Sources of Authoritarian Responsiveness: A Field Experiment in China*

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Abstract

A growing body of research suggests that authoritarian regimes are responsive to societal actors, but our understanding of the sources of authoritarian responsiveness remains limited because of the challenges of measurement and causal identification. By conducting an online field experiment among 2,103 Chinese counties, we examine factors that affect officials' incentives to respond to citizens in an authoritarian context. At baseline, we find that approximately one third of county governments respond to citizen demands expressed online. Threats of collective action and threats of tattling to upper levels of government cause county governments to be considerably more responsive, while identifying as loyal, long-standing members of the Chinese Communist Party does not increase responsiveness. Moreover, we find that threats of collective action make local officials more publicly responsive. Together these results demonstrate that top-down mechanisms of oversight as well as bottom-up societal pressures are possible sources of authoritarian responsiveness.

Short title: Sources of Authoritarian Responsiveness
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1 Introduction

A growing body of research shows that authoritarian regimes are responsive to societal actors.[1] However, we know relatively little about *why* authoritarian regimes respond, and what mechanisms influence the interactions between these regimes and citizens. Our understanding of the sources of authoritarian responsiveness remains limited because of challenges in directly measuring how regimes respond to individuals as well as difficulties in identifying the causal drivers of responsiveness.

Most often, responsiveness is assessed through the congruence of public preferences and policy proposals or through indirect measures of adherence to societal preferences. Truex (2014) finds evidence of representation in China's National People's Congress (NPC) by measuring the congruence of citizens' policy preferences and proposals put forth by members of the NPC. Malesky and Schuler (2010) assess responsiveness of delegates in Vietnam's National Assembly to the needs of local constituents by measuring whether delegates mention local issues or use words such as "voter" or "constituency" in their comments in the Assembly. Manion (2013) measures whether local congressmen in China view themselves as representatives of their geographic constituency, and Meng, Pan and Yang (2014) measure whether Chinese officials express willingness to incorporate suggestions of citizens into policy. Distelhorst and Hou (2014) generate a direct measure of citizen-government interaction using citizen requests for information from prefectural governments.[2]

To further our understanding of the sources of authoritarian responsiveness, we address the challenges of measurement and causality by conducting an online field experiment among 2,103 Chinese counties that directly measures how subnational governments respond to citizen requests while identifying factors that cause changes in the level of responsiveness. By doing so, we shed light on sources of authoritarian responsiveness, with implications for the general mechanisms through which autocrats (as well as their agents) can be held accountable.[3]

[1] Examples include evidence of how quasi-democratic institutions adopted by authoritarian regimes can facilitate responsiveness, of how channels ranging from traditional media to the Internet to petitioning systems allow individuals to communicate with regime officials (Lorentzen 2014; Chen and Xu 2014), of how tolerance of certain types of protest constitutes a form of responsiveness, as well as evidence of the effect of informal institutions (Tsai 2007; Xu and Yao 2015), citizen input in policy-making (Wang 2004), responsiveness authoritarianism (Reilly 2013; Stockmann 2013; Weller 2008), and domestic audience costs (Weeks 2008).

[2] Their work does not assess institutional factors that shape local officials' incentives to respond to citizens.

[3] Responsiveness and accountability are different notions. Accountability turns on the ability of various parties to sanction power-wielders in some way while responsiveness of power wielders to various parties could be obtained simply due to benevolence or serendipitous alignment of goals (Grant and Keohane 2005; Malesky and Schuler 2010). In line with previous scholarship, in this paper, when we use the term "accountability," we refer to the sanctioning and punishment mechanisms that force officials of the regime to be responsive;

Responsiveness refers to the extent to which officials in the regime adhere to the demands of societal actors.[4] Demands can be programmatic—for example, expressing preference for a change in policy—or they can be particularistic—for example, expressing the desire to obtain some personal benefit. Likewise, responsiveness can take different forms. The regime can respond by providing the desired outcome; for example, enacting a new policy or conferring benefits in response to expressed preferences. The regime can respond by taking other actions, which help generate desired outcomes. For example, in response to societal demands, officials can propose a new policy or support an individual's application for benefits. Finally, the regime can respond by informing those who are making demands how they can advocate for a desired policy or how they can obtain desired benefits. For ethical and practical reasons, our experiment focuses on particularistic demands and tries to solicit responses only in the form of information.

In democracies, responsive government is a reaction to pressure from below, either pressure exerted directly by citizens through political action (Hirschman 1970; Putnam 1993; Verba, Schlozman and Brady 1995; Cleary 2007) or indirectly through the incentives created by electoral institutions (Besley and Case 1995; Canon 1999; Powell 2000; Grose 2005, 2011; Grose, Malhotra and Van Houweling 2013; Grose 2014; Haynie 2001). In authoritarian regimes, responsiveness could also be a reaction to pressure from below, such as when collective action precipitates government response. When responsiveness is motivated by pressure from below, in both democracies and authoritarian regimes, responsiveness could be directed toward the general public or directed more narrowly toward insiders or coethnics. However, in contrast to responsiveness in democracies, authoritarian responsiveness could also stem from pressure from above, through a desire to curry favor with factional sponsors or in response to the incentives of formal institutions such as a *nomenklatura* system.

We assess these potential sources of authoritarian responsiveness through a field experiment. We find that, at baseline, approximately one-third of county-level governments in China respond to citizen demands for government assistance in obtaining social welfare. Demands that include vague threats of collective action and specific threats of tattling to upper levels of government cause county-level governments to be 30 to 35% more responsive (i.e., causal effect of 8 to 10 percentage points). Both treatments also cause county governments to provide more direct information in their responses to citizens. Threats of collective action

when we use the term "responsiveness," we refer to the extent to which officials of the regime adhere to demands.

[4]China is a single-party regime with a dual Party - government apparatus in every organization, with the Party being dominant. When we refer to officials, we mean both Communist Party and government officials. At the county level, officials include the county executive and the county party secretary. For additional discussion, see Section 2.

cause local officials to be more publicly responsive, while threats of disclosure to upper levels of government do not have this effect. We also find that, on average, identifying as loyal, long-standing members of the Chinese Communist Party (CCP) does not cause increased responsiveness.

Together these results show that the threat of oversight from above and the fear of collective action from below both play important roles in generating responsiveness in an authoritarian context. In other words, top-down mechanisms of oversight as well as bottom-up societal pressures are possible sources of authoritarian responsiveness. The results also show that absent informal, insider channels to reach the regime, simply being a loyal member of the CCP does not seem to generate much influence. These and other implications of our findings are discussed in greater detail in Section 4.3.

This paper is arranged as follows. Section 2 details our experimental design and discusses the ethics of our research, as well as the steps we took to ensure the security of the research subjects, our research team, and future research of this type. We describe the characteristics of government forums in Section 3. We present our results in Section 4, and Section 5 concludes.

2 Experimental Design

Existing research suggests that responsiveness among county-level officials in China could derive from three possible sources—a desire to mitigate the threat of collective action, a desire to appear capable in the eyes of upper level officials, and a desire to satisfy Party members.

Scholars, using a diverse array of methods, have documented numerous examples of Chinese government response to collective action (Bernstein and Lu 2003; Chen 2012*b*; King, Pan and Roberts 2013, 2014; Li 2014; Lorentzen 2013; O'Brien and Li 2006; Perry 2002; Wasserstrom and Perry 1994). Many of these works suggest that lower level officials have strong incentives to prevent collective action and protest from occurring, either because contention damages officials' prospects of political advancement or because contention interferes with rent-seeking or administration, irrespective of career concerns. Among authoritarian regimes more generally, the threat of rebellion is a fundamental concern and has been shown to precipitate actions, which can include responsiveness (Wintrobe 1998, 2007; Levitsky and Way 2010; Svolik 2012; Boix and Svolik 2013). Therefore, we expect the incentive to be responsive to be increasing with the threat of collective action.

In addition to pressure from below that comes from the general public, previous research

also shows that responsiveness can be directed more narrowly toward loyal insiders or coethnics (Butler and Broockman 2011; Broockman 2013; Geddes 2006; Hanson 2013; Lust-Okar 2005; Magaloni and Kricheli 2010; Magaloni and Wallace 2008; Rueda 2005). The logic for greater responsiveness to loyal insiders relates to the need for authoritarian leaders to maintain a stable winning coalition (Bueno de Mesquita et al. 2004; Haber 2006). As a result, we expect the incentive to be responsive to loyal insiders, CCP members in the China case, to be higher than the incentive to respond to an ordinary member of the population.

Finally, responsiveness of lower level officials in an authoritarian regime can also stem from pressure from above, because of a desire to gain favor with factional sponsors (Nathan 1973; Pye 1980) or in response to the incentives of formal institutions such as a the cadre evaluation system (Edin 2003; Fukuyama 2014). Because it is difficult to monitor and evaluate lower levels officials, upper level officials could use citizens as an oversight mechanism to obtain information about the actions of lower level officials, and as a result, we expect the threat of tattling to upper levels of government, which carries with it the risk that lower level officials will appear incompetent or misbehaving in front their superiors, to increase incentives to be responsive.

The above arguments lead to the following hypotheses for responsiveness among county-level governments in China:

> **H1**: Assignment to threats of collective action increases responsiveness of county-level officials to citizen demands.
>
> **H2**: Assignment to threats of evoking the oversight of upper level government increases responsiveness of county-level officials to citizen demands.
>
> **H3**: Assignment to claims of CCP membership and loyalty to the Party increases responsiveness of county-level officials to citizen demands.

