

Reverse Engineering Chinese Censorship

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Institute for Quantitative Social Science
Harvard University

(talk at the Harvard School of Engineering and Applied Sciences, 9/12/2013)

- An Observational Study:

How Censorship in China Allows Government Criticism but Silences Collective Expression (*American Political Science Review*, May 2013)

- Experimental and Participatory Studies:

A Randomized Experimental Study of Censorship in China

Copies at GaryKing.org

Chinese Censorship

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The largest selective suppression of human expression in history — implemented *manually*, by hundreds of thousands of workers

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Either or both could be right or wrong.

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- ❶ ~~Stop criticism of the state~~ *Wrong*
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Benefit

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Cost

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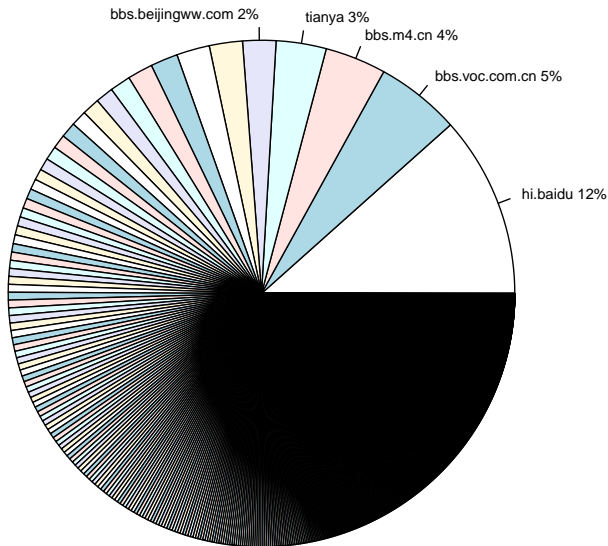
None

(They also censor 2 other smaller categories we'll talk about)

Chinese Social Media: Fractured over 1,400+ sites



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(Plus 59% from Sina Blog)

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 - Use computer-assisted methods of text analysis (some existing, some new, all adapted to Chinese)

Censorship is not Ambiguous: Example Error Page



Censorship is not Ambiguous: BBS Error Page

404 ERROR

The page you requested is temporarily down. How about you go look at another page.



你访问的页面暂时找不到了哦。
去看看别的页面吧

Jingjing, one of China's cartoon internet police

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增值电信业务经营许可证A2.B1.B2-20090001 网络文化经营许可证080626 广播电视节目制作经营许可证编号: (新)字第051号



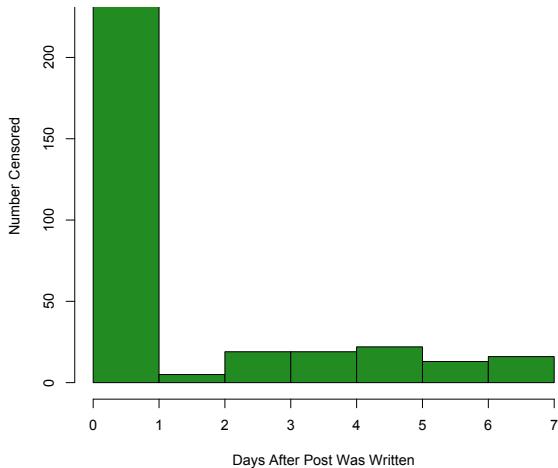
The Censors are Fast; Our Automated Methods are Faster

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Example: Shanghai Subway Crash

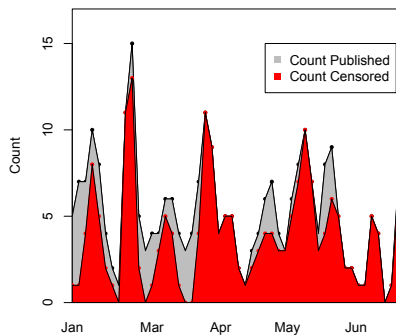
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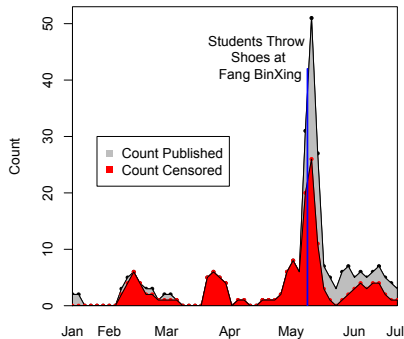


For 2 Unusual Topics: Constant Censorship Effort

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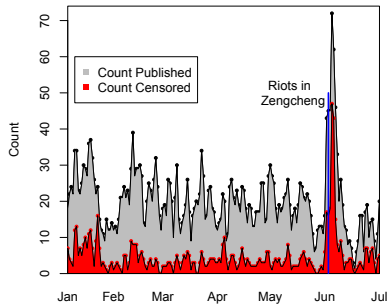
Pornography



Criticism of the Censors

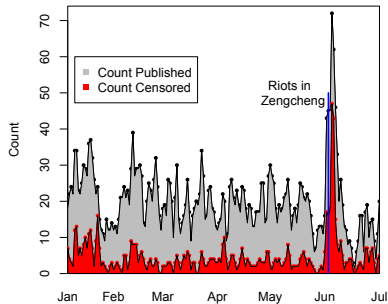
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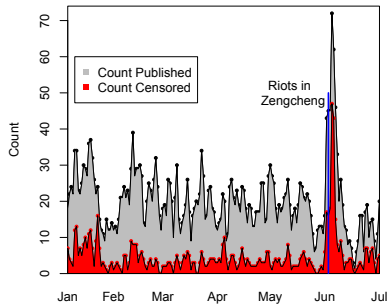
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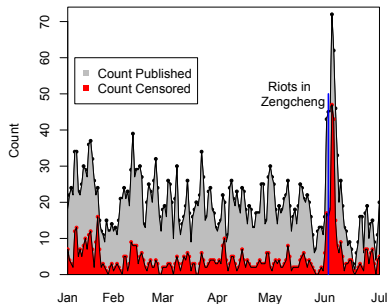


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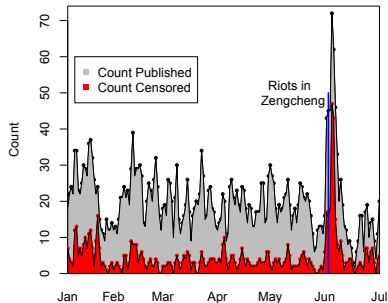


