Supplementary Appendix (Consultation and Selective Censorship in China)

The following Appendices provide supplementary material for *Consultation and Selective Censorship in China* (Gueorguiev and Malesky). Appendix A and B offer discourse summaries and references to government consultation efforts for content topics analyzed in KPR (2013) and KPR (2014), respectively. Appendix C describes the replication data used in the main analysis. Appendix D elaborate on assumptions and simulation decisions touched upon in the main text, as well as providing our attempts at replication and extension.

A. Appendix A: Policy Background

In this section of the appendix, we explain our "Consultation" designation, used in Table 1. In short, we designated a topic as having been consulted on if there was a formal or informal public consultation (Notice & Comment period) prior to or during the "volume burst" of activity picked up in KPR's analysis. For the vast majority of "Policy" events in KPR's sample, we show that this was indeed the case. In making our case, we want to be abundantly clear that we are not making the claim that China's leaders make their policy decisions in anything that could be construed as a democratic process. We do not intend to imply that criticism was uncensored during the consultation campaign and we are not making the claim that leaders incorporated public input into their decisions. The simple case we are making is that, for a vast majority of KPR's policy items, the regime actively engaged the public in policy discussion, at times as an attempt to assuage popular grievances (as in the case of regulating housing demolition) and at others as a public service announcement for upcoming enforcement (as in the case of the smoking ban). In each of these instances, the Chinese leadership saw it was advantageous to make policy in public and for precisely that reason, we feel that these topics are not representative of normal censorship terrain. Put simply, if the regime is actively trying to stoke public interest on a regime-defined policy topic, we cannot ignore the possibility that they might also be less interested in censoring people who take notice and discuss that same topic online.

Our review suggests that 3 of the remaining 4 "Policy" categories were improperly coded as "Pol-

icy" (see below for a full discussion of each coded policy item). We also note that three discussions categorized as "news" overlap significantly with very similarly depicted "Policy" topics, these include: (i) "Worries about food prices rising," (ii) "NDRC raises power prices in 16 provinces," and (iii) "Discussion of the drawbacks of raising children in one-child families, focused on examples of four students who killed themselves and others." While these coding decisions should have no impact on the substantive findings from KPR's analysis regarding CAP, they do raise questions about the categorical distinctions and topic clustering. Moreover, given that policy discussions are often prompted or at least complemented by state-initiated news coverage, the associated volume bursts are theoretically different from the more natural type of buzz that coincides with an unexpected event or rumor.

A1. U.S. Treasury Secretary pushes China on exchange rate

This volume burst is related to US exchange rate policy, not Chinese policy. As such, we see this topic as being more accurately labeled as "News", not "Policy."

A2. US-China summit

While US-China relations could be interpreted as falling under the purview of "Foreign Policy," no specific policies or policy changes were introduced or announced during the summit. As such, we see this topic as being more accurately labeled as "News", not "Policy."

A3. Wen Jiabao signs new regulations on housing demolition

Housing demolition and expropriation is one of the top sources of discontent in China, fueling protests, petitions, and widespread animosity towards local governments. That being said, the regime has pursued reform and has, at various times, engaged the public in its efforts. Spurned by widespread protests and the public self immolation of a 47 year old Sichuan woman surrounded by demolition crews in 2009, the state moved to enact reforms to demolition procedures and compensation provisions in early 2010.[7] The state council opened up public consultation on a proposed compensation for land expropriation and demolition《国有土地上房屋征收与补偿条例》 with

[7] See: "China's draft house expropriation regulation sparks debate" `http://www.gov.cn/english/2010-01/30/content_1523825.htm`.

a second round in December of 2010.[8] The issue of home demolitions was widely debated in the traditional media and online. Prior to the national legislative session in 2010, the People's Daily published a poll stating that 68% of citizens felt that reforming the demolition issue was the most important legislative goal, with a list quoted grievances and critiques as context.[9] Indeed, many public criticisms of the state were in fact published on state-run media outlets as further justification for why reforms were so vital.[10] The fact that the state had initiated public debate on the topic more than year prior to the observation sample suggests that public criticism over the policy was unlikely to be sensitive and therefore less likely to be censored. In short, when Premier Wen announced the new rules in January of 2011, the country had already been openly debating the issue for over one year.

A4. Real estate tax pilot in Chongqing and Shanghai

According to China's constitution all land is owned by the state. A 1988 amendment allowed transfer of use rights, which set off a flurry of transactions, especially by local governments who generate revenue by selling public land. Since then a number of legal and regulatory revisions have been adopted in an effort to create a functioning real estate market, culminating in the 2007 Property Law, which codified legal rights for property owners, as well as liabilities: including a tax on any income from leasing or transfer of property.[11] Initially, these taxes were only to be levied on (1) Chinese enterprises with foreign investments; 2) foreign enterprises; or 3) foreign individuals. With the start of the global financial crisis in summer of 2007, however, even initial trials were held off. By 2010, the economy had recovered and housing prices were bubbling. With growing calls for cooling down the housing market, the state restarted the property tax effort in earnest with the

[8] See: 国有土地上房屋征收与补偿条例（征求意见稿）retrieved from: http://www.gov.cn/gzdt/2010-01/29/content_1522355.htm and 国有土地上房屋征收与补偿条例(二次征求意见稿), retrieved from: http://www.gov.cn/jrzg/2010-12/15/content_1766387.htm.

[9] see: http://npc.people.com.cn/GB/10933553.html.

[10] http://www.chinadaily.com.cn/china/2011-01/22/content_11900647.htm.

[11] The Property Law was anticipated in 2006 but was delayed when leftists clashed with reformers in what amounted to a public ideology fight, see: http://www.nytimes.com/2007/03/09/business/09yuan.html.

start of 2010,[12] with Shanghai and Chongqing as the most likely pilots.[13] This process included an array of public debates, by experts and economists on television,[14] and by the general public online.[15] The real estate tax pilots adopted in Shanghai and Chongqing, where therefore not a surprise; nor were they particularly controversial. These taxes, which only affected second homes and idle property of the very wealthy,[16] were about putting downward pressure on an overheated property market, not generating revenue for the state.[17]

A5. Minister of health releases report on improving health access (also see: A)

Health Minister Chen Zhu's report came on the heals of extensive reforms in Chinese health care and extensive consultation (see A below). More to the point, the highlights of the report (i.e., the reason it got attention in the media) was the Minister Chen referenced public complaints "看病难、看病贵" (seeing a doctor is too hard, seeing a doctor is too expensive) to underscore areas still in dire need for reform.[18] Chen's were not new. Rather they reflected widely discussed criticisms of the health reform campaign circulated in the Chinese press. For example, Chen himself had been cited as saying that over 40% of Chinese are "dissatisfied" with the health system, despite massive investments.[19] Similarly, a number of outlets ridiculed the skyrocketing costs of prescription drugs, some going so far as to say that medical providers were "addicted to pharmaceuticals."[20] Others implicitly questioned the focus on big infrastructure and the lack of investment in smaller clinics.[21]

[12] http://news.sohu.com/20100129/n269898356.shtml.

[13] Beijing, Tianjin, and Guangzhou were also highlighted as future pilot sites, see: http://news.sohu.com/20100518/n272174312.shtml and http://www.reuters.com/article/china-property-tax/china-property-tax-may-start-from-next-year-media-idUSTOE68K00A20100921.

[14] http://business.sohu.com/s2010/economistforum19/

[15] https://goo.gl/5G9uqE and http://special.cnfol.com/3785,00.shtml.

[16] See: http://www.nytimes.com/2011/01/28/business/global/28yuan.html.