We test these hypotheses by posting requests on county government web forums in China and tracking the responses we receive from government officials.[5]

We conduct this experiment in China for three main reasons. First, China is often regarded as a model case of authoritarian durability that exhibits responsiveness to its citizens. Second, China's large, hierarchical single-party structure allows us to investigate subnational authoritarian responsiveness with sufficient empirical power. Third, the prevalence of online

[5]China's administrative structure from top to bottom includes the central level, provincial level, prefectural (city) level, county (district) level, and township level. We focus on counties, including counties in rural areas and districts in municipalities, including districts in provincial-level municipalities, such as Beijing, Shanghai, Tianjin, and Chongqing.

channels for citizen engagement among subnational units allows us to implement a randomized experiment of responsiveness while mitigating ethical concerns.

In April 2007, the State Council, China's chief administrative organ, promulgated the "Open Government Information Ordinance" (OGI), which required county and higher levels of government to increase transparency. As part of this initiative, the majority of local governments in China have set up government websites, which contain online forums where citizens can submit questions or comments.[6]

The overall strategy of government websites—whether and how to respond to complaints posted on forums, what types of information websites should contain, what information should be sent directly to top county executives and CCP officials, is determined primarily by the county executive with input from the county propaganda department. The day to day functions of government websites are typically overseen by administrators in an Information Management Office, who report to the office of the county executive and share information with the local Propaganda Department. Although the operational details vary by locality, when citizens make requests or complaints online, the Information Management Office can respond directly or forward complaints to the relevant agency, e.g., Agriculture department, Civil Affairs department, Public Security department, for investigation and response. The Information Management Office and agencies receiving requests from the Information Management Office are evaluated on the comprehensiveness and speed of their handling of request and complaints.[7]

Information gathering is an important task for authoritarian regimes (Dimitrov 2014*a*,*b*; Fukuyama 2014; Wallace 2015), and the information gathered through these government web forums are taken very seriously by local officials. Summaries of complaints are typically sent on a regular basis, e.g., weekly, to the county executive and party secretary. Since the Information Management Office acts as the gatekeeper for citizen requests, and since it reports to the county executive, responsiveness to online complaints provides insight into the priorities of the county's top officials.

We identified online forums on government websites for 2,227 (77%) Chinese counties and

[6]OGI only requires county and higher levels of government to increase transparency but is agnostic as to the method. Local government can comply by making information available on the Internet, but may also comply by making information available through newspapers, press briefing, public broadcast, and other methods. Furthermore, local governments have a great deal of leeway in interpreting what is meant by transparency and in meeting the information requirements laid out in OGI regulations. For example, localities are required to make public budgetary information; however, they can publish financial data with detailed breakdowns by line item or they can publish high-level, aggregated financial information that casts the locality's performance in a positive light.

[7]Based on authors' interviews as well as leaked emails from county and city online information management offices (see `https://xiaolan.me/50-cent-party-jxgzzg.html`).

recorded a detailed set of characteristics including whether the website contains an online forum or a place to contact local officials, as well as the requirements for posting to the forum or contacting officials. We attempted to submit posts to all identified forums, and we successfully submitted posts to 2,103 (73%) forums. We then submitted a request for assistance in obtaining social welfare and recorded the posting process, as well as various characteristics of the government response.[8] Then, the forums were checked 10 and 20 business days after the date of submission for responses, and both the date checked and the date of the responses are recorded.[9] Altogether, we obtain a detailed set of indicators of government capacity and transparency at the county level.

Our outcome of interest is responsiveness of county governments, and we examine one facet of responsiveness, namely, how information is provided in response to a particularistic demand. The provision of information is a meaningful facet of responsiveness. Evidence shows that information provided by the government in response to citizen requests shapes how citizens view the regime (Tsai 2015).[10] Furthermore, evidence shows that government and party officials believe the Internet to be an important channel for officials to gather information and to manage discontent (Meng, Pan and Yang 2014). Responsiveness as measured by the provision of information is influenced by the incentives of local officials and the "principal-agent" relationship between those officials and administrators who are directly responsible for replying to citizens online.

We measure responsiveness in four ways after the initial post was submitted;[11] whether there is a response;[12] if there is a response, when the response was given, whether the response is viewable by the general public,[13] and finally, the specific content of the response. We include these four measures so that we capture the full extent to which responses may

[8] All posts were made from within China. We submitted our requests after the "two meetings" (*lianghui*) of the National People's Congress and the People's Political Consultative Conference to avoid posting during a political sensitive period where local officials likely have a larger workload.

[9] 90.5% of the replies on government web forums include the date on which the reply was posted.

[10] In rural areas, complainers become more supportive of the government (Tsai 2015). In addition, a recent survey conducted in 29 Chinese provincial capitals shows that among citizens who had made complaints or suggestions to local governments (9.9% of all respondents), 54.8% reported receiving assistance from the government in resolving their problems and 40.7% reported that their requests were at least partially acknowledged by the government (China Public Governance Survey, 2013, Unirule Institute, Beijing, and Horizontal-Key, Inc.; see Tsai and Xu 2015).

[11] In our registered pre-analysis plan, we included three measures of responsiveness—whether a response is received, the timing of response, and the content of response. We did not expect there to be difference in whether responses would be publicly viewable.

[12] When we receive a request from the government for more information, that information request is coded a a response. Our protocol is to not provide further information to the government entity.

[13] Based on pre-testing and previous research, we know that certain website may respond privately or make both requests and responses viewable only to the individual submitting the request (King, Pan and Roberts 2014).

vary. Together, these measures provide us with dichotomous, continuous, and categorical measures of our outcome.

2.1 Treatment Conditions

To test the three hypotheses, we randomly assign each of our control and treatment conditions to be posted on county government web forums within each prefecture. The treatment conditions were written to be similar in tone and length to existing content found on online government forums. We pre-tested the content of the conditions with Chinese citizens and officials to fine-tune their appropriateness for an online forum and their relevance to the concepts we are interested in capturing.[14]

Our treatment design entails a request from a Chinese citizen regarding the Minimum Livelihood Guarantee (*Dibao*), a non-conditional cash transfer program aimed at providing a social security net for Chinese residents whose income falls below a level set by the local government (Solinger 2005, 2010). Just as Chong et al. (2014) use post office efficiency to measure state capacity, responses to requests for *Dibao* provide a reasonable measure of local government responsiveness in China. While responsiveness to other types of issues, e.g., demands for public goods provision, reports of corruption, may lead to differing patterns of responsiveness, we focus solely on *Dibao* for reasons related to the feasibility of implementation, ethics, and external validity.

First, focusing on *Dibao* makes it feasible to implement this experiment across all Chinese counties. Unlike employment, housing, environmental protection and other issues where no national policy exists, *Dibao* is a national policy that covers both rural and urban residents. Second, focusing on *Dibao* mitigates the ethical concern that requests submitted by researchers will be viewed suspiciously by local governments, and as a result, negatively affect responsiveness to real citizens or "taint the pool" for future research. This is because social assistance is a topic that frequently appears on government forums, so it is not strange or surprising for questions on this topic to appear.[15] Finally, focusing on *Dibao* improves our confidence of the external validity of our experiment. Audits on constituency service conducted by Distelhorst and Hou (2015) show that responsiveness to requests related to *Dibao*

[14] All three treatment conditions were included as hypotheses in the registered pre-analysis plan. In the pre-analysis plan, we also hypothesized that responsiveness to threat of tattling to upper level government would be higher than collective action or claims of CCP loyalty, and that threats of collective action would generate more responsiveness than CCP loyalty.

[15] This is in part related to that fact that though *Dibao* is a public social welfare scheme, the majority of households who are eligible do not receive the benefit (Chen, Ravallion and Wang 2006). The fact that *Dibao* implementation varies not only lends credibility to posts about *Dibao* made by real citizens, but also lends credibility of our posts in the experiment.

is similar to that of other issues, such as tax reform, support for private enterprises, and unemployment benefits. In addition, unlike other issue areas that may be more closely related to one particular treatment condition, we had no reason *ex ante* to expect that *Dibao* itself would generate differential levels of responsiveness to different types of treatment conditions.

Because of the fragmentation of local government websites and more generally local governments in China, it is very unlikely that officials in one county will realize that a similar post appears in another county during our experiment. Moreover, because forum content that is public is not always indexed by search engines, and because questions about social welfare and *Dibao* are common types of questions found on government forums, the likelihood of identifying the posts of our experiments is low.

The control condition is as follows:[16]

> Respected leader:
>
> My wife and I have lost our jobs, and we have been unable to find work for a long time. Our economic situation is very difficult, and we cannot make ends meet. We have to support my elderly mother who is ill and for whom we have to buy medicine. We also have our son who is in school and has school fees and living fees that are difficult to bear. I have tried to apply for *Dibao* through my residential committee, but they say I am not eligible.
>
> Can you help my family obtain Dibao? Much gratitude!
>
> Yours,
> [Common male name]

This inquiry is phrased to demonstrate some knowledge of *Dibao*, to increase the diversity and richness of government responses and to maximize the likelihood of a more personalized response.[17] For example, the request states that the head of household and his wife have been unable to find work. This signals that the lack of employment is not due to lack of effort because in recent years, some localities have tried to make *Dibao* status contingent on inability to find employment. As well, the inclusion of an elderly, ill mother and school-aged child emphasizes the economic hardship faced by this household, making the household

[16]The Chinese version submitted is available upon requests. We do not release the Chinese version in the paper in order to protect the human subjects of this experiment.
[17]Based on pre-testing, if we did not demonstrate knowledge of *Dibao*, it is likely that more responses would have been formulaic—for example, directing the request to the residential committee.

a more likely candidate for *Dibao* status. Finally, the inquiry states that the applicant has been turned down by the residential committee. This again shows a certain level of knowledge about the *Dibao* program, which requires applications to be initiated at the residential committee.