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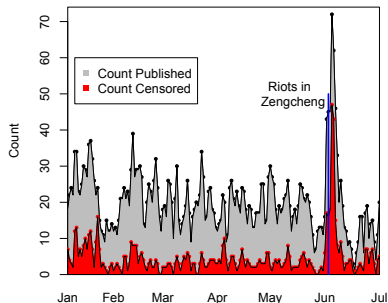
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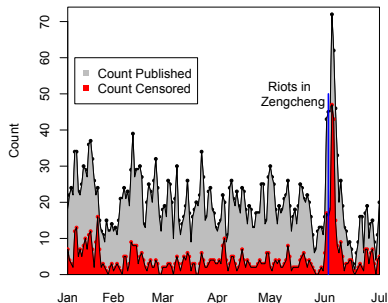
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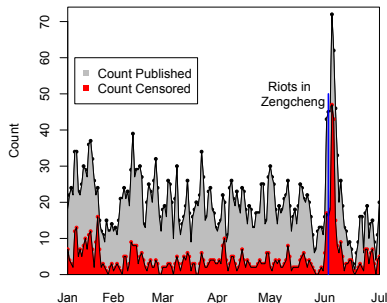
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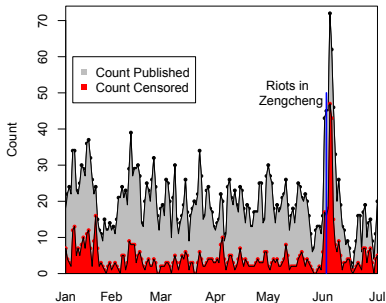
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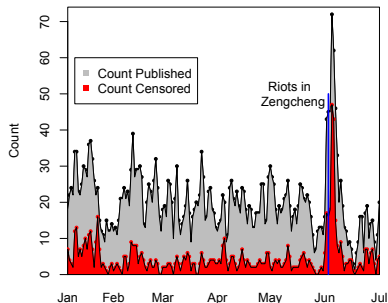
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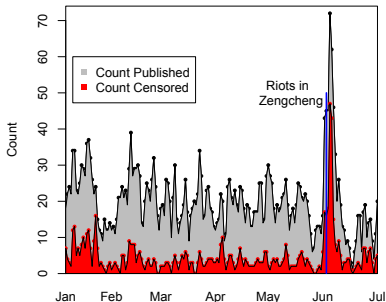
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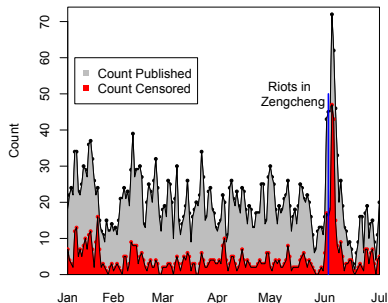
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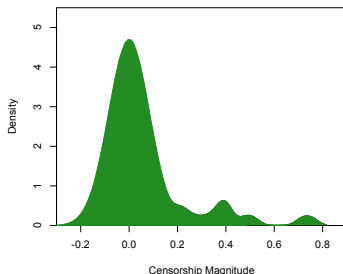
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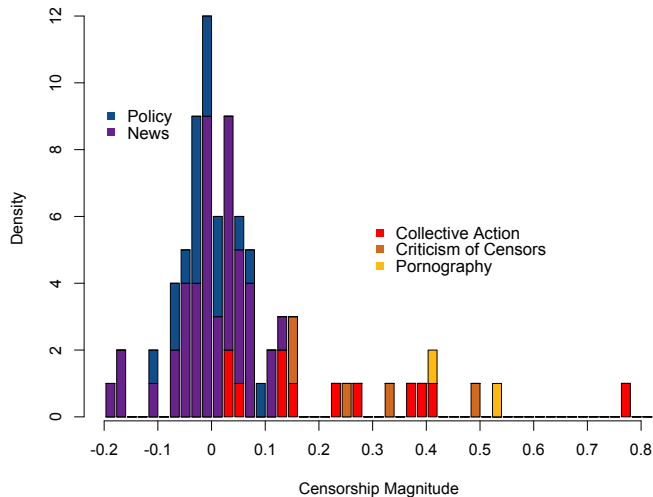
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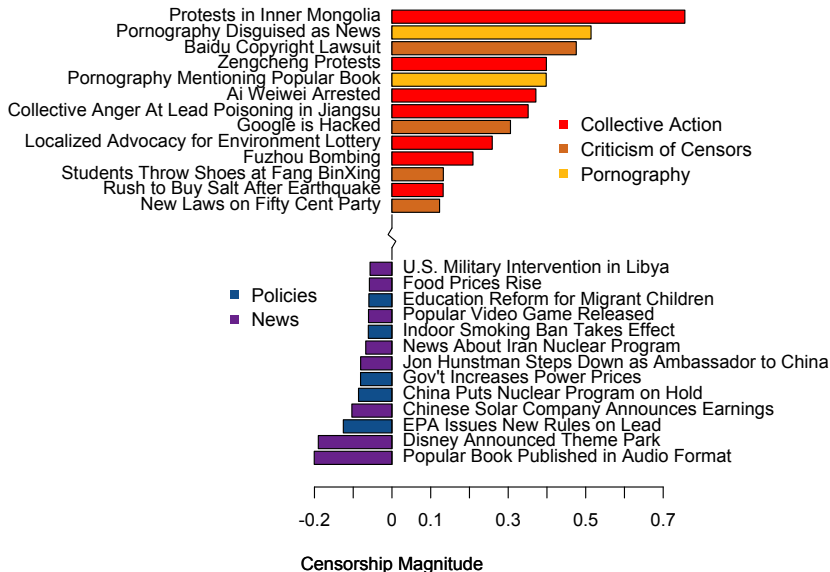
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- 3 ~~Pornography~~ 
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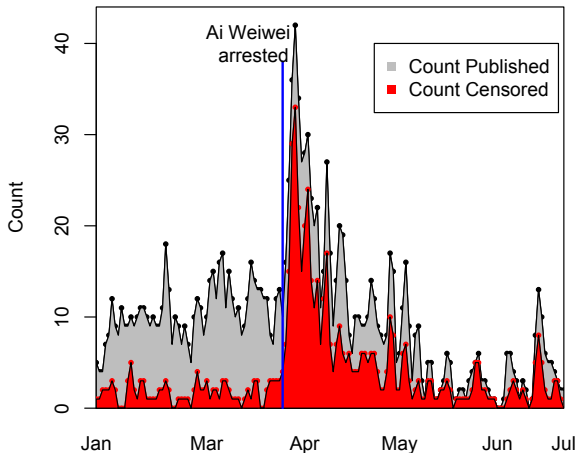
What Types of Events Are Censored?



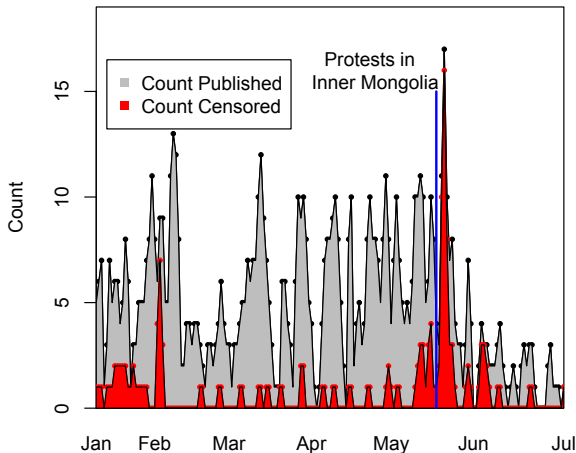
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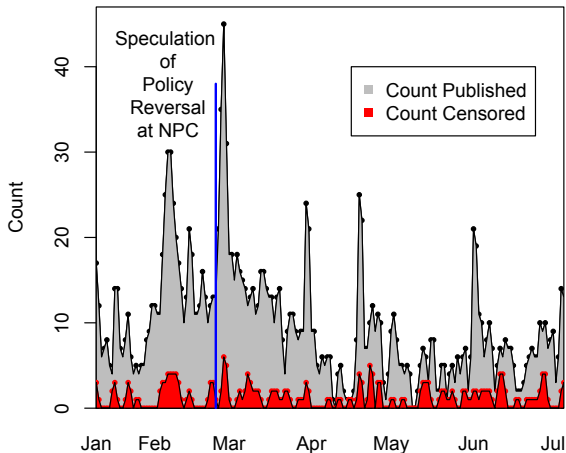
Censoring Collective Action: Ai Weiwei's Arrest



