

How Chinese Officials Use the Internet to Construct their Public Image

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Abstract

The Chinese regime has launched a number of online government transparency initiatives to increase publicly available information about the activities of lower level governments. By analyzing online content produced by local government to fulfill these transparency requirements—a random sample of 1.92 million county-level government web pages—this paper shows how websites are commandeered by local-level officials to construct their public image. The majority of government website content emphasizes either the competence or benevolence of county executives, depending on where leaders are in the political tenure cycle. Early tenure county executives project an image of benevolence by emphasizing their attentiveness and concern toward citizens. Late tenure executives project an image of competence by highlighting their achievements. These findings shift the nature of debates over the role of the Internet in authoritarian regimes from a focus on regime-society interactions to dynamics among regime insiders. By focusing on communication and the flow of information between upper-level leaders and lower-level regime agents, this paper reveals how the Internet amplifies the voice of entrenched, local elites.

1 Introduction

Over the past decade, China has launched a number of online government transparency initiatives aimed at improving publicly available information about the activities of lower-tier officials. These initiatives have been praised as innovations that leverage the power of the Internet to improve governance and transparency (Horsley, 2007; Jiang and Xu, 2009; United Nations, 2012). Senior leaders within the Chinese Communist Party (CCP) and government regulations have described these efforts as ways to ensure “hard-working and honest government.” (Seifert and Chung, 2009, 14).

This paper shows that China’s Internet-based government transparency initiatives are commandeered by local-level officials to boost their public image. Through automated text analysis of 1.92 million county government web pages as well as close reading of website content, this study analyzes the information produced by local governments to fulfill transparency requirements. These data allow us to measure the activities and preferences of local officials and show that although the content of county-level government¹ websites matches the topics mandated by central authorities, websites serve as a channel for self-promotion by local agents, to convey the flattering details of their desired public image in line with local political incentives. The majority of content emphasizes either the benevolence or competence of county executives, depending on where leaders are in the political tenure cycle. Early tenure county executives project an image of benevolence by emphasizing their attentiveness and concern toward citizens. Late tenure executives project an image of competence by highlighting their achievements.

The central theoretical contribution of these findings is to expand the nature of debates over the role of the Internet on the politics of authoritarian regimes. Currently, debates focus on whether the Internet alters power dynamics between the regime and society—whether the Internet empowers citizens or reinforces dictatorial control (Earl and Kimport, 2011; Ferdinand, 2000; Howard et al., 2011; Kalathil and Boas, 2010; Lotan et al., 2011; MacKinnon, 2012; Morozov, 2012; Pariser, 2011).² This paper systematically studies

¹For more on China’s administrative hierarchy and structure, see Section 3.

²Some argue that the Internet disrupts the ability of authoritarian regimes to control information, and ultimately to maintain political power because any individual can act as a broadcaster, oversight of dictato-

how the Internet affects political dynamics *within* an authoritarian regime—how the Internet changes communication and the flow of information between central leaders and lower-level regime agents.

The results of this study suggest a different logic of how the Internet interacts with authoritarian polities. Instead of either strengthening authoritarian control over society or empowering dissident actors, the Internet amplifies the voice of entrenched, *local* elites. Information is crucial to the survival and durability of authoritarian regimes (Dimitrov, 2014*c,b,a*; Egorov, Guriev and Sonin, 2009; Lorentzen, 2013; Tullock, 1987; Wintrobe, 1998). Information is needed to select loyal and competent lower-level regime agents. Information is necessary to monitor the performance of these agents in implementing the autocrat's policies. However, information needed for selection and monitoring is scarce. The Internet provides a new channel of information about subordinates, but rather than providing objective information about regime agents, this paper shows that the Internet serves as a channel for self-promotion reflective of the political incentives of lower-level elites, which may not align with the goals of central autocrats or societal actors.

These results also reveal some functional convergence across regime types in the use of mass media by political elites. The use of mass media to bolster public support is a strategy well-developed in democracies (Iyengar and McGrady, 2007). Elected politicians make appeals to the public via mass media to exert pressure on other politicians by enlisting constituent support (Kernell, 2006). Elected politicians engage in public credit claiming to secure reelection (Eulau and Karps, 1977; Fiorina, 1989; Grimmer and King, 2011; Grimmer, Messing and Westwood, 2012; Mayhew, 1974; Yiannakis, 1982). While the incentives and rationale for online image building among officials in authoritarian regimes differ substantially from the incentives facing democratically elected politicians,

rial leaders increases (Diamond, 2010) and coordination of collective action against authoritarian regimes becomes easier (Edmond, 2013). However, others refute this perspective by arguing that most authoritarian regimes with relevant levels of Internet penetration are using new technologies to expand control over societal actors. There has been a great deal of discussion and debate of the role of social media platforms such as Facebook, Twitter, and YouTube in The Arab Spring as well as the role of Internet-based platforms in facilitating anti-regime demonstrations from Iran to Russia (Aday et al., 2012; Axford, 2011; Bellin, 2012; Hassanpour, 2014; Stepanova, 2011; Van Niekerk, Pillay and Maharaj, 2011; Weber, 2011; Wilson and Dunn, 2011). While Internet platforms seem to have played a role in coordinating protests that are already underway and in garnering international attention, existing empirical evidence has not demonstrated any causal effect of these technologies on regime change and democratization.

the use of the Internet by local Chinese officials to build their public image bears striking similarity to the media behavior of elected politicians.

The paper proceed in four main sections. Section 2 provides background on China's online transparency initiatives, including the central regime's aim in introducing these initiatives, the incentives and process of implementation, as well as demand for information on government websites. Section 3 describes the process and challenges of collecting large quantities of data from government web sites in China. Section 4 analyzes the content of government web pages, showing how websites contain the topics mandated by central authorities but also trumpet the competence and benevolence of leaders. Section 5 shows a close relationship between the political tenure of county executives and website content. Section 6 concludes by discussing the implication of the findings.

2 Online Government Transparency in China

Since 1999, the central regime has promulgated three sets of regulations that require local levels of government to make information publicly available on the Internet. A goal of these initiatives is to improve oversight of local agents—the central regime gains information about the performance of local agents when agents make their activities public and when Internet users can validate this information. Human and organizational resources have been increasingly devoted to these online government projects; however, local officials retain a great deal of autonomy in how they implement these regulations, including determining the exact content of information that is disseminated as well as the extent to which the general public can provide oversight.

Three government transparency initiatives: The Government Online Project, 政府上网工程 (GOP), was launched in early 1999 through a joint effort of over 40 government agencies as well as the National People's Congress, the Chinese People's Political Consultative Conference, and China Telecom. The GOP encouraged government bureaus to make documents, archives, and databases available online to businesses and the general public.

In 2002, the State Council, China's highest administrative authority, issued Decree No. 17, "Guiding Suggestions on Constructing China's E-Government" 《关于我国电子政务建设指导意见》 (GSCCE). The regulation states: "To satisfy society's cry for administrative information, we should design an information resource directory system and construct basic information databases for population, corporation units, natural resources, and macroeconomic indicators, etc."³ The GSCCE asks government agencies at all levels to "accelerate the pace of making administrative information known to the public" and requires every level of government to create its own web site and promote transparent governance (政务公开).

In April 2007, the State Council promulgated the "Open Government Information" Ordinance 《中华人民共和国政府信息公开条例》 (OGI). OGI delineates specific types of information that local governments must make public. These include plans, activities, and outcomes in a large number of areas: administrative documents, economic development plans, statistical reports, financial budgets and accounts, administrative fees and licensing, procurement projects, information on construction, land appropriation, housing demolition, use of charitable funds, policies and outcomes related to poverty alleviation, education, health care, social security, and employment, emergency plans, and information on environmental protection, as well as food, drug, and product safety. Aside from activities of the repressive apparatus, such as public security and incarceration, OGI mandated transparency across nearly all other arenas of local government responsibility.