In each of the treatment conditions, the treatment is inserted at the beginning of the new paragraph prior to the phrase "`Can you help my family obtain Dibao?`" To measure the effect of threats of collective action on responsiveness, we add the sentence:

> `People around me are in a similar situation, they face difficulties, and they also can't get Dibao. If you can't help, we'll try to figure out what we can do together about this situation.`

To assess the effect of threat of tattling to upper levels of government on responsiveness, we add the following text to our request:

> `If this problem cannot be addressed, I'll have to report it to upper-level government officials.`

And finally, to measure the effect of claims of loyalty to the CCP, we add:

> `I'm a long-standing CCP member, I've always followed the leadership of the Party.`

2.2 Ethical Considerations

Our experiment entailed the use of deception to protect human subjects, to minimize disruption to the system we are studying, and to protect the safety of our research team. The human subjects aspects of our experimental protocol were pre-approved by the Institutional Review Boards of our universities.

One of our guiding principles in conducting this research was to minimize disruption to the system we are studying. Since our experiment entailed submitting requests to government managed websites, this meant minimizing the use of governmental resources. We made requests for county governments to take action in the form of a written response. Based on the subject of our inquiry, pre-testing, and analysis of online forums, we did not believe local governments would take any action beyond writing a response, and this prior expectation was borne out by the experiment. The subjects of our research, those responding to requests on government forums, were not debriefed in order to minimize the time government administrators would spend reading and potentially responding to a debrief notice. Minimizing disruption also involves making sure that future posts, whether from citizens or other

researchers, are taken seriously. By not debriefing our subjects, we increase the chances of minimizing disruption and decreasing risks to future applicants of the *Dibao* program.

To protect the safety of the research team and for logistical reasons, we did not use confederates in submitting the informational requests. If a confederate had been used, we would have needed to find individuals from households who qualify for *Dibao* in each of the localities where we conducted the experiment. Given the scope of the experiment, it would have been extremely difficult and costly to recruit the appropriate number of confederates, and confederates with similar enough characteristics to support our experimental design. In addition, by not using confederates, we eliminate the potential for inconvenience, however small, that confederates submitting the information requests might face.

2.3 Randomization and Balance

Randomization was conducted within prefectures to account for vast regional differences in economic development and government efficiency. We believe geographic stratification also minimizes disruption to the system we are studying because adjacent counties within the same prefecture are less likely to receive the same treatment condition.

Table 1 shows the covariate balance across control and treatment groups on a number of different demographic, economic, and fiscal factors. Demographic variables include population in 2000 and 2010, population density, gender ratio, the scope of the migrant population, the percentage of households with urban (or non-agricultural) residential permits, the percentage of permanent urban residents (resident with urban *hukou*), average years of education, literacy rates, the unemployment rate, the proportion of the work force concentrated in agriculture, industry, and service sectors, as well as the proportion of ethnic minorities. Economic variables include GDP, per capita GDP, 2000-2010 nominal GDP growth, output by sector (agricultural, industrial, services), the number of industrial enterprises above designated size (above 5 million CNY), total investment from households, enterprises, and government, as well as total savings, which is the total outstanding bank deposits of rural and urban households at the end of 2010. Finally, fiscal variables include government revenue and expenditures. As can be seen from Table 1, randomization is successful and our treatment is balanced across all of the above dimensions.

3 Characteristics of Government Web Forums

As mentioned above, among 2,869 Chinese counties, online forums were identified for 2,227 (77%), and posts were successfully made to 2,103 forums. For the 124 counties with forums

Table 1. Covariate Balance Across Treatment Groups

	Obs.	Control	T1: CA Threat	T2: Tattle Threat	T3: Loyalty Claim	p-value
Log population	2,869	12.7	12.7	12.7	12.8	0.84
Log population (2000)	2,869	12.7	12.7	12.7	12.7	0.85
Population growth (2000-10 %)	2,869	5.06	4.91	5.02	5.07	0.85
Gender ratio (female = 1.00)	2,869	1.05	1.05	1.06	1.06	0.44
Log population density (person/km^2)	2,869	14.8	14.8	14.9	15.0	0.49
Migrant (%)	2,869	16.8	16.5	17.1	17.1	0.85
Non-agriculture household (%)	2,869	29.1	29.5	29.1	30.5	0.63
Permanent urban residents (%)	2,869	23.2	23.4	23.1	24.0	0.54
Average years of education	2,869	8.69	8.72	8.69	8.76	0.79
Illiteracy rate among age above 15 (%)	2,869	6.43	6.33	6.33	6.28	0.99
Ethnic minority (%)	2,869	17.1	15.8	15.7	16.3	0.78
Unemployment rate (%)	2,869	3.26	3.26	3.22	3.44	0.54
Work force in agriculture (%)	2,869	52.6	51.8	52.2	50.5	0.48
Work force in industry (%)	2,869	20.0	20.4	20.9	21.3	0.36
Work force in services (%)	2,869	27.2	27.8	26.9	28.2	0.44
GDP per capita (1,000 CNY)	2,821	25.3	25.3	24.4	24.8	0.77
Log GDP per capita	2,821	9.89	9.90	9.89	9.89	0.99
Log GDP	2,821	8.84	8.83	8.84	8.85	0.98
Average nominal GDP growth (2000-10)	2,821	0.15	0.15	0.15	0.15	0.97
Log agricultural output	2,821	7.13	7.13	7.13	7.14	1.00
Log industrial output	2,821	7.96	7.95	7.97	7.99	0.96
Log services output	2,821	7.68	7.69	7.69	7.69	1.00
Enterprises above designated size	2,821	51.7	51.4	52.1	49.9	0.96
Log total investment	2,821	8.43	8.42	8.43	8.45	0.96
Log total saving	2,821	6.77	6.81	6.80	6.82	0.93
Log total government revenue	2,821	5.74	5.72	5.76	5.74	0.98
Log total government expenditure	2,821	7.15	7.13	7.14	7.15	0.91

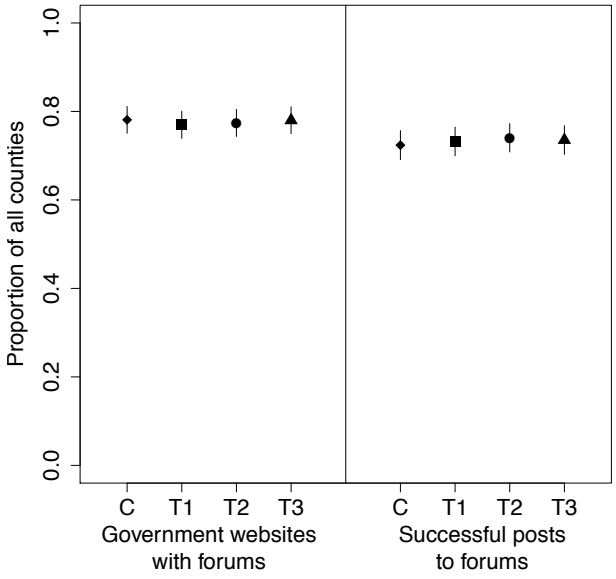
Note: Group means and p-values corresponding to F tests of all three treatment indicators are shown in the table. Data are from 2000 and 2010 Census and Provincial Statistical Yearbooks. Variables were measured in 2010 unless otherwise noted.

where our posting was not successful, the main reason for failure to post was due to technical difficulties. In these cases, the submission led to errors in page loads after a lengthy wait. In each of these cases, at least three attempts were made at submission using different browsers.

Whether a county has an online forum and whether we were successful in posting our request does not affect the validity of our experimental design. Figure 1 shows that we achieve balance across treatment groups for whether there is a government forum and whether posts are successful. In total, we submitted 519 posts to the control group, 525 posts to the first treatment group assessing threats of collective action, 531 posts to the second treatment group examining threats of tattling to upper levels of government, and 528 posts to the third treatment group focused on claims of long-standing loyalty to the CCP.

For each forum, we collected information on the characteristics of the forum, including

Figure 1. Availability of County Government Web Forums
by Treatment Group

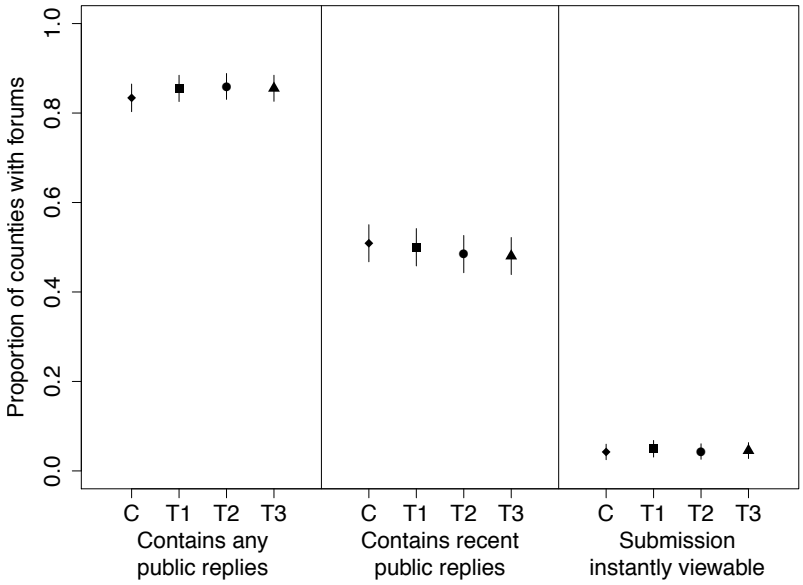


whether existing posts and replies were publicly viewable—in other words, whether someone who does not have an account or is not logged into the site can view posts and replies. We also recorded the dates of the most recent posts and replies. Lastly, we documented whether the posts we submitted were immediately viewable, or whether the posts were first reviewed by authorities before they were released to be publicly viewable. As shown in Figure 2, approximately 85% of forums have existing publicly viewable posts and replies. This means that for 85% of government forums, anyone who visits the forum URL can view posts and replies released by the government without creating an account or logging in.

