

# Reverse Engineering Chinese Censorship

Gary King<sup>1</sup>

Institute for Quantitative Social Science  
Harvard University

(Keynote address, First Annual Asian Political Methodology Meeting, Tokyo, 1/6/2014)

---

<sup>1</sup>Based on joint work with Jennifer Pan and Molly Roberts

- 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](http://GaryKing.org)

# Chinese Censorship

The largest selective suppression of human expression in history

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

Theories of the Goal of Censorship

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- 1 Stop criticism of the state

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- 1 Stop criticism of the state
- 2 Stop collective action

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- 1 Stop criticism of the state
- 2 Stop collective action

Either or both could be right or wrong.



# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- 1 ~~Stop criticism of the state~~ *Wrong*
- 2 Stop collective action

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- ① ~~Stop criticism of the state~~ *Wrong*
- ② Stop collective action *Right*

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

## Benefit

- 1 Stop criticism of the state *Wrong*
- 2 Stop collective action *Right*

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

### Benefit

### Cost

- ① ~~Stop criticism of the state~~ *Wrong*
- ② Stop collective action *Right*

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- 1 Stop criticism of the state *Wrong*
- 2 Stop collective action *Right*

## Benefit

?

## Cost

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- 1 Stop criticism of the state *Wrong*
- 2 Stop collective action *Right*

## Benefit

?

## Cost

Huge

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- 1 Stop criticism of the state *Wrong*
- 2 Stop collective action *Right*

## Benefit

?

Huge

## Cost

Huge

# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- 1 Stop criticism of the state *Wrong*
- 2 Stop collective action *Right*

## Benefit

?

Huge

## Cost

Huge

None



# Chinese Censorship

The largest selective suppression of human expression in history:

- implemented *manually*,
- by  $\approx 200,000$  workers,
- located in government and inside social media firms

## Theories of the Goal of Censorship

- 1 Stop criticism of the state *Wrong*
- 2 Stop collective action *Right*

## Benefit

?

Huge

## Cost

Huge

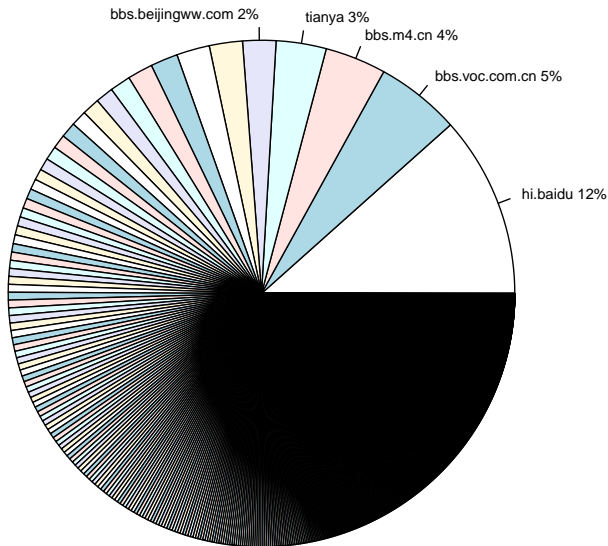
None

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

# Chinese Social Media: Fractured over 1,400+ sites



## Chinese Social Media: Fractured over 1,400+ sites



(Plus 59% from Sina Blog)

# Observational Study

# Observational Study

- Collect 3,674,698 social media posts in 85 topic areas over 6 months

# Observational Study

- Collect 3,674,698 social media posts in 85 topic areas over 6 months
- Random sample: 127,283

# Observational Study

- Collect 3,674,698 social media posts in 85 topic areas over 6 months
- Random sample: 127,283
- (Repeat design; Total analyzed: 11,382,221)

# Observational Study

- Collect 3,674,698 social media posts in 85 topic areas over 6 months
- Random sample: 127,283
- (Repeat design; Total analyzed: 11,382,221)
- $\rightsquigarrow$  For each post (on a timeline in one of 85 content areas):



# Observational Study

- Collect 3,674,698 social media posts in 85 topic areas over 6 months
- Random sample: 127,283
- (Repeat design; Total analyzed: 11,382,221)
- $\rightsquigarrow$  For each post (on a timeline in one of 85 content areas):
  - Download content the instant it appears

# Observational Study

- Collect 3,674,698 social media posts in 85 topic areas over 6 months
- Random sample: 127,283
- (Repeat design; Total analyzed: 11,382,221)
- $\rightsquigarrow$  For each post (on a timeline in one of 85 content areas):
  - Download content the instant it appears
  - (Carefully) revisit each later to determine if it was censored (from computers all over the world)

# Observational Study

- Collect 3,674,698 social media posts in 85 topic areas over 6 months
- Random sample: 127,283
- (Repeat design; Total analyzed: 11,382,221)
- $\rightsquigarrow$  For each post (on a timeline in one of 85 content areas):
  - Download content the instant it appears
  - (Carefully) revisit each later to determine if it was censored (from computers all over the world)
  - 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

[返回首页](#)

[反馈错误](#)

[关于我们](#) | [主页制作](#) | [客户服务](#) | [人才招聘](#) | [信息管理](#) | [业务联系](#) | [有奖新闻](#) | [网站地图](#)

Copyright(c) (2007-2012) New Silkroad Online. All rights reserved.

[新ICP备07500354号] 互联网违法和不良信息举报中心 有害信息举报中心 互动频道举报奖励办法

版权所有: 中国电信股份有限公司新疆分公司 技术支持: 800-8930169 电话: 0991-4667780 传真: (0991)4682953

电子信箱: [edit@mail.xj.cninfo.net](mailto:edit@mail.xj.cninfo.net) 文化即互联网游戏运营许可证 编号: 文网文(2010)054号

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



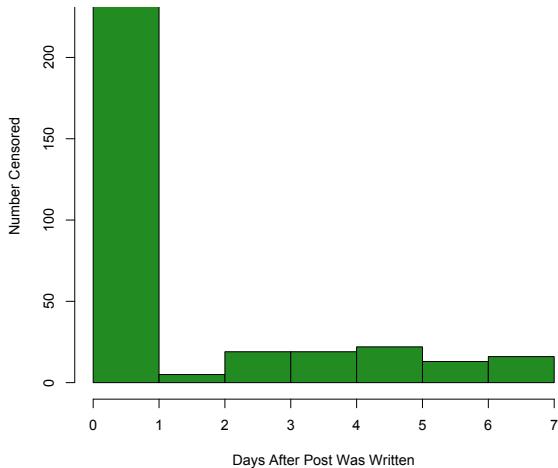
The Censors are Fast; Our Automated Methods are Faster

# The Censors are Fast; Our Automated Methods are Faster

Example: Shanghai Subway Crash

# The Censors are Fast; Our Automated Methods are Faster

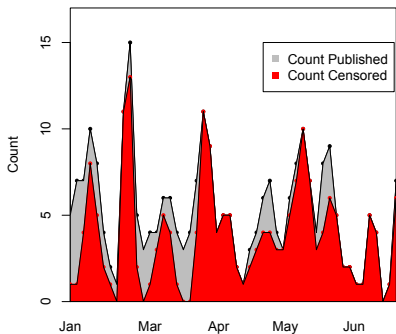
Example: Shanghai Subway Crash



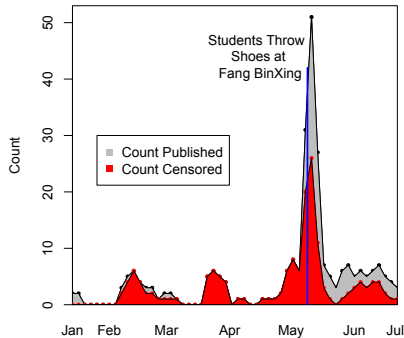


## For 2 Unusual Topics: Constant Censorship Effort

## For 2 Unusual Topics: Constant Censorship Effort



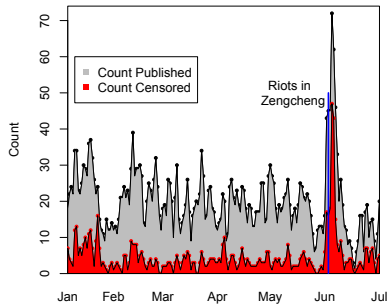
Pornography



Criticism of the Censors

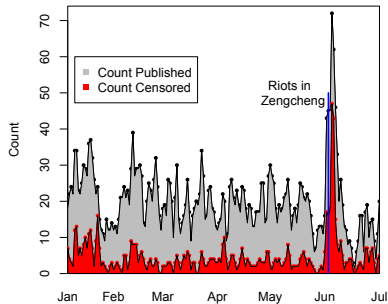
All other topics: Censorship & Post Volume are “Bursty”

## All other topics: Censorship & Post Volume are “Bursty”



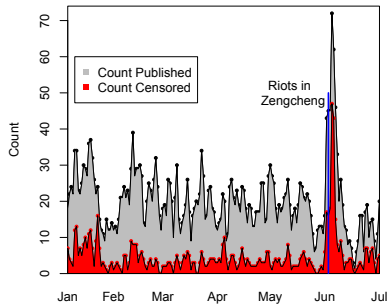
## All other topics: Censorship & Post Volume are “Bursty”

- Unit of analysis:

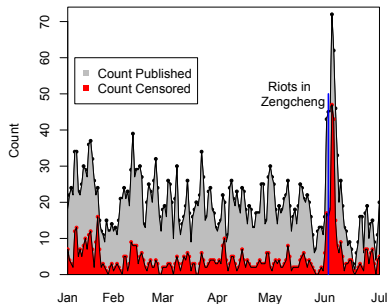


## All other topics: Censorship & Post Volume are “Bursty”

- Unit of analysis:
  - volume burst

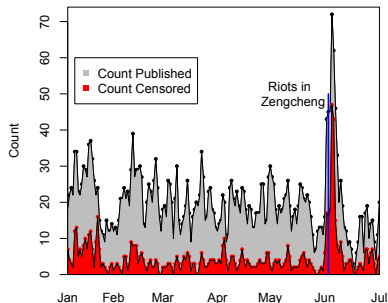


## All other topics: Censorship & Post Volume are “Bursty”



- Unit of analysis:
  - volume burst
  - ( $\approx 3$  SDs greater than baseline volume)

