Witnessing Political Protest on Civic Engagement and Political Attitudes:
A Natural Experiment at Hong Kong

Han Zhang, Princeton University
For the Annual Meeting of ASA, 2015
Political Demonstrations in Hong Kong
Protests in Hong Kong

• 12 Protests during 2012-2013, and the Umbrella Movement in 2014.

• Considerable variability
  
  • Size vary from 1500 to over 100,000

• Claims
<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Size</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012/02/19</td>
<td>March to protest the open of self-drive travel from mainland China to Hong Kong</td>
<td>1500</td>
<td>From Causeway Bay to Central Plaza</td>
</tr>
<tr>
<td>2012/04/01</td>
<td>protest the interference of Chinese government on Hong Kong local affairs</td>
<td>5000</td>
<td>Victoria Park to The Westpoint</td>
</tr>
<tr>
<td>2012/05/13</td>
<td>protest against the Moral and National Education, which is thought to be biased toward Communist Party, and replace the old civic education.</td>
<td>300</td>
<td>From Causeway Bay to Central Plaza</td>
</tr>
<tr>
<td>2012/06/04</td>
<td>The annual memorials of the Tiananmen Square Protest 1989</td>
<td>85000</td>
<td>Victoria Park</td>
</tr>
<tr>
<td>2012/06/10</td>
<td>Demonstration of the suspicious death of Li Wangyang in Chinese prison, who is a political prisoner due to the Tiananmen Square Protest.</td>
<td>25000</td>
<td>Central Plaza</td>
</tr>
<tr>
<td>2012/07/01</td>
<td>Annual 1 July Marches. Theme of this year includes: protest against the city mayor; against widening gap between rich and the poor; against the Moral and National Education</td>
<td>63000</td>
<td>From Victoria Park to Central Government Offices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td>2012/07/29</td>
<td>protest against the Moral and National Education</td>
<td>19000</td>
<td>Victoria Park</td>
</tr>
<tr>
<td>2012/09/21</td>
<td>protest against the Moral and National Education</td>
<td>8100</td>
<td>Central Government Offices</td>
</tr>
<tr>
<td>2012/07/29</td>
<td>protest against the Moral and National Education</td>
<td>36000</td>
<td>Central Government Offices</td>
</tr>
<tr>
<td>2012/12/30</td>
<td>March to support the city mayor</td>
<td>2800</td>
<td>Victoria Park</td>
</tr>
<tr>
<td>2013/01/01</td>
<td>protests to oppose and support the city mayor</td>
<td>40000</td>
<td>Victoria Park; Central Government Offices; Central Plaza</td>
</tr>
<tr>
<td>2013/06/04</td>
<td>The annual memorials of the Tiananmen Square Protest 1989</td>
<td>54000</td>
<td>Victoria Park</td>
</tr>
</tbody>
</table>

Table 1: Description of Political Protests in the study.
Question

• Imagine what would happen, if a Chinese tourists happened to witness the protest during their Hong Kong visit?

• Will they become more political engaged, after seeing the protest?

• Will they show more favor of the democratic ideas?

• In 2013, over 28 million Chinese mainland tourists visited Hong Kong.
Mainland Chinese Tourists Get a Glimpse of Rebellion

HONG KONG — For the tens of thousands of mainland Chinese crossing the border into Hong Kong on Wednesday, the first day of China’s weeklong National Day holiday, the pro-democracy demonstrations sweeping this city were an unexpected addition to the itinerary.

Unable to stage such demonstrations on the mainland without fear of being detained or imprisoned, some said confidentially that they saw the student-led protests as an inspiration — something China’s leaders have been at pains to prevent. State censors have suppressed reports of the Hong Kong demonstrations on the mainland, scrubbed any signs of dissent from online search engines.
Some showed supports

Hong Kong Protests Offer A Revelation To Mainland Chinese

by ANTHONY KUHN

October 01, 2014  4:21 PM ET

The government of China has described the protests that have gripped Hong Kong for the past five days as illegal and chaotic. Any mention of the demonstrations is quickly erased from the Internet. At the same time, many mainland Chinese, in the territory for business or tourism, are observing the protests with interest and often amazement.

It's not hard to pick out the mainlanders in the crowd. They're usually the ones speaking Mandarin, instead of the dialect most Hong Kong residents speak: Cantonese.

Standing near the protest organizers' area, one mainland visitor who goes by the online name Simba admits he's never seen anything like this in his life.

"I'm shocked," he says. "This would be impossible on the mainland. Protesters there would be swept aside before they even made it through one night. Also, nobody here litters. Everyone's so orderly."