Approximately 50% of forums contain posts by the local government made within the past 30 days. However, less than 5% of forums immediately release submitted posts. This means that the vast majority of government forums first review the content of posts submitted before the posts are released to be seen by the general public. This finding is in line with the high prevalence of review found among government websites (King, Pan and Roberts 2014). As seen in Figure 2, all of the forum characteristics related to openness are balanced across treatment groups.

Finally, we collected information on the requirements for submitting posts to the government forum, including whether an email address is required, whether a name is required, whether a personal identification number (*shenfenzheng hao*) is required, whether a phone number is required, and whether an address is required. Since we do not use the information of real confederates, if an ID number, telephone number, or address is required, we randomly

Figure 2. Openness of County Government Web Forums
by Treatment Group



generate data to fill in these fields. The same, very common male name was used in all requests, and email accounts were created for the experiment. As shown in Figure 3, 80% of government forums require users to submit a name, 60% require a phone number, approximately 50% an email address, 30 to 40% an address, and only 10% a personal identification number. Posting requirements are also balanced across treatment groups.

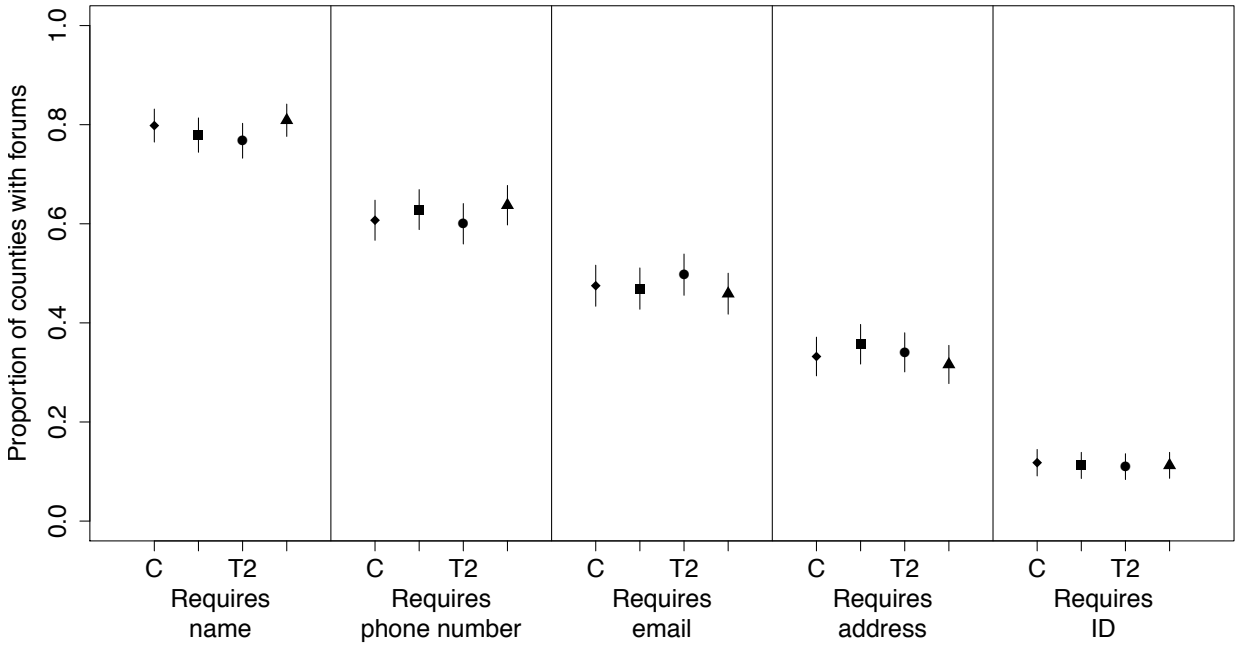
4 Experimental Results

We begin by looking at whether or not county governments responded to submitted requests to evaluate overall responsiveness. The response rate to our control group was 32% (95% confidence interval of 28% to 36%). The black dots in Figure 4 show the point estimates for the causal effect of our three treatments on county government responsiveness. The vertical lines are 95% confidence intervals.[18]

The causal effect on responsiveness is more than 10 percentage points for threats of collective action. Since the base level government response rate to the control group is approximately 30%, this means that threatening collective action causes county government to be one third more responsive. For threats of complaining to upper levels of government,

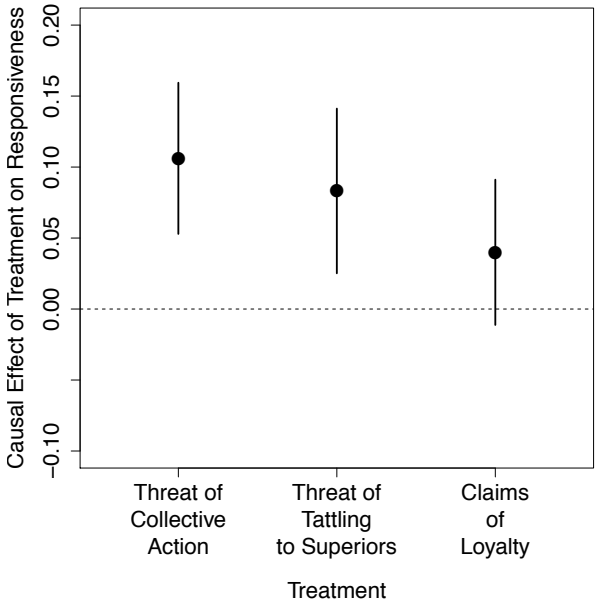
[18]Confidence intervals shown in the figures of the results section are based on Huber White robust standard errors. Although the data are binary, the large sample size and mean response rates mean the central limit theorem applies. Confidence intervals based on alternative methods, including clustering at the prefecture or provincial level, produce basically identical results.

Figure 3. Requirements for Posting to County Government Web Forums by Treatment Group



the causal effect on responsiveness is also large at 8 percentage points. The causal effects of the two treatments are not statistically different from each other. Finally, the effect on responsiveness of claiming long-standing CCP membership and loyalty to the CCP is 4 percentage points, and the result is not statistically significant.

Figure 4. The Causal Effects of Treatments on Responsiveness



We go a step further and examine these causal effects while controlling for regional dummies and county-level characteristics. Table 2 shows the regression results including these controls for the set of all counties (unconditional) and for the set of counties where posts were successfully posted (conditional).[19]

Columns (1) to (3) in Table 2 show the results for all Chinese counties (unconditional models), where the coefficient estimates represent the causal effect of treatments on government response. In column (1), government response is regressed on our treatment indicators.

Table 2. The Causal Effects of Treatments on Government Response

Dependent variables	Government Response (0 or 1)					
	Unconditional			Conditional		
	(1)	(2)	(3)	(4)	(5)	(6)
T1: collective action threat	0.077	0.065	0.066	0.101	0.090	0.100
	(0.023)	(0.021)	(0.022)	(0.030)	(0.029)	(0.029)
T2: tattling threat	0.068	0.061	0.061	0.083	0.094	0.092
	(0.023)	(0.022)	(0.022)	(0.030)	(0.029)	(0.029)
T3: claims of loyalty	0.033	0.025	0.026	0.040	0.030	0.040
	(0.023)	(0.021)	(0.021)	(0.029)	(0.029)	(0.028)
Constant	0.232	0.238	0.238	0.320	0.322	0.325
	(0.016)	(0.015)	(0.015)	(0.020)	(0.020)	(0.020)
Prefectural dummies		YES	YES		YES	YES
Socio-demographic controls			YES			YES
Forum characteristics						YES
Observations	2,869	2,869	2,869	2,103	2,103	2,103

Note: Huber White robust standard errors are in the parentheses.

Column (2) performs the same analysis with the addition of prefectural dummy variables. The inclusion of prefectural dummies only changes the coefficient estimates very slightly while reducing the size of standard errors as expected. Finally, column (3) includes a set of socio-demographic controls in addition to prefectural dummies, and the estimated coefficients of the treatment indicators remain stable. The socio-demographic controls include log population, the proportion of non-agricultural households, the proportion of permanent urban residents, average years of education, the unemployment rate, and the proportion of ethnic minorities for counties in 2010.

[19]Results are based on regression adjustment. In addition to the dummy variables indicating treatment conditions, we include demeaned covariates as well as their interactions with the treatment dummies in the regressions (Lin 2013). Huber White robust standard errors are shown, though errors are virtually identical without using robust standard errors. Moreover, because treatment conditions are randomly assigned within each province (the variation in treatment is at the county level), standard errors clustered at the provincial level are almost the same as those in Table 2.