[17] Estimates from Chongqing put tax at $30 million, to be used for affordable housing, see: www.china-briefing.com/news/2011/01/28/chongqing-and-shanghai-introduce-new-property-tax.html.

[18] For highlights from the report "Health Minister Report on Health Reform Highlights" (卫生部部长陈竺回应医改热点问题), see: http://politics.people.com.cn/GB/1027/13956641.html.

[19] See: http://opinion.people.com.cn/GB/11676336.html.

[20] See: http://opinion.people.com.cn/GB/13505990.html

[21] See: http://opinion.people.com.cn/GB/13487112.html

A6. Clean-up campaign announced for lead acid batteries

Heavy metals pollution in China is extensive and represents possibly the most serious health risk facing the country, especially for the young. Fueled by growing industrial demand along with the rise of so-called 'recycling' plants, which process used electronics from other countries, heavy metals pollution—lead in particular—reached pandemic levels by 2009, when official reports of lead poisoning affecting thousands of children sparked numerous protests around the country. Chinese authorities estimated that about 10% of all arable land and rice produced in China was contaminated by cadmium and other cancer causing heavy metals.[22] Even if these were optimistic estimates, they were still devastating and frightening. Spurned by growing unrest, the national government began earnest reform efforts in 2009. The MEP issued a call for public comment on a proposed set of guidelines for reducing and mitigating soil pollution 《污染场地土壤环境管理暂行办法》in December of 2009.[23] In November of 2010, the MEP also issued consultation procedures on a specific law aimed at reducing heavy metals and lead from the battery industry.[24] Alongside the public consultation campaign, national media focused on lax enforcement and collusion on the part of local governments and polluters. In February of 2011, Premier Wen Jiabao alongside Environmental Minister Zhou Shengxian announced the start of a year-long campaign against heavy metals polluters, including "blanket inspections" and "suspensions" and immediate suspension of operations for those found to not be in compliance.[25] As part of the campaign, local citizens where encouraged to notify authorities about violations to help identify illegal polluters. Consequently, the March 2011 high volume burst on lead detected in KPR's analysis was an instance of the state deliberately spotlighting its cleanup intentions. The goal here, in addition to brandishing regime responsiveness, was partially aimed at recruiting citizens as informants precisely because of frustration over how difficult it is to regulate the devastating and largely hidden illegal battery industry.

[22] See: http://science.time.com/2011/02/23/heavy-metal-millions-of-tons-of-chinese-rice-contaminated/

[23] See: 《污染场地土壤环境管理暂行办法》（征求意见稿） http://www.mep.gov.cn/gkml/hbb/bgth/200912/t20091223_183364.htm.

[24]电池行业重金属污染综合预防方案（征求意见稿）, retrieved from: http://www.gov.cn/gzdt/2010-11/26/content_1754232.htm.

[25]http://www.chinadaily.com.cn/bizchina/2011-02/19/content_12044228.htm.

This information would soon be used to very publicly clampdown on over 1600 polluting factories (or roughly half of China's lead battery producing capacity) in the summer of 2011 (see A).

A7. Reports of accelerating real estate tax pilots (refer to A4)

A8. NPC session focuses on health care reform

Public debate on revising China's health system began in 2008 when the National Development and Reform Commission (NDRC) announced a massive online consultation process (Balla 2014). In April of 2009, the CCP Central Committee and the State Council jointly announced the beginning of a major health care campaign aimed modernizing China's existing healthcare system and extending a basic healthcare guarantee to the entire population over next decade.[26] This ambitious policy campaign was also complex, requiring investment in basic infrastructure, regulation, along with insurance and pricing schemes to tie them together. Many details were to be "ironed out" over the next two years and then revisited in 2011, a year specifically called out in the 2009 announcement as a point of reflection and refinement. In anticipation of the 2011 progress report, national and local authorities held numerous public consultations on a variety of issues, from regulation to pricing.[27] In a heavily publicized session in February of 2010, Chinese Premier Wen Jiabao fielded public questions and criticisms, many of them regarding health care.[28] The NPC session referenced by KPR came on the heels of this developing discourse, and provided yet another public forum, complete with a televised press conference, for discussing what had been achieved over the last two years, as well as what had not.[29] For instance, officials reported that the 90 percent insur-

[26] See: "China unveils health-care reform guidelines," retrieved from: http://www.china.org.cn/government/central_government/2009-04/06/content_17559519.htm

[27] See: Consultation on Drug Pricing 药品价格管理办法(征求意见稿) and Drug Supply Shortages 《短缺药品和原料药经营者价格行为指南 (征求意见稿)》, Consultation on Medical Instruments (《药品价格管理办法(征求意见稿)》), Consultation on Medical Transparency: 《医疗卫生机构信息公开实施办法(征求意见稿), Consultation on Medical System Deepening: 《关于深化医药卫生体制改革的意见（征求意见稿）》

[28] See: Wen Jiabao public discussion on health costs: available at: http://politics.people.com.cn/GB/11041147.html.

[29] See Health Care Press Conference: http://www.china.com.cn/zhibo/zhuanti/2011lianghui/2011-03/09/content_22083620.htm?show=t.

ance has been surpasses with over 95 percent of the population into the new healthcare program (up from 30 percent in 2003). They also acknowledged that the gain were far from sufficient, citing that out-of-pocket costs for inpatient care exceeded 50 percent in most parts of the country and that most rural and county hospitals still lacked necessary equipment and facilities. Officials also used the occasion to announce a 13.6 percent increase in healthcare spending from the prior year and hinted at a coming ban on public smoking as an example of preventative reform. In short, the regime consulted widely on healthcare and used the 2011 session as a public forum for both touting their achievements and setting the stage for further reform.

A9. Education Reform for Migrant Children

Education reform, and especially eduction for migrant children, is a controversial topic, sometimes even provoking street protests. But this does not mean it is not debated in public discourse nor that the government is uninterested in public input. For instance, national consultation on compulsory education reform 《国家中长期教育改革和发展规划纲要》 began as early as March of 2010, one year prior to the sample observation.[30] In Beijing, the epicenter for controversy regarding migrant access to eduction, consultation on compulsory eduction began in July of 2010.[31] In March of 2011, state run press published a number of stories advocating for more opportunities to migrant children.[32] In short, while migrant education is a sensitive issue, the burst of interest picked up in KPR's study was the tail end of a long and deliberate attempt by the regime to engage that sensitive issue and rallying public opinion to its reform policies. Announcing the reforms on March 8 2011, at the start of the annual legislative session, was precisely the forum for maximum public attention.

[30] See 《国家中长期教育改革和发展规划纲要》 retrieved from: http://www.gov.cn/xwfb/2010-03/02/content_1545146.htm.

[31] See:《北京市中长期教育改革和发展规划纲要(2010-2020)》征求意见稿, retrieved from: http://www.gov.cn/gzdt/2010-07/20/content_1658726.htm

[32] For example, see: 教育公平，让随迁子女融入城市 (Fair Education, Let the Children in), retrieved from: http://www.moe.gov.cn/jyb_xwfb/s5147/201103/t20110307_115654.html.