Central Regime Objectives: An objective common to all three information openness initiatives is improving oversight of lower-level regime agents. The GOP aimed to reduce local corruption by using the Internet to increase information dissemination (Chen et al., 2006; Ma, Chung and Thorson, 2005). The GSCCE emphasized the need for government transparency, and in describing the GSCCE, Seifert and Chung (2009) note that "transparency is important to the leaders only when it strengthens the state's capacity to maintain its monopoly on power. To that end, the central government wants local govern-

³For text of original document, see <http://www.jincao.com/fa/08/law08.s08.htm> (Accessed March 20, 2016).

ments to post more information online.” Article 1 of OGI states that the regulations are intended to “enhance transparency of the work of government” and “promote administration in accordance with the law.”⁴

Online transparency initiatives help monitor local agents of the regime because they require these agents to make their activities public and transparency initiatives allow the public to validate agents’ claims. Comments by China’s leaders also highlight the monitoring function of these initiatives. Then premier Zhu Rongji said in 2002 that as a result of initiatives including GSCCE, “government’s supervisory work will be more meticulous and efficient” (People’s Daily, 2002). In a speech to business and government leaders, the executive vice minister of the State Council leading group for inter-ministry coordination on issues of information and communication technology, Qu Weizhi, described how information initiatives help “raise the level of a hardworking and honest government and to strengthen the macro control” (Seifert and Chung, 2009). Zhang Qiong, Vice Minister of the State Council’s Office of Legislative Affairs described OGI as promoting the public’s “right to supervise” in order to “help curb corruption at its source, largely reducing its occurrence” (Horsley, 2007, 2).

Implementation Incentives and Autonomy: Each successive transparency initiative increased in its specificity and strength of enforcement. The GOP did not set timelines for compliance or specify consequences for noncompliance, and it gave local implementers complete discretion over what information was to be made public. The GSCCE was a stronger piece of regulation in that it mandated the creation of government websites and the GSCCE was also more specific than the GOP in what information had to be made public. Finally, the OGI contained the greatest degree of specificity, delineating a wide array of information categories that must be made publicly available, and the OGI provided stronger enforcement mechanisms. The OGI set a deadline for implementation (roughly a year after the policy was announced), mandated the creation of new department “responsible for the daily work of open government information,” and specified consequences for

⁴For original text and English translation, see <http://1.usa.gov/1R9IO8s> (Accessed January 7, 2016).

failure to implement. According to OGI, localities are required to make annual reports of their work on information openness to upper levels, and upper levels were tasked with monitoring implementation. Failure to fulfill information obligations, failure to update information in a timely manner, and the exchange of information for fees or payment could result in administrative as well as criminal penalties.

Financial resources were not allocated by the central government to support the implementation of any of these transparency initiatives. As is often the case with unfunded central mandates (Shue and Wong, 2007), local governments are expected to reallocate their fiscal budgets to implement the new regulations. Since localities have a number of competing policy priorities, when regulations (e.g., GOP) are suggestive, a few localities may implement the program to use as a point of differentiation, but most localities would not reallocate budgets for implementation.

When regulations increased in strength and specificity, incentives for compliance among officials increased, and implementation became widespread. However, those charged with policy implementation have a great deal of leeway in *how* to implement. In other words, virtually all governments at the county level and above have websites in compliance with GSCCE, and all local governments now share a wide array of information per OGI, but whether implementation fulfills the spirit of these regulations, to improve objective information and monitoring of local agent performance, remains in question. Corruption and other forms of rent seeking not sanctioned by central authorities is thought to be pervasive among lower-level officials in China (Lü, 2000). As a result, full transparency of their activities may not be desirable for many lower level officials.

OGI assigned lead responsibility for implementation to the general offices of local governments at the county level and above. Interviews with county-level administrators and examination of leaked internal government documents⁵ show that the general office of the government executive (政府办公室) leads implementation of OGI, as stipulated by the regulations. County-level administrators interviewed state that the county executive is ultimately responsible for ensuring the smooth implementation of information openness measures. As a result, between the two top leaders of each county—the county party

⁵See <https://xiaolan.me/50-cent-party-jxgzgzg.html>.

secretary and the county executive, the county executive holds primary responsibility for determining the direction and content of county government websites. The county party secretary can no doubt exert influence over the content of local websites, but in most localities, the county party secretary is not responsible for setting the agenda or providing regular oversight on local website content, and may have fewer incentives for intervening in website content (see Section 5 for details). When new county executives take office, the content of websites is reviewed and often refreshed. In some cases, an entirely new website is created for the new administration.

At the county level, the new department tasked with carrying out OGI tasks is often called the Information Management Office.⁶ This office manages day to day maintenance of government websites, including upkeep of servers, management of the codebase, and updating of web pages.⁷ In some counties, the information office is part of the online propaganda office of the local propaganda department.

Although OGI specifies categories of information that must be made public, it does not provide templates or guidelines on how those information requirements must be met. For example, counties must make economic development plans public, but OGI does not specify whether those economic development plans must contain quantitative targets. As a result, a general description of a locality's economic development trajectory would satisfy the requirement. Likewise, OGI requires that financial budgets and accounts are made public, but does not specify the level of detail that this data should contain, and a high-level, financial report with a few, aggregated numbers would satisfy this requirement. As a consequence, local regime agents, including county executives, have a great deal of autonomy in how they implement OGI.

To sum up, as transparency regulations increased in their strength and specificity, incentives for local officials to implement increased, as did actual implementation. However, local officials had a great deal of leeway in how to fulfill transparency requirements,

⁶Information Management Office is in Chinese 信息管理办公室. Other names for this office include Online Information Management Office (网络信息管理办公室) and E-Government Management Office (电子政务管理办公室).

⁷OGI does not require that information be made available exclusively via government websites, only that local governments “make it convenient for citizens, legal persons and other organizations to obtain government information.”

and, where local malfeasance is present, local officials have incentives not provide full access to information about their activities.

Demand for Government Information: The monitoring function of information openness programs depends not only on local officials' willingness to make information public, it also depends on the ability of the general public to dispute the information that is provided by local officials in a way that is visible to upper level superiors.

Public demand for information from government websites is strong. In 2009, 43% of Internet users reported visiting government web sites at least once a month, and 26% occasionally (CNNIC, 2010). The majority of government websites provide a online forums for the general public to ask questions as well as provide feedback and suggestions. Approximately 80% of county level government websites contain a public forum where Internet users can post questions and comments (Chen, Pan and Xu, 2016), and among the most heavily trafficked social media sites in China, a large number are government run (King, Pan and Roberts, 2014).

However, the ability of Internet users to dispute information provided by local officials is limited. In their review of over 2,000 Chinese county-government web forums, Chen, Pan and Xu (2016) find that less than 5% of forums allow content to be posted instantaneously. Instead, after citizens submit a post, the content is manually reviewed, likely by someone in the Information Management Office, before it appears online. (King, Pan and Roberts, 2014) show that certain types of content, for example those discussing collective action, never pass through review and are never publicly posted. In addition, the large amounts of information posted on these forums increases the difficulty of monitoring. As a result, when information provided by localities is disputed by local residents, this contestation may not be visible to upper level superiors.

3 Data

In this section, the process and challenges of collecting large quantities of data from a diverse array of government web sites in China are described, and limitations are discussed.

The unit of analysis is the county. China's is administered through a hierarchical single-party structure. At the top are central-level CCP and government authorities, and below the center are, in order from top to bottom: the provincial level, prefectural (city) level, county (district) level, and township level. This study focuses on the county-level, including counties in rural areas and districts in urban regions. County-level government hold primary responsibility for policy implementation and for allocating fiscal expenditures. However, the county is several steps removed from central-authorities, and there is typically substantial variation among counties in implementation of central measures.