Columns (4) to (6) in Table 2 show the results for Chinese counties where we successfully submitted our requests to government web forums (conditional models). Column (4) shows the regression results of government response on our treatments, similar to the unconditional results in column (1). Column (5) shows the regression results of government response on treatment variables controlling for prefectural dummies, and in column (6), we include the variables of column (5) as well as socio-demographic controls and a set of forum characteristics collected during the experiment. These forum characteristics include whether the government forum contains any posts along with replies, whether it contains posts and replies made within 30 days of the start of the experiment, whether a submission is immediately viewable, and various posting requirements, as described in Section 3.[20] As expected, the causal effects of the treatment increase in the conditional models, but remain stable with the inclusion of prefectural dummies and additional control variables. Table 2 shows that our results are robust regardless of whether the analysis is based on all counties or the subset of counties where posts were successfully made. Threats of collective action and tattling generate greater responsiveness from county governments while claims of loyalty do not.[21]

4.1 Public and Private Responses

In addition to overall responsiveness, we also examine whether the reply to our request is made publicly viewable, or whether the response is kept private between the individual submitting the request and the government. A response is publicly viewable if any person can view the response along with the original request online without logging into an account on the forum. A response is private if it is only accessible to the individual who posted the request when that person logs into his or her account, or if the reply is emailed rather than posted to the forum.[22] If a response is private, we code the binary outcome variable *publicly viewable response* as zero. The rate of publicly viewable responses to our control group was 21% (95% confidence interval of 18% to 25%).

As shown in Figure 5, for publicly viewable responses, the causal effect of threatening

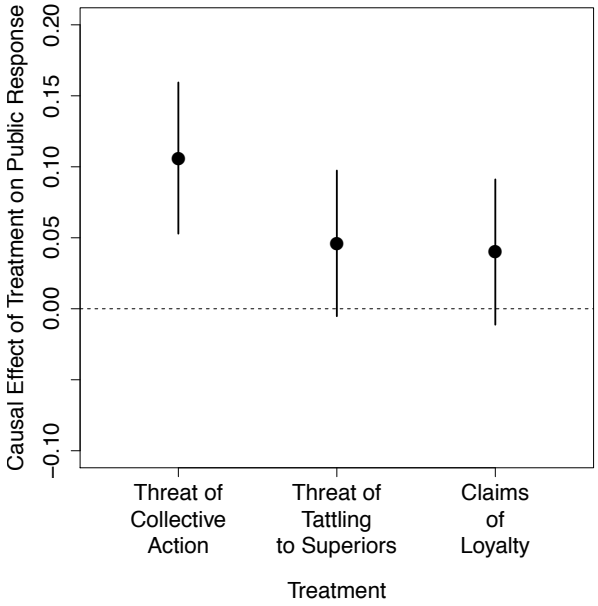
[20] We report the correlations between socio-demographic controls and the overall response rate and between forum characteristics and the overall response rate in Tables A7 and A8, respectively, in Supporting Information. We find that four variables, including total government revenue, existence of any replies, existence of any recent replies, and whether an individual's post is instantly publicly viewable after being submitted, are highly predictive of the overall response rate.

[21] The difference between the treatment effect of threatening collective action and the effect of threatening to tattle to upper levels of government is not statistically significant. In contrast, we can reject the null hypothesis that the treatment effect of threatening collective action and the treatment effect of claims of CCP loyalty are the same, at the 5% level.

[22] It is rare that a response is viewable to all individuals who have accounts. In part this is because on county government forums, anyone can register an account.

collective action is again over 10 percentage points. Given that the publicly viewable response

Figure 5. The Causal Effects of Treatments on Receiving Publicly Viewable Responses



rate in the control group is just over 20%, threatening collective action increases publicly viewable responses from the county government substantially. In contrast, the effect of threatening to tattle to upper levels of government and the effect of claims of loyalty on public responses are small, at 5 percentage points and 4 percentage points, respectively. Neither effect is statistically significant. The causal effect of threatening collective action is significantly larger than the effects of the other two treatments at the 5% level.[23]

Table 3 shows that the causal effect of threatening collective action on publicly viewable responses is robust regardless of whether the analysis is based on all counties, columns (1) and (2), or the subset of counties where posts were successfully made, columns (3) and (4). The effect of tattling to upper levels of government on publicly viewable responses becomes statistically significant when we include regional dummies and additional variables. However, claims of loyalty do not lead to greater public responses regardless of model specifications.

An increase in publicly viewable responses could be due to two reasons: first, there are simply more responses; second, the proportion of responses made public is higher. In order to better understand local governments' strategies of making a response public, we calculate the percentage of responses made public in each of the four treatment and control groups and compare the differences across groups. The results are shown in column (5) of Table 3. The

[23]We did not expect to see the causal effect of publicly viewable responses until we gathered the data. Of course, because we were always interested in the publicity value of government responsiveness, we collect this information.

Table 3. The Causal Effects of Treatments on Publicly Viewable Response

Dependent variables	Publicly Viewable Response (0 or 1)				
	Unconditional		Conditional		Public/All
	(1)	(2)	(3)	(4)	(5)
T1: collective action threat	0.079	0.077	0.106	0.105	0.093
	(0.021)	(0.020)	(0.027)	(0.027)	(0.047)
T2: tattling threat	0.038	0.038	0.046	0.063	-0.025
	(0.020)	(0.019)	(0.026)	(0.026)	(0.049)
T3: claims of loyalty	0.032	0.032	0.040	0.047	0.037
	(0.020)	(0.019)	(0.026)	(0.027)	(0.049)
Constant	0.153	0.154	0.212	0.212	0.663
	(0.013)	(0.013)	(0.018)	(0.018)	(0.036)
Prefectural dummies		YES		YES	
Socio-demographic controls		YES		YES	
Forum characteristics				YES	
Observations	2,869	2,869	2,103	2,103	2,869

Note: Huber White robust standard errors are in the parentheses in columns (1)-(4). In column (5), standard errors are based on non-parametric bootstrapping of 1,000 times.

control group received 166 responses in total, among which 110 are publicly viewable, so the proportion of publicly viewable responses is 0.663 (or 66.3%). The proportion of responses which are publicly viewable for treatment 1, threats of collective action, is the largest at 0.756 (the publicly viewable response rate of the control group, 0.663, plus an increase of 0.093). The proportion of responses which are publicly viewable for theats of tattling to upper level government is very similar to the control conditions at 0.638, and the proportion of publicly viewable responses for claims of CCP loyal is 0.700, also similar to the control condition. The standard errors reported in column (5) are produced by a non-parametric bootstrapping procedure. Broadly consistent with the results presented in columns (1) to (4) of Table 3, column (5) shows that threats of tattling to upper levels of government and claims of loyalty to the CCP do not increase the chances that a response will be publicly viewable in a statistically significant manner, while threats of collective action does lead to a statistical significant increase in the rate of publicly viewable responses in comparison to the control condition.

4.2 Content of Responses

We examine the content of replies from county governments that responded to the request for *Dibao*. We coded by hand responses into three categories: (1) Deferral, (2) Referral, and

(3) Direct Information. The content of these three categories roughly increases in terms of length of text and likely increasing effort on part of the government respondent. We achieve 99% intercoder reliability for agreement in classifying response into these three categories.

Replies are coded as Deferral if the response does not provide an answer to the question of how to obtain *Dibao*. Sometimes a rationale for the lack of information is provided but other times none is given. Oftentimes, the government response states that some piece of personal information is missing in the request. Replies in the Deferral category are on average the shortest replies, and likely require the least amount of effort on part of the county government. The example below is a typical Deferral response:

> Hello letter writer! Your question does not contain enough specificity, for example, your address.

Replies are coded as Referral when the government response suggests contacting another agency for further assistance, and provides the contact details of that agency.[24] For example:

> Hello, you must meet certain requirements to apply for *Dibao*, based on the situation you describe, we cannot determine your eligibility. Please consult with the department of civil affairs for *Dibao* information. Telephone: ****373.

When replies state that the initial request does not provide sufficient information, but also provides details on how to obtain additional resources and assistance (e.g., a telephone number), the responses are coded as Referral instead of Deferral. For example:

> Comrade, hello! Because the situation you describe is not specific enough, to obtain assistance on your question, please call: ****3211, thanks!

Finally, responses are coded as Direct Information when the reply directly provides the information required to answer the questions posted in our request. These replies are generally the longest the length. Direct Information replies provide the most detailed information on what is required to obtain *Dibao* as well as specific the next steps for the requester, which may include contact information on relevant agencies. For example:

> XX comrade, hello! First, thank you for your interest and support in our work on civil affairs. Eligibility for *Dibao* is based on household income. In your post, you did not specify your household income, nor did you specify whether you are a

[24] We do not show the telephone number or identity of the local governments in accordance with the experimental protocol approved by the Institutional Review Boards of our universities.

rural or urban household. For example, this year, in our city, the rural *Dibao* level is 2400 yuan. If your household's annual income is less than 2400 yuan, you have initial eligibility to apply for *Dibao*. But, whether you can receive *Dibao* is based on a rigorous set of criteria, which I cannot detail line by line here. Please go to the *Hukou* (household registration) office of the township civil affairs department to obtain detailed information. You can also obtain information by phone, our phone number is ****287. In addition, since the district-level civil affairs agency only has ability to review *Dibao* applications, and since the township government leads evaluation of *Dibao* eligibility, you can give your detailed information to the township office, who we believe will take your detailed information and provide preliminary advice on whether you are eligible to receive *Dibao*.[25]

Looking across our treatment conditions, Table 4 shows the number and percent of responses for each of the content categories by treatment. For requests that threaten collective action and requests with claims of CCP loyalty, there is the highest proportion of responses in the Direct Information category and the lowest proportion of responses in the Deferral category. For requests that threaten to complain to upper levels of government, the largest proportion of responses is also in the Direct Information category, followed by the Deferral category, and the smallest proportion of responses fall in the Referral category.