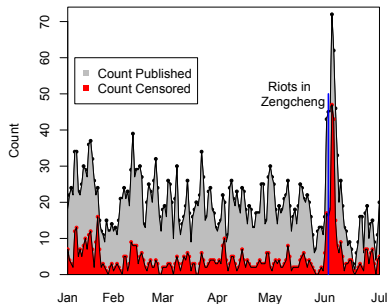
## All other topics: Censorship & Post Volume are “Bursty”



- Unit of analysis:
  - volume burst
  - ( $\approx 3$  SDs greater than baseline volume)
- We monitored 85 topic areas (Jan–July 2011)

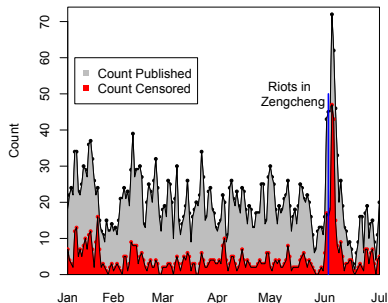


## All other topics: Censorship & Post Volume are “Bursty”



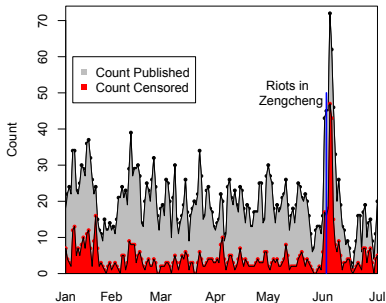
- Unit of analysis:
  - volume burst
  - ( $\approx 3$  SDs greater than baseline volume)
- We monitored **85 topic areas** (Jan–July 2011)
- Found **87 volume bursts** in total

## All other topics: Censorship & Post Volume are “Bursty”



- Unit of analysis:
  - volume burst
  - ( $\approx 3$  SDs greater than baseline volume)
- We monitored **85 topic areas** (Jan–July 2011)
- Found **87 volume bursts** in total
- Identified real world **events** associated with each burst

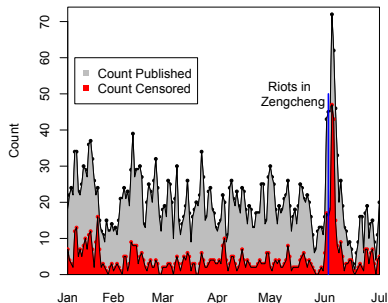
## All other topics: Censorship & Post Volume are “Bursty”



- Unit of analysis:
  - volume burst
  - ( $\approx 3$  SDs greater than baseline volume)
- We monitored **85 topic areas** (Jan–July 2011)
- Found **87 volume bursts** in total
- Identified real world **events** associated with each burst

Our hypothesis: The government censors all posts in volume bursts associated with events with collective action potential (regardless of how critical or supportive of the state)

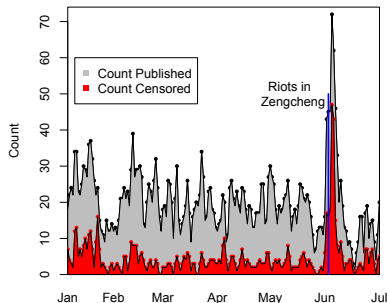
## All other topics: Censorship & Post Volume are “Bursty”



- Unit of analysis:
  - volume burst
  - ( $\approx 3$  SDs greater than baseline volume)
- We monitored **85 topic areas** (Jan–July 2011)
- Found **87 volume bursts** in total
- Identified real world **events** associated with each burst

Our hypothesis: The government censors **all posts** in volume bursts associated with events with collective action potential (regardless of how critical or supportive of the state)

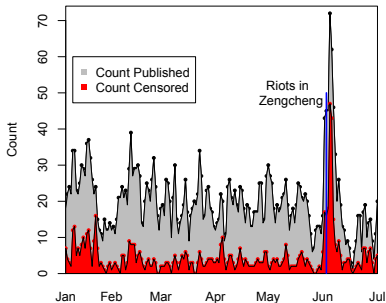
## All other topics: Censorship & Post Volume are “Bursty”



- Unit of analysis:
  - volume burst
  - ( $\approx 3$  SDs greater than baseline volume)
- We monitored **85 topic areas** (Jan–July 2011)
- Found **87 volume bursts** in total
- Identified real world **events** associated with each burst

Our hypothesis: The government censors **all posts** in **volume bursts** associated with events with collective action potential (regardless of how critical or supportive of the state)

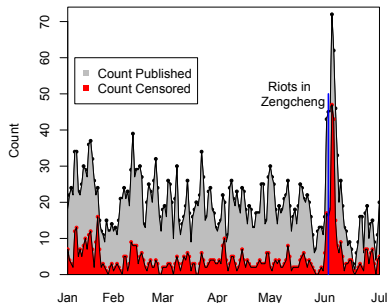
## All other topics: Censorship & Post Volume are “Bursty”



- Unit of analysis:
  - volume burst
  - ( $\approx 3$  SDs greater than baseline volume)
- We monitored **85 topic areas** (Jan–July 2011)
- Found **87 volume bursts** in total
- Identified real world **events** associated with each burst

Our hypothesis: The government censors **all posts** in **volume bursts** associated with **events** with collective action potential (regardless of how critical or supportive of the state)

# All other topics: Censorship & Post Volume are “Bursty”



- Unit of analysis:
  - volume burst
  - ( $\approx 3$  SDs greater than baseline volume)
- We monitored 85 topic areas (Jan–July 2011)
- Found 87 volume bursts in total
- Identified real world events associated with each burst

Our hypothesis: The government censors all posts in volume bursts associated with events with collective action potential (regardless of how critical or supportive of the state)

# Observational Test 1: Post Volume



# Observational Test 1: Post Volume

- Begin with our 87 volume bursts in 85 topics areas

# Observational Test 1: Post Volume

- Begin with our 87 volume bursts in 85 topics areas
- For each burst, calculate change in % censorship inside to outside each volume burst within topic areas – censorship magnitude

# Observational Test 1: Post Volume

- Begin with our 87 volume bursts in 85 topics areas
- For each burst, calculate change in % censorship inside to outside each volume burst within topic areas – censorship magnitude
- If goal of censorship is to stop collective action, we expect:

# Observational Test 1: Post Volume

- Begin with our 87 volume bursts in 85 topics areas
  - For each burst, calculate change in % censorship inside to outside each volume burst within topic areas – censorship magnitude
  - If goal of censorship is to stop collective action, we expect:
- 
- ① On average, % censored should increase during volume bursts

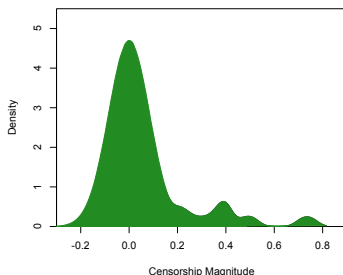
# Observational Test 1: Post Volume

- Begin with our 87 volume bursts in 85 topics areas
- For each burst, calculate change in % censorship inside to outside each volume burst within topic areas – censorship magnitude
- If goal of censorship is to stop collective action, we expect:
  - 1 On average, % censored should increase during volume bursts
  - 2 Some bursts (associated with politically relevant events) should have much higher censorship

# Observational Test 1: Post Volume

- Begin with our **87 volume bursts** in 85 topics areas
- For each burst, calculate change in % censorship inside to outside each volume burst within topic areas – **censorship magnitude**
- If goal of censorship is to stop collective action, **we expect:**

- 1 On average, % censored should increase during volume bursts
- 2 Some bursts (associated with politically relevant events) should have much higher censorship



## Observational Test 2: The Events Generating the Bursts

## Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)



## Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

### ① Collective Action Potential

## Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

### ① Collective Action Potential

- protest or organized crowd formation outside the Internet

# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

## ① Collective Action Potential

- protest or organized crowd formation outside the Internet
- individuals who have organized or incited collective action on the ground in the past;

# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

## ① Collective Action Potential

- protest or organized crowd formation outside the Internet
- individuals who have organized or incited collective action on the ground in the past;
- topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.

# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

## ① Collective Action Potential

- protest or organized crowd formation outside the Internet
- individuals who have organized or incited collective action on the ground in the past;
- topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
- (Inter-coder reliability: 98.9%)

# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

## ① Collective Action Potential

- protest or organized crowd formation outside the Internet
- individuals who have organized or incited collective action on the ground in the past;
- topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
- (Inter-coder reliability: 98.9%)

## ② Criticism of censors

# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

## ① Collective Action Potential

- protest or organized crowd formation outside the Internet
- individuals who have organized or incited collective action on the ground in the past;
- topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
- (Inter-coder reliability: 98.9%)

## ② Criticism of censors

## ③ Pornography

# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

## ① Collective Action Potential

- protest or organized crowd formation outside the Internet
- individuals who have organized or incited collective action on the ground in the past;
- topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
- (Inter-coder reliability: 98.9%)

## ② Criticism of censors

## ③ Pornography

## ④ (Other) News



# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

## ① Collective Action Potential

- protest or organized crowd formation outside the Internet
- individuals who have organized or incited collective action on the ground in the past;
- topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
- (Inter-coder reliability: 98.9%)

## ② Criticism of censors


## ③ Pornography

## ④ (Other) News

## ⑤ Government Policies



# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

- ① ~~Collective Action Potential~~ 
  - protest or organized crowd formation outside the Internet
  - individuals who have organized or incited collective action on the ground in the past;
  - topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
  - (Inter-coder reliability: 98.9%)
- ② Criticism of censors
- ③ Pornography
- ④ (Other) News
- ⑤ Government Policies




# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

- ① ~~Collective Action Potential~~ 
  - protest or organized crowd formation outside the Internet
  - individuals who have organized or incited collective action on the ground in the past;
  - topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
  - (Inter-coder reliability: 98.9%)
- ② ~~Criticism of censors~~ 
- ③ Pornography
- ④ (Other) News
- ⑤ Government Policies





# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

- ① ~~Collective Action Potential~~ 
  - protest or organized crowd formation outside the Internet
  - individuals who have organized or incited collective action on the ground in the past;
  - topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
  - (Inter-coder reliability: 98.9%)
- ② ~~Criticism of censors~~ 
- ③ ~~Pornography~~ 
- ④ (Other) News
- ⑤ Government Policies






# Observational Test 2: The Events Generating the Bursts

Event classification (each category can be +, −, or neutral comments about the state)

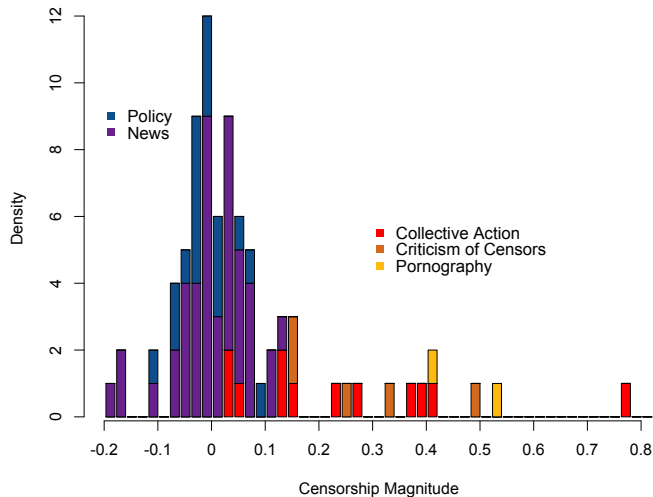
- ① ~~Collective Action Potential~~ 
  - protest or organized crowd formation outside the Internet
  - individuals who have organized or incited collective action on the ground in the past;
  - topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
  - (Inter-coder reliability: 98.9%)
- ② ~~Criticism of censors~~ 
- ③ ~~Pornography~~ 
- ④ (Other) News 
- ⑤ Government Policies

# Observational Test 2: The Events Generating the Bursts

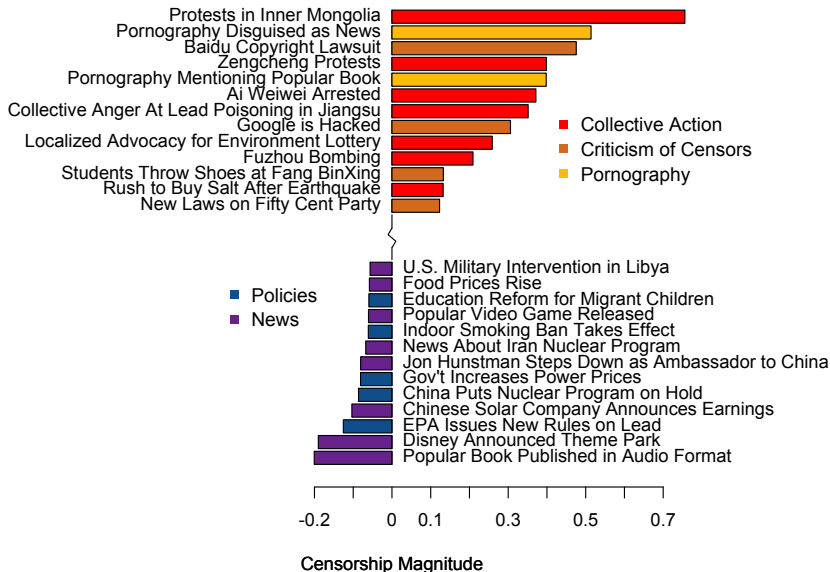
Event classification (each category can be +, −, or neutral comments about the state)

- ① ~~Collective Action Potential~~ 
  - protest or organized crowd formation outside the Internet
  - individuals who have organized or incited collective action on the ground in the past;
  - topics related to nationalism or nationalist sentiment that have incited protest or collective action in the past.
  - (Inter-coder reliability: 98.9%)
- ② ~~Criticism of censors~~ 
- ③ ~~Pornography~~ 
- ④ (Other) News 
- ⑤ Government Policies 

# What Types of Events Are Censored?

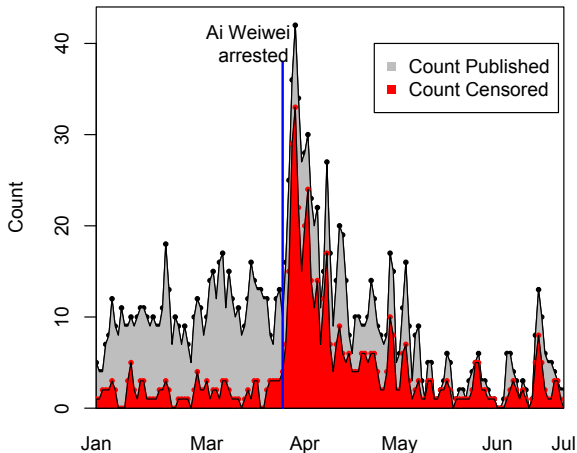


# What Types of Events Are Censored?

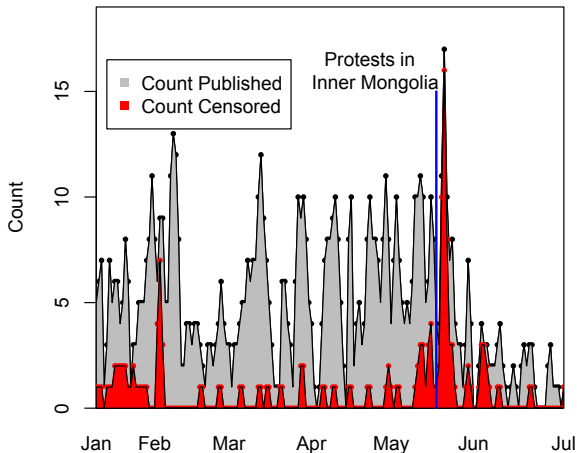




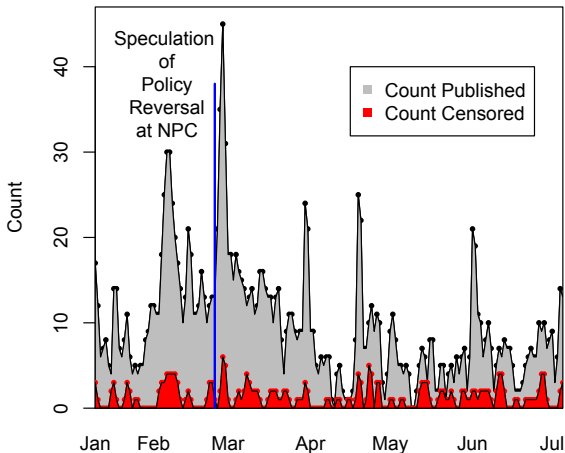
# Censoring Collective Action: Ai Weiwei's Arrest



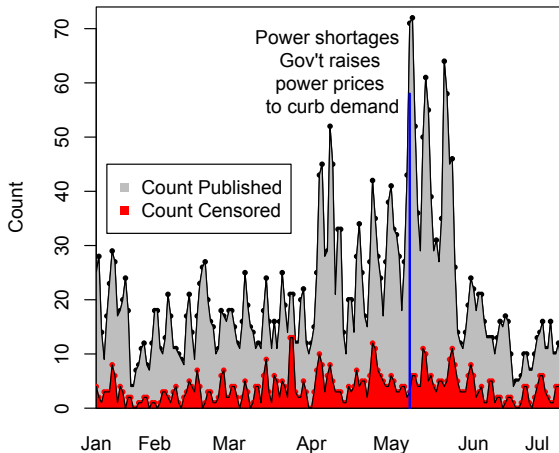
# Censoring Collective Action: Protests in Inner Mongolia



# Low Censorship on One Child Policy



# Low Censorship on News: Power Prices



## Observational Test 3: Content of Posts

## Observational Test 3: Content of Posts

We adapted “ReadMe” (Hopkins-King) methodology to the content of censored posts in Chinese

## Observational Test 3: Content of Posts

We adapted “ReadMe” (Hopkins-King) methodology to the content of censored posts in Chinese

- Standardize encoding of Chinese text

## Observational Test 3: Content of Posts

We adapted “ReadMe” (Hopkins-King) methodology to the content of censored posts in Chinese

- Standardize encoding of Chinese text
- Eliminate punctuation and stop words



## Observational Test 3: Content of Posts

We adapted “ReadMe” (Hopkins-King) methodology to the content of censored posts in Chinese

- Standardize encoding of Chinese text
- Eliminate punctuation and stop words
- Experiment with segmenting characters into words

## Observational Test 3: Content of Posts

We adapted “ReadMe” (Hopkins-King) methodology to the content of censored posts in Chinese

- Standardize encoding of Chinese text
- Eliminate punctuation and stop words
- Experiment with segmenting characters into words
- Calculate the quantity of interest (% censored by category)

## Observational Test 3: Content of Posts

We adapted “ReadMe” (Hopkins-King) methodology to the content of censored posts in Chinese

- Standardize encoding of Chinese text
- Eliminate punctuation and stop words
- Experiment with segmenting characters into words
- Calculate the quantity of interest (% censored by category)
  - Code a validation set

## Observational Test 3: Content of Posts

We adapted “ReadMe” (Hopkins-King) methodology to the content of censored posts in Chinese

- Standardize encoding of Chinese text
- Eliminate punctuation and stop words
- Experiment with segmenting characters into words
- Calculate the quantity of interest (% censored by category)
  - Code a validation set
  - ReadMe estimates: % of posts in each category