Another visitor, from Southwest China, said he came here on vacation, but still thought the protests were important enough to observe.

He says that even though Hong Kong is not yet a fully democratic society, it does have the rule of law, and in many respects it's far ahead of the mainland.

"I think Hong Kong people are very brave," he says. "They are standing up today not just to fight for the freedom of 7 million Hong Kong residents, but for that of 1.3 billion Chinese. I'm very thankful to them."

Chinese police have reportedly detained dozens of mainland activists for speaking up in support of the protesters in Hong Kong. That's why both visitors asked not to be identified by name, for fear of retribution when they return home.
Support for Protesters Is Hard to Find on the Streets of Beijing

By ANDREW JACOBS  OCT. 9, 2014

BEIJING — The pro-democracy demonstrations in Hong Kong would seem to have universal appeal — a David and Goliath tale starring young idealists, polite and considerate in their defiance, standing up to a mighty authoritarian government with a history of mercilessly crushing dissent.

But here on the streets of China’s capital, where the ruling Communist Party’s heavy hand is most keenly felt, it can be hard to find people who openly support the demonstrators and their demands, and not just because censors and Chinese security agents have been muffling the voices of protest supporters.
Why focus on witnesses?

- Implies how would Chinese people respond to political protests
- Political opinion survey based on general population
  - Hard to be administered in authoritarian regimes
  - Potentially biased: Information access about protests were more limited in authoritarian states like China.
- Current usage of social media to

- Physical exposure to protests created opportunities for individuals to access more complete information, which may contrast their previous political ideology.
Formal Questions

• Will physical exposure to political protests increase witnesses future civic engagement, who are from authoritarian states?

• How would physical exposure to a protest influence witnesses’s political attitudes toward protests?
Why it is hard

• **Data:**

  • Protest survey instrumented onsite mostly focused on participants, but rarely focus on bystanders

  • General-purpose survey are rarely enough to find such users

Our Approach

Causality

Data
Research Design

• Protest as a natural experiment:
  • Endogenous to organizers and participants, but exogenous to bystanders
  • Treated users were Chinese visitors who were physically close enough to protests when protests occurred
  • Control group also visited Hong Kong but left Hong Kong before protests, and hence cannot saw the protest
Data

• How can we know who visited Hong Kong, and who have been to nearby places of the protest?

• Solution: Use Social Networking Sites (SNS) data.

• Weibo

  • Twitter alike in China, Largest SNS in China

  • over 500 million users; around 50 million active users, who post every day.

• Public available API that one can use to access data
Data Collection

• Crawled geolocated tweets in HK

• Construct treatment/control group based on geolocated tweets

  • Check-ins (geolocated tweets) in Weibo serves as the key
  
  • precise in space (in meters) and time.
  
  • less likely to be censored

• Previous approach using social media to examine movement mobilization

  • Start from activist group/ search for outcome words

  • Problems for identification
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Time</th>
<th>Spatial Distance</th>
<th>Other Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was at protest</td>
<td></td>
<td>Close enough</td>
<td>matched with treated users</td>
</tr>
<tr>
<td>when protest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>occurred</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Left HK already</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Close enough to</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Construct groups by time

- **Treatment group**: users who have checked-in Hong Kong at those 3 districts, and at the date of protests.

- **Control group**: exclude users checked-in within 6 days of protest.
Choice of Treatment and Control Group

Number of Treated Users by Distance to the Center of Protests
• Final step: imbalance between size of treatment and control group:
  • using matching techniques to improve pre-treatment balances between treatment and control group.
Outcomes

• Civic Engagement

  • For each user, civic engagement is measured by proportion of tweets which discuss politics

  • Can be measured before and after protest

• Contents: using topic model to measure change of contents

• Attitudes toward protests: human coders
Outcomes

• Example of political-concern tweets:

  • 发改委会说油价贵了即可以控制人民买车的欲望 这样很环保 //@菊菊jojo: //@第一商城官博: 群众的眼睛是雪亮的！( The State Planning Commission increase oil price again! They just want to restrain people’s need of buying cares with the excuse of protecting environment!)