3.1 Website content

First, we identify county government websites through automated search, which included the name of the county, the name of the prefecture to which the county belongs, as well as the words "government website" in Chinese. We collected the top 10 search results of each search term, and human coders evaluated each result to identify the county government website.⁸

We identified county government websites for 2,796 (97%) of China's 2,876 county-level (*xian*) administrative units.⁹ Figure 1 is a map of Chinese provinces based on county website availability. Western and northern provinces tend to have a greater number of counties without government websites. The 80 counties without websites appeared in 20 provinces, but were primarily concentrated in Tibet, where 31 of its 74 counties did not have websites. In most cases where the county website was unavailable, the higher-level prefecture government did host a publicly available website. This data shows that the vast majority of county government have set up websites as required by central-level transparency regulations.

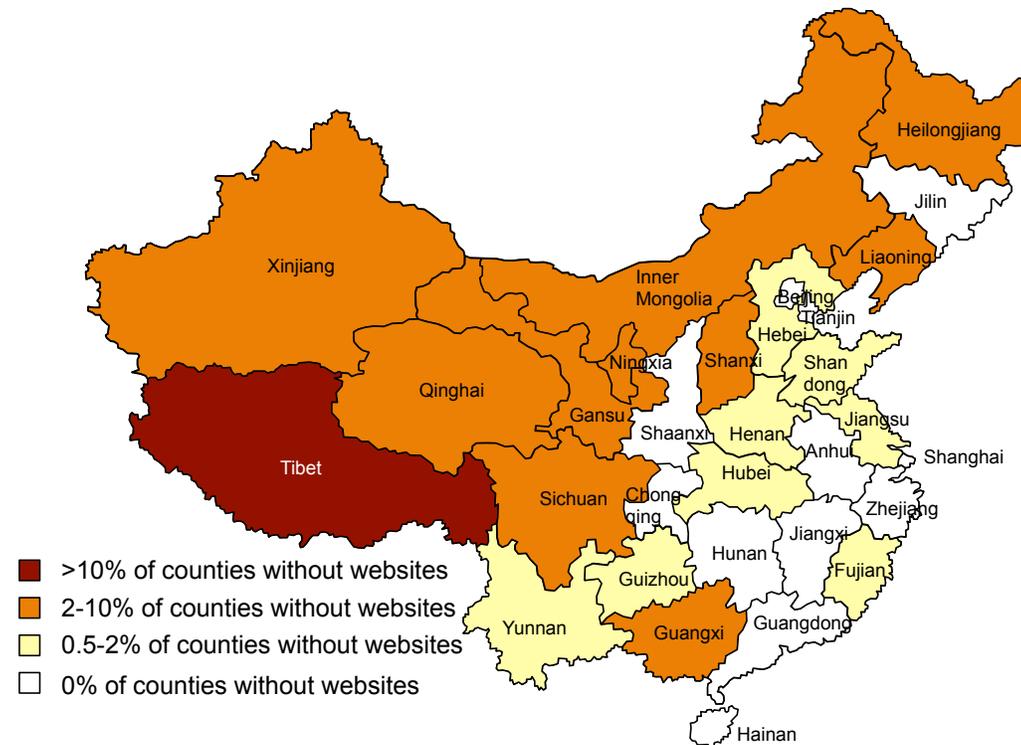
From the full set of counties, we selected a random sample of 100 counties for more extensive data collection. These 100 counties are located in 29 of China's 31 provinces.¹⁰

⁸The county government website refers to the website of the county government administration. Websites of county-level bureaucracies such as the county department of health or county department of agriculture were not included in this analysis.

⁹The 3% of counties where websites were not found via automated search were hand checked using Google.com and Baidu.com, China's primary search engine, to verify that websites did not exist.

¹⁰The two provinces not represented in the 100 counties are Hainan and Qinghai.

Figure 1: County Government Website Availability by Province



Sixty-one are county-level cities (*xianji shi*) or county-level counties (*xian*), and 39 are county-level districts (*qu*). Thirty-four counties are located in West China, 31 in Central China, and 35 in East China (see Supplementary Online Appendix for names of selected counties).¹¹

All web pages were collected from the websites of each of these 100 counties. A full site map of the government website was generated by using an automated algorithm that started at the government website home page URL and followed all links to internal web pages.¹² This yielded a total of 1,927,412 links, representing a total of 1,469,715 government web pages.¹³ The number of web pages ranged from 18 to 129,646 for the sampled county government websites. Only counties with more than 100 web pages containing Chinese-language content are included, resulting in 71 counties. Some counties have web pages in border regions contained other language such as Nuosu, Mongolian, and Korean.

¹¹Regional designations based on official Chinese government definitions.

¹²Internal web pages are web pages with the same root URL as the home page of website.

¹³The other 457,697 pages led to external websites and are thus excluded from the analysis.

3.2 Limitations

This data, while it may reveal a great deal about how county executives shape the content of local government websites, will miss government actions on other mass media channels including traditional media outlets like government-controlled county newspapers and local government TV stations, as well as social media platforms like Weibo or Wechat.¹⁴

There is a great deal of anecdotal evidence that traditional government-controlled media outlets such as newspapers also provide opportunities for image building among local officials (Qin, Strömberg and Wu, 2015a). However, it is not unreasonable to assume that to the extent these other channels are used by county governments, they would not present a drastically different picture than what is observed through online website content. Qin, Strömberg and Wu (2015b) find that propaganda messages posted by local governments to social media has a strong positive correlation with pro-government media bias in newspapers. In many cases, the content appearing on county government websites are reprints of local newspaper articles, and these stories are in turn reposted and shared on social media. Given the size and fiscal budgets of county-level governments, it would be surprising to see dramatically different content strategies by channel.

4 Using Government Websites to Build Public Image

Two main results based on website content are presented in this section. First, unsupervised methods of automated text analysis are used to determine whether the topics found on county government websites meet the content requirements stipulated by OGI regulations. Second, close reading examines how these topics are discussed, and shows how website content projects the competence and benevolence of local officials.

¹⁴While online government transparency efforts of the 2000s have resulted in near universal adoption of websites by local governments across China, the presence of Chinese government agencies on social media is uneven and fluctuates over time, depending on the popularity of specific social media sites. While 97% of county-level government have websites, only 45% of county-level governments have Weibo accounts, and many of these accounts are not actively updated or managed.

4.1 Meeting Transparency Requirements

To determine whether local website meet the OGI content requirements, web pages are preprocessed and analyzed using a Latent Dirichlet Allocation (LDA) topic model (Blei, Ng and Jordan, 2003). For preprocessing, all non-Chinese characters and alphanumeric characters were removed from the raw web content,¹⁵ and the Chinese text is segmented using a conditional random field model (Chang, Galley and Manning, 2008; Tseng et al., 2005).¹⁶

LDA topic modeling is a method of unsupervised machine learning used to identify topics in text corpora. Using an unsupervised machine learning method in this context reveals topics without imposing prior assumption of whether or not the content of these web pages adhere to OGI requirements. A LDA topic model is appropriate for determining the content of county web pages because the model assumes that each document is drawn from a distribution over topics, and topics are common to the corpus. In the case of government web pages, individual pages (the documents) may comprise a mixture of topics, but government web pages on the whole (the corpus) should share the same set of topics.