Table 4. Content of Responses by Treatment Group

	No Response		Deferral		Referral		Direct Info	
Control	551	76.9%	33	4.6%	42	5.9%	91	12.7%
T1: collective action threat	496	69.2%	36	5.0%	52	7.3%	133	18.6%
T2: tattling threat	502	70.0%	50	7.0%	44	6.1%	121	16.9%
T3: claims of loyalty	528	73.5%	39	5.4%	58	8.1%	93	13.0%

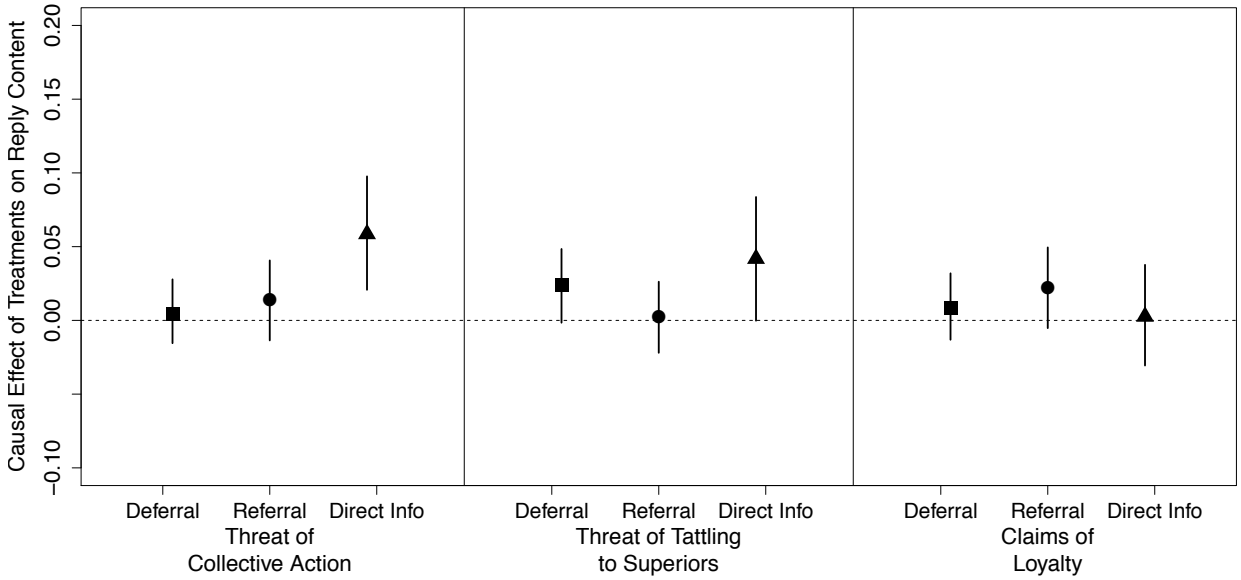
Figure 6 shows the difference in means of each category of response between each treatment group and the control group.[26] This difference in means represents the causal effect of each treatment on the content of the response. The largest causal effect on content of response is the threat of collective action on Direct Information. The threat of tattling has a smaller causal effect on receiving Direct Information as well as Deferral.[27]

[25] Again, we do not release the Chinese versions of the four examples in order to protect our human subjects. They are available upon requests.

[26] The category of no response exists for each group, but is not shown here. Because the four differences in means are correlated with each other, we conduct a bootstrap procedure (of 1,000 times) to obtain the correct standard errors. In each round of bootstrap, prefectures are randomly drawn with replacement from universe of prefectures to make sure the treatment conditions are balanced. Counties belonging to the newly drawn prefectures constitute a new sample. See Table A1 in Supporting Information for full results.

[27] The tattling treatment causes a slight increase in the Deferral responses whereas the threat of collective

Figure 6. The Causal Effects of Treatments on Reply Content



The content of these three categories of responses likely correspond to differences in terms of the effort expended by the government respondent, and they may also reflect substantive differences in the government's intention to act. For example, while Referral and Deferral suggest rather superficial engagement with citizen concerns, Direct Information reveals greater attention to the complaints as well as care in addressing them. Although we do not assess government action beyond the online response, localities responding with Direct Information may be more willing to take concrete actions to address citizen concerns than localities providing the other two types of responses.

Speed of Responses. We find that over 20% of responses were provided within one business day, and 70% of responses were provided within ten business days. We do not find any significant differences in the speed of response between treatment groups.[28]

Heterogeneous Effects. In Supporting Information available online, we conduct a series of analyses to investigate heterogeneous treatment effects across different subgroups, including (a) urban vs. rural areas, (b) areas where the proportion of ethnic minorities in the population is over 10% vs. areas dominated by Han, (c) places with relatively high economic

action treatment does not. This is likely because the government wants to preempt potential collective action by openly reassuring dissatisfied citizens that it takes their concerns seriously. In the case of threat of tattling, it may be preferable for the government to directly solve the problem of the tattler in stead of openly providing information.

[28]Table A2 in Supporting Information provides additional information on the evolution of the treatment effects over the 28-day period.

growth vs. places with relatively low economic growth, and (d) counties with active forums (where we observe recently made posts and replies before the experiment was conducted) vs. counties with inactive forums (Tables A3-A6).

We find that, across all subgroups, the threat of collective action generates the largest causal effect on government responsiveness, followed by threats of tattling to upper levels of government and claims of CCP loyalty. This empirical pattern holds across subgroups for all measures of responsiveness, including the overall level of response, the rate of publicly viewable responses, and the proportion of responses with direct information, suggesting that the mechanisms behind the treatment effects are similar across localities.

4.3 Discussion

By measuring the direct interaction between local governments and citizens, our results provide causal evidence of sources that increase authoritarian responsiveness. The causal effect of threatening to engage in collective action reveals the concern county officials have over pressures from below, even when the risk of potential collective action is low and the scope of potential collective action is extremely limited. The causal effect of threatening to tattle to upper levels of government shows clearly that county officials care about superior's perceptions of their performance, which means that some mechanism of oversight is structuring the incentives of county officials. Finally, the limited causal effect of claims of loyalty to the CCP demonstrate how absent informal, insider channels to reach officials, simply being a loyal party member does not increase responsiveness. In this section, we discuss how each of these findings affects our understanding of Chinese politics as well as the politics of authoritarian regimes.

Threat of Collective Action. Although collective action and the threat of revolution is a concern for many authoritarian regimes, it is surprising that our treatment describing a vague threat of small-scale collective action entails the largest causal effect on responsiveness. Recall that in this treatment, the *Dibao* request says that "If you can't help, we'll try to figure out what we can do together about this situation." This treatment simply suggests that a few people may do something together, and the term "together" (一起) does not have any of the negative connotations of terms like "mass incident" (群体事件) or "collective behavior" (集体行为). In fact, the majority of those who provided feedback on our experimental design thought this particular treatment condition was likely too light to generate any detectable causal effects, but we kept this phrasing to avoid the strong reaction that words such as collective action might have triggered for ethical reasons.

The responsiveness of county governments to this relatively vague threat of collective action suggests that the Chinese government is particularly sensitive to collective action. This finding builds on a growing body of evidence showing the importance of collective action to the CCP regime (King, Pan and Roberts 2013, 2014),[29] and may reflect the decentralized nature of China's administrative structure as well as the influence of the cadre evaluation system relative to other authoritarian regimes (Landry 2008; Xu 2011). Local officials want to preempt real-world collective action, and they want to show societal actors that they take their concerns seriously. The online government forums where our experiment was conducted facilitates information gathering and allows governments to respond to citizen concerns, which is a crucial counterpart to simply gathering information (Dimitrov 2014*a*,*b*; Stockmann 2013; Wallace 2015).

Our finding that threats of collective action increase the probability that officials respond publicly shows that when the "bad news" has already spread and collective action, which entails more than one individual, is being threatened, responding publicly is a strategy that costs less time and energy than identifying and contacting all the discontented citizens who share the same problem. For local officials, responding publicly to threats of collective action demonstrates the officials' concern for the underlying issues and their willingness to resolve citizens' hardship and problems.

This responsiveness to pressures from below could be explained either by an interaction between China's cadre evaluation system and citizen participation or by citizen engagement alone. In the former explanation, lower level officials respond to threats of collective action to control the image they present to their superiors in order not to ruin their career prospects within the party-state system. In the latter explanation, lower level officials respond to threats of collective action because they want to mitigate social contention to maximize rent-seeking and/or minimize administrative burdens, irrespective of career concerns. For example, unrest among citizens could disrupt local officials' access to rents since protest and collective action could lead to capital flight, diminishing sources of rent. Unrest could also decrease the officials' control over the locality, hindering ability to extract rents even if sources of rents remain stable. Local officials could also be adverse to collective action simply due to the disutility of the administrative burden it imposes. Protest and "trouble-making" often seek to disrupt the normal functioning of government (Chen 2009), making it difficult

[29] Our finding of responsiveness to *threats* of collective action is consistent to the logic of King, Pan and Roberts (2013, 2014), which finds censorship targeted at discussion of on-going, real-world collective action rather than criticisms of the regime. China censors discussion of real-world collection action to prevent collective behaviors from spreading, and does not censor criticisms, which contains information crucial to governance. Likewise, responding to threats of potential collective action aims to prevent collective behaviors from occurring and also allows the regime to gather information about citizen preferences.

for local officials to carry out day to day activities. Added to the increased difficulty of day to day operations is the administrative burden of dealing with unrest and resolving social contention, such that managing citizen unrest is an onerous task for any local official. Lastly, there is the interaction between these two explanations: unrest that consumes an official's time and resources also reduces the time available for rent-seeking activities. This possibility of intrinsic aversion to social instability is not contradictory or exclusive to aversion induced by the incentives of party institutions; they could in fact be complementary.