A10. Adjustments to the One Child Policy Discussed at the Two Meetings

September of 2010 marked 30 years for China's One Child Policy, a controversial family planning policy that limited most Chinese families to one child (minorities and other specific categories were subject to slightly less stringent controls). This mark is important, because the initial policy, adopted in 1980, specifically stated that in 30 years the country ought to revisit the issue and adopt a more lenient set of policies.[33] As such, the Fall of 2010 was a focal point for reflecting on One Child Policy, provoking a number high profile public discussions. For instance, the Chinese Academy of Social Sciences (CASS) published a report arguing that officials overestimate fertility in China and that the government ought to lift child restrictions. Also that year, state press carried a story about a Beijing professor who bucked regulations and openly had second child, raising speculation that enforcement would be relaxed.[34] Officially, reports were coming in of local authorities hinting at a relaxation.[35] Soon a number of media outlets were carrying open debates about the future of the policy, with sections devoted to public comments. In November of 2010, the People's Daily, China's biggest newspaper, initiated its own online survey "二胎开放不开放，你怎么看?" asking the public what it thought about a two-child policy.[36] By March of 2011, the One Child Policy become the most hotly debated policy topics on the Chinese Internet.[37] According to people's daily online monitoring of public opinion and statistics, more than half of Internet users thought allowing

[33] See: "After thirty years, todays urgent demographic problem will ease, and we will be able to adopt a different set of policies" September 1980 CCP Central Committee Open Letter: 1980年9月党中央《公开信》明确提出："到三十年以后，目前特别紧张的人口增长问题可以缓和，也就可以采取不同的人口政策了"

[34] See "The child in time" The Economist, April 19, 2010, retrieved from: `http://www.economist.com/node/16846390`.

[35] See Beijing Population and Planning deputy director comments here `https://news.qq.com/a/20100318/001238.htm` as well as a summary of other local initiatives at relaxing the family planning policy here `http://magazine.caijing.com.cn/2010-03-28/110404803.html`.

[36] See: "Two Child Policy, Yes or No," (二胎开放不开放，你怎么看？) retrieved from: `http://t.people.com.cn/topicsearchV3.action?topicId=1339`.

[37] `http://news.sina.com.cn/c/2011-03-08/211522076512.shtml` and `http://2011lianghui.people.com.cn/GB/215728/14113471.html`

a second child would be a good revision to the existing policy.[38] Importantly, these statistics and the massive public desire for reform was broadcast from the halls of the Great Hall of the People during the annual legislative session and used as an opportunity for the policymakers to forecast sweeping reforms in the years to come. Based on the topic title and dates provided by KPR, it was discussion around this very public pronouncement that resulted in burst of online commentary, not a insurgent campaign of criticism against the state.

A11. Nuclear Energy

This event is coded as starting on Mar 13th, but the actual announcement was made on March 17th.[39] Assuming that the KPR sample is indeed picking up posts from before the actual announcement to halt nuclear energy production, the content contained during that prior period cannot be about the claim itself. More likely, what KPR are picking up is other types of commentary about the evolving Fukushima tragedy alongside fears of radiation reaching the Chinese coast. As such, we think this particular subject category is improperly coded.

A12. Reports that China delays smoking ban implementation (refer to A)

As discussed in ref A the smoking ban was heavily debated at both the national and local levels. Trial runs had also been held during "smoke-free" Olympics, Shanghai Expo, and Asian Games. Local pilots had also been experimented with in come localities, like Nanchang in Jiangxi, without much success. Yet, the the purported "delay" announcement cited by KPR was not a "delay" but rather a call for urgency made by authorities at the tail end of the NPC meeting in March of 2011. This call specifically referenced lessons learned from the past and insights gained from consultation on how to improve implementation and enforcement for a new round of trials, slated for implementation on May 1st of 2011.[40] In other words, this was not a delay but a public service announcement designed to get a lot of attention.

[38] See: Is One Child Policy Reform Inevitable? (调整独生子女政策已刻不容缓？) http://2011lianghui.people.com.cn/GB/215728/14093333.html.

[39] See: http://politics.people.com.cn/GB/1024/14163113.html.

[40] See "公共场所禁烟亟需全国性法规撑腰" (Urgent Need for Smoke Ban) http://news.eastday.com/c/20110325/u1a5805345.html.

A13. NDRC raising price of refined oil

Nobody likes higher prices, especially not for essentials like oil and fuel. In fact, price liberalization was the proximate motive for China's initial plunge into policy consultation during the 1990s (Stromseth et al. 2017). So when the NDRC raised prices in the spring of 2011, it was big news, but it wasn't unexpected. Public consultation over how and when to raise prices began over seven months earlier and the main takeaway from those consultations was that the NDRC ought to implement more market driven approaches to price adjustment, such as faster market responsiveness to limit opportunities for arbitrage.[41] The price hike announced on April 07, 2011, picked up in KPR's analysis, was initiated under these terms and took effect promptly thereafter.[42] As such, the announcement came on the heels of a public discussion on pricing reform and was intended to be transparent. This does not mean it was not controversial. However, the controversy did not start until about 10 days later when prices ticked up and lorry workers in Shanghai went on strike.[43] This latter period, however, was not pickup up in KPR's analysis, presumably because it was censored and therefore did not result in an observable volume burst of online activity. Interestingly, authorities in Shanghai quickly caved to protests and provided some fee relief to drivers on April 25, 2011.[44] By October of 2011, authorities seeming to bend in the face of growing public dissatisfaction, lowered prices and began a major publicity campaign about how they had "lowered prices," including a dedicated Xinhua website featuring extensive expert and citizen commentary, including highly critical opinion pieces, on the pricing debate.[45] Had KPR's window of observation extended through October of 2011, this discussion would likely have a registered a high volume burst, along with below average censorship.

[41] See: http://finance.sina.com.cn/chanjing/cyxw/20100921/01108689743.shtml.

[42] See: http://www.china.com.cn/policy/txt/2011-04/07/content_22304486.htm.

[43] See Shanghai fuel strikes: https://www.reuters.com/article/uk-china-strike/third-day-of-shanghai-strike-threatens-china-exports-idUSLNE73K05M20110422.

[44] See: Shanghai lowers fees to assuage angry drivers http://finance.qq.com/a/20110425/002906.htm.

[45] See: http://www.xinhuanet.com/energy/zhuanti1/.

A14. Smoking ban comes into effect 5/1

The smoking ban, initiated on May 1st, was indeed a big deal, but it was one that came on the heels of several trial runs (see A) and extensive consultation by the state which hoped to elevate the topic in public discourse in the hope that more people would now about it and comply voluntarily. As early July of 2010, the General office of the State Council issued public notice and request for comment on a Public Smoking Prohibition Rule 《公共场所控制吸烟条例》.[46] In October of 2010, the Legislative Affairs Office of the State Council issued a similar notice for smoking ban, specific to urban settings 《城市公共交通条例》.[47] Cities that were to pilot the ban held public consultation in advance of implementation. [48]

A15. Talk about letting electricity prices increase in June, during peak usage

In October of 2009, the NDRC began notice and comment consultation on electricity pricing reform 《关于加快推进电价改革的若干意见》.[49] On October 9th 2010, the NDRC also issued public notice and comment on a proposed ladder-based pricing scheme for residential consumers.[50] A number of national media outlets set up dedicated webpages for debating the pricing issue, with experts and citizens weighing in.[51] The May 2011 discussions, picked up in KPR's analysis, most

[46] See:《公共场所控制吸烟条例（送审稿）》公开征求意见的通知, retrieved from http://www.gatc.org.cn/rule.php?item-46.html.

[47] See:《城市公共交通条例（征求意见稿）》, retrieved from: http://www.gov.cn/gzdt/2010-10/22/content_1728326.htm.

[48] For example, see: Consultation in Beijing, retrieved from: http://news.qq.com/a/20110217/000178.htm, Lanzhou, retrieved from: http://xn--xcrtj123e.xn--fiqs8s/article/xwzx/fzxw/2009/201105/20110500341411.shtml, and Tianjin on April 12, 2011, retrieved from: http://www.radiotj.com/jingji/system/2011/04/12/000352929.shtml. Other pilot cities with consultation included Nanjing, Qingdao, Shanghai, Shenzhen, and Tangshan

[49] See: "NDRC collects comments on electricity pricing reform" 《关于加快推进电价改革的若干意见(征求意见稿)》 http://www.chinanews.com/cj/cj-gncj/news/2009/11-19/1974306.shtml.