• Example Non political-concern tweets:

  • 又有买鞋的欲望了…肿么办… ( wants to buy a new shoe again… )

• Methods: construction a dictionary containing words users used when discussing related topics.
Evaluation

• Treatment effect:
  
  • Using a standard difference-in-difference equation
  
  • Interpreted as: change of civic engagement level of treated users, relative to those of control users
## Results

### Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>$T$</th>
<th>$C$</th>
<th>$C_{\text{match}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>355</td>
<td>10169</td>
<td>710</td>
</tr>
<tr>
<td>Mean number of posts</td>
<td>787.30</td>
<td>726.96</td>
<td>772.13</td>
</tr>
<tr>
<td>Mean number of check-in</td>
<td>68.36</td>
<td>72.02</td>
<td>64.09</td>
</tr>
<tr>
<td>Gender=Male</td>
<td>108</td>
<td>3283</td>
<td>222</td>
</tr>
<tr>
<td>Female</td>
<td>176</td>
<td>6154</td>
<td>418</td>
</tr>
<tr>
<td>M/F Ratio</td>
<td>61.36%</td>
<td>53.35%</td>
<td>53.11%</td>
</tr>
<tr>
<td>Not Self-labelled</td>
<td>49</td>
<td>742</td>
<td>70</td>
</tr>
<tr>
<td>Education=College and beyond</td>
<td>108</td>
<td>3849</td>
<td>231</td>
</tr>
<tr>
<td>Not Self-labelled</td>
<td>225</td>
<td>6320</td>
<td>479</td>
</tr>
<tr>
<td>Age $&lt; 25$</td>
<td>68</td>
<td>1806</td>
<td>129</td>
</tr>
<tr>
<td>$\geq 25$</td>
<td>8</td>
<td>163</td>
<td>14</td>
</tr>
<tr>
<td>Not Self-labelled</td>
<td>257</td>
<td>8200</td>
<td>567</td>
</tr>
</tbody>
</table>

**Table 1.** Summary Descriptive Statistics of users
Origins of subjects who have checked-in at Hong Kong

The distribution is similar to the Weibo user origin in the whole sites
Pre-treatment level of civic engagement
Distance to protest on treatment effect (Hong Kong)

Number of treated users by distance to the center of protests.
Treatment Effect (per protest)

ATE for Each Protest

Date

2014-09-28
2013-06-04
2013-01-01
2012-12-30
2012-09-07
2012-09-01
2012-07-29
2012-07-01
2012-06-10
2012-06-04
2012-05-13
2012-04-01
2012-02-19

Treatment Effect

0.00 0.01 0.02
Treatment effect by time after protest

ATE for Each Month after Protest

-0.02
-0.01
0.00
0.01
0.02

0-1m 1-2m 2-3m 3-4m 4-5m 5-6m

Months after Protests
ATE for Each Study

Taiwan

Sport

Shanghai

Main

Beijing

-0.01 0.00 0.01 0.02

Treatment Effect
Content Change

ATE (estimated by difference-in-difference) of topic proportion change.
Topics which are significantly changing:

<table>
<thead>
<tr>
<th>ATE(sd)</th>
<th>Topic</th>
<th>Top Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.119(0.061)</td>
<td>2</td>
<td>Diaoyu Island, patriotic, State, Anti-Japanese War, fellow citizen, Anti-Japanese, boycott, territory, sovereignty, protest, war, wealth, infringe, oppose, demonstration</td>
</tr>
<tr>
<td>0.158(0.079)</td>
<td>7</td>
<td>Pollution, air, food, medical system, patients, exceed the set standard, food safety, genetically modified, chemical additive, toxic, society, health care, water quality, carcinogen, quality testing, doctors, nurses, Ministry of Health</td>
</tr>
<tr>
<td>0.136(0.061)</td>
<td>9</td>
<td>mainland, state, revolution, tourists, democracy, Ma Ying-jeou, general election, Hong Kong, voters, freedom of speech, demonstrations, boycott, protests, Syria, the Election Committee, democratization, legal system</td>
</tr>
<tr>
<td>-0.121(0.025)</td>
<td>6</td>
<td>Police, the Heaven Dynasty, media, police department, CCTV, expose, Chengguan, ordinary people, society, the deceased, mainland</td>
</tr>
</tbody>
</table>
### Table S3: Topic Model Results for non-significant topics.