Following the notation from Blei, Ng and Jordan (2003), there are K topics, where each topic is assumed to have been drawn from a Dirichlet, $\beta_k \sim \text{Dirichlet}(\eta)$ that defines a distribution over the vocabulary. Given the topics, each document d is drawn from a distribution over topics, $\theta_d \sim \text{Dirichlet}(\alpha)$. For each word i in document d , a topic index $z_{di} \in 1, \dots, K$ is drawn from topic weights $z_{di} \sim \theta_d$ and the observed word w_{id} is drawn from selected topics $w_{di} \sim \beta_{z_{di}}$. The latent structure of the corpus is analyzed by examining the posterior distribution of the topics, topic proportions, and topic assignments conditioned on the documents:

$$p(\mathbf{z}, \boldsymbol{\theta}, \boldsymbol{\beta} | \mathbf{w}, \alpha, \eta) \quad (1)$$

This posterior cannot be computed directly, and we use Variational Bayes optimization

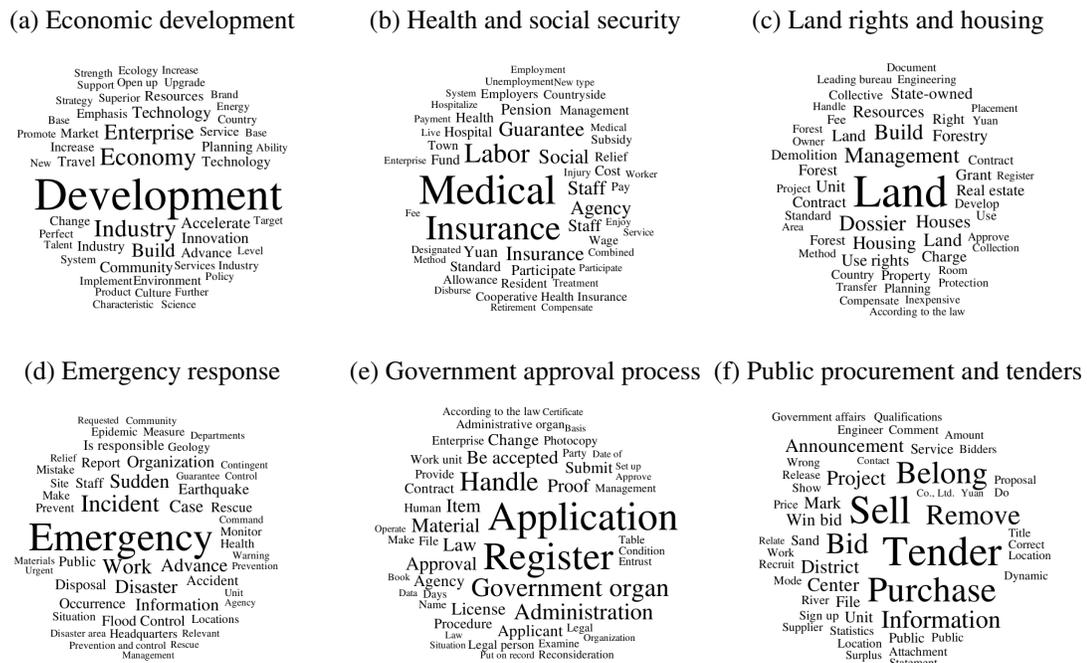
¹⁵Content in languages such as Tibetan and Uyghur are removed.

¹⁶Chinese words can be composed of single or multiple characters, but there are no white-spaces to delineate the boundaries between words. As a result, word segmentation is often the first step in Chinese language processing. Preprocessing tasks for English such as stemming and lowercasing are not applicable for Chinese text.

for LDA to approximate this posterior and in turn analyze the county government web pages (Hoffman, Blei and Bach, 2010). The number of topics in the LDA topic model is determined by the researcher. Four topic models with 25 topics, 50 topics, 75 topics, and 100 topics models were fitted to the web content. The model with 50 topics yielded the most intuitive results and forms the focus of subsequent analysis (Chang et al., 2009).

Based on the most prominent words associated with each topic in the LDA model, a topic label is assigned by human coders. It was possible to assign topic labels to 39 of the

Figure 2: Words from labeled topics



50 topics, while a coherent topic was not easily discernible for the remaining 11 based on examination of the most prominent words. Figure 2 shows the most prominent 50 words, translated to English and sized by their frequency, for six labeled topics.

Table 1 lists the labeled topics alongside the information categories mandated by OGI.¹⁷ LDA topics falling under the category of administrative rules and regulations include those pertaining to government regulations as well as business taxation. Topics that correspond to economic development include agriculture, economic improvements,

¹⁷To increase the speed of computation, the content of a random sample of 1,000 web pages for each county government website was analyzed. For county government websites with fewer than 1000 pages, all pages are included.

Table 1: LDA Topics and OGI Requirements

OGI requirement	LDA topic
Administrative rules and regulations	Business taxation, Regulations and forms
Economic development plans	Agriculture, Development, Economic development, New socialist countryside, Regional development
Statistical information	Government statistics
Budgets and financial accounts	Fiscal administration
Procurement standards	Public procurement and tenders
Administrative licensing	Government approval process
Major construction projects	Construction, development projects and construction projects
Land acquisition and housing demolition	Land rights and housing
Poverty alleviation, education, health care, social security, employment	Education, Health and nutrition, Health and social security, Public employment
Emergency management plans	Emergency response
Environment, product quality and supervision	Controls on food and drug production
Other topics	CCP members and committees, Building civilized publics, Community government organizations, Cultural activities and channels, Family planning, Government committees and leaders, Government openness, Government oversight, Government services, Information openness, Investment information, Local government office, Media, Prosperous government, Student sports competitions, Surnames, Traffic and transportation, Workplace safety, Xinhua news

regional development, and the “New Socialist Countryside”—a program launched under president Hu Jintao and premier Wen Jiabao that sought to modernize agriculture and rural systems. Other topics corresponding to OGI content requirements include government statistics, fiscal administration, public procurement and tenders, government approval processes, construction, land rights and housing, education, health, social security, public employment, emergency response, and controls on food and drug safety.

As Table 1 shows, all of the topics required by OGI are found among county gov-

ernment web pages. In addition, many other topics not explicitly mandated by OGI also appear on government websites. Some examples include content related to information about local officials and bureaucrats, family planning, and workplace safety.

4.2 Projecting Competence and Benevolence

Although the topics mandated by OGI regulations appear across county websites, our unsupervised method of text analysis reveals little about how topics are discussed. Topics from the LDA are assumed to have been drawn from a Dirichlet that defines a distribution over the vocabulary, or word used. As a result, while a topic model can show us that local government websites are using words associated with the topics mandated by OGI, it tells us little about the level of information provided through discussions of these topics or the valence and tone of this content.

Close reading of a random sample of 300 county government web pages reveals three ways in which topics are presented. First, web pages highlight the competence of the county leadership (*competence*), especially when discussing OGI mandated content such as economic development that also represent performance indicators used for evaluation officials for promotion (Edin, 2003; Whiting, 2004). Second, web pages project the benevolence of the county executive (*benevolence*). Finally, web pages do provide objective information on government plans, activities and outcomes, and allow space for citizen complaints (*information & services*).¹⁸

Web pages falling into the *competence* category laud the achievements of the county or county officials in areas evaluated by performance indicators such as economic growth and fiscal revenue. Below are two examples:

“Especially in recent years, the people of the county have unified under the leadership of the county government, which has unswervingly persisted in putting priority on economic construction...county GDP has increased 47-fold since 1978, fiscal income 30-fold, per capita farmer income 31-fold, and resident savings deposits 8720-fold. In provincial lists, the county has moved from 127th place to 81st place in economic strength rankings in the past 2 years.”

¹⁸A small proportion of broken web pages consisted of empty web pages without any content or web pages only containing header and footer links. These are excluded from the analysis.

“Since 2008, industry in our district has not only withstood the huge impact of the global financial crisis, but also maintained fast paced overall growth. Total GDP reached 19 billion in 2010, an increase of 96.9% over the 11th Five Year Plan period...our district has vigorously implemented a strong industrial base development strategy, has optimized industrial structure, and has transformed the mode of economic growth.”

Web pages falling into the *benevolence* category highlight the responsiveness of county officials to local residents in a variety of areas ranging from economic innovation to social welfare to cultural development. These web pages emphasize how local government actions and programs are intended for the benefit of local residents.¹⁹ The following are examples:

“With the concern and support of the county Party and government, the township citizen service center was recently constructed and opened. This center will have service windows for forestry, family planning, civil affairs, and social security...this service center will be a one-stop shop for our farmer friends.”