[50] See: 《关于居民生活用电实行阶梯电价的指导意见(征求意见稿)》, retrieved from: http://www.ndrc.gov.cn/xwtt/201010/t20101009_374294.html as well as《关于加快推进电价改革的若干意见（征求意见稿）》, retrieved from: http://finance.sina.com.cn/focus/dianjia2011/

[51] For instance, see Hexun News and 163.com portals: available at: http://news.hexun.com/2011/2011dj/ and http://money.163.com/special/dianjiatiaozheng/.

likely relates to announcements made by Chinese authorities emphasizing that future price increase would *not* affect residents.[52] Interestingly, the proximate cause of the more than modest price increases was a string power shortages across a number of northern and eastern provinces, a topic of criticism which was not picked up in KPR's sample. In this light, the announcement about price increases not only represents the tail end of a consultative process on price reform, it also suggests a deliberate attempt by the regime to publicize at least one of its strategies for dealing with a serious energy shortage problem. Consistent with our overall argument, these features suggest that announcements on price increases were intended for public consumption and discussion and therefore less prone to censorship.

A16. China places quota on rare earths

There was no consultation, as far as we are aware, on this policy issue.

A17. MEP rules on Lead/Heavy Metals (refer to: A)

As discussed in A, China's environmental agencies began consultation on heavy metals soil pollution 《污染场地土壤环境管理暂行办法》and lead batteries pollution《电池行业重金属污染综合预防方案》in late 2009 and 2010 respectively. The debate continued in earnest during first few months of 2011 at which time these rules were adopted and an unprecedented year long clean campaign, involving over nine different central ministries, was announced and then reemphasized during the annual legislative session in Beijing.[53] Now, the May 2011 volume burst picked up in KPR's analysis most likely coincides with an MEP notice issued that month announcing an impending crackdown on illegal battery operations.[54] Interestingly the notice emphasized the role of the public participation in tacking illegal polluters, both by providing information as well reducing demand for their products. To this end, the notice promised greater transparency and sharing on

[52] For example: this report discusses moderate price hikes in 15 provinces, with express notice that residential consumers would be spared http://hebei.hebnews.cn/2011-05/31/content_2057189.htm.

[53] See: initial announcement here http://www.chinadaily.com.cn/bizchina/2011-02/19/content_12044228.htm and reaffirming statement here: "Illegal battery makers face crackdown" http://www.chinadaily.com.cn/china/2011-03/29/content_12240887.htm.

[54] See the official notice here: http://www.mep.gov.cn/gkml/hbb/bwj/201105/t20110519_210865.htm.

pollution data. Consistent with the claims made in this notice, just two months later authorities published a list of nearly 1600 factories, including name, address, and detailed pollution statistics, that were in violation and would either be stopped or permanently closed as a result. Environmental organizations, such as Greenpeace China, used the data to create online maps so that citizens could whether they were living near lead polluting factories.[55] In short, the 2011 national campaign against lead pollution was premised on the realization that top-down regulation and enforcement was not sufficient and that public transparency and involvement would be vital. This is not to say that there has not been extensive censorship on the issue of heavy metals pollution, but the 2011 campaign referenced in KPR is an example of an effort that was uniquely keen on public participation.

A18. Reports of new indoor smoking ban refer to A)

As discussed in A, the indoor smoking ban was extensively debated, involving several rounds of consultation, at both the national and local level, beginning with the 2008 Olympic games and culminating in the May 1st 2011 ban. The May 31st discussion picked up in KPR's analysis involved a few new cities joining the ban list (Guangzhou and Lanzhou, for instance) as well as reflection from the state about how difficult it was to enforce the ban and a need for even more public awareness efforts on the part of the state in the hope of more cooperation from the public.[56]

B. Appendix B: Policy Background

In this section of the appendix, we provide additional discourse summaries for topic bursts used in King et al. (2014). As in Appendix A, our principal contention is that posts swept up by KPR's volume burst sampling strategy include areas in which online debate included topics on which the regime had either sought to attract public attention or formally solicited critical input. As a result, we should expect that critical posts within this range of topics enjoys a lower level of criticism, than critical posts on unprompted and unsolicited topics. Consider the famous bun-shop event which

[55] See: "Are you living next to a lead-acid battery factory?" `http://www.greenpeace.org/eastasia/publications/reports/toxics/2011/lead-acid-battery-map/`.

[56] See reflection on implementation difficulties here: `http://news.sohu.com/20110503/n306731973.shtml`.

KPR (2014) use as an illustrative example, in which Xi Jinping was videotaped eating steamed buns at a local Beijing shop. Images were widely circulated and commented on by social and state-run media. Even the minutiae of Xi's side dish was debated.[57] In short, the entire event seemed choreographed for public consumption, presumably to help brandish Xi Jinping as a man of the people. This likely contributed to the volume burst, while also lowering the level of sensitivity that typically accompanies commenting on top leaders. Compare this to a similar incident that occurred several months later in which Xi allegedly took an incognito taxi stroll, whilst chitchatting with the driver, presumably to get an unvarnished view from an average Beijinger. The story briefly erupted in the media, only to be meticulously scrubbed away as fake news. No volume burst remains of the taxi ride.

Going to KPR 2014's experimental sample, we observe that the three lowest rates of censorship, both automated and human moderated, occurred on topics surrounding the issue of amending China's Golden Week Holiday, fees for yellow lights, and a proposed rental tax. In each of these, we contend that the Chinese government had already lowered the barriers to discourse by issuing calls for comment and encouraging debate.

B1. Golden Week

There are several "golden weeks" of paid leave in the Chinese calender and their meaning and length has fluctuated over the decades. KPR refer specifically to the 7-day golden week surrounding the Chinese national day in October.[58] As KPR point out, the long-holiday is both loved and deeply hated for the congestion and chaos it precipitates, as an estimated 10 percent of the population tries to pack into planes, trains, and tourist hot spots. Unsurprisingly, golden week inspires many complaints, online and offline. Importantly, the Chinese government has, on a number of occasions, prompted expert and public debate on reforming the holiday system. In 2006, Cai Jiming, a Tsinghua professor and member of the CPPCC, brought up the proposal to abolish the October

[57] He ordered mustard greens (jiecai) which sounds like beware wealth; a signal to Xi's still nascent war on corruption.

[58] KPR refer to this golden week as spanning 10 days, which might be including the 3 day golden week Chinese citizens receive in May.

and May golden weeks during the annual national legislative session.[59] Then, in November 2007, the Legislative Affairs Office of the State Council issued a public call for comments on restructuring the holidays.[60] As a result, the May golden week was shortened to three days, with the other two days shifted around the calender. In 2013, the year in which KPR deployed their online field experiment, golden week was particularly frustrating, with many attractions seeing a doubling of visitors. In Jiuzhaigou National Park, thousands were left stranded outside the park gates which filled to capacity. Central authorities again turned to the public, issuing an online public poll in the days following the holiday asking whether citizens thought the system should again be revised. Emboldened the by the invitation for comment, over 2 million respondents participated in the survey, with over 70 percent expressing deep dissatisfaction with the current arrangement.[61] Naturally, respondents disagreed sharply on possible solutions with roughly equal proportions agreeing that the 7-day system "should not" be retained and that the alternative 3-day "should not" be adopted. Needless to say, golden week in China is still frustrating, reforms are still ongoing, and public debate on the issue remains quite vibrant. Observing lower levels of censorship on this topic, thus is also unsurprising.