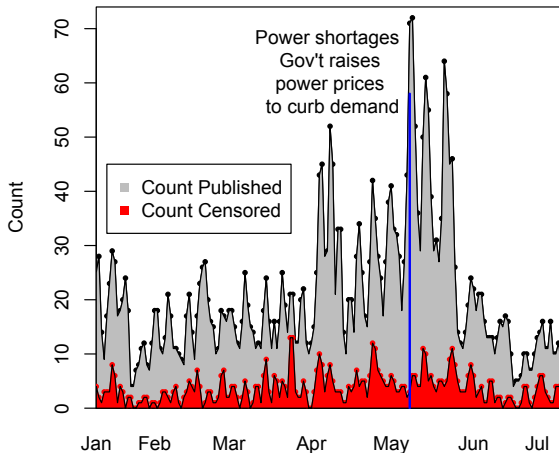
Censoring Collective Action: Protests in Inner Mongolia



Low Censorship on One Child Policy



Low Censorship on News: Power Prices



Observational Test 3: Content of Posts

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- Calculate the quantity of interest (% censored by category)

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$$P(\text{Censored}|\text{Category}) = \frac{P(\text{Category}|\text{Censored})P(\text{Censored})}{P(\text{Category})}$$

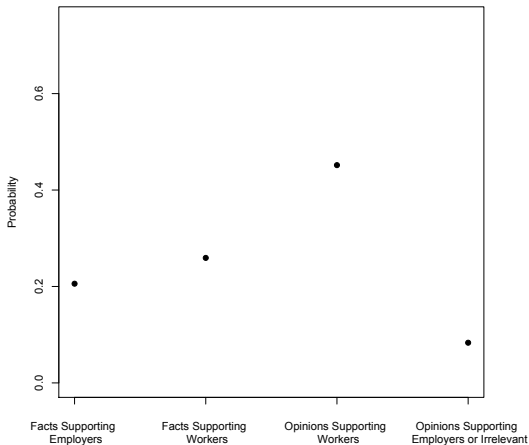
“ReadMe” Algorithm Validated in Chinese

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Example: Labor Strikes, 2010 (Training set: 100; Test set: 900)

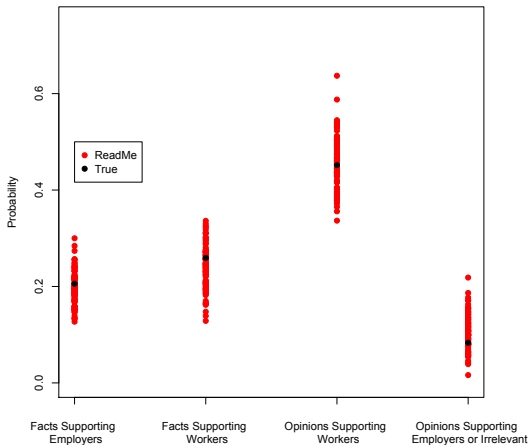
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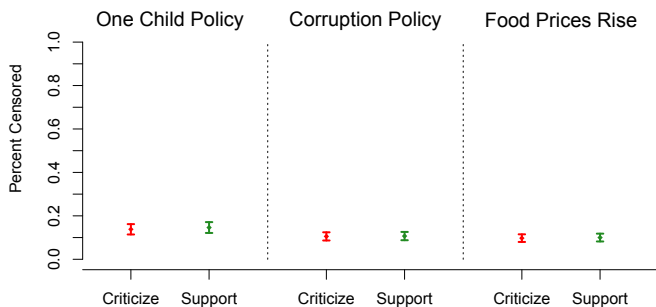
“ReadMe” Algorithm Validated in Chinese

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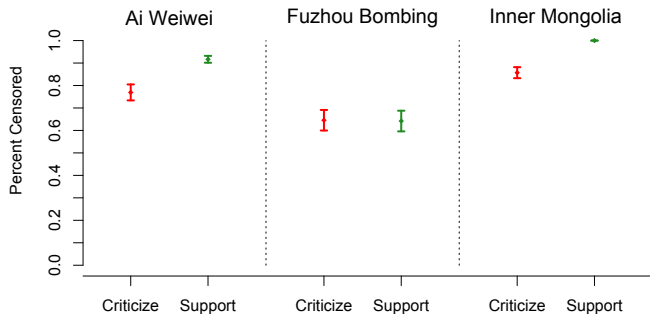
Uncensored: Non-Collective Action Posts (that Support *or* Oppose the State)

Uncensored: Non-Collective Action Posts (that Support or Oppose the State)



Censored: Collective Action Posts (that Support *or* Criticize the State)

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Additional Research Designs

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- 1 Randomized Experiment (for causal inferences)

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- 2 Participatory Study (for descriptive inferences)

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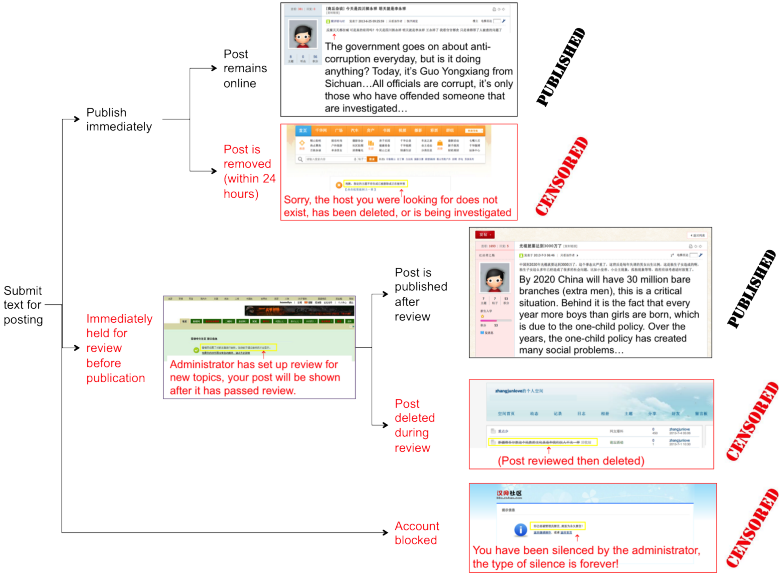
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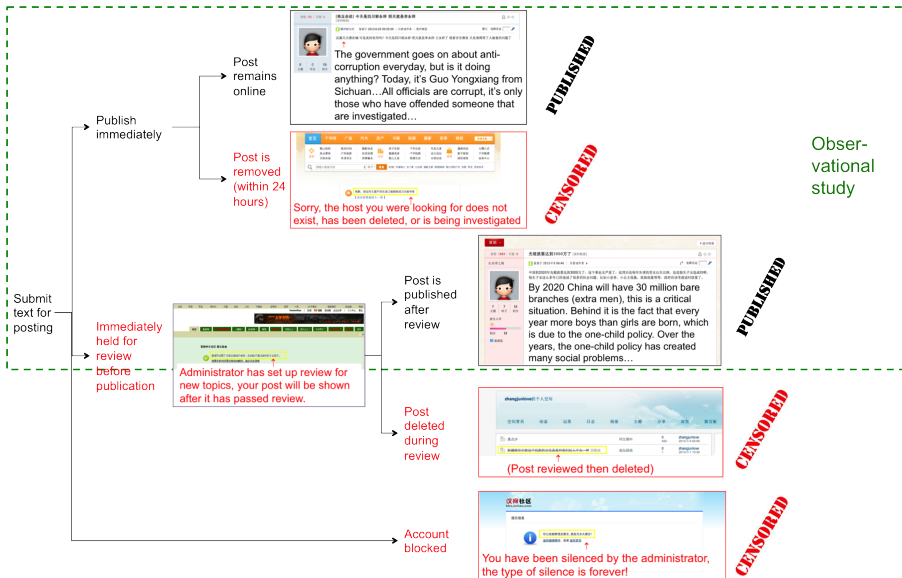
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- Procedure: create our own social media website in China
- Bought URL; contracted with firms for servers & software; posted and censored ourselves
- To learn: we tried every software option, read the documentation, and called customer support(!)