Threat of Tattling to Upper Level Authorities. Responsiveness to threats of tattling to upper levels of government shows that county officials want to prevent citizens from going to upper levels with their grievances. This could be because county officials care whether their higher-ups learn about citizen grievances.[30] The relatively low rate of publicly viewable responses to threats of tattling reinforce this view. When facing a threat of tattling to the upper government, an official prioritizes finding a solution to the problem while preventing "bad news," which would tarnish his image, from spreading. In this case, a private response is a strategy that provides a solution while limiting the spread of bad news.

Responsiveness to threats of tattling to upper levels of government shows that some oversight mechanism is effective in shaping the behavior of local officials, which reinforces the messages of works such as Xu (2011) and Huang (1996). This oversight mechanism could be institutions for political advancement, namely China's cadre evaluation system (Edin 2003). This oversight could stem from fear of losing face with factional sponsors. Or, this oversight could stem from a desire to avoid unwanted attention to pursue other goals, such as rent-seeking or corruption. These results show that factional politics does not completely dilute the incentives of officials to be responsiveness, lending evidence to findings that the role of factional ties and performance evaluation may be complementary (Jia, Kudamatsu and Seim 2015).

Claims of Loyalty. The finding that claims of CCP membership and loyalty to the party do not, on average, result in greater responsiveness seems to suggest that absent informal, insider channels to reach officials, simply being a loyal party member does generate additional influence. This is analogous to concentric circles of constituencies found in democracies (Fenno 1977), and in this instance, a CCP member who is reduced to engaging in demands

[30]Preventing citizens from going to upper levels with their grievances could also be because county officials want to ensure that upper levels to know that the county is capable of handling citizen grievances, which will inevitably arise, on their own.

for welfare through a formal, impersonal channel is in the outer rings of influence.[31]

Our finding suggests that the regime's core supporters might be a much smaller group of people than long-standing, loyal CCP members, and that CCP membership is not necessarily a good proxy for insider status. Our finding is also consistent with emerging findings that the CCP is becoming depoliticized (Zheng 2009) and that there is increasing distance between citizens and officials, especially in urban areas (Tsai and Xu 2015). It is worth emphasizing that the claim of loyal, long-standing CCP membership, in contrast to threats of collective action and tattling, is deferential, which suggests that in this authoritarian context, some forms of threats may be more likely than deference to lead to responsiveness.

5 Conclusion

Using an online field experiment to directly measure the responsiveness of subnational officials to citizen requests, we find that almost one third of county governments in China are responsive to citizen requests related to social welfare. We find that threatening collective action causes a 10 percentage point increase in the overall response rate (or a 30% increase in the overall response rate), a 10 percentage point increase in the probability of providing a publicly viewable response, and a 6 percentage point increase in receiving direct, detailed responses. In contrast, while threatening to complain to upper levels of government causes a 8 percentage point increase in overall responsiveness, these threats of tattling have no detectable causal effect on publicly viewable responses. Finally, deferential claims of long-standing loyalty to the CCP do not on average cause increases in responsiveness.

While China may be particularly sensitive to citizen engagement and while China may have outsized capacity to engage in information gathering and to respond to societal actors compared to other authoritarian regimes, responsiveness is an increasingly familiar refrain heard among state actors across many authoritarian regimes. Whether its is driven by a concern for regime stability or due to the influence of international organizations, regimes from the Middle East and North Africa to East and Southeast Asia are increasingly stressing the importance of responsiveness and some form of accountability to citizens (Harris 2013; Malesky and Schuler 2010; Reilly 2013).[32] For scholars focused on other regions of the world, our work shows that in the absence of meaningful electoral competition, responsiveness could

[31] In counties with active forums, claims of CCP loyalty do generate greater responsiveness, suggesting that it is not the treatment if not unreasonable. Indeed, this treatment is consistent with evidence that former insiders—veterans, SOE cadres, village cadres—resort to formal institutions in order to gain personal benefits from the regime (Chen 2012*a*).

[32] While Reilly (2013) focuses on China, he provides many examples of "responsive authoritarianism" outside the Chinese context.

stem from top-down mechanisms of oversight, which we may expect in authoritarian regimes with higher degrees of top down control and discipline, but responsiveness could also stem from bottom-up pressures from citizen engagement through channels set up by the regime (in our case, forums on government websites). Furthermore, our work shows that top-down mechanisms of oversight are activated by citizen input, that it is the interactions between top down mechanisms of oversight and citizen engagement that generate authoritarian responsiveness, pointing to a possible refinement of existing theories. Upper level authorities use citizens as an oversight mechanism on subnational officials, which imbues citizens with the ability to sanction lower level officials, and generates responsiveness among local officials to citizen demands.

These results show that regardless of whether responsiveness derives from top-down mechanisms or bottom up pressures, citizen engagement is consequential. Citizen engagement provides information that officials pay attention to, and it can result in greater levels of governmental attention and response. Uncontrolled engagement is often a concern for authoritarian regimes, and authoritarian responsiveness is one attempt at diffusing societal tensions and maintaining political stability.

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A Supporting Information

Table A1 reports the differences in means of different types of responses (including no response) between the treatment groups and the control group. The sample consists of all 2,869 counties, including those do not have online forums. The standard errors are based on 1,000 bootstrapped samples. In each round of bootstrap, prefectures are randomly drawn with replacement from the universe of prefectures. Counties belonging to the newly drawn prefectures constitute a new sample.

Table A1. Content of Responses by Treatment Group

	No Response	Deferral	Referral	Information
T1: collective action threat	-0.077	0.004	0.014	0.059
	(0.024)	(0.011)	(0.014)	(0.019)
T2: tattling threat	-0.068	0.024	0.003	0.042
	(0.023)	(0.013)	(0.012)	(0.021)
T3: claims of loyalty	-0.033	0.008	0.022	0.003
	(0.023)	(0.011)	(0.014)	(0.017)
Constant	0.768	0.046	0.059	0.127
	(0.015)	(0.008)	(0.009)	(0.013)

Table A2 shows the evolution of the treatment effects during the 28-day period. The sample consists of all 2,869 counties, including those do not have online forums. The outcome variables are government responses within 7 day (5 business days), 14 days (10 business days), 21 day (15 business days), and 28 days (20 business days). The outcomes are coded as zero if no response is received within the specified time period. Huber White robust standard errors are in the parentheses.

Table A2. Speed of Government Responses

Dependent variables	Government Response within			
	1 week	2 weeks	3 weeks	4 weeks
	(1)	(2)	(3)	(4)
T1: collective action threat	0.045	0.046	0.059	0.077
	(0.020)	(0.022)	(0.023)	(0.023)
T2: tattling threat	0.040	0.045	0.061	0.067
	(0.020)	(0.022)	(0.023)	(0.023)
T3: claims of loyalty	0.032	0.016	0.029	0.033
	(0.019)	(0.022)	(0.022)	(0.023)
Constant	0.144	0.215	0.223	0.232
	(0.013)	(0.015)	(0.016)	(0.016)
Observations	2,869	2,869	2,869	2,869

Table A3 shows the treatment effects in both urban and rural areas. Urban areas are counties where permanent urban residents represent 50% or more of the total population. Rural areas are counties where permanent urban residents represent less than 50% of the total county population. Both subsamples are conditional on successful posting by the research team. The outcome variables include three binary indicators: (1) overall response; (2) publicly viewable response; and (3) response with direct information. Huber White robust standard errors are in the parentheses.

Table A3. The Causal Effects of Treatments in Urban and Rural Areas

Dependent variables	Urban			Rural		
	Overall	Public	Information	Overall	Public	Information
	(1)	(2)	(3)	(4)	(5)	(6)
T1: collective action threat	0.089	0.110	0.076	0.105	0.103	0.079
	(0.052)	(0.048)	(0.043)	(0.036)	(0.033)	(0.031)
T2: tattling threat	0.075	0.063	0.055	0.089	0.039	0.048
	(0.054)	(0.048)	(0.043)	(0.035)	(0.031)	(0.030)
T3: claims of loyalty	0.007	0.026	-0.007	0.054	0.047	0.006
	(0.051)	(0.045)	(0.039)	(0.036)	(0.032)	(0.030)
Constant	0.367	0.225	0.166	0.297	0.206	0.180
	(0.037)	(0.032)	(0.029)	(0.024)	(0.022)	(0.021)
Observations	709	709	709	1,394	1,394	1,394

Table A3 shows that, although the overall response rate is higher in urban areas than in rural areas, treatment effects can be seen in both types of regions. Moreover, the three treatment conditions have similar impacts on overall responsiveness, on the probability of receiving public viewable responses, and probability of receiving direct information in the response.

Table A4 shows the treatment effects in counties where the population share of ethnic minorities in 2010 is below 10% and in counties where minority share of population is above 10%. Both subsamples are conditional on successful posting by the research team. The outcome variables include three binary indicators: (1) overall response; (2) publicly viewable response; and (3) response with direct information. Huber White robust standard errors are in the parentheses.