B2. Rental Tax Policy

In Appendix A4 we documented regime initiated consultation surrounding real-estate tax pilots in major Chinese cities. The rental tax pilots identified in KPR 2014 are an extension of that discussion. Moreover, the specific plans concerning taxing rental fees were opened for consultation in the affected cities.[62] These calls for comment and ensuing impact any regulatory changes would have on people's pocketbooks naturally stimulated debate and criticism towards the policy proposal in question. This type of prompted criticism, however, is categorically different from that of overt criticism towards the Chinese government or regime more broadly.

[59] See: `http://www.chinadaily.com.cn/china/2006-12/18/content_761961.htm`.

[60] See: `http://www.gov.cn/fwxx/content_796912.htm`.

[61] See: `http://news.sina.com.cn/c/2013-10-14/023928423721.shtml`.

[62] For example: see the May 2013 call for comment issued by the Beijing Commission for Housing and Urban Development: `http://www.bjjs.gov.cn/bjjs/xxgk/yjzj/318694/index.shtml`.

B3. Yellow Light Fines

The yellow light topic is interesting insofar as it underscores why China's leaders engage in consultation in the first place. During the last weeks of 2012, traffic bureau officials in Beijing devised a plan to alleviate bottlenecks in intersections by requiring vehicles to stop on yellow, in addition to the traditional red. The new policy involved no monetary penalty and was to be enforced by existing CCTV cameras. Penalties would come in the form of 6 (out of 12) license points and were intended to come into effect almost immediately, starting January 1st 2013.[63]

Although well-intentioned, the speed and disregard for public consultation during drafting of the new rules led to its demise (Gueorguiev 2014). The same day the rule was announced and adopted, residents and experts began to harangue it and it's authors. Some raised safety concerns about the increased risk of rear-end collisions, but most pointed to the blatant disregard for basic physics; i.e. cars need time to stop. Surely and swiftly, public uproar resulted in an implementation pause and then permanent shelving within less than a week of the announcement. On January 6th of 2013, the Ministry of Public Security issued a mae culpa of sorts, acknowledging that the yellow-light regulations were poorly devised and implemented.[64] Interestingly, the ministry pointed to the lack of public consultation as the principal source of problems, committing to seek out public input on the issue going forward.

A move from point penalties and fines to education, which KPR allude to in their experiment, was one of several adjustments to the yellow light policy—others being the adoption of blinking green lights in advance of yellow and countdown timers, along with other suggestions coming from the public.[65] While it would be interesting to know how censors dealt with the viral, unsolicited criticism that came alongside the implementation of the original yellow light policy on January 1st, 2013, by the time KPR deployed their experiment in April of 2013, the topic had already erupted and entered the realm of consultation.

[63] For further background see: `http://news.ifeng.com/mainland/special/xinjiaogui/`.

[64] See: `http://news.sina.com.cn/c/2013-01-06/164925967661.shtml`.

[65] For some examples, see: `http://news.jsyks.com/n_57dff3`.

C. Appendix C: KPR's Replication Files

KPR provided us with a dataset containing aggregate data on the 87 topic-level bursts. This dataset contained the event name, the topic code assigned to each burst, and a measure of average *Censorship Magnitude* calculated for each burst (see Figure C1). Note that the burst-level file does not contain the number of observations within each burst or an aggregate measure of criticism.

Figure C1: Burst Level Dataset (King, Pan, and Roberts 2013)