## Observational Test 3: Content of Posts

We adapted “ReadMe” (Hopkins-King) methodology to the content of censored posts in Chinese

- Standardize encoding of Chinese text
- Eliminate punctuation and stop words
- Experiment with segmenting characters into words
- Calculate the quantity of interest (% censored by category)
  - Code a validation set
  - ReadMe estimates: % of posts in each category
  - Quantity of interest: % of posts censored in a category

## Observational Test 3: Content of Posts

We adapted “ReadMe” (Hopkins-King) methodology to the content of censored posts in Chinese

- Standardize encoding of Chinese text
- Eliminate punctuation and stop words
- Experiment with segmenting characters into words
- Calculate the quantity of interest (% censored by category)
  - Code a validation set
  - ReadMe estimates: % of posts in each category
  - Quantity of interest: % of posts censored in a category

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

# “ReadMe” Algorithm Validated in Chinese

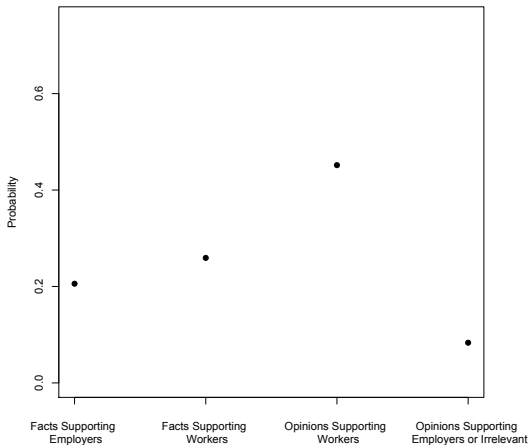
# “ReadMe” Algorithm Validated in Chinese

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



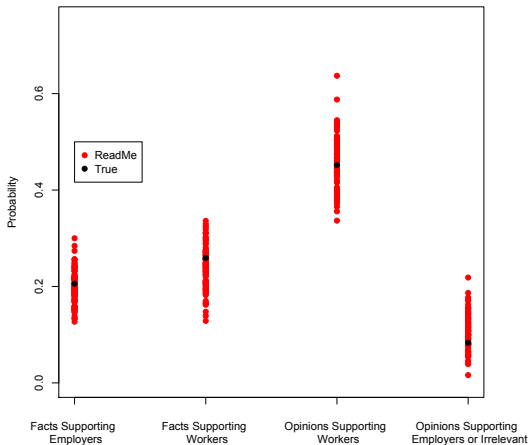
# “ReadMe” Algorithm Validated in Chinese

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



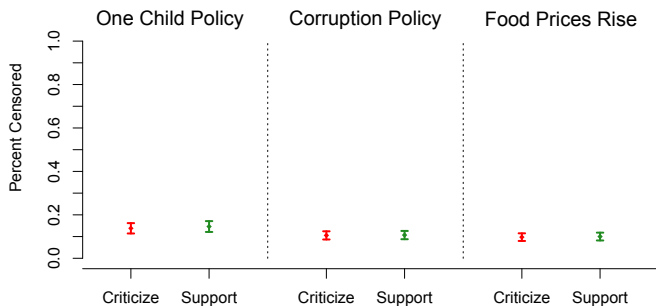
# “ReadMe” Algorithm Validated in Chinese

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



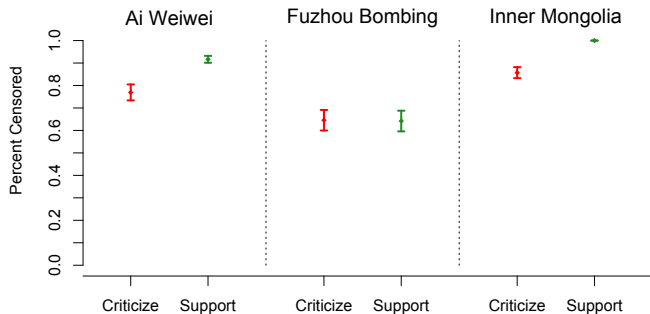
## Uncensored: Non-Collective Action Posts (that Support *or* Oppose the State)

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



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

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



# Additional Research Designs

# Additional Research Designs

- 1 Randomized Experiment (for causal inferences)



# Additional Research Designs

- 1 Randomized Experiment (for causal inferences)
- 2 Participatory Study (for descriptive inferences)

# Additional Research Designs

- ① Randomized Experiment (for causal inferences)
  - Selected 100 top social media sites ( $\sim 87\%$  of blogs,  $> 500\text{M}$  Users, geographically diverse)
  
- ② Participatory Study (for descriptive inferences)

# Additional Research Designs

## ① Randomized Experiment (for causal inferences)

- Selected 100 top social media sites ( $\sim 87\%$  of blogs,  $> 500\text{M}$  Users, geographically diverse)
- Created 2 accounts on each (from inside China all over the country)

## ② Participatory Study (for descriptive inferences)

# Additional Research Designs

## ① Randomized Experiment (for causal inferences)

- Selected 100 top social media sites ( $\sim 87\%$  of blogs,  $> 500\text{M}$  Users, geographically diverse)
- Created 2 accounts on each (from inside China all over the country)
- Wrote 1,200 *unique* social media posts (CA/not CA, Pro/Anti)

## ② Participatory Study (for descriptive inferences)

# Additional Research Designs

## ① Randomized Experiment (for causal inferences)

- Selected 100 top social media sites ( $\sim 87\%$  of blogs,  $> 500\text{M}$  Users, geographically diverse)
- Created 2 accounts on each (from inside China all over the country)
- Wrote 1,200 *unique* social media posts (CA/not CA, Pro/Anti)
- Submitted posts randomly assigned to type

## ② Participatory Study (for descriptive inferences)

# Additional Research Designs

## ① Randomized Experiment (for causal inferences)

- Selected 100 top social media sites ( $\sim 87\%$  of blogs,  $> 500\text{M}$  Users, geographically diverse)
- Created 2 accounts on each (from inside China all over the country)
- Wrote 1,200 *unique* social media posts (CA/not CA, Pro/Anti)
- Submitted posts randomly assigned to type
- Checked on censorship (from computers in many countries)

## ② Participatory Study (for descriptive inferences)

# Additional Research Designs

## ① Randomized Experiment (for causal inferences)

- Selected 100 top social media sites ( $\sim 87\%$  of blogs,  $> 500\text{M}$  Users, geographically diverse)
- Created 2 accounts on each (from inside China all over the country)
- Wrote 1,200 *unique* social media posts (CA/not CA, Pro/Anti)
- Submitted posts randomly assigned to type
- Checked on censorship (from computers in many countries)

## ② Participatory Study (for descriptive inferences)

- Current method of learning how they censor: ask (carefully!)

# Additional Research Designs

## ① Randomized Experiment (for causal inferences)

- Selected 100 top social media sites ( $\sim 87\%$  of blogs,  $> 500\text{M}$  Users, geographically diverse)
- Created 2 accounts on each (from inside China all over the country)
- Wrote 1,200 *unique* social media posts (CA/not CA, Pro/Anti)
- Submitted posts randomly assigned to type
- Checked on censorship (from computers in many countries)

## ② Participatory Study (for descriptive inferences)

- Current method of learning how they censor: ask (carefully!)
- Our goal: change our sources' incentives



# Additional Research Designs

## ① Randomized Experiment (for causal inferences)

- Selected 100 top social media sites ( $\sim 87\%$  of blogs,  $> 500\text{M}$  Users, geographically diverse)
- Created 2 accounts on each (from inside China all over the country)
- Wrote 1,200 *unique* social media posts (CA/not CA, Pro/Anti)
- Submitted posts randomly assigned to type
- Checked on censorship (from computers in many countries)

## ② Participatory Study (for descriptive inferences)

- Current method of learning how they censor: ask (carefully!)
- Our goal: change our sources' incentives
- Procedure: create our own social media website in China

# Additional Research Designs

## ① Randomized Experiment (for causal inferences)

- Selected 100 top social media sites (~87% of blogs, >500M Users, geographically diverse)
- Created 2 accounts on each (from inside China all over the country)
- Wrote 1,200 *unique* social media posts (CA/not CA, Pro/Anti)
- Submitted posts randomly assigned to type
- Checked on censorship (from computers in many countries)

## ② Participatory Study (for descriptive inferences)

- Current method of learning how they censor: ask (carefully!)
- Our goal: change our sources' incentives
- Procedure: create our own social media website in China
- Bought URL; contracted with firms for servers & software; posted and censored ourselves

# Additional Research Designs

## ① Randomized Experiment (for causal inferences)

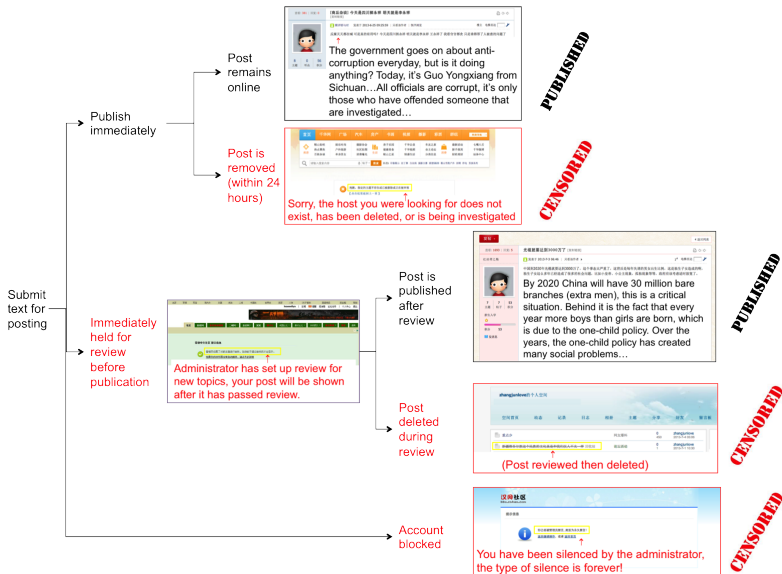
- Selected 100 top social media sites (~87% of blogs, >500M Users, geographically diverse)
- Created 2 accounts on each (from inside China all over the country)
- Wrote 1,200 *unique* social media posts (CA/not CA, Pro/Anti)
- Submitted posts randomly assigned to type
- Checked on censorship (from computers in many countries)