Table A4. The Causal Effects of Treatments: Ethnic Homogeneity

Dependent variables	Minority Pop. Share < 10%			Minority Pop. Share ≥ 10%		
	Overall	Public	Information	Overall	Public	Information
	(1)	(2)	(3)	(4)	(5)	(6)
T1: collective action threat	0.100	0.124	0.082	0.095	0.037	0.058
	(0.034)	(0.031)	(0.029)	(0.061)	(0.055)	(0.050)
T2: tattling threat	0.084	0.051	0.058	0.068	0.026	0.018
	(0.034)	(0.030)	(0.028)	(0.060)	(0.056)	(0.049)
T3: claims of loyalty	0.045	0.045	0.005	0.016	0.022	-0.017
	(0.034)	(0.030)	(0.027)	(0.058)	(0.055)	(0.045)
Constant	0.339	0.211	0.183	0.256	0.215	0.149
	(0.024)	(0.020)	(0.019)	(0.040)	(0.038)	(0.032)
Observations	1,649	1,649	1,649	454	454	454

Table A4 shows that our main results are not driven by a small number of minority-concentrated localities. In both subsamples, the three treatment conditions have similar impact on overall response rate. The threat of collective action seems to have stronger impacts on the probabilities of receiving publicly viewable responses in counties that are dominated by ethnic Han people than in counties that have more ethnic minorities. The threat of collection action and the threat of tattling to upper levels of government seem to have slightly larger impact on responses with direct information in counties where the population share of ethnic minorities is low.

Table A5 shows the treatment effects in counties with higher and lower levels of average economic growth rate from 2000 to 2010. High growth areas are counties where the nominal average annual growth rate is above 14.6% (the national median), and low growth areas are counties where the nominal average annual growth rates is below 14.6%. Localities whose growth rates are missing are dropped. Both subsamples are conditional on successful posting by the research team. The outcome variables include three binary indicators: (1) overall response; (2) publicly viewable response; and (3) response with direct information. Huber White robust standard errors are in the parentheses.

Table A5. The Causal Effects of Treatments: High and Low Growth Areas

Dependent variables	High Growth Areas			Low Growth Areas		
	Overall	Public	Information	Overall	Public	Information
	(1)	(2)	(3)	(4)	(5)	(6)
T1: collective action threat	0.103	0.098	0.079	0.106	0.112	0.083
	(0.043)	(0.038)	(0.035)	(0.042)	(0.039)	(0.037)
T2: tattling threat	0.071	0.069	0.053	0.101	0.018	0.051
	(0.041)	(0.037)	(0.034)	(0.043)	(0.038)	(0.037)
T3: claims of loyalty	0.026	0.055	0.011	0.061	0.027	-0.006
	(0.040)	(0.036)	(0.032)	(0.043)	(0.039)	(0.035)
Constant	0.302	0.191	0.153	0.331	0.234	0.194
	(0.028)	(0.024)	(0.022)	(0.030)	(0.027)	(0.025)
Observations	1,031	1,031	1,031	1,030	1,030	1,030

Table A5 shows that the treatment effects exist in both high and low growth counties, and the three treatment conditions have qualitatively similar impacts on all three outcomes in both subsamples.

Table A6 shows the treatment effects in counties with active and inactive online forums. Active forums are those with at least one publicly viewable citizen request that has a government response was posted within 30 days before the start of the experiment. Inactive forums are those without recently made, publicly viewable citizen requests with a government response. Both subsamples are conditional on successful posting by the research team. The outcome variables include three binary indicators: (1) overall response; (2) publicly viewable response; and (3) response with direct information. Huber White robust standard errors are in the parentheses.

Table A6. The Causal Effects of Treatments:
Active and Inactive Forums

Dependent variables	Active Forums			Inactive Forums		
	Overall	Public	Information	Overall	Public	Information
	(1)	(2)	(3)	(4)	(5)	(6)
T1: collective action threat	0.157	0.164	0.146	0.058	0.060	0.017
	(0.042)	(0.042)	(0.040)	(0.036)	(0.028)	(0.027)
T2: tattling threat	0.136	0.087	0.091	0.052	0.025	0.024
	(0.043)	(0.042)	(0.039)	(0.036)	(0.026)	(0.027)
T3: claims of loyalty	0.104	0.091	0.047	0.003	0.013	-0.028
	(0.043)	(0.042)	(0.039)	(0.034)	(0.025)	(0.024)
Constant	0.440	0.325	0.249	0.182	0.083	0.091
	(0.030)	(0.028)	(0.026)	(0.025)	(0.018)	(0.019)
Observations	1,062	1,062	1,062	1,041	1,041	1,041

Table A6 shows that counties with active forums have much higher levels of overall responsiveness (0.440) to the control condition than counties with inactive forums (0.182). Counties with active forums also have higher levels of publicly viewable responses and responses providing direct information.

In terms of the treatment effects, on active forums, all three treatment conditions lead to statistically significant increases in the overall response rate as well as the rate of publicly viewable responses. However, consistent with our overall findings, the threat of collective action has the largest causal effects. Claims of loyalty does not increase the probability of the most informative responses while threats of collective action and threats of tattling to upper levels do. For inactive forums, the effects of the three treatment conditions are smaller and less precisely estimated. Still, for all three measures of responsiveness, we see that the threat of collective action has the biggest coefficient estimates, followed by threats of tattling to upper levels, while claims of CCP loyalty has almost zero effects on all three outcomes.

The finding that the threat of tattling to upper levels of government also increases the rate of publicly viewable responses, though the magnitude of the causal effect is much smaller than that of threats of collective action, could be due to higher bureaucratic capacity in these counties or because a high level of public responsiveness demonstrates to superiors the county's ability to handle all types of citizen grievances, including citizens that threats to go above their heads.

Table A7 shows the correlations between county characteristics and government response rate in addition to the treatment effects. In column (1), the outcome variable is a binary indicator of unconditional government response. We then break it down to successful posting by the research team (column (2)) and government response conditional on successful posting (column (3)). All regressors, except for the treatment indicators, are standardized such that each has zero mean and standard deviation of one. Standard errors, as shown in the parentheses, are clustered at the provincial level to account for correlations of county characteristics within a province.

Table A7. The Correlations between Response Rate and County Characteristics

Dependent variables	Response (unconditional) (1)	Successful Posting (2)	Response (conditional) (3)
T1: collective action threat	0.079	0.005	0.104
	(0.020)	(0.022)	(0.025)
T2: tattling threat	0.065	0.009	0.085
	(0.023)	(0.021)	(0.028)
T3: claims of loyalty	0.033	0.006	0.043
	(0.025)	(0.021)	(0.030)
Log total government revenue	**0.071**	**0.052**	**0.081**
	(0.035)	(0.041)	(0.039)
Log population	0.017	0.037	0.009
	(0.018)	(0.019)	(0.020)
Log GDP	-0.026	-0.033	-0.029
	(0.040)	(0.045)	(0.043)
Percentage of ethnic minorities	-0.034	-0.065	-0.017
	(0.017)	(0.027)	(0.019)
Percentage of migrants	0.019	0.009	0.012
	(0.022)	(0.024)	(0.024)
Percentage of permanent urban residents	0.019	-0.063	0.048
	(0.027)	(0.035)	(0.032)
Average years of education	-0.017	0.067	-0.038
	(0.027)	(0.040)	(0.035)
Unemployment rate	-0.036	-0.022	-0.037
	(0.019)	(0.022)	(0.020)
Average nominal GDP growth (2000-2010)	-0.023	-0.004	-0.028
	(0.015)	(0.015)	(0.015)
Constant	0.231	0.726	0.309
	(0.026)	(0.027)	(0.030)
Observations	2,821	2,821	2,061

Table A7 shows that government revenue, often used as a proxy for state capacity, is positively correlated with the overall response rate. For example, a one standard deviation increase in total government revenue is correlated with a 7.1% increase in overall response

rate. The coefficient is comparable with the treatment effect of the collective action threat. Other results are not very stable and hard to interpret. The treatment effects reported in the main text remain unchanged, not surprisingly.

Table A8 shows correlations between forum characteristics and government response rate in addition to the treatment effects. The outcome variables include three binary indicators: (1) overall response; (2) publicly viewable response; and (3) response with direct information. Standard errors, as shown in the parentheses, are clustered at the provincial level to account for correlations of forum characteristics within a province.

Table A8. The Correlations between Response Rate and Forum Characteristics

Dependent variables	Overall	Public	Information
	(1)	(2)	(3)
T1: collective action threat	0.111	0.112	0.082
	(0.026)	(0.027)	(0.020)
T2: tattling threat	0.097	0.055	0.058
	(0.027)	(0.028)	(0.028)
T3: claims of loyalty	0.052	0.051	0.008
	(0.030)	(0.029)	(0.020)
Any existing responses	**0.053**	**0.076**	**0.042**
	(0.037)	(0.020)	(0.020)
Recent responses	**0.310**	**0.279**	**0.212**
	(0.025)	(0.023)	(0.024)
Instantly viewable	**0.191**	**0.179**	**0.100**
	(0.040)	(0.053)	(0.044)
Requiring a name	-0.022	-0.029	-0.031
	(0.031)	(0.031)	(0.025)
Requiring a telephone number	0.085	0.023	0.034
	(0.026)	(0.023)	(0.020)
Requiring an Email address	-0.015	-0.000	-0.015
	(0.026)	(0.023)	(0.018)
Requiring an address	-0.068	-0.037	-0.041
	(0.031)	(0.028)	(0.021)
Requiring an ID number	0.102	0.016	0.023
	(0.043)	(0.030)	(0.027)
Constant	0.124	0.067	0.076
	(0.039)	(0.033)	(0.028)
Observations	2,103	2,103	2,103

Table A8 shows that the three forum characteristics most predictive of these responsiveness outcomes are whether a forum has any publicly viewable posts along with a government response, whether there were any recent posts along with a response (made within 30 days of the start of our experiment), and whether a post is instantly publicly viewable. The treatment effects remain qualitatively the same as those reported in main text.