	A	B	C	D	E	F	G	H	I	J
1	Event Date	Start	End	Censorship Magnitude	Category	Description	Fig 4 Label	Notes		
2	2011-05-30 to 2011-05-30	5/30/11	5/30/11	0.755913313	collective action - real protest	Protests happen in Inner Mongolia over death of Mongolian herder	Protests in Inner Mongolia			
3	2011-04-29 to 2011-04-29	4/29/11	4/29/11	0.513791957	pornography	Ads for pornography	Pornography Disguised as News			
4	2011-01-11 to 2011-01-13	1/11/11	1/13/11	0.475630252	criticism of the censors	Shanda literature sues Baidu for copyright infringement	Baidu Copyright Lawsuit			
5	2011-06-15 to 2011-06-15	6/15/11	6/15/11	0.398512204	protest	Protests happened in Zengcheng over dispute between police and p	Zengcheng Protests			
6	2011-07-03 to 2011-07-03	7/3/11	7/3/11	0.398082971	pornography	Ads for pornography	Pornography Mentioning Popular Book			
7	2011-04-07 to 2011-04-08	4/7/11	4/8/11	0.371428571	individuals	Ai weiwei arrested. Ai weiwei has mobilized collective action on th	Ai Weiwei Arrested			
8	2011-01-21 to 2011-01-26	1/21/11	1/26/11	0.351462451	protest	Villagers from Shuyang county, Jiangsu gather to protest lead acid b	Collective Anger At Lead Poisoning in Jiangsu			
9	2011-01-19 to 2011-01-19	1/19/11	1/19/11	0.30585579	criticism of the censors	Anniversary of Google leaving China, talk of Google hacks	Google is Hacked			
10	2011-03-12 to 2011-04-07	3/12/11	4/7/11	0.258810149	individuals	ChenFei (陈飞) advocates for green lottery. Chen Fei has organized	Localized Advocacy for Environment Lottery			
11	2011-01-15 to 2011-01-22	1/15/11	1/22/11	0.226058811	criticism of the censors	Anniversary of Google leaving China				
12	2011-05-26 to 2011-05-27	5/26/11	5/27/11	0.209109312	protest	Coordinated bombing in Fuzhou to protest housing demolition	Fuzhou Bombing			
13	2011-03-18 to 2011-03-30	3/18/11	3/30/11	0.138305942	criticism of the censors	Baidu sued for copyright infringement				
14	2011-05-19 to 2011-05-22	5/19/11	5/22/11	0.132610939	criticism of the censors	Fang Binxing, architect of China's Great Firewall, pelted with shoes	Students Throw Shoes at Fang BinXing			
15	2011-03-17 to 2011-04-14	3/17/11	4/14/11	0.132124352	protest	Many people make run on iodized salt after Japanese earthquake	Rush to Buy Salt After Earthquake			
16	2011-04-23 to 2011-04-23	4/23/11	4/23/11	0.122881356	criticism of the censors	New regulations related to 50c cents, discussion of fifty cent activiti	New Laws on Fifty Cent Party	This is mistakenly SPAM in the replication dataset for Figure 3		
17	2011-01-17 to 2011-01-17	1/17/11	1/17/11	0.112807019	nationalism	Taiwan starts air defense exercise. Issues over Taiwan has mobilized nationalistic protest in the past				
18	2011-06-12 to 2011-06-20	6/12/11	6/20/11	0.10523203	nationalism	China conducts live fire drills over territorial dispute with Vietnam.	Issues of territorial disputes have mobilized nationalistic protest in the past.			
19	2011-01-21 to 2011-01-21	1/21/11	1/21/11	0.101207386	news	news about inflation in China				
20	2011-03-13 to 2011-03-13	3/13/11	3/13/11	0.085687382	news	Company getting an IPO				
21	2011-03-31 to 2011-03-31	3/31/11	3/31/11	0.084949415	news	Reports of the impact of the Japanese earthquake on solar power				
22	2011-01-31 to 2011-02-11	1/31/11	2/11/11	0.066772237	policy	Reports of news real estate tax pilot in Chongqing and Shanghai				
23	2011-01-18 to 2011-01-27	1/18/11	1/27/11	0.057416797	news	HK opening of Let the Bullets Fly				
24	2011-05-13 to 2011-05-15	5/13/11	5/15/11	0.05650956	news	Report that traffic police in Dalian was beaten to death				
25	2011-01-19 to 2011-01-19	1/19/11	1/19/11	0.045883128	policy	US-China summit				
26	2011-06-22 to 2011-06-22	6/22/11	6/22/11	0.043035714	news	Jon Hunstman opens his US presidential campaign				
27	2011-01-17 to 2011-01-26	1/17/11	1/26/11	0.040991141	news	SuZizi, chinese college student, revealed as a nude model, controversy ensues				
28	2011-01-20 to 2011-01-20	1/20/11	1/20/11	0.037231109	news	Iran fires test missiles				
29	2011-02-01 to 2011-02-14	2/1/11	2/14/11	0.03583064	collective action - individuals	Sentencing of driver who ran over Qian Yunhui, who had mobilized collective action on the ground before his death				
30	2011-01-17 to 2011-01-17	1/17/11	1/17/11	0.02984618	news	News about cricket world cup				
31	2011-06-03 to 2011-06-07	6/3/11	6/7/11	0.028094844	news	French open final win by Li Na				
32	2011-05-28 to 2011-05-28	5/28/11	5/28/11	0.027828412	news	Li Chengpeng makes statement about running for local office. Li Chengpeng has not mobilized collective action on the ground in the past				
33	2011-01-13 to 2011-01-13	1/13/11	1/13/11	0.022247107	policy	Reports that exchange rate depreciated, U.S. Treasury Secretary pushes China on yuan				
34	2011-05-19 to 2011-05-31	5/19/11	5/31/11	0.017845568	news	Gov't says publicly that Three Gorges Dam had problems				
35	2011-05-26 to 2011-06-14	5/26/11	6/14/11	0.017732453	collective action - real protest	Kungfu Panda released, Kungfu Panda has mobilized protests in the past because of alleged racism toward Chinese				
36	2011-02-16 to 2011-02-16	2/16/11	2/16/11	0.014831047	news	Discussion of the drawbacks of raising children in one-child families, focused on examples of four students who killed themselves and others.				
37	2011-05-11 to 2011-05-18	5/11/11	5/18/11	0.013156654	news	One of the judges of China Talent Show arrested for dangerous driving, news about who will replace				
38	2011-01-18 to 2011-01-20	1/18/11	1/20/11	0.005114002	collective action - individuals	Qian Hunhui's family accepts reparation money (Qian Yunhui mobilized collective action on the ground before his death)				
39	2011-02-10 to 2011-02-11	2/10/11	2/11/11	0.004575889	news	Social media uproar over Suzizi				
40	2011-03-26 to 2011-03-26	3/26/11	3/26/11	0.003513646	news	Li Chengpeng publishes novel on housing demolition. Li Chengpeng has not mobilized collective action on the ground in the past				
41	2011-03-18 to 2011-03-18	3/18/11	3/18/11	0.002981795	No Coherent Event Found	No Coherent Event Found				
42	2011-01-27 to 2011-02-01	1/27/11	2/1/11	0.002109181	news	Australian open semifinal win b Li Na				
43	2011-01-21 to 2011-01-21	1/21/11	1/21/11	0.000987344	news	Kissinger publishes book on China				
44	2011-05-17 to 2011-05-18	5/17/11	5/18/11	-0.002059025	news	Space shuttle Endeavor launched on 5/16				
45	2011-01-21 to 2011-01-21	1/21/11	1/21/11	-0.005902965	news	China and United States signed a new agreement to support panda breeding				
46	2011-01-19 to 2011-01-22	1/19/11	1/22/11	-0.007602339	policy	Wen Jiabao signs new regulations related to land and housing demolition				
47	2011-04-02 to 2011-04-03	4/2/11	4/3/11	-0.009789597	No Coherent Event Found	No Coherent Event Found				
48	2011-02-09 to 2011-02-17	2/9/11	2/17/11	-0.011018319	news	Statistics released on food prices				
49	2011-04-07 to 2011-04-07	4/7/11	4/7/11	-0.014571889	policy	NDRC raising price of oil				
50	2011-02-22 to 2011-02-22	2/22/11	2/22/11	-0.015745342	policy	Clean up campaign announced for lead acid batteris				
51	2011-05-03 to 2011-05-03	5/3/11	5/3/11	-0.021400985	news	Syria detains protesters				
52	2011-05-03 to 2011-05-09	5/3/11	5/9/11	-0.021738241	news	Pictures surface about boy who looks like "Party Boss"				
53	2011-02-28 to 2011-02-28	2/28/11	2/28/11	-0.023035455	policy	Reports that China will accelerate real tax pilots				
54	2011-03-11 to 2011-04-01	3/11/11	4/1/11	-0.024648029	news	Japan earthquake				
55	2011-03-23 to 2011-03-25	3/23/11	3/25/11	-0.025102459	policy	Reports that China delays smoking ban implementation				
56	2011-04-22 to 2011-04-22	4/22/11	4/22/11	-0.025153146	news	Death sentence of Yao Jiaxin				
57	2011-03-08 to 2011-03-09	3/8/11	3/9/11	-0.025449811	policy	Adjustments to the One Child Policy discussed at the Two Meetings				
58	2011-04-18 to 2011-04-18	4/18/11	4/18/11	-0.032935029	news	Wen Jiabao describes lack of food safety as moral issue				
59	2011-03-14 to 2011-03-14	3/14/11	3/14/11	-0.035896366	news	Chinese team sent to help in Japan earthquake				
60	2011-04-18 to 2011-04-18	4/18/11	4/18/11	-0.036495377	news	NDRC raises power prices in 16 provinces				
61	2011-05-02 to 2011-05-19	5/2/11	5/19/11	-0.037023874	news	Bin Laden killed 5/1				
62	2011-05-03 to 2011-05-05	5/3/11	5/5/11	-0.037477339	news	Reports of Pakistans nuclear capabilities				
63	2011-03-05 to 2011-03-16	3/5/11	3/16/11	-0.041481186	policy	NPC session focuses on healthcare reform				
64	2011-04-30 to 2011-05-12	4/30/11	5/12/11	-0.044005102	policy	Smoking ban comes into effect 5/1				
65	2011-02-19 to 2011-02-19	2/19/11	2/19/11	-0.045977011	policy	Minister of health releases report on improving health access				
66	2011-04-22 to 2011-04-23	4/22/11	4/23/11	-0.049799693	news	Verdict for Yaojiaxin given on 4/22				
67	2011-05-20 to 2011-05-20	5/20/11	5/20/11	-0.052068773	policy	China places quota on rare earths				
68	2011-03-24 to 2011-03-31	3/24/11	3/31/11	-0.05363112	news	Price of rare earth increasing				
69	2011-05-23 to 2011-05-28	5/23/11	5/28/11	-0.054546609	No Coherent Event Found	No Coherent Event Found				
70	2011-03-20 to 2011-03-24	3/20/11	3/24/11	-0.056533731	news	Foreign intervention in Libya begins 3/19	U.S. Military Intervention in Libya			
71	2011-05-11 to 2011-05-11	5/11/11	5/11/11	-0.058233173	news	Worries about food prices rising	Food Prices Rise			
72	2011-03-08 to 2011-03-08	3/8/11	3/8/11	-0.05958719	policy	Finance Ministry set target that Education spending should be 4% c	Education Reform for Migrant Children			
73	2011-01-27 to 2011-01-27	1/27/11	1/27/11	-0.060511448	news	Real life exhibit based on the videogame 赛尔号 opens	Popular Video Game Released			
74	2011-05-31 to 2011-05-31	5/31/11	5/31/11	-0.061011905	policy	Reports of new indoor smoking ban	Indoor Smoking Ban Takes Effect			
75	2011-07-03 to 2011-07-04	7/3/11	7/4/11	-0.063236282	news	Performance of fusion of Peking Opera and piano				
76	2011-03-20 to 2011-03-20	3/20/11	3/20/11	-0.067637345	news	Iran trying to send Syria nuclear weapons	News About Iran Nuclear Program			
77	2011-04-07 to 2011-04-08	4/7/11	4/8/11	-0.070451128	No Coherent Event Found	No Coherent Event Found				
78	2011-05-07 to 2011-05-07	5/7/11	5/7/11	-0.076453901	news	Disney announces new shanghai resort				
79	2011-03-09 to 2011-03-11	3/9/11	3/11/11	-0.080823775	news	Gary Locke will replace Huntsman as Chinese Ambassador	Jon Hunstman Steps Down as Ambassador to China			
80	2011-05-18 to 2011-05-31	5/18/11	5/31/11	-0.081043249	policy	Talk about letting electricity prices increase in June, during peak us	Gov't Increases Power Prices			
81	2011-03-13 to 2011-03-30	3/13/11	3/30/11	-0.086292433	policy	China puts nuclear program on hold after Japanese Earthquake	China Puts Nuclear Program on Hold			
82	2011-04-06 to 2011-04-11	4/6/11	4/11/11	-0.090957324	news	Ground breaking ceremony 4/8 for Disney Shanghai				
83	2011-02-21 to 2011-02-21	2/21/11	2/21/11	-0.103456382	news	Advances made by Chinese solar company	Chinese Solar Company Announces Earnings			
84	2011-05-24 to 2011-05-26	5/24/11	5/26/11	-0.125507246	policy	China Environment Ministry issues new rules on lead/heavy metal	EPA Issues New Rules on Lead			
85	2011-03-07 to 2011-03-10	3/7/11	3/10/11	-0.127854785	news	Shanghai gov't released blueprint of Disneyland				
86	2011-04-21 to 2011-04-24	4/21/11	4/24/11	-0.183987736	news	Discussion of 斗破苍穹 new chapters and online game				
87	2011-01-20 to 2011-01-20	1/20/11	1/20/11	-0.190062893	news	Disney announces construction of Shanghai Disney will be 2x size c	Disney Announced Theme Park			
88	2011-02-20 to 2011-02-20	2/20/11	2/20/11	-0.200586652	news	Discussion of 斗破苍穹 new chapters and audiobook	Popular Book Published in Audio Format			
89										