## ② Participatory Study (for descriptive inferences)

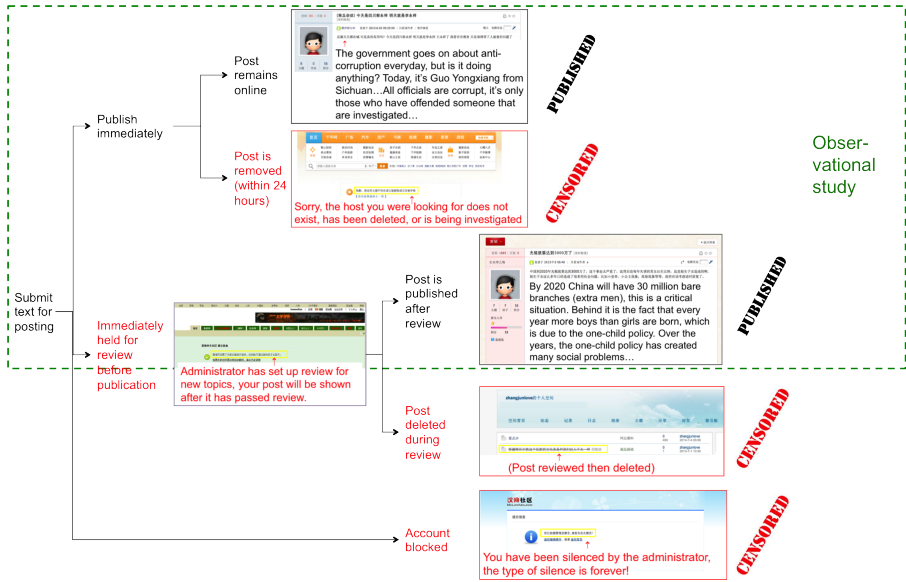
- Current method of learning how they censor: ask (carefully!)
- Our goal: change our sources' incentives
- Procedure: create our own social media website in China
- Bought URL; contracted with firms for servers & software; posted and censored ourselves
- To learn: we tried every software option, read the documentation, and called customer support(!)

# Mechanisms of Censorship

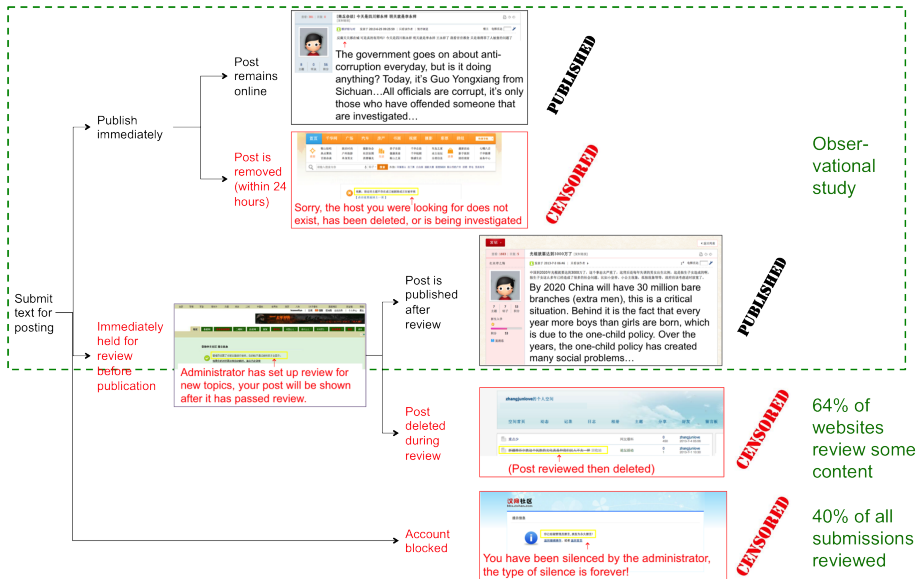
# Mechanisms of Censorship



# Mechanisms of Censorship



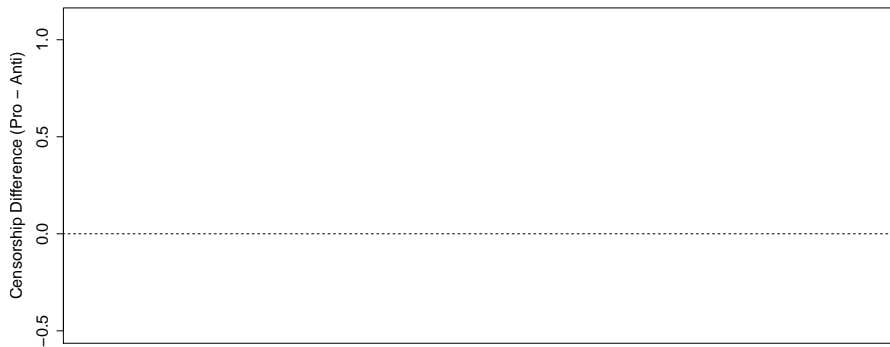
# Mechanisms of Censorship



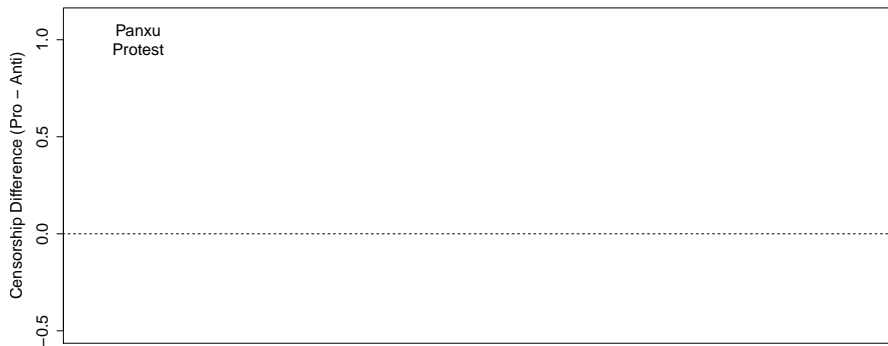
## Posts For v. Against Government: Zero Causal Effect



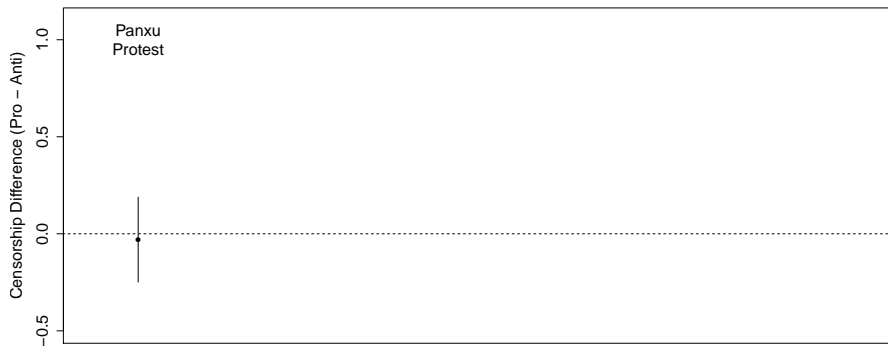
## Posts For v. Against Government: Zero Causal Effect



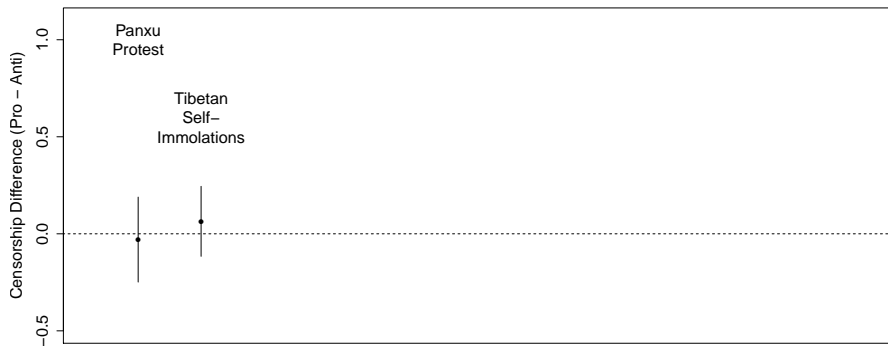
# Posts For v. Against Government: Zero Causal Effect



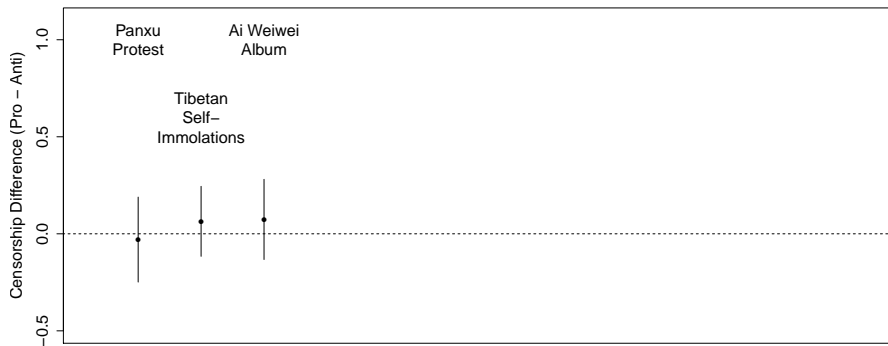
# Posts For v. Against Government: Zero Causal Effect