Mechanisms of Censorship

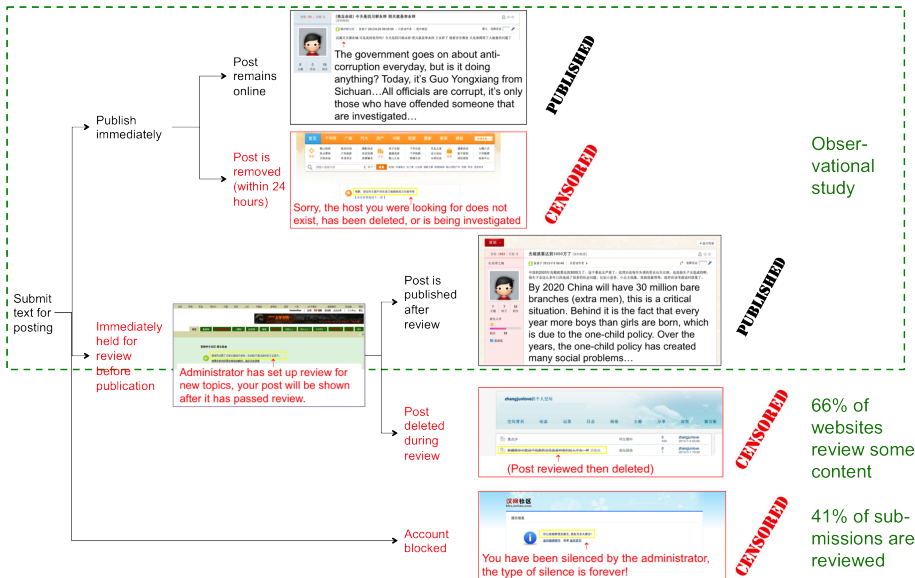
Mechanisms of Censorship



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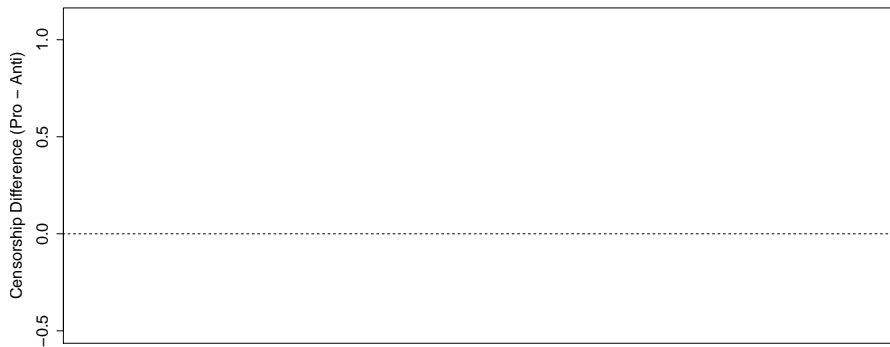