D. Appendix D: Sampling and Simulation

In the main text, we explore our argument using burst-level replication data and insights from the findings reported in the published paper. This requires some assumptions about the data generating process and the methods deployed to arrive at the published findings. In this appendix section, we elaborate on these assumptions by further describing some of the key sampling and simulation decisions touched upon in the main text, as well as providing our attempts at replication and extension.

D.1. Estimating Sample Size

KPR describe their main conclusions as based on a random sample of posts (p. 330), but we lack a specific number of posts for either Figure 9 as a whole or for each of the individual categories. This is because KPR's methodology does not focus on individual posts, but rather on aggregate proportions, estimated using the Hopkins and King (2010) method. KPR do, however, note that the range bars in KPR Figure 9 are constructed to represent 95% Confidence Intervals (p337). More precisely, these confidence intervals are simulated through bootstrapping,[66] which in theory ought to reproduce sampling error which converges to the original population of posts used in the automated content analysis.[67]

In other words, even though KPR's aggregate proportions are not calculated at the post level, measures of uncertainty around the point estimates are primarily a function of the number of documents that were hand coded in the automated content analysis (Hopkins and King 2010, p. 241). This means we can reverse engineer sample sizes n_1 and n_2 from the available information in the published graph. Specifically, the standard error of a binomial distribution has known mathematical

[66] Daniel J. Hopkins and Gary King (2010). "A Method of Automated Nonparametric Content Analysis for Social Science". *American Journal of Political Science* 54.1, pp. 229–247.

[67] Will Lowe and Kenneth Benoit (2011). "Estimating uncertainty in quantitative text analysis". *Annual Conference of the Midwest Political Science Association*. Vol. 31; Panagiotis Mantalos and Konstantinos Zografos (2008). "Interval estimation for a binomial proportion: a bootstrap approach". *Journal of Statistical Computation and Simulation* 78.12, pp. 1251–1265.

properties, formalized in equation 1. With some algebraic rearrangement, we can estimate the sample size based on what we know about censorship probability p and the range bars in KPR Figure 9.

$$SE_{binomial} = \frac{(\text{CI}_{High} - p)}{1.96} = \sqrt{\frac{p(1-p)}{n}} \Rightarrow \frac{p(1-p)}{\left[\frac{(\text{CI}_{High} - p)}{1.96}\right]^2} = n \tag{1}$$

Panel A of Table D1 provides our estimates for all of the sample sizes in Figure 9, based on this algebraic identity. We estimate 112 observation in the non-CAP, critical category and 711 overall. We have three reasons to believe these estimates are appropriate.

First, KPR provide a validation test of their estimation strategy in KPR (2013) Appendix B, Figure 10 (p341), where they report 900 posts used in the test analysis and 99% accuracy. Using our algebraic approach on KPR Figure 10 for the validation exercise in Panel B of Table D1, we use our strategy to estimate 890 observations. This gives us confidence that KPR's CIs do conform to the algebraic properties of a binomial variable.

Second, we also estimated sample sizes for KPR Figure 9 based on a variety of assumptions of total sample size and arrived at 1000 as an upper bound. As shown in Figure D1, anything greater than 1000 and the estimated confidence intervals are far too large. There are several additional factors that might contribute to the larger errors. For instance, the burst level data exhibit classic signs of heteroscedasticity, with censorship frequency being much more dispersed among CAP bursts, as compared to censorship frequency overall.

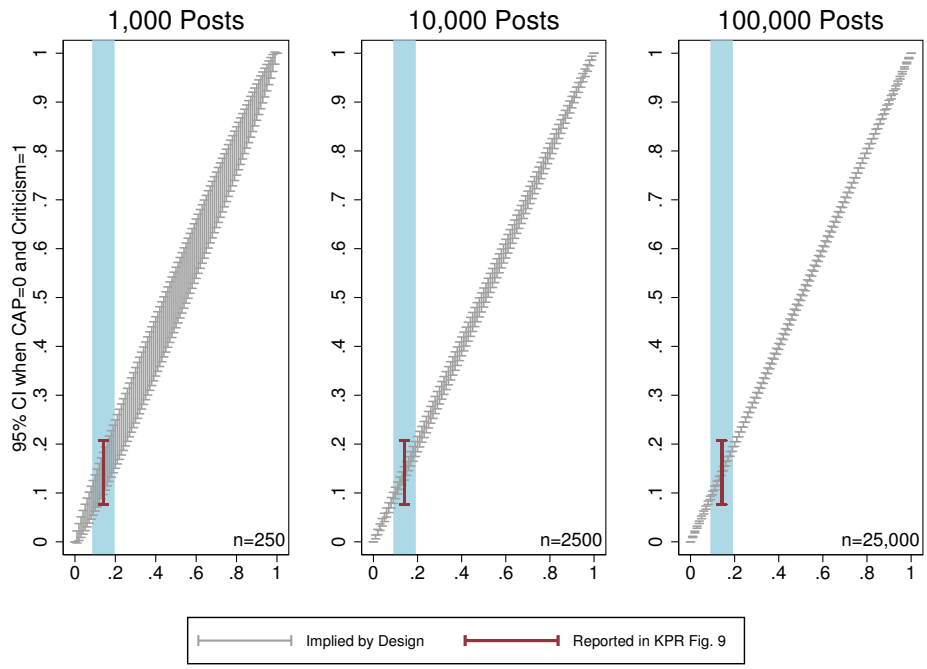
Third, after corresponding with the authors, we concluded that an overall N of 2,000 was a conservative and reasonable estimate. Consequently, we adopt the 2,000 observation value as the best overall quantity throughout the rest of the thought experiment. We infer implied (n)s based on the implied proportions from the Panel A, 95% CI estimates in Table D1. The implied (n)s generated by this process are summarized in Panel C of Table D1 and fed back into our thought experiment.