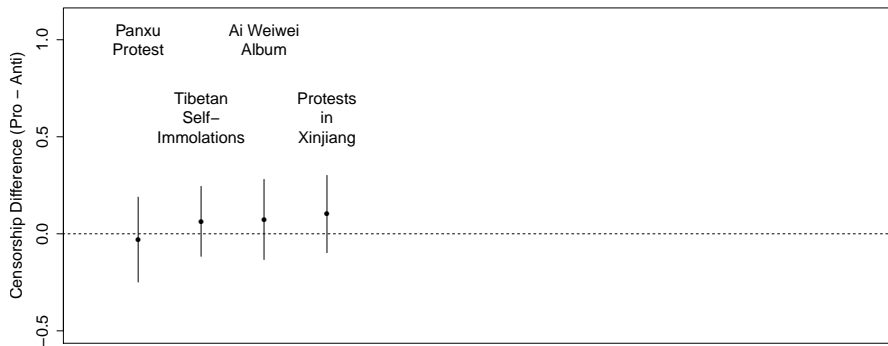
# Posts For v. Against Government: Zero Causal Effect



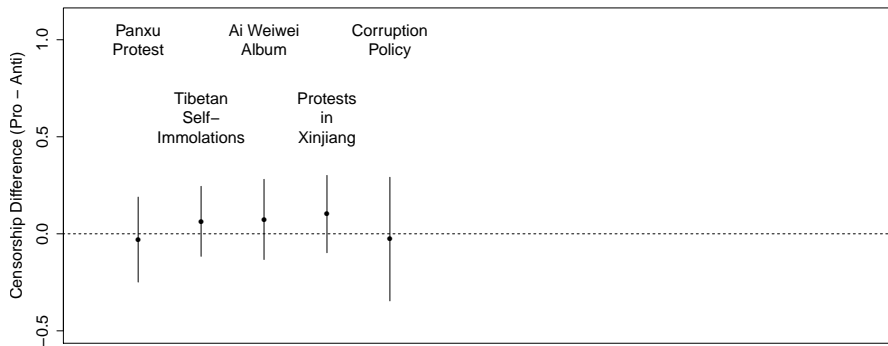
# Posts For v. Against Government: Zero Causal Effect



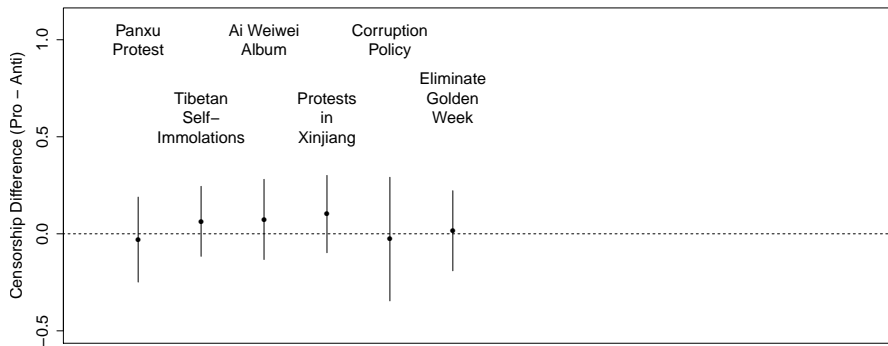
# Posts For v. Against Government: Zero Causal Effect



# Posts For v. Against Government: Zero Causal Effect

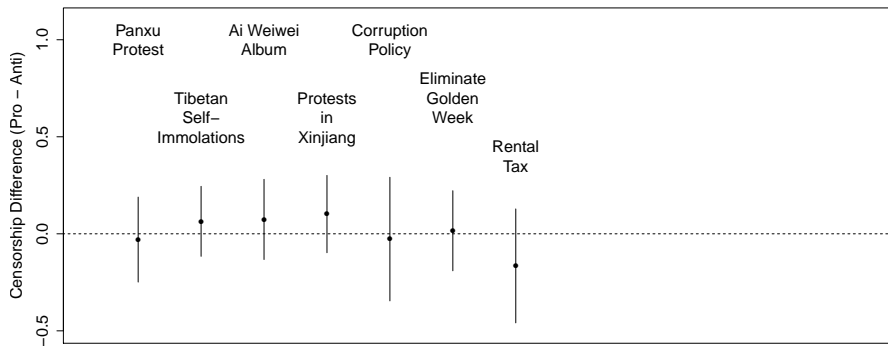


# Posts For v. Against Government: Zero Causal Effect

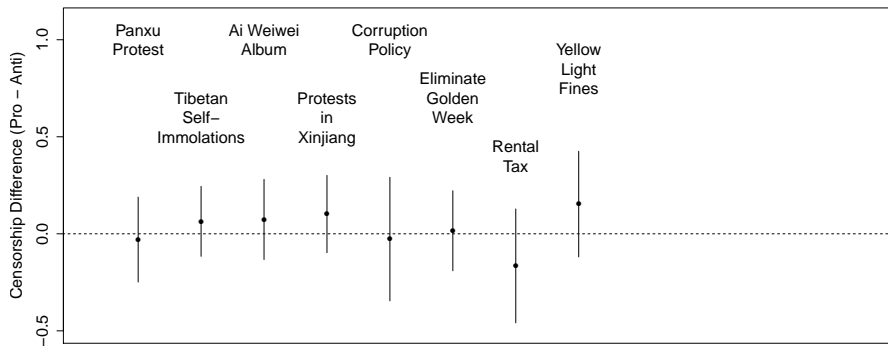




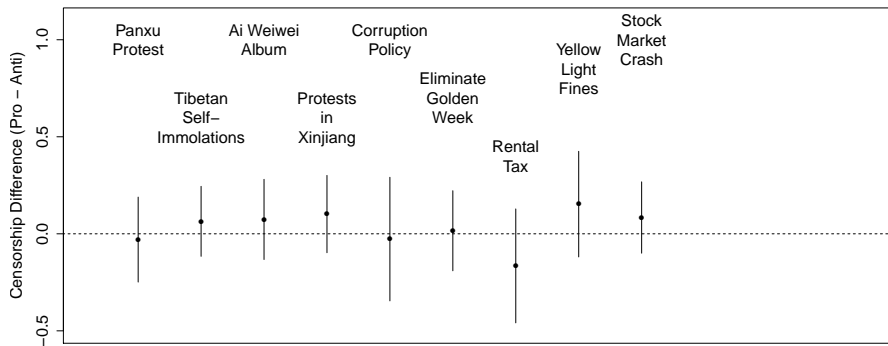
# Posts For v. Against Government: Zero Causal Effect



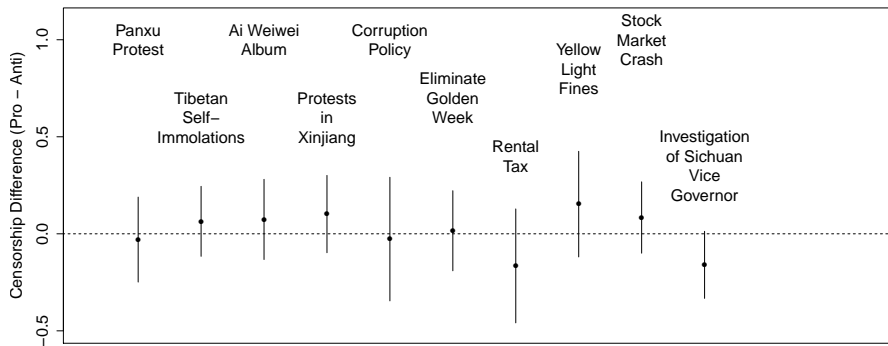
# Posts For v. Against Government: Zero Causal Effect



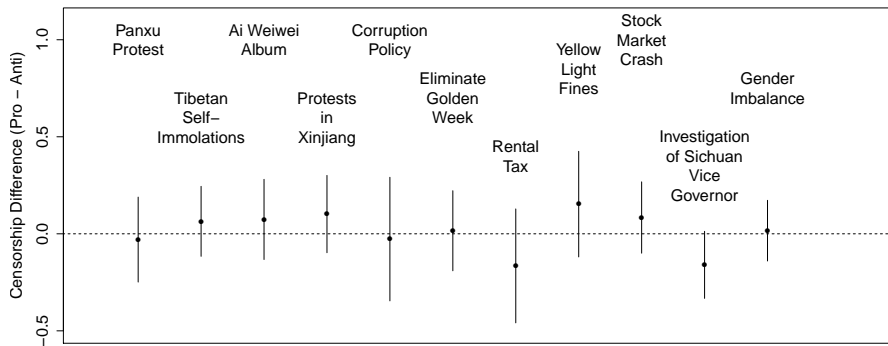
# Posts For v. Against Government: Zero Causal Effect



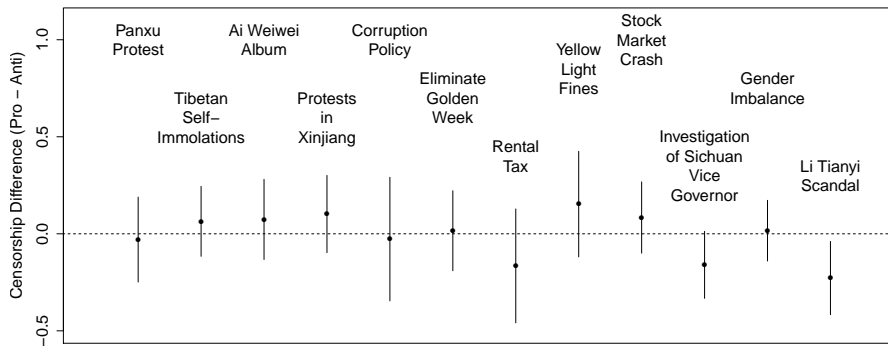
# Posts For v. Against Government: Zero Causal Effect