<table>
<thead>
<tr>
<th>Topic Number</th>
<th>DID change (SD)</th>
<th>Top Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.035(0.053)</td>
<td>policy, state, reform, media, society, institution, regulation, officials, interests, people, state-owned company, China Securities Regulatory Commission (CSRC), stock market, monopoly, debt (政策, 国家, 改革, 媒体, 社会, 制度, 监管, 官员, 利益, 人民, 国企证监会, 股市, 垄断, 借贷)</td>
</tr>
<tr>
<td>3</td>
<td>0.017(0.035)</td>
<td>society, media, moral, politics, value system, political institution, social security, medical, democracy, freedom of speech, religion, capitalism, human rights (社会, 媒体, 道德, 政治, 价值观, 政治制度, 社会安全, 医疗, 民主, 言论自由, 宗教, 资本主义, 人权)</td>
</tr>
<tr>
<td>4</td>
<td>0.050(0.042)</td>
<td>state, people, democracy, politics, North Korea, ordinary people, socialism, corruption, reform, capitalism, communist party, cadre, Mao Zedong, regime, the Soviet Union, the KMT, constitution (国家, 人民, 民主, 政治, 朝鲜, 老百姓, 社会主义, 腐败, 改革, 资本主义, 共产党, 干部, 毛泽东, 政权, 苏联, 国民党, 宪法)</td>
</tr>
<tr>
<td>5</td>
<td>-0.017(0.082)</td>
<td>animal, protect, boycott, dog meat, legislation, abuse, police, slaughter, conscience, exposure, bear’s ball, humanitarian, food safety, the Ministry of Agriculture, apologize (动物, 保护, 抵制, 狗肉, 立法, 虐待, 警察, 虐杀, 良知, 曝光, 熊胆, 人道, 食品安全, 农业部, 道歉)</td>
</tr>
<tr>
<td>8</td>
<td>0.015(0.082)</td>
<td>people, lawyer, officials, Xue Manzi, Xu Xiaoping, Yuan Li, Li Chengpeng, Chen Zhiwu, Yuan Tengfei, presidents, taxpayer, monopoly, power, institutions, pollution, the Cultural Revolution, rule of law (人民, 律师, 官员, 薛蛮子, 徐小平, 袁莉, 李承鹏, 任志强, 陈志武, 袁腾飞, 总统, 纳税人, 独裁, 权力, 组织, 污染, 文革, 法治)</td>
</tr>
<tr>
<td>10</td>
<td>0.089(0.048)</td>
<td>lawyer, law, Chengguan, police, media, court, judge, rule of law, life sentence, judicial, illegal, rights, pronounce sentences, according to the law, prosecute (律师, 法律, 城管, 警察, 媒体, 法官, 法治, 死刑, 司法, 违法, 宣判, 依法, 执行)</td>
</tr>
</tbody>
</table>
Changes of attitudes

- Use human coders to classify
  - pre-protest ideology
  - conservative vs. liberal.
- post-protest attitudes toward Hong Kong
Pre-protest political ideologies

- Conservative
- Neutral
- Liberal

Support of Protests in HK
- Oppose
- Neutral
- Support

Pre-protest engagement compared with mean
• Attitudes change
  • pre-protest ideology are positively correlated with post-protest attitudes
  • Such correspondence depends on political engagement level
    • Contra US politics, more engaged users are more likely to change opinions
      • Learning process given more complete information.
    • Less engaged users are more likely to support protest
      • Universal appeal?
      • Emotional energy?
Conclusions

- Witnesses of the protests express more social and political concerns afterwards, compare with ordinary visitors.

- They rather become more concerned about their daily life instead of discussing about democracy.

- Pre-protest ideology are predictive of post-attitude toward protest.

  - Effect is mediated through pre-treatment level of political engagement.
Contributions

• Methodological
  • Use check-in data in SNS to construct a panel of users, and filter treatment/control group
    • Able to differentiate bystanders from participants
    • Avoid the problem of selecting on dependent variable: selection those who tweeted about movement as users
    • Allow comparison group
  • Use posts in SNS to explore how subject’s attitude changes.
Contributions

• Theoretical

• Causal effect of witnessing effect on civic engagement

• The effect do not show a decay pattern: strong effect
Implications

- The answers are important because
  - barely no large political protests in China
  - Responses to Hong Kong may server as an example of how Chinese people would responded to protests.
  - Depends on context: cultural clashed between China and Hong Kong
Limitations

• Data:
  • Limited to users who have check-in records

• Analysis of Political Attitudes
  • Bias caused euphemism and sarcasm

• Whether online attitude changes translate to offline behavior?
Thank You!

Questions?

to: Han Zhang
hz2@princeton.edu
• Problem: are protests real exogenous variations, i.e., will user selectively join or avoid protests?

• No sudden burst of check-ins of the date of events

• Context of protests: cultural clashes between Hong Kong and Chinese citizens.

• Compare sudden events, and regular events.

• Manually read users and do not find activists
Number of Posts Deleted

Data from Weiboscope Project
• Demographic characteristics
  
  • Male are more likely to express social and political concerns.

• Sudden events have higher impacts