Table D1: Estimation of Sample Sizes from KPR Figure 9

Panel A: Estimated Sample Sizes for KPR Figure 9							
CAP	Tone	CI-high	P	(1-p)	SE	n 95% CI	99% CI
Yes	Critical	0.644	0.575	0.425	0.036	194	335
Yes	Supportive	0.671	0.584	0.416	0.045	121	210
Yes	Irrelevant	0.204	0.097	0.903	0.055	29	50
No	Critical	0.207	0.142	0.858	0.033	112	193
No	Supportive	0.198	0.147	0.853	0.026	187	322
No	Irrelevant	0.040	0.013	0.987	0.014	68	117
Total N						711	1226
Panel B: Estimated Sample Sizes for KPR Figure 10							
Type	Support	CI-high	P	(1-p)	SE	n 95% CI	99% CI
Facts	Employers	0.250	0.200	0.800	0.026	246	424
Facts	Workers	0.320	0.250	0.750	0.036	147	254
Opinion	Employers	0.540	0.440	0.560	0.051	95	163
Opinion	Workers	0.180	0.080	0.920	0.051	28	49
Total N						516	890
Panel C: Implied (n's) for KPR Figure 9, (Panel A) converted to (N=2000)							
CAP	Tone	CI-high	P	(1-p)	SE	n 95% CI	99% CI
Yes	Critical	0.644	0.575	0.425	0.036	546	942
Yes	Supportive	0.671	0.584	0.416	0.045	340	591
Yes	Irrelevant	0.204	0.097	0.903	0.055	82	141
No	Critical	0.207	0.142	0.858	0.033	315	543
No	Supportive	0.198	0.147	0.853	0.026	526	934
No	Irrelevant	0.040	0.013	0.987	0.014	191	329
Total N						2000	3480

Notes: The censorship of irrelevant posts are not reported in Appendix C.

Figure D1: Simulated Confidence Intervals



Notes: The graphs illustrate different bandwidths of uncertainty given slightly different assumptions about underlying sample size and variance on the censorship variable. For clarity, we assume even distribution across the key independent variable categories: CAP and Criticism.

D.2. Thought Experiment

In the thought experiment section (page 9), we ask: how many consultation-related posts—which have virtually zero probability of censorship—do we have to drop to find a significant effect for the remaining portion of unsolicited criticism? A simple way to think about this is as a difference of proportions (see equation 2), where p_1 represents the censorship propensity for critical posts, and p_2 the same for non-critical posts. Z^* is the critical value for the difference, which under the null hypothesis is less than 1.96.

$$Z^* = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{P^*(1-P^*)(\frac{1}{n_1} + \frac{1}{n_2})}} \tag{2}$$

The question then becomes, how different do p_1 and p_2 need to be for Z^* to reach the 1.96 threshold. To simplify, we note that KPR's concept of CAP and our *Consultation* variable are mutually exclusive, allowing us to shift focus to the right-side panel of KPR Figure 9, which looks only at non-CAP bursts, where we know that $\hat{p}_1$ is approximately 14.2% for critical posts and 14.7% for non-critical posts $\hat{p}_2$, which allows us to also backout overall *Censorship Propensity* $P*$. Finally, using the algebraic sample size recovery strategy discussed in the previous section, we also know that n_1 and n_2 are approximately 315 and 526 among *Critical* and non-*Critical* posts, respectively, further implying that 45 and 76 posts in each category were censored.[68]

At this point, it is crucial to remember that, as illustrated in Figure 2, the average *Censorship Magnitude* for consultation bursts is negative, implying that censorship frequency for consultation-related posts is effectively zero.[69] This implies that critical posts within the *Consultation* subset are not censored and that dropping them will directly decrease the proportion of uncensored posts in the remaining *Critical* category.

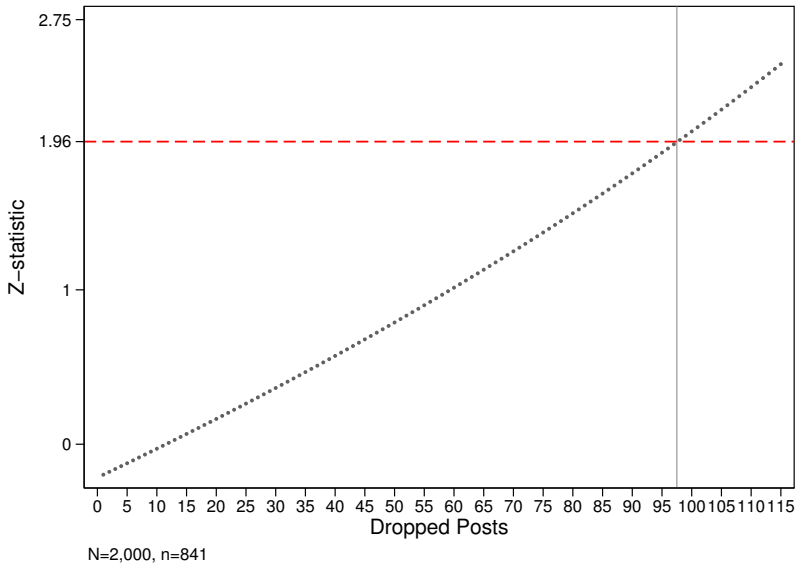
Since we don't know the precise number of consultation-related posts in KPR's sample we proceed incrementally, in Figure D2, by dropping one at a time and re-estimating the Z-statistic from

[68] Calculations are based on implied sample sizes (n) and censorship probabilities listed in Panel C of Table D1, with an overall sample size N=2000.

[69] See footnote 4 on KPR's approach for converting *Censorship Magnitude* to frequency.

equation 2.[70] We find that dropping any more than 97 consultation-related posts produces a significant difference in censorship propensity between the remaining critical and non-critical posts. Given the inferred 320 consultation-related posts in the non-CAP subset,[71] dropping 97 posts represents a modest correction that nonetheless suggests a markedly different interpretation of KPR's findings.[72]

Figure D2: Impact of Dropping Consultation Posts on Censorship of Criticism



Notes: The Z-test is based on Equation 2. and implied sample size conversions based on Table D1, Panels A and C.

[70] Dropping consultation posts has countervailing effect on the ability to detect significant effects due to loss of statistical power resulting from a smaller sample size (see Appendix D for proof).

[71] The inferred 320 consultation posts is based on rough observation that 16% of all burst-level topics coincided with consultation campaigns (2000*.16=320).

[72] Small sample size reduces statistical power and hurts our ability to observe a difference between p_1 and p_2. If we can find an effect under these constraints, we would find it under any other larger sample. To understand why, it is enough to look at Equation 2 and note that with each dropped post n_1 is also getting smaller, meaning that the denominator is getting larger.