“On the afternoon of the 15th, county mayor Cao visited Lianhua neighborhood to check on the renovation...Mayor Cao spoke on the side of the road to people who were cooling in the shade, inquiring whether they had any suggestions for renovation work, and where they were not yet satisfied. The people all commended the work...giving thanks from the bottom of their hearts.”

Lastly, web pages falling in the *information & services* category contain two main type of content. The first are texts of laws, regulations, and rules; objective information about the government and its officials such as addresses, phone numbers, and biographies, as well as information about government processes such as procurement.²⁰ The following provide some examples:

“Since the county government has studied and decided to form a committee to lead reconstruction to provide relief following disasters related to animal husbandry, the committee members are as follows: committee lead: Chen (vice county mayor), vice committee lead: He (vice chair of the county political consultative conference)...”

¹⁹If a piece of content highlights achievement against performance indicators and demonstrate attentiveness toward residents, it is placed in the competence category. If a piece of content discusses economic or fiscal topics without indicating performance but highlights benefits for citizens, it falls into the benevolence category.

²⁰Content which discusses economic or social plans and activities without highlighting performance or benefits for society also falls into the *information & services* category.

“Village government building renovation tenders: the winner is Central Sea Construction Co. Ltd. at 153,003 CNY. Second place candidate is Quanli Construction Co. Ltd. at 153,518 CNY. There will be a probationary period of three days. If you have any concerns or issues, please call 0577-XXXXXXX”

The second type of content in the *information & services* category are citizen complaints made via forums on government websites. It is important to note that complaints which appear publicly are heavily censored (see Section 2). Below are some examples of publicly viewable complaints:

“My cousin lives in Shuian Yihe. A few days ago his electric scooter was stolen. Public security sucks!”

“Most honorable county mayor: On the afternoon of March 8, I took my 9 year old niece to the maternal and child health station for her hepatitis B vaccination. I was informed that it was 15 yuan, but I heard the government is now covering the cost of hep B vaccines....then I took her to Wucheng hospital, where they showed me a 17 yuan invoice for the vaccine...afterwards, I called the disease prevention center, and they said it is 13 yuan...My question is: is the hepatitis B vaccine supposed to be free? If not, how much should it cost? You have to give people a reasonable explanation.”

This analysis of website content reveals that while some web pages contain content (*information & services*) that accords with the spirit of government transparency regulations, web pages also trumpet the competence of county leaders by highlighting their achievements and the benevolence of leaders by demonstrating their attentiveness to citizens.

4.3 Prevalence of Public Image Building

It is important to determine the prevalence of self-promotion (competence and benevolence) on government websites as opposed to the presence of objective information and citizen complaints. We systematically examine the relative proportion of web pages engaged in demonstrating *competence*, projecting *benevolence*, and providing *information & services*. We use the Hopkins-King algorithm on Chinese text without translation to estimate the proportion of content county government websites dedicated to each of these categories (Hopkins and King, 2010; King, Pan and Roberts, 2013). The Hopkins-King algorithm estimates category proportions directly, rather than classifying each document

into a category and then tallying category proportion by counting the number of document in each category. This algorithm minimizes biased estimates of category proportion, which may arise even with classifiers that have high rates of correctly classifying individual documents.

The Hopkins-King algorithm is a supervised method of machine learning that relies on human coding of a training set. In our case, rules for categorizing web pages into the three categories—*competence*, *benevolence*, and *information & services*—were developed, and research associates read and manually categorized several hundred randomly selected web pages across counties, reaching 84% inter-coder agreement. These hand-coded web pages form the training set used to estimate the overall proportion of content falling into each of the three categories when all web pages are taken into account.²¹

In the analysis below, the proportion of content dedicated to a particular category is taken as a measure of the relative importance of this category. Taking quantity of certain types of content as a measure of the importance of that type of content is appropriate in this case because users are more likely to arrive at any particular web page through search engine results (e.g., by searching for a particular county and topic on `baidu.com`) rather than from navigating around the site (Ma, 2014).²²

Across all counties, 26% of web pages (25% to 27% 95% confidence intervals) are focused on *competence*, 28% of web pages (27% to 29%) are focused on *benevolence*, and the remaining 46% of web pages (44% to 48%) provide objective *information & services*. In other words, less than half of county-government web pages provide purely objective information or services for citizens.

²¹Information & services were also analyzed as two separate categories—objective information and citizen complaints—but did not change any of the substantive results.

²²We check that proportion serves as an indicator of importance by conducting the same analysis on the subset of web pages within three clicks from the website home page. Web pages close to the home page are more visible and easily accessible if users navigate the website starting at the home page. When the proportion of web pages close to the home page focused on each content category is used as the measure of the importance of each category of content, no substantive changes to the findings are observed.

5 Public Image and Political Tenure

This section examines the relationship between the political tenure of county executives and public image building. We focus on political tenure because previous research has shown it to be a key factor shaping the incentives and behaviors of local Chinese officials (Cai, 2004; Guo, 2007, 2009; Kung and Chen, 2013; O'Brien and Li, 1999). To advance in political office, local officials, including county executives, are evaluated against performance indicators such as GDP growth and societal targets such as ensuring social stability that form China's cadre evaluation system (Edin, 2003; Liu and Tao, 2007; O'Brien and Li, 1999). Local officials often increase spending in their later years of tenure to create visible projects timed to boost their public image before promotion evaluations. O'Brien and Li (1999) find that local governments engage in large-scale building projects known as "political achievement projects" prior to evaluations for promotion. Cai (2004) identifies the same phenomenon, which he calls "image-building projects." In a large-scale analysis of county executives, Guo (2009) finds that the likelihood of promotion peaks in the fifth year of office, and county executives time spending in order to demonstrate visible projects by their fifth year of tenure.

The primary outcome of interest is the political tenure of county executives rather than that of county party secretaries. This is because county executives have direct control of government websites and because county party secretaries have alternative channels of communicating with upper level superiors and thus fewer incentives to intervene in website content. Guo (2009) finds that among county executives who advance to party secretary, the vast majority (86%) become party secretaries of the same county. This means that most county party secretaries were county executives in the same locality, and they were promoted by prefecture-level superiors in the region. As a result, party secretaries are more likely to have stronger relationships with prefecture-level officials than executives in the same county, and more likely to have better informal channels of communicating with these upper level superiors. In addition, county party secretaries are also likely to have greater control over mass media channels than county executives because party secretaries have ultimate authority over local propaganda departments, and

subordinate media channels such as local newspapers and television stations.

5.1 Measuring Tenure

Political tenure is measured in two ways for county executives:²³ 1) by the executive's year in office (*Year in Office*) and 2) by the proximity of the executive to leaving office (*Proximity to Leaving Office*).²⁴ Both measures are created based on the month and year the executive took office as well as the month and year the executive left office using biographical data of county leaders was obtained from baike.baidu.com as well as from county government websites.²⁵

The first measure of political tenure is the county leader's year in office (*Year in Office*). County web content was collected in July 2011, and an individual is considered to be in the first year of office if s/he took office within a year of July 1 2011, in the second year of office if s/he took office between July 1, 2009 and June 30, 2010, in the third year of office if s/he took office between July 1 2008 and June 30, 2009, etc. This measure of tenure compares county leaders by the amount of time they have been in office. County executives among the 100 counties have been in office for one to six years (see Table 2). Similar to results from Guo (2009) based on a panel of nearly 9,000 counties from 1998 to 2002, political promotion is most likely between the fourth and sixth years of office, and peaks in the fifth year of office.²⁶

The second measure of political tenure is the proximity of county leaders to the end of their tenure (*Proximity to Leaving Office*). In other words, rather than examining the number of years the executive has been in office, this second measure examines whether the executive has just taken on the role or whether he is about to leave that role. Since web content was collected in July 2011, individuals are defined as being in the beginning of their tenure if they took office between January and June of 2011.²⁷ County leaders are defined as being at the end of their tenure if they left office between August and December

²³We also gather information on political tenure for county party secretaries, and include this tenure information in the regressions results.

