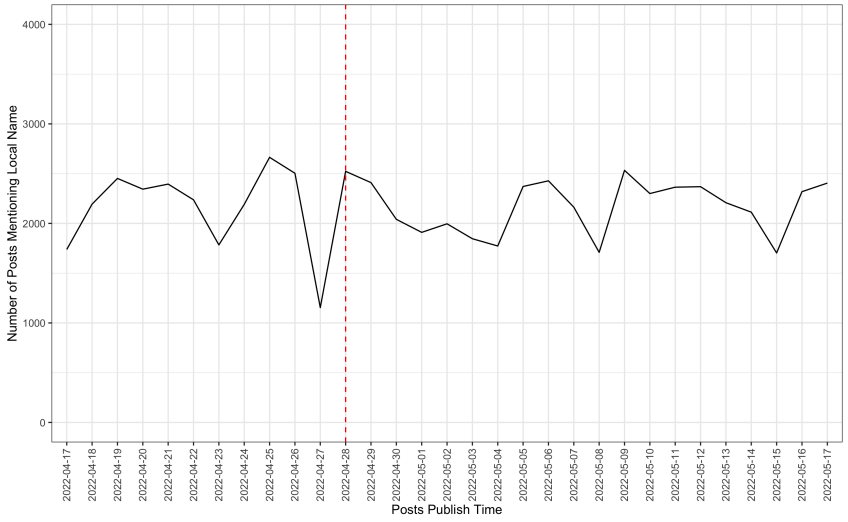



**Figure A.4.** Number of Posts Mentioning Location Names

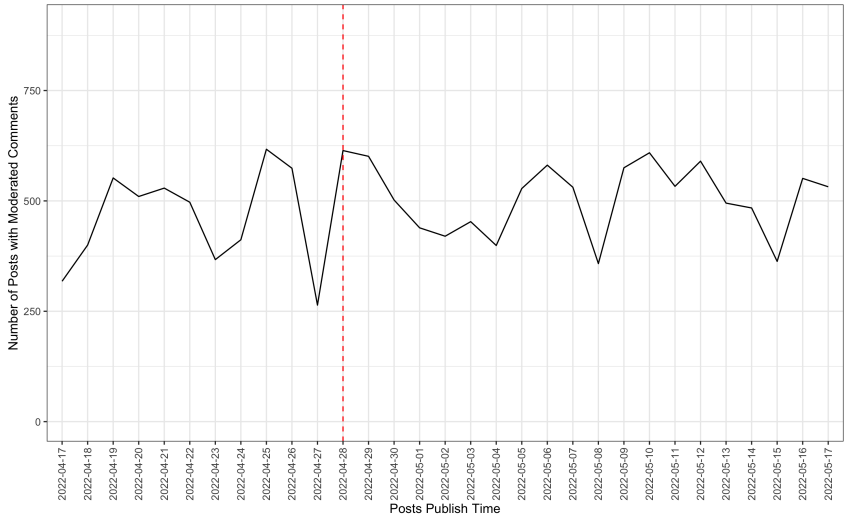



**Figure A.5.** Number of Posts Apply Comment Control

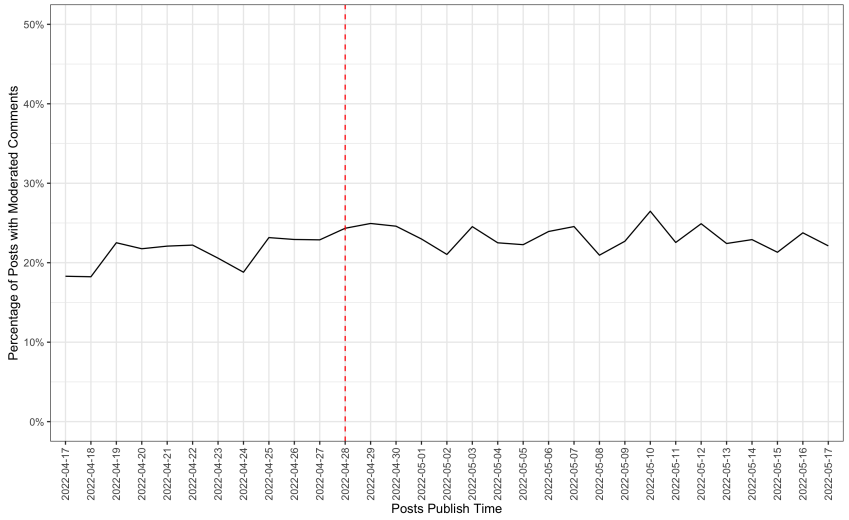



**Figure A.6.** Proportion of Posts Apply Comment Control