# Posts For v. Against Government: Zero Causal Effect

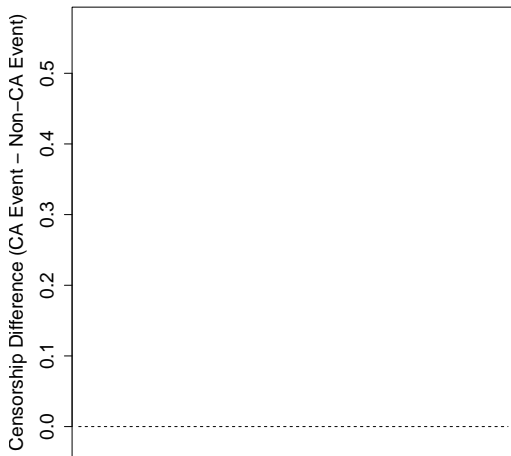


# Posts For v. Against Government: Zero Causal Effect



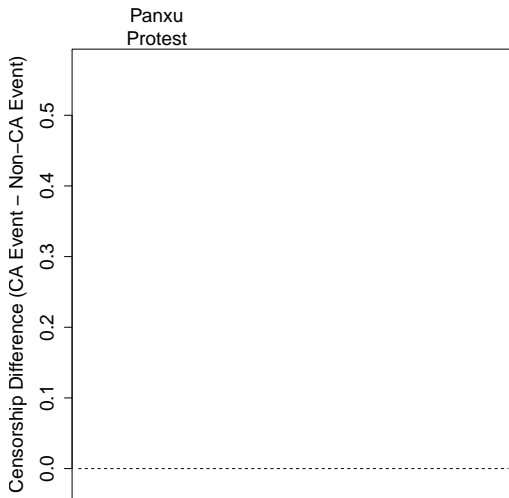
# Collective Action Events: Large Causal Effect

# Collective Action Events: Large Causal Effect

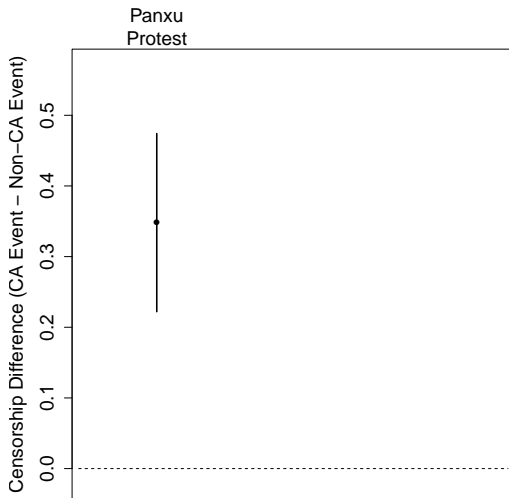




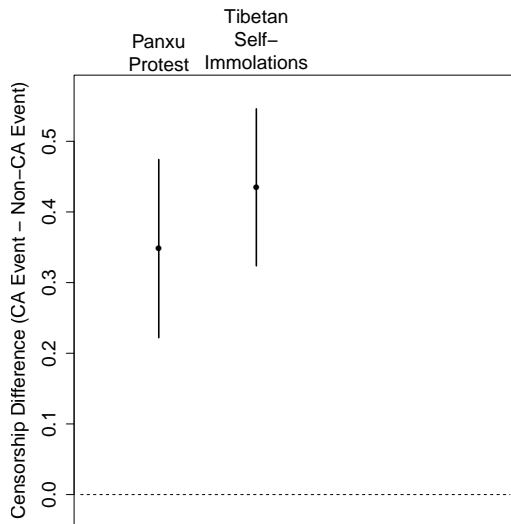
# Collective Action Events: Large Causal Effect



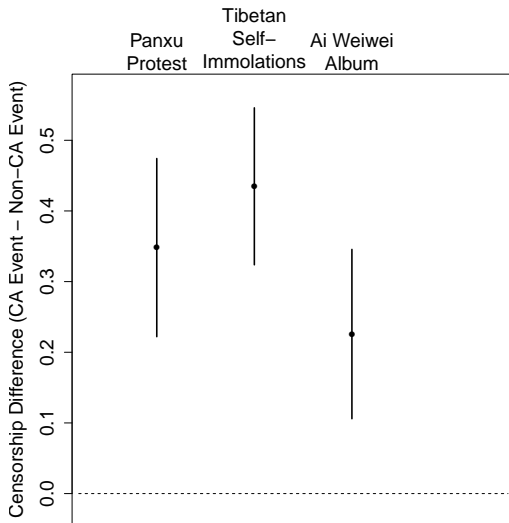
# Collective Action Events: Large Causal Effect



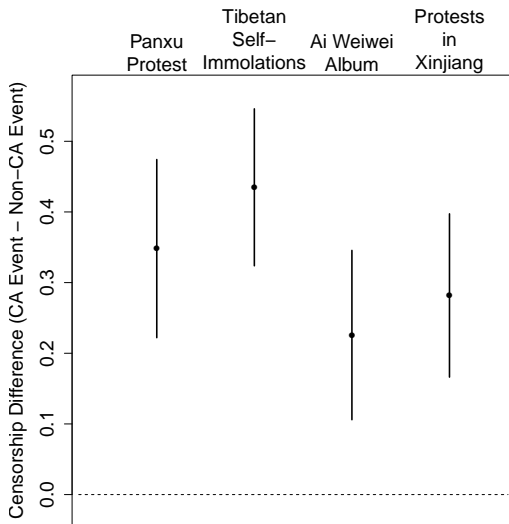
# Collective Action Events: Large Causal Effect



# Collective Action Events: Large Causal Effect

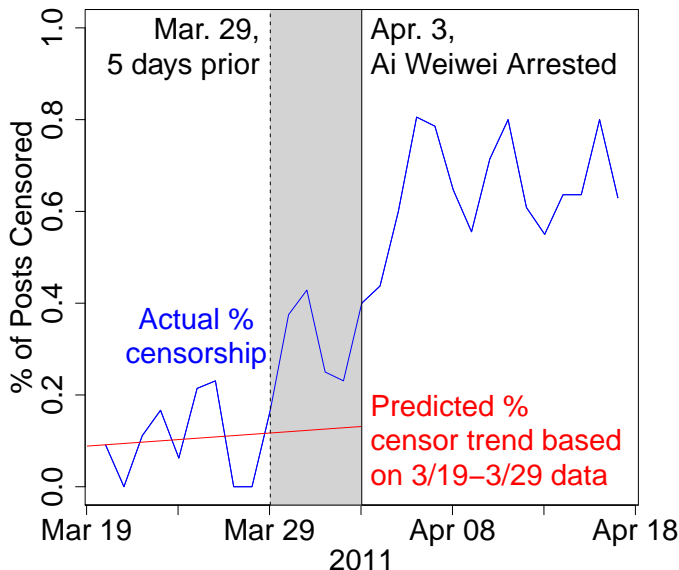


# Collective Action Events: Large Causal Effect

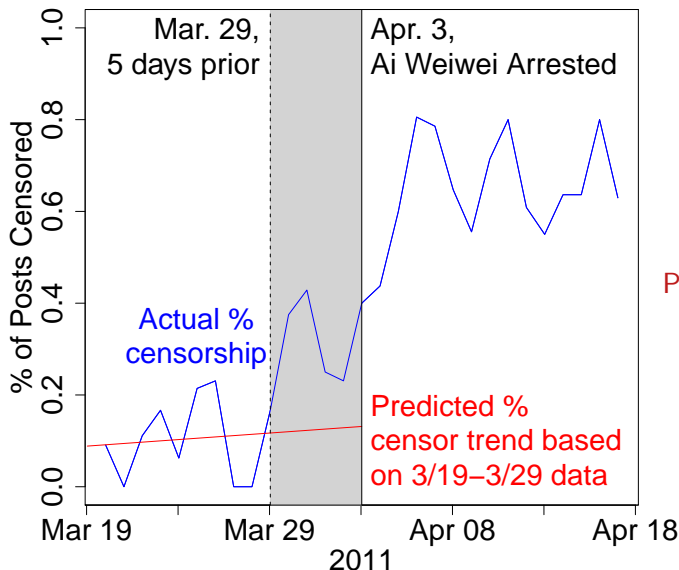


# Censorship to Preempt Collective Action: Ai Weiwei's Arrest

# Censorship to Preempt Collective Action: Ai Weiwei's Arrest



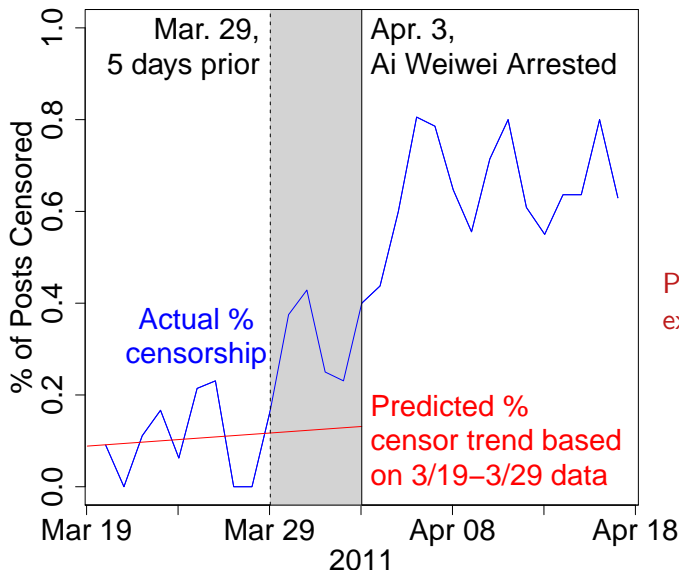
# Censorship to Preempt Collective Action: Ai Weiwei's Arrest



Placebo Test:



# Censorship to Preempt Collective Action: Ai Weiwei's Arrest



Placebo Test: Most extreme of all effects

## Concluding Remarks

## Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains

## Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains
- The Chinese Censorship Program:

# Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains
- The Chinese Censorship Program:
  - Stops collective action, not criticism

## Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains
- The Chinese Censorship Program:
  - Stops collective action, not criticism
  - Reveals government intentions; predicts actions

# Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains
- The Chinese Censorship Program:
  - Stops collective action, not criticism
  - Reveals government intentions; predicts actions
- Our methodology:

# Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains
- The Chinese Censorship Program:
  - Stops collective action, not criticism
  - Reveals government intentions; predicts actions
- Our methodology:
  - Observational, Experimental, Participatory



# Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains
- The Chinese Censorship Program:
  - Stops collective action, not criticism
  - Reveals government intentions; predicts actions
- Our methodology:
  - Observational, Experimental, Participatory
  - Automated text analysis methods validated in Chinese (without translation)

# Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains
- The Chinese Censorship Program:
  - Stops collective action, not criticism
  - Reveals government intentions; predicts actions
- Our methodology:
  - Observational, Experimental, Participatory
  - Automated text analysis methods validated in Chinese (without translation)
  - Enables continuous time measurement of Chinese government censorship activities

# Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains
- The Chinese Censorship Program:
  - Stops collective action, not criticism
  - Reveals government intentions; predicts actions
- Our methodology:
  - Observational, Experimental, Participatory
  - Automated text analysis methods validated in Chinese (without translation)
  - Enables continuous time measurement of Chinese government censorship activities
  - Reveals information about state action when traditional media is silent

# Concluding Remarks

- Chinese people's speech: Individually Free, Collectively in Chains
- The Chinese Censorship Program:
  - Stops collective action, not criticism
  - Reveals government intentions; predicts actions
- Our methodology:
  - Observational, Experimental, Participatory
  - Automated text analysis methods validated in Chinese (without translation)
  - Enables continuous time measurement of Chinese government censorship activities
  - Reveals information about state action when traditional media is silent
  - Possibly applicable to other countries

## For more information



[GaryKing.org](http://GaryKing.org)



[j.mp/JenPan](https://j.mp/JenPan)

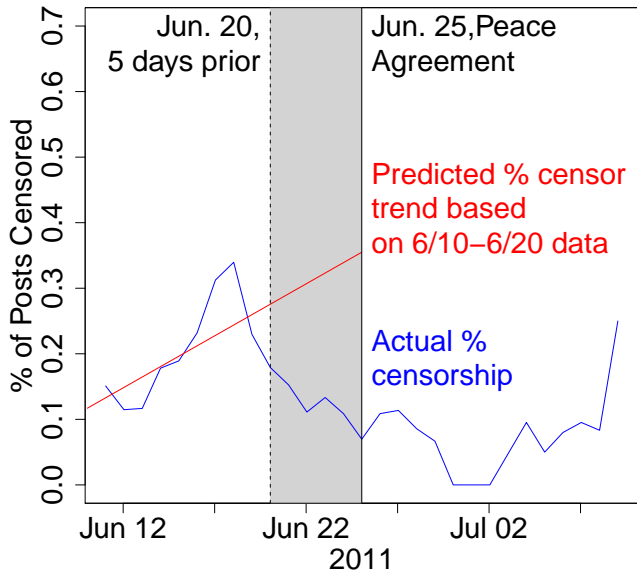


[j.mp/MollyRoberts](https://j.mp/MollyRoberts)

# Appendix

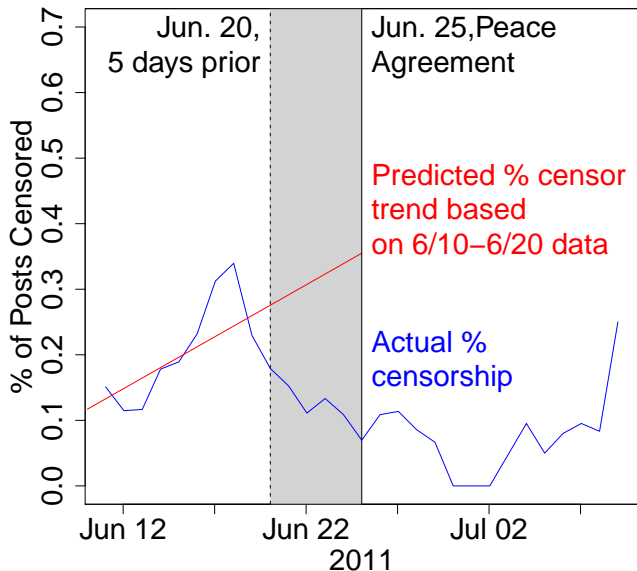
# Predicting the South China Sea Peace Agreement

# Predicting the South China Sea Peace Agreement



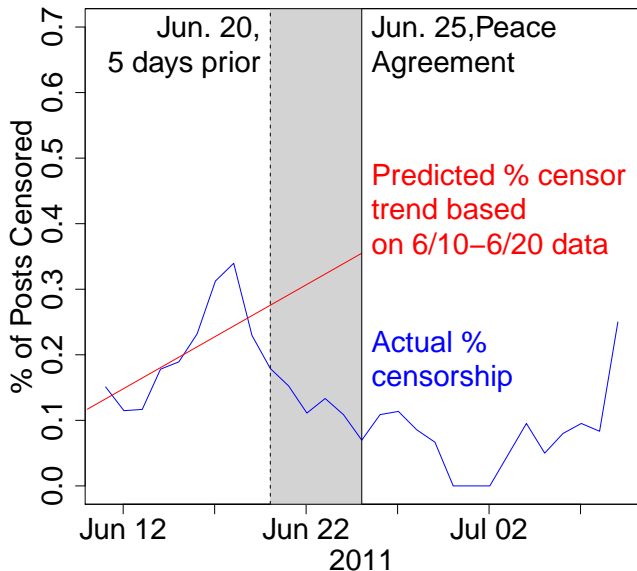


# Predicting the South China Sea Peace Agreement



Placebo Test:

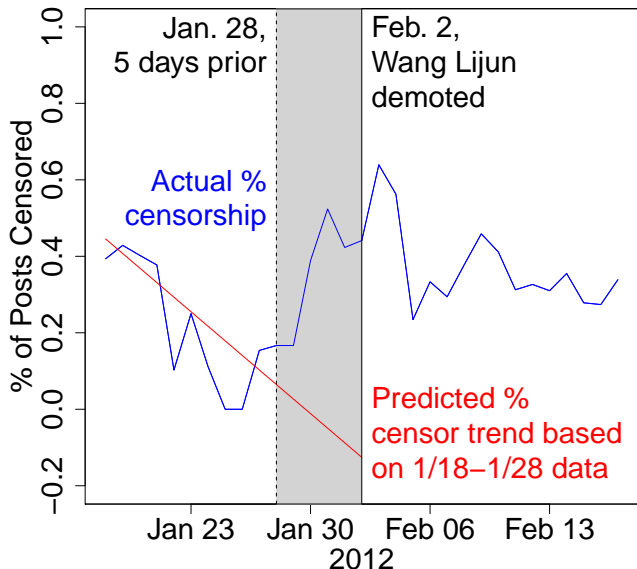
# Predicting the South China Sea Peace Agreement



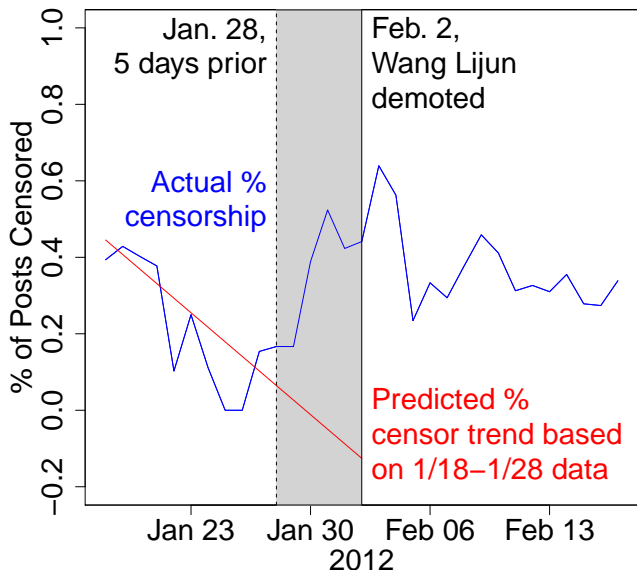
Placebo Test: Most extreme of all effects

# Censorship Pre-empting Collective Action: Wang Lijun's Demotion

## Censorship Pre-empting Collective Action: Wang Lijun's Demotion

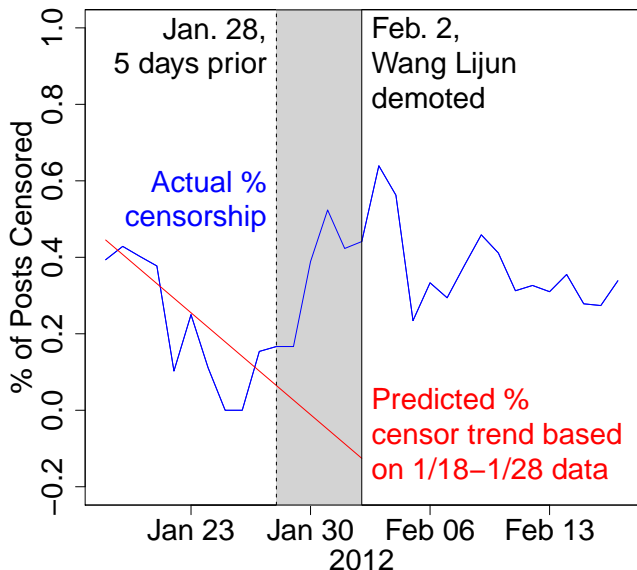


## Censorship Pre-empting Collective Action: Wang Lijun's Demotion



Placebo Test:

## Censorship Pre-empting Collective Action: Wang Lijun's Demotion



Placebo Test: Most extreme of all effects

# 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		<b>Free</b>
	no		<b>Free</b>



## 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		<b>Free</b>
	no		<b>Free</b>

## 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。