²⁴Leaving office could entail promotion, lateral movement, demotion, or retirement.

²⁵Where information on executives was not available through these sources, online news searches were conducted to complete the biographical profile.

²⁶County leaders in the fifth and sixth years of office are combined in analysis.

²⁷There were no changes in office in July among the counties in the sample.

Table 2: Distribution of Year in office

Years in Office	Stayed in Same Position	Promoted	Retired or Demoted	Number of Counties
1st year	100%	0%	0%	21
2nd year	69%	25%	6%	16
3rd year	59%	24%	17%	17
4th year	25%	50%	25%	8
5th year	0%	83%	17%	6
6th year	0%	67%	33%	3

of 2011. Everyone else is defined as being in the middle of their tenure. Based on this measure of political tenure, 21 county executives were at the beginning of their tenure, 12 were at the end of their tenure, and in the remaining 38 were in the middle of their tenure.

5.2 Descriptive Results

We use the Hopkins-King algorithm to estimate the proportion of county website content focused on demonstrating *competence* and the proportion focused on projecting *benevolence* for county executives by pooling data for executives by *Year in Office* (year 1, year 2, year 3, year 4, and year 5 and above) and by *Proximity to Leaving Office* (beginning of tenure, middle of tenure, end of tenure). We use the Hopkins-King algorithm for estimating category proportions because it minimizes bias and because it is feasible to implement given the relatively small number of groups of pooled data—five groups for year in office, and three groups for proximity to leaving office.²⁸

The public image county executives project on government websites varies over the course of the political tenure cycle. Figure 3 shows that the proportion of web pages focused on projecting competence increases over time and is highest in later years of office. Content focused on competence increases from 12% (7% to 16%)²⁹ among counties where executives are in the first year of office to around 20% in the second to fourth years of office, and finally to 28% (22% 34%) among counties where executives are in the fifth

²⁸In the version of the Hopkins-King algorithm used in this analysis, estimates are improved when based on hand coding of a random sample of documents in each group. When there are large numbers of groups, hand-coding can become very time consuming.

²⁹All intervals are 95% bootstrapped confidence intervals

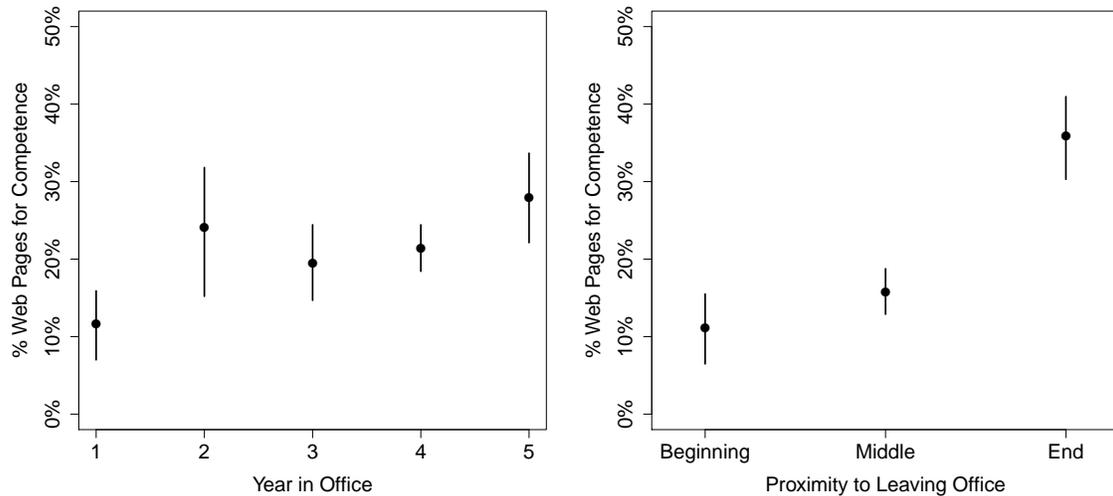


Figure 3: Proportion of web pages with content focused on competence by year in office with 95% bootstrapped confidence intervals (left panel) and by proximity to leaving office, where Beginning refers to executives just starting their term, Middle refers to executives in the middle of their term, and End refers to executives who are within six months of leaving office (right panel). Note that year 5 includes county executives in their fifth and sixth years of office.

and sixth years of office. This pattern also holds when measuring political tenure by proximity to leaving office. Executives who are at the end of their tenure (within six months of leaving office) dedicate 36% (30% to 41%) of government website content to demonstrating competence, whereas executives at the beginning and middle of their tenure dedicate 15% to 20% of website content to these claims.³⁰

When examining the proportion of web pages focused on projecting benevolence, content falling into the benevolence category is highest in the first year of office and declines over time and as the executive moves closer to leaving office (see Figure 4).³¹ Thirty-seven percent (30% to 43%) of website content is focused on benevolence when county executive first take office, while projecting benevolence declines to around 20% in the middle years of office, and to 16% (9% to 21%) in the last months of office.

³⁰The absolute number of web pages focused on projecting competence also corresponds with the percent of executives promoted.

³¹The absolute number of web pages focused on projecting benevolence also declines over political tenure.

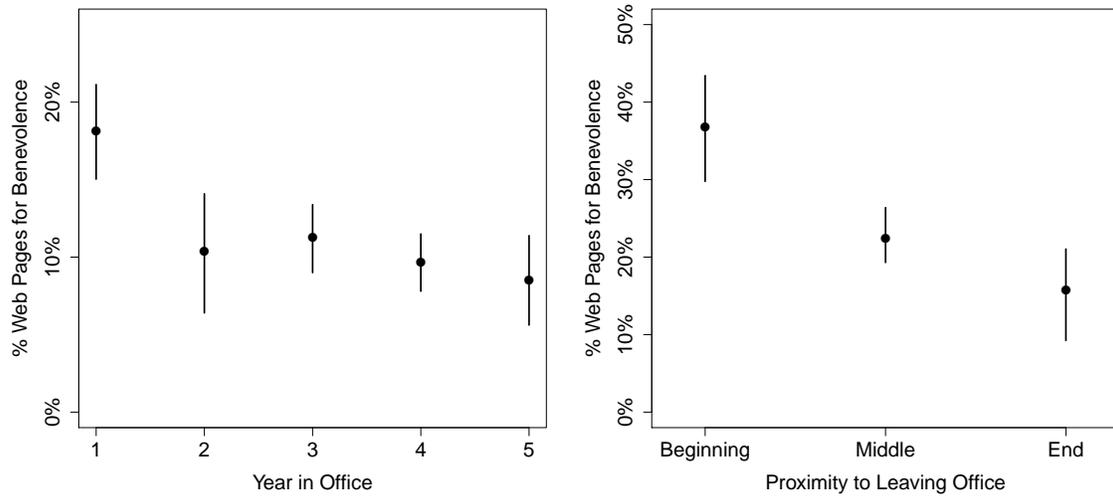


Figure 4: Proportion of web pages falling into the benevolence category by year in office (left panel) and by proximity to leaving office (right panel). 95% bootstrapped confidence intervals shown.

5.3 Predictive Inference

While the previous section provides evidence of a strong correlation between political tenure and public image building, in this section, we examine the predictive effect of tenure on public image building while controlling for potential confounding factors and alternative explanations.

The outcome of interest, the share government websites focused on image building, is the result of information production, which may also be influenced by the availability of human and financial resources, environmental factors such as demand for information, the preferences of the executive’s peers in county government, the preferences upper level superiors, or the ability or other personal characteristics of the county executive. These are plausible factors that may influence the outcome of interest and also affect the political career and tenure cycle of county executives. We regress the web content of each county on political tenure along with a variety of control variables using linear regression.