Mechanisms of Censorship

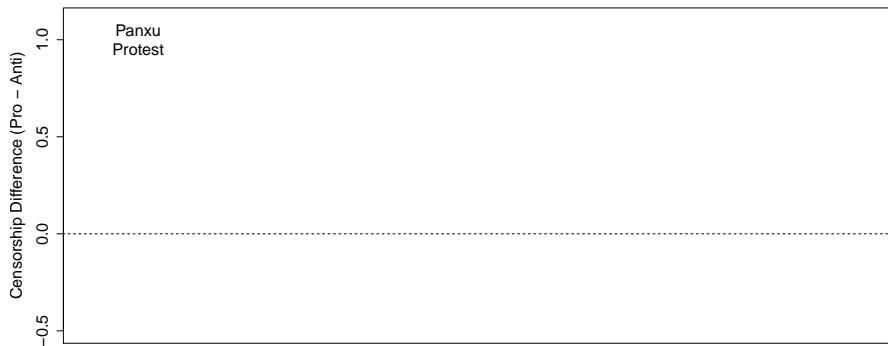


Posts For v. Against Government: Zero Causal Effect

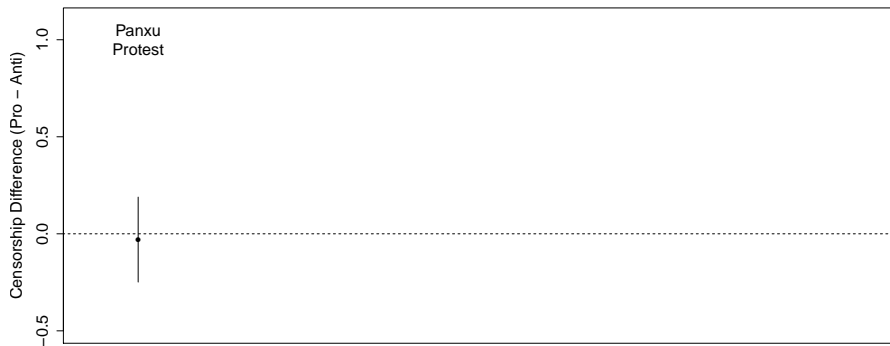
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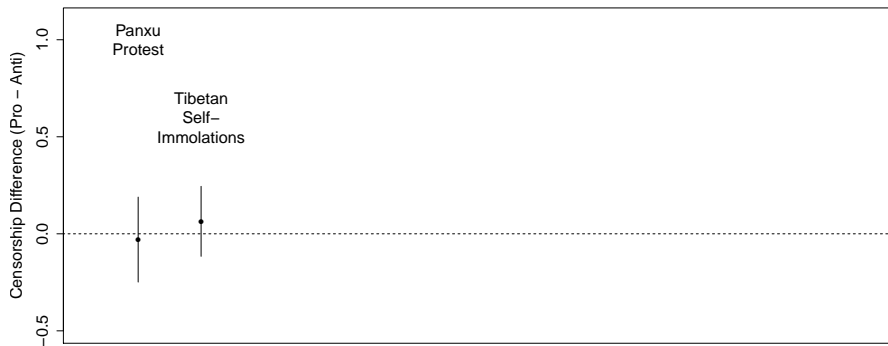
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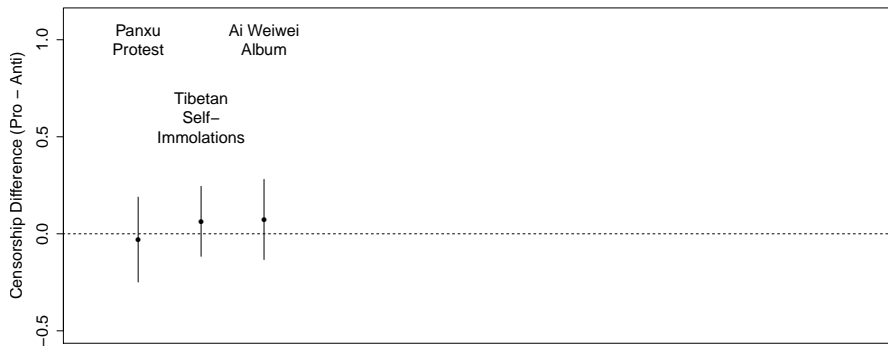
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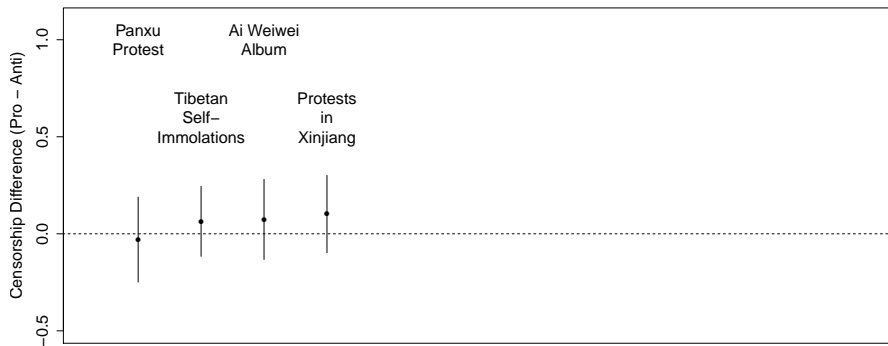
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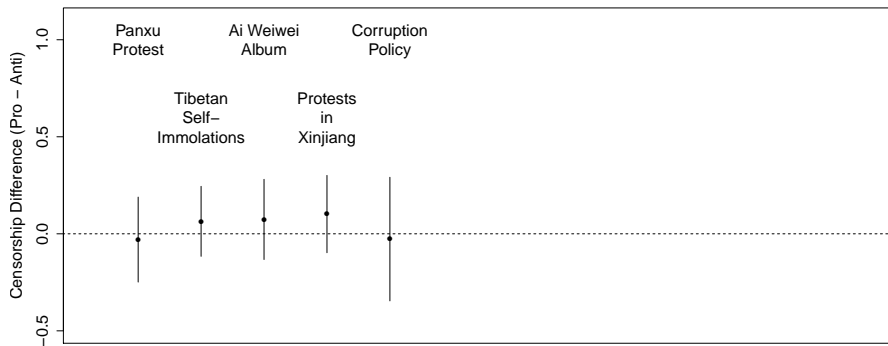
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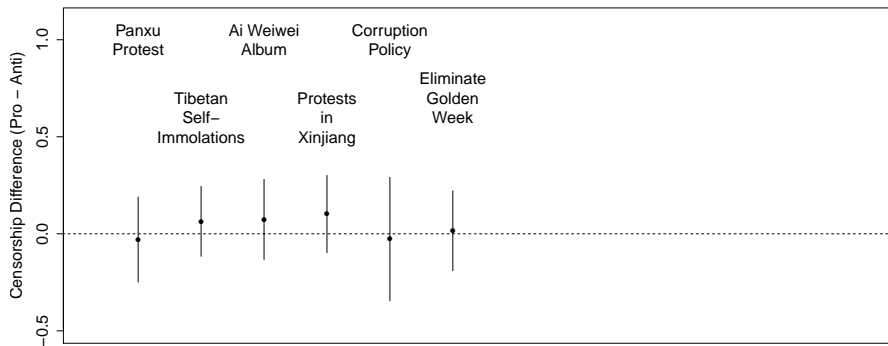
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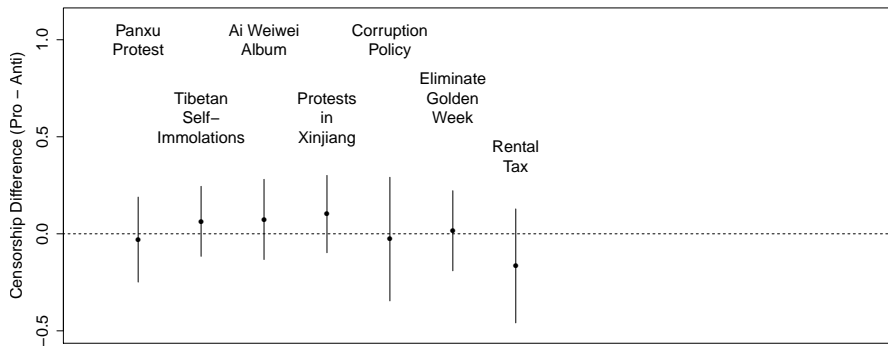
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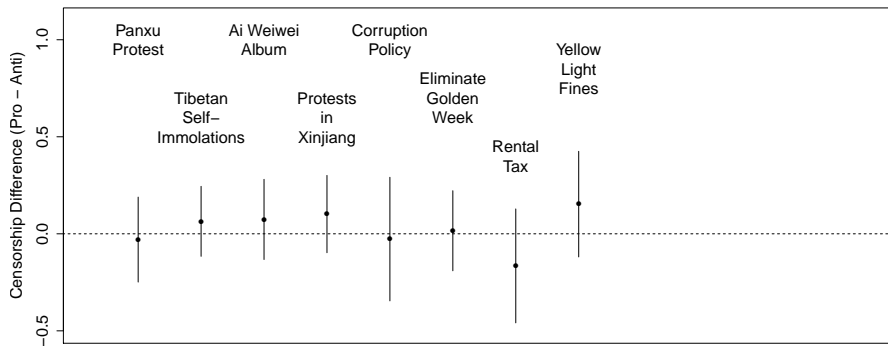
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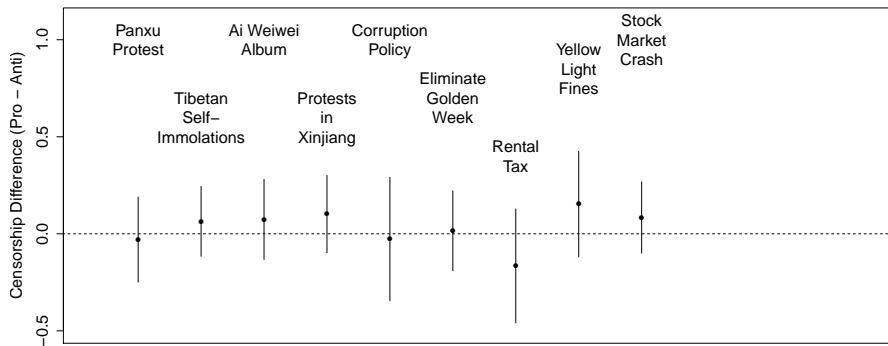
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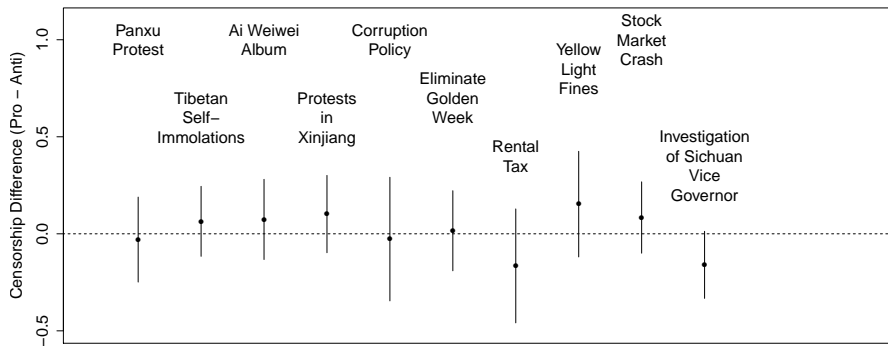
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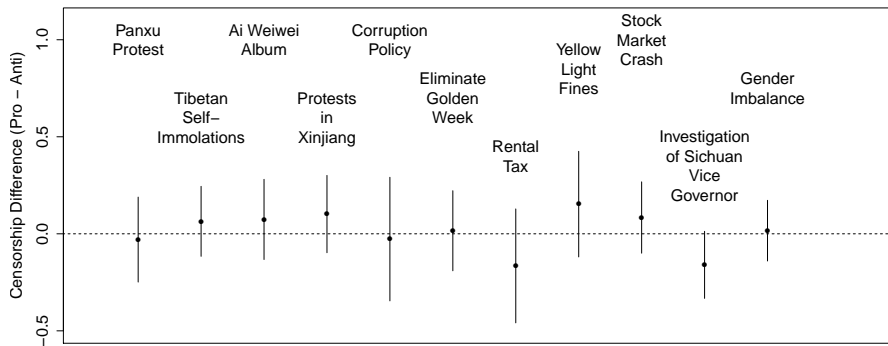
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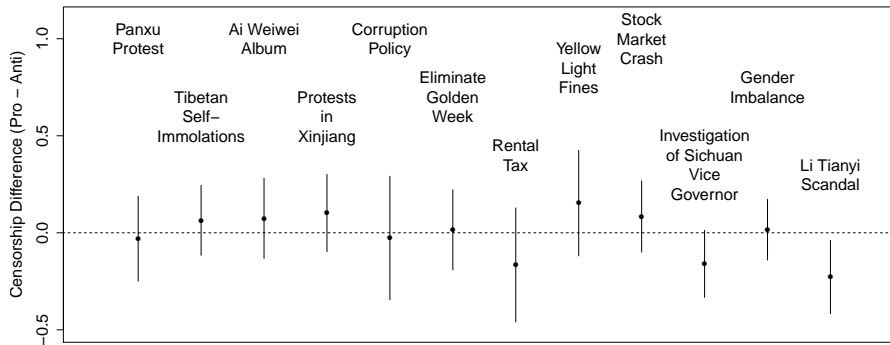
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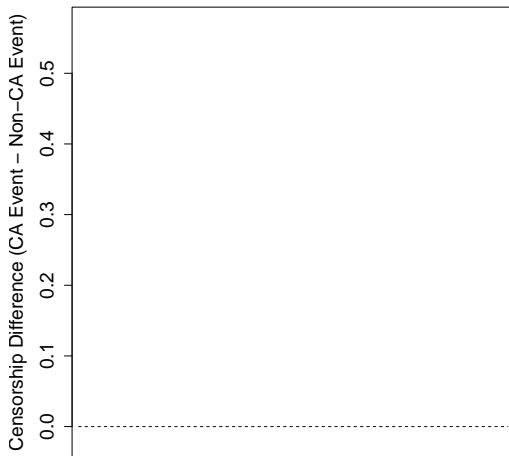