Quantities of interest: Our outcomes of interest are 1) the proportion of web pages for each county government website dedicated to demonstrating competence and 2) the proportion of web pages focused on projecting benevolence. Support vector machines

(SVM), a supervised method of individual classification (Chang and Lin, 2011), is used to estimate (1) and (2) for each county. The Hopkins-King algorithm is not used because it would entail time intensive hand-coding a large-enough random sample of posts from *each* county so that a sufficient number of posts related to competence, benevolence, and other web content are labeled. SVM is used to classify each web page as *competence*, *benevolence*, or *other* based on the pre-existing hand coded training set used for the analysis in Section 4.3.³² The outcome of interest is then calculated by counting the number of individually classified documents falling into each category for each county. To alleviate the concern that estimating category proportions based on individual classification may result in more bias than direct estimates of proportion obtained from the Hopkins-King algorithm, we aggregate category proportions generated via SVM by *Year in Office* and *Proximity to Leaving Office* and compare these category estimates to those generated from the Hopkins-King algorithm and shown in Section 5.2. We find no statistically significant differences between category proportion estimated via these two methods for any of the tenure groups.

Explanatory variables: The relationship we are interested in evaluating is whether county executive tenure predicts public image building on government websites. Since the results of Section 5.2 show that the incentives generated by political tenure affect web content at the beginning and end of county executive tenure, we create two dummy variables for county tenure. *Beginning Tenure* takes on the value of 1 if the county executive took office between January and June of 2011 (corresponds to “Beginning” in the *Proximity to Leaving Office* variable). *End Tenure* takes on the value of 1 if the county executive left office between August and December of 2011 (corresponds to “End” in the *Proximity to Leaving Office* variable). We measure the outcome using *Proximity to Leaving Office* rather than *Year in Office* because it provides a cleaner signal of tenure.

³²A multiclass SVM that distinguishes between every pair of categories (one-versus-one) is used since our analysis contains more than two categories. For classification, the probability model fits a logistic distribution, and parameters are estimated using maximum likelihood.

Control variables: Variables are included in our regression analysis to address alternative explanations in five main areas: a) resource availability and environmental factors at the county-level, b) preferences of peers, c) preferences of superiors and environmental factors at the prefecture-level, d) ability and other county executive characteristics, and e) county executive incentives.

- a) Resource availability includes the availability of human resources and the availability of resources for information management in the county. We measure general human resources availability with the proportion of the county population over the age of 15 who are illiterate based on the 2010 census (*Illiterate*). Literacy is a basic requirement to working in information management, and counties with high rates of illiteracy are likely to face greater challenges in filling job openings. We measure the availability of resources for information management by the size of the government website, based on the number of working internal pages and external links (*Website Size*). Information on government IT or information management personnel and spending are not available at the county level, except in very rare instances. The size of the county website is an appropriate proxy for information management resources at the county level because large websites require a larger number of people to create content, develop website functionality, and maintain in good working order.³³ Economic development, measured by 2009 per capita GDP (*GDPPC*),³⁴ is used as a proxy for county-level environmental factors influencing online information. Economic development correlates with Internet availability and fluency (CNNIC, 2010), and in turn helps capture demand for government information from individuals and firms. Internet penetration is lower in geographies with lower levels of economic development in China; in those less developed localities, individuals and firms are much less likely to look to the Internet for government information and more likely to obtain information through traditional channels such as in-person visits to government bureaus.

³³At the time of data collection in 2011, none of the county government websites were generated dynamically, e.g., with javascript, so size remains a proxy of human resources.

³⁴County statistical data were obtained from the *Chinese County 2009 Yearbook*, as well as the China Statistical Information Web (www.tjcn.org).

- b) To account for the confounding effect of peer preferences on online content, county party secretary tenure is included. Although county executives have more direct control over website content than county parties secretaries, and executives have greater incentives to intervene in website content (as discussed at the beginning of this section), it is possible for party secretaries to exert influence on web content. Two dummy variables (*PS Beg Tenure* and *PS End Tenure*) are based on the county party secretary's proximity to leaving office, calculated in the same way as tenure for county executives.
- c) Upper-level level superiors may also influence the content of subordinate county government websites. To account for the preferences of superiors, the tenure of the party secretary of the prefecture in charge of the county in question is included as a control variable. *Superior Beg Tenure* and *Superior End Tenure* are both based on the proximity of the prefecture party secretary to leaving office, calculate in the same manner as the county executive and party secretary tenure variables. In addition to the political tenure of the prefecture party secretary, the education level of the prefecture party secretary (*Superior Edu*) and the prefecture GDP per capita (*Prefecture GDPPC*) are also included in the analysis. Both variables represent ways in which prefecture-level incentives and conditions may influence the environment in which county website data is generated. The randomly sampled counties included in our regression analysis come from 62 different prefectures.
- d) There is a broad debate around the role of ability versus incentives in shaping political behavior in China (Li and Zhou, 2005). In the context of government websites, a county executive's ability could also influence what content is shared online. We measure ability using the county executive's level of education (*Edu*).³⁵ We also include the county executive's gender (*Male*) and age (*Age*).
- e) We measure the political incentive of county executives through tenure; however,

³⁵For all measures of education level, 1 refers to education below high school, 2 refers to completion of high school education, 3 refers to completion of technical or vocational college, 4 to completion of a bachelor's degree, and 5 to completion of an advanced degree.

in one regression specification, we also include information on county executive career path. Specifically, the *Promotion* variable takes on the value of 1 if county executives were promoted to county party secretary or high-level prefecture government positions two years (by 2013) after the website content was collected. Note that *Promotion* is “post-treatment” since it is measured after the collection of website content, and it is censored data since some executives who were not promoted in the two years after data collection may advance in subsequent years.

Claims of Competence: Table 3 shows six different specifications of regression estimates where the dependent variable is the proportion of web pages focused on *competence*. Column (1) only includes county executive tenure as independent variables in the regression; column (2) adds county resources and environmental factors; column (3) adds incentives of county party secretaries; column (4) adds the incentives of prefecture party secretary and other prefecture-level characteristics that may influence the data generation process; column (5) adds the county executive’s ability, age, and gender, and column (6) includes the post-treatment variable of whether the county executive was promoted. The unit of analysis is the county, and the number of observations is 71 counties in columns (1), (2), and (3), decreasing to 69 observations for column (4), and finally to 49 observations for columns (5) and (6).³⁶

Across all specifications in Table 3, political tenure of the county executive—specifically, being in the last year of office—is predictive of web content focused on claims of competence. This result is statistically significant at the 0.05 or 0.01 level.³⁷ When a county executive is in the last year of office, an additional 15% or so of website content is on average dedicated to claims of competence.

Examining the other variables, the ability of the county executive also predicts increases in claims of competence (columns 5 and 6 of Table 3). County executives who have completed higher levels of education are more likely to make claims related to their competence.

³⁶For just under 30% of county executives, information on educational attainment could not be found.

³⁷Table 3 shows standard errors in parentheses. When Huber-White robust standard errors are used, the substantive results remain unchanged.

Table 3: Regression Results: Competence

	<i>Dependent variable: Competence</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
Beginning Tenure	0.043 (0.043)	0.038 (0.046)	0.035 (0.047)	0.052 (0.056)	-0.021 (0.057)	-0.028 (0.059)
End Tenure	0.146*** (0.052)	0.144** (0.054)	0.150** (0.059)	0.167*** (0.062)	0.155** (0.069)	0.185** (0.086)
GDPPC		1.0×10^{-8} (6.9×10^{-7})	-5.6×10^{-8} (7.1×10^{-7})	2.5×10^{-7} (8.2×10^{-7})	3.2×10^{-7} (8.1×10^{-7})	2.9×10^{-7} (8.2×10^{-7})
Illiterate		-0.002 (0.004)	-0.002 (0.004)	-0.002 (0.005)	-0.001 (0.004)	-0.001 (0.004)
Website Size		1.8×10^{-7} (4.1×10^{-7})	1.7×10^{-7} (4.1×10^{-7})	1.1×10^{-7} (4.3×10^{-7})	1.3×10^{-7} (4.7×10^{-7})	1.9×10^{-7} (4.8×10^{-7})
PS Beg Tenure			0.036 (0.060)	0.038 (0.063)	0.148** (0.058)	0.141** (0.059)
PS End Tenure			-0.012 (0.047)	0.003 (0.051)	0.042 (0.050)	0.043 (0.050)
Superior Beg Tenure				-0.002 (0.056)	0.080 (0.063)	0.091 (0.067)
Superior End Tenure				0.068 (0.068)	0.114* (0.066)	0.115* (0.067)
Superior Edu				-0.022 (0.024)	-0.051* (0.027)	-0.051* (0.028)
Prefecture GDPPC				-7.7×10^{-7} (9.7×10^{-7})	-1.0×10^{-6} (9.8×10^{-7})	-1.1×10^{-6} (10.0×10^{-7})
Age					-0.005 (0.005)	-0.006 (0.006)
Male					-0.091 (0.096)	-0.095 (0.097)
Edu					0.057** (0.026)	0.059** (0.026)
Promotion						-0.039 (0.066)
Constant	0.161*** (0.025)	0.171*** (0.047)	0.172*** (0.051)	0.245* (0.123)	0.432 (0.271)	0.463 (0.278)
Observations	71	71	71	69	49	49

Note:

*p<0.1; **p<0.05; ***p<0.01

In two out of three specifications, the political tenure of county party secretaries and prefecture party secretary are predictive of claims of competence on county websites (columns 4, 5 and 6 of Table 3). When county party secretaries are in their first year of office and when prefecture party secretaries are in their last year of office, county government websites are also more likely to contain content related to competence. However, these results rest on relatively few observations and are not robust to changes in model specification.³⁸

Resources availability and other environmental factors are not predictive of county website content related to building a public image of competence.

Projecting Benevolence: Table 4 shows the regression estimates where the dependent variable is the proportion of web pages focused on *benevolence* with the same six specifications as the previous set of regression results: column (1) with county executive tenure only, column (2) adding in county resources and environment, column (3) adding peer incentives, column (4) adding prefecture incentives and characteristics, column (5) adding in the county executive’s ability, age, and gender, and column (6) adding in county executive promotion.

In five out of the six specifications in Table 4, columns (2) through (6), political tenure of the county executive—being in the first year of office—is predictive of web content focused on projections of benevolence. This result is statistically significant at the 0.1 or 0.05 level. In the specification where this primary explanatory variable does not cross the significance threshold (column 1), the p-value of the coefficient estimate for being in the first year of office is 0.105. When a county executive is in the first year of office, an additional 10% to 15% of website content is on average dedicated to claims of benevolence.

No other variables are predictive of website content dedicated to benevolence, except *Promotion*. As shown in column (6) of Table 4, being promoted by 2013 is predictive of having had claims of benevolence on county government websites in 2011. As noted

³⁸In most other model specifications (e.g., when website content is regressed on county party secretary tenure alone, regressed on prefecture party secretary tenure alone, or regressed on party secretary or prefecture party secretary tenure with the addition of county environmental variables), neither set of variables are predictive of website content.

Table 4: Regression Results: Benevolence

	<i>Dependent variable: Benevolence</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
Beginning Tenure	0.071 (0.046)	0.092* (0.049)	0.092* (0.050)	0.124** (0.060)	0.141* (0.083)	0.173** (0.081)
End Tenure	-0.003 (0.056)	0.015 (0.058)	0.023 (0.063)	0.025 (0.067)	0.038 (0.099)	-0.097 (0.119)
GDPPC		-7.4×10^{-7} (7.3×10^{-7})	-7.9×10^{-7} (7.6×10^{-7})	-7.7×10^{-7} (8.9×10^{-7})	-1.5×10^{-6} (1.2×10^{-6})	-1.4×10^{-6} (1.1×10^{-6})
Illiterate		0.002 (0.004)	0.002 (0.004)	0.004 (0.005)	0.002 (0.006)	0.003 (0.006)
Website Size		3.3×10^{-7} (4.4×10^{-7})	3.2×10^{-7} (4.4×10^{-7})	3.7×10^{-7} (4.6×10^{-7})	8.8×10^{-7} (6.7×10^{-7})	6.1×10^{-7} (6.6×10^{-7})
PS Beg Tenure			-0.003 (0.064)	-0.027 (0.068)	0.020 (0.083)	0.052 (0.082)
PS End Tenure			-0.017 (0.050)	-0.027 (0.055)	-0.008 (0.072)	-0.014 (0.069)
Superiors Beg Tenure				0.069 (0.060)	0.063 (0.091)	0.013 (0.092)
Superior End Tenure				0.0002 (0.074)	-0.025 (0.096)	-0.030 (0.092)
Superior Edu				0.014 (0.026)	-0.014 (0.039)	-0.011 (0.038)
Prefecture GDPPC				3.1×10^{-7} (1.0×10^{-6})	-1.2×10^{-7} (1.4×10^{-6})	2.4×10^{-7} (1.4×10^{-6})
Age					0.001 (0.008)	0.003 (0.008)
Male					0.117 (0.138)	0.134 (0.133)
Edu					-0.002 (0.037)	-0.013 (0.036)
Promotion						0.175* (0.091)
Constant	0.188*** (0.028)	0.177*** (0.051)	0.183*** (0.054)	0.096 (0.133)	0.088 (0.390)	-0.051 (0.382)
Observations	71	71	71	69	49	49

Note:

*p<0.1; **p<0.05; ***p<0.01

above, this variable is post-treatment, and should be interpreted with caution.

6 Conclusion

Together, these results show that while county government websites adhere to the letter of central government transparency regulations, the majority of website content is dedicated to showcasing the positive qualities of county-level executives. The exact qualities highlighted vary over the political tenure of the executive. In counties where executives are early in their tenure, government websites focus on projecting the benevolence of the executive and their attentiveness toward needs of the citizenry. In counties where where executives are late in their tenure, government websites focus on highlighting competence, by showing accomplishments against economic and fiscal performance indicators.

This paper advances our theoretical understanding of the role of the Internet in authoritarian regimes. Instead of either strengthening authoritarian control over society or empowering dissident actors, the Internet amplifies the voice of entrenched, local elites, and serves as their channel for self-promotion. This outcome may not align with the goals of central autocrats who want to use the Internet to obtain information about lower level officials. This outcome may also not align with the interests of societal actors since the heavily controlled content of government websites precludes meaningful engagement by the public on government plans, activities, and outcomes. These results show that the Internet and the ever greater amounts of information being generated online does not necessarily resolve the information problems faced by autocrats. Although information is growing at a rapid pace, the accurate and objective information central authorities need for selection and monitoring of regime agents remains scarce.

These results also reveal functional convergence across authoritarian and democratic regimes in the use of mass media by political elites to shape their public image and build support. The motive for public appeals by Chinese county executives is not driven by the motive of reelection but by the incentives of political advancement through selection. Likewise, the motive for public appeals by Chinese officials is not to threaten other political actors with constituent pressure, as is sometimes the case in democratic settings, but

to lend greater legitimacy to claims made by local officials in the eyes of other political actors. However, despite these differences in motivation, mass media channels are being used by political elites in very different types of regimes to build their public image and pursue political advancement.

Finally, by using a combination of methods ranging from machine learning to close reading on a large-scale dataset, this research shows that even though authoritarian regimes go to great lengths to control the production and dissemination of information, patterns of information production paradoxically reveal a great deal about the political incentives of these regimes when data is analyzed in aggregate. The data and methods used in this paper provide a useful measure of local officials' preferences and activities, which has been a challenge to measure in previous research. This measure of "public image" can be used as an explanatory variable in addressing other questions such as relationship between officials' preferences and policies as well as between preferences and economic and social outcomes like the level of development and social stability. The current data is cross-sectional, but plans are in place to collect panel data for the same set of counties, to facilitate future research and deepen our understanding of the role of the Internet in authoritarian politics.

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