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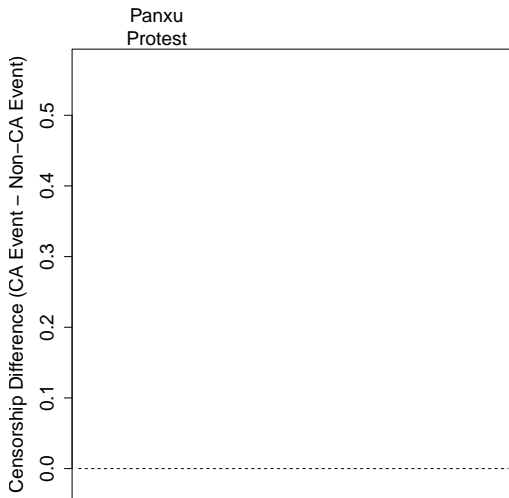


Collective Action Events: Large Causal Effect

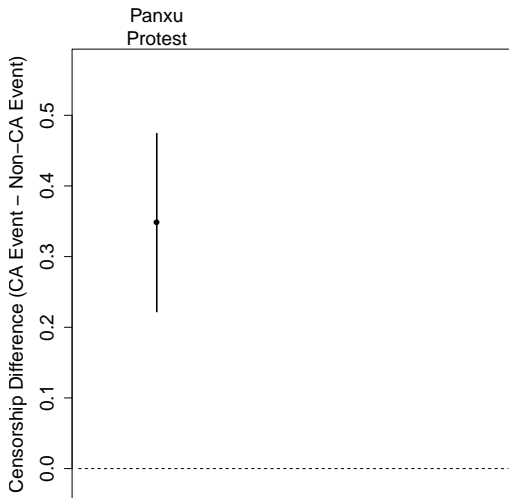
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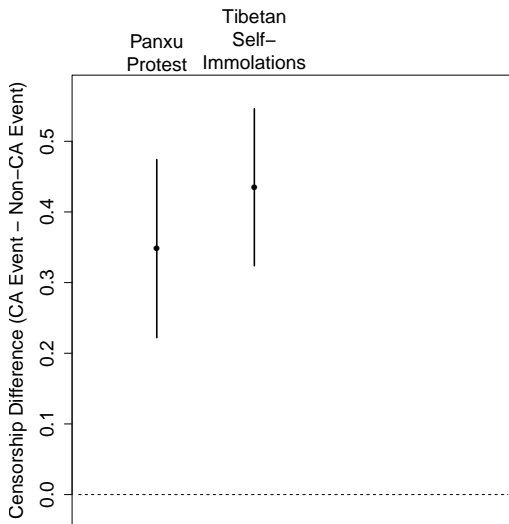
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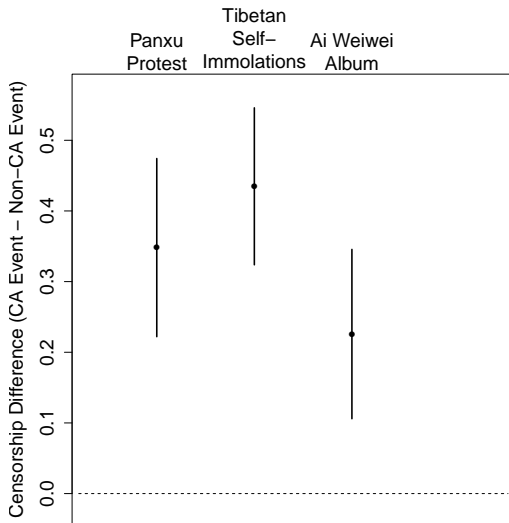
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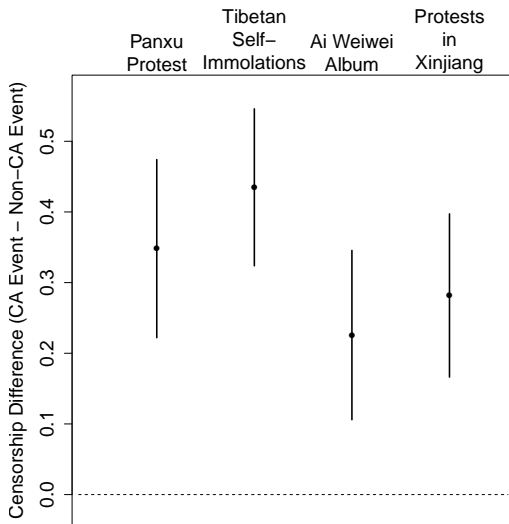
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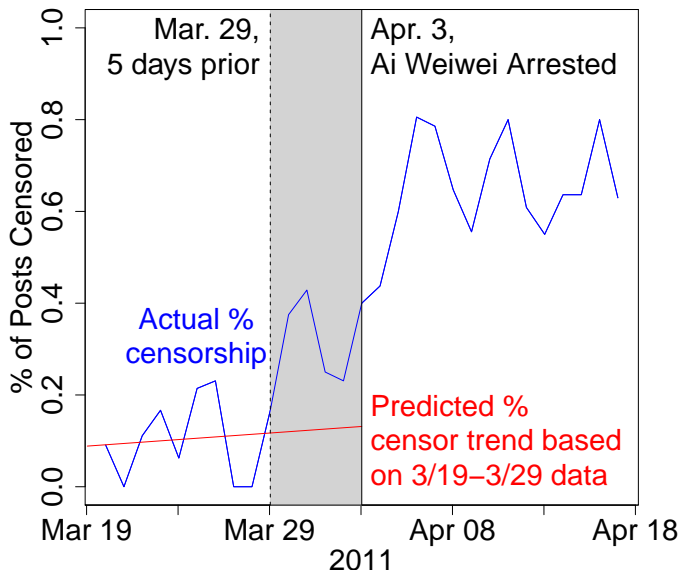


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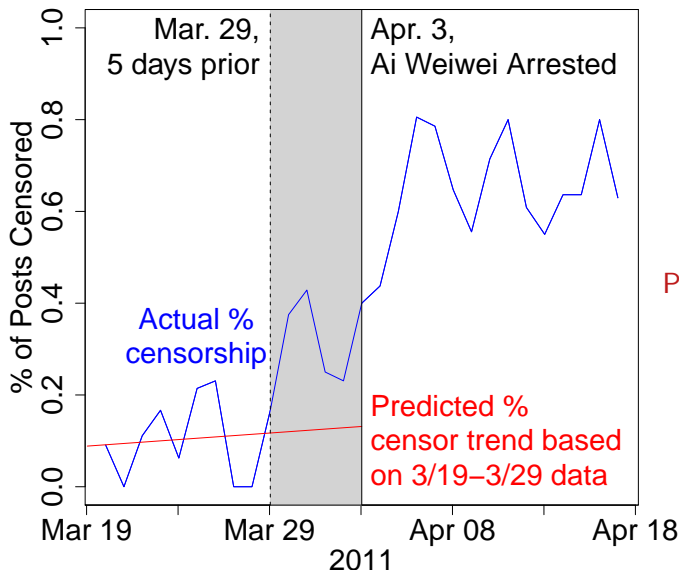


Censorship to Preempt Collective Action: Ai Weiwei's Arrest

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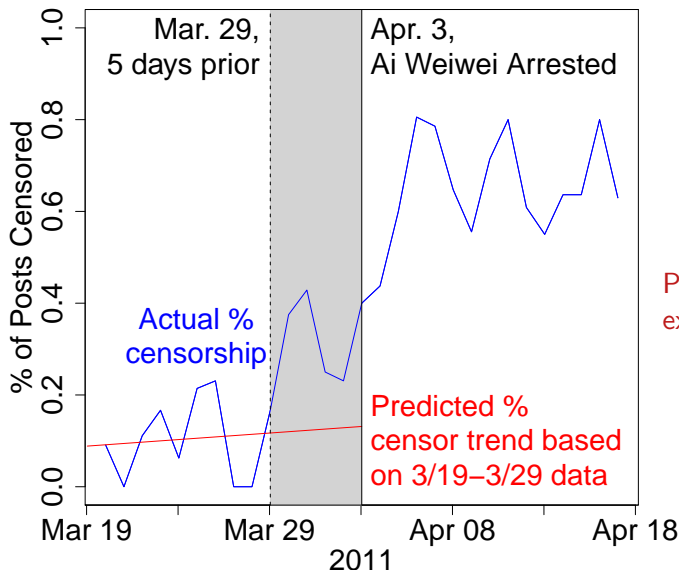


Censorship to Preempt Collective Action: Ai Weiwei's Arrest



Placebo Test:

Censorship to Preempt Collective Action: Ai Weiwei's Arrest



Placebo Test: Most extreme of all effects

Concluding Remarks

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 - Possibly applicable to other countries

For more information



GaryKing.org



j.mp/JenPan

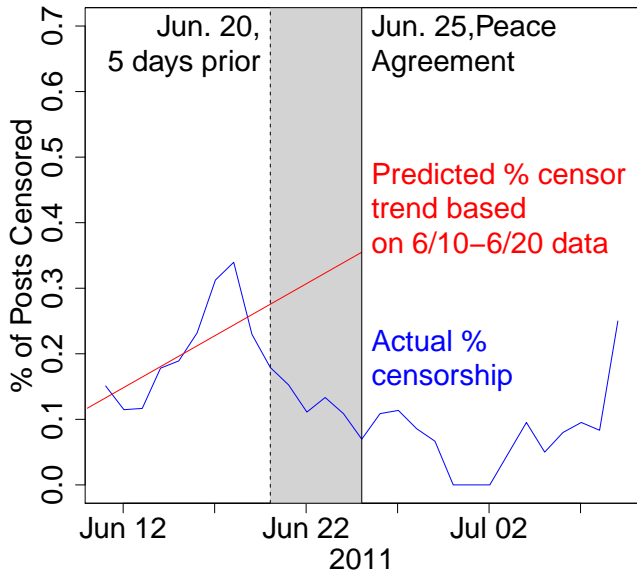


j.mp/MollyRoberts

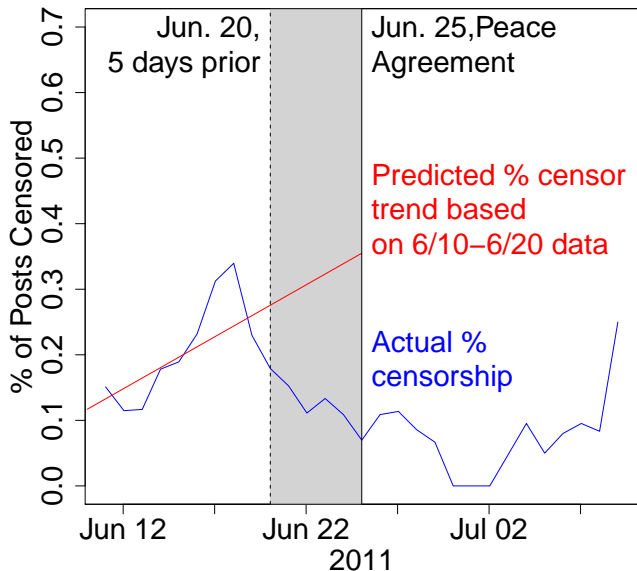
Appendix

Predicting the South China Sea Peace Agreement

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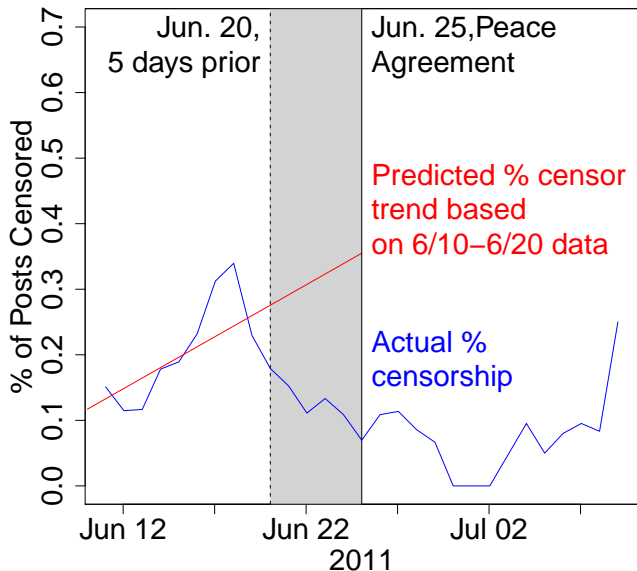


Predicting the South China Sea Peace Agreement



Placebo Test:

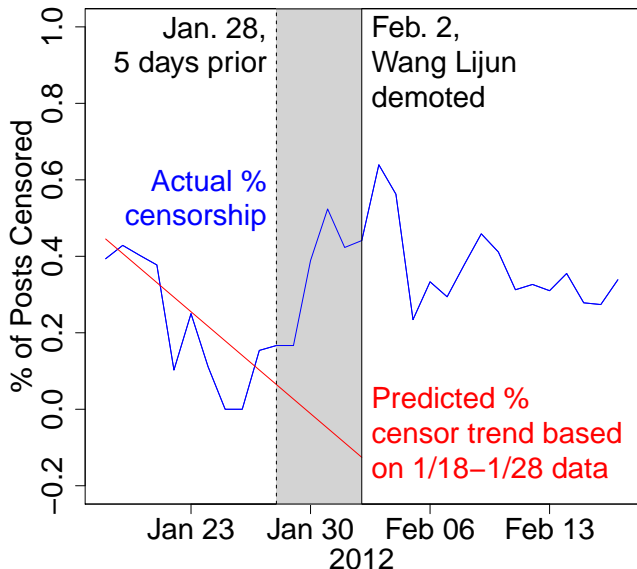
Predicting the South China Sea Peace Agreement



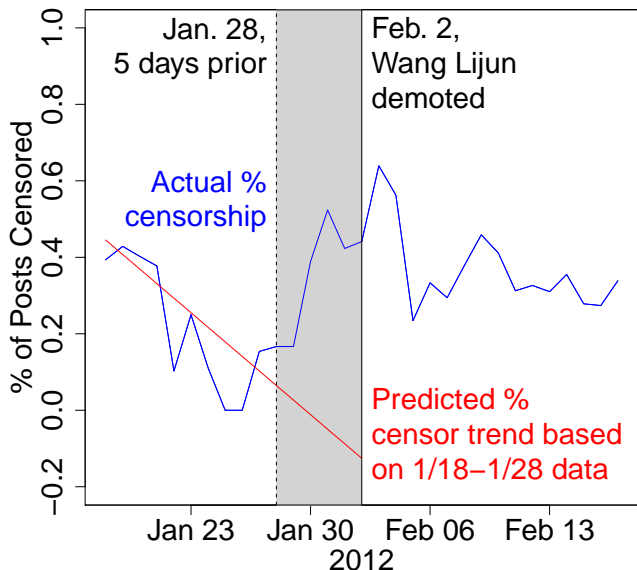
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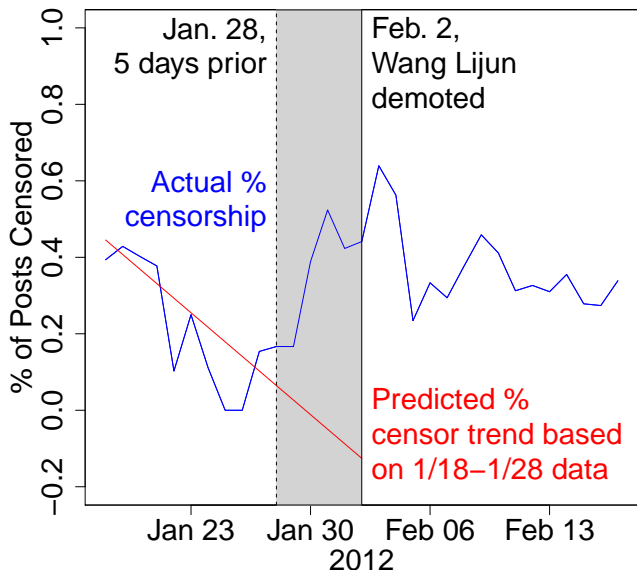


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Uncensored Posts (w/o Collective Action Potential) Critical of the State

Uncensored Posts (w/o Collective Action Potential) Critical of the State

		Collective Action	
		yes	no
State Critique	yes		Free
	no		Free

Uncensored Posts (w/o Collective Action Potential) Critical of the State

This is a city government [Yulin City, Shaanxi] that treats life with contempt, this is government officials run amuck, a city government without justice, a city government that delights in that which is vulgar, a place where officials all have mistresses, a city government that is shameless with greed, a government that trades dignity for power, a government without humanity, a government that has no limits on immorality, a government that goes back on its word, a government that treats kindness with ingratitude, a government that cares nothing for posterity...

这是一个漠视生命的市政府[陕西省榆林市]、一个官员横行的市政府、一个没有公正的市政府，一个低级趣味的市政府，一个包二奶的市政府，一个为钱不要脸的市政府，一个为个权不要人格的市政府，一个没有血性的市政府，一个没有道德低线的市政府，一个出尔反尔的市政府，一个忘恩负义的市政府，一个不要子孙后代的市政府，一个什么怪事都出的市政府，一个什么的市政府，只要你想到的就有...

Censored Post (with Collective Action Potential)

Supporting the State

Censored Post (with Collective Action Potential) Supporting the State

		Collective Action	
		yes	no
State Critique	yes		Free
	no		Free

Censored Post (with Collective Action Potential) Supporting the State

The bombing led not only to the tragedy of his death but the death of many government workers. Even if we can verify what Qian Mingqi said on Weibo that the building demolition caused a great deal of personal damage, we should still condemn his extreme act of retribution. . . . The government has continually put forth measures and laws to protect the interests of citizens in building demolition. And the media has called attention to the plight of those experiencing housing demolition. The rate at which compensation for housing demolition has increased exceeds inflation. In many places, this compensation can change the fate of an entire family.

爆炸案造成他本人和多名政府工作人员死伤的悲剧，即使钱明奇在微博里所称拆迁造成的个人损失是属实的，我们也应谴责他的极端报复行为. . . . 政府在连续出台保护被拆迁者利益的政策法规，媒体也在为公平对待被拆迁者大声疾呼，各地拆迁补偿款的上升速度，大多高于商品房售价上升的速度，在不少地方，补偿款已经足以改变一个家庭的命运。