

“All of My Business”: Governmental Social Media and Authoritarian Responsiveness

by

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Dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in the Department of Political Science
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ABSTRACT

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Abstract

How would authoritarian regimes react to the emergence of social media compared to traditional media? What role(s) would media play in authoritarianism? This study focuses on China, the largest existing authoritarian regime, to answer the questions above. A formal model first indicates that entering the era of social media would be a challenge for dictators if they still regard social media as a tool for propaganda as traditional media; instead, they would choose other strategies in response to the challenge. The content analysis between Weibo (Chinese Twitter) and People's Daily in China confirms that traditional media and social media serve as different tools: The former are still tools for propaganda, whereas the latter show more responsiveness, especially about the public's daily life, even though this is none of the government's business. This results may indicate a new way by which authoritarian regimes maintain the rule making use of media.

Contents

Abstract	iv
List of Tables	vii
List of Figures	viii
Acknowledgements	x
1 Introduction	1
2 Review	3
3 Modelling and Theory	7
3.1 Model Settings	7
3.1.1 Players	7
3.1.2 The Game	7
3.1.3 Payoffs	8
3.2 Analysis	9
3.2.1 Traditional Media Era	9
3.2.2 Social Media Era	12
4 Content Analysis: Traditional Media VS. New Media in China	16
4.1 Research Design	16
4.1.1 Data Collection	17
4.1.2 Data Management	18
4.1.3 Pre Analysis	20

4.2 Analysis	20
5 Conclusion	33
A Model Solutions	36
B Model Selections	40
B.1 Searching number of topics for People’s Daily	40
B.2 Searching number of topics for Weibo	41
B.3 Searching number of topics for G20 coverage	42
Bibliography	43

List of Tables

4.1	Top 10 Word Counts from People's Daily	22
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List of Figures

3.1	Game Tree	9
4.1	Distribution of Time of Weibo Posts: Population	19
4.2	Distribution of Time of Weibo Posts: Sample	19
4.3	Distribution of Time of People’s Daily: Population	19
4.4	Distribution of Time of People’s Daily: Sample	19
4.5	Diagnostic Values for Choosing Number of Topics: People’s Daily . .	21
4.6	Topics and Proportions: People’s Daily	22
4.7	Topic Correlations: People’s Daily	23
4.8	Diagnostic Values for Choosing Number of Topics: Weibo	24
4.9	Topics and Proportions: Weibo	25
4.10	Catetories of Top 100 Weibo Accounts	26
4.11	Topics Correlations: Weibo	28
4.12	Diagnostic Values for Choosing Number of Topics: G20	29
4.13	Topics and Proportions: G20	30
4.14	Topic Correlations: G20	31
4.15	Difference of Topics from Weibo and People’s Daily	32
B.1	Low Frequency Words: People’s Daily	40
B.2	Convergence of Topic Model: People’s Daily	40
B.3	Low Frequency Words: Weibo	41
B.4	Convergence of Topic Model: Weibo	41

B.5 Low Frequency Words: G20 42

B.6 Convergence of Topic Model: G20 42

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1

Introduction

Would social media contribute to change of governance in authoritarian regimes? The evidence is emerging about how authoritarian governments respond to the “New Media Era”; however, the policy outcomes vary in different context (Pierskalla and Hollenbach, 2013; Acemoglu et al., 2014; Chen et al., 2015). It remains unclear whether social media could be taken advantage of by authoritarianism as a tool for propaganda as traditional media, given that technically in such regimes government control over the Internet is not a problem, or it could really be an initiation that forces the governments to improve their governance and respond to the public pursuit, based on new media’s features such as user-generated content, more difficult to be censored, de-centralized network, etc.

In reality, both cases happen. Regimes like North Korea, Iran and Cuba are blocking or used to block social media completely, banning online discussions and foreign thoughts which could trigger revolutions within the country; other countries including China and Russia where social media can be used, are trying to filter some “sensitive” topics on the Internet. On the other hand, social media could be an instrument that can efficiently help people to achieve political goals (Transfeld et al.,

2016), mobilize protesters (Acemoglu et al., 2014), or influence policies (Maboudi and Nadi, 2016). Moreover, the opposite phenomena could happen in the same regime simultaneously—in China, where the population of Internet users just reached 710 million up to June of 2016,¹ evidence shows that the government not only makes use of the technologies to censor the public information (King et al., 2013, 2014) and fabricate fake posts that support the government (King et al., 2016), but also tries to improve the governance such as responding to public pursuits (Chen et al., 2015) and collecting public concerns.

This research's purpose is to portray the different functions of traditional media and social media in authoritarian regimes, taking China as the case. In the era of traditional media, the government could easily control the media and then the flow of information, turning the media into the tool for propagating the regime's strength. In new media era, however, unless the regime completely shut down (parts of) the service of Internet, it is almost impossible to completely control the information online, which might harm the regime's propagation. Under such conditions, the government would try to be responsive to the public—or more precisely, the netizens—in some situations in order to draw supports and consolidate the rule. Hence, the government would have to increase responsiveness in social media, rather than traditional media.

This paper will go as follows. The next (second) part generally reviews the literature about social media and responsiveness in authoritarian regimes. In the third part, a model will be set and explained in order to propose the theory, followed by the content analysis of traditional media and new media in fourth part of this paper. The last part is the conclusion.

¹ <https://www.cnnic.net.cn/IDR/ReportDownloads/201611/P020161114573409551742.pdf>

2

Review

Belonging to a common question in authoritarianism—the consolidation of authoritarian rule, the question whether media would serve as a tool for consolidating or undermining the authoritarian regime remains as the underlying theme for published studies about media in authoritarianism. Scholars, however, do not address this question directly. Instead, it is common to deal with the problem in different aspects, all aiming at resolving the puzzle of media’s role in authoritarianism.

Three theories have been proposed to date generally. The first theory is about how states make use of media for propaganda—which can be named as “propaganda theory”. Research mentioning this theory covers the effect of propaganda, including the direct influence on the public in order to generate support (Esarey et al., 2016), indirect effect on the public to help regimes maintain the rule (Guriev and Treisman, 2015; Huang, 2015; Little, 2015), and some specific ways the regime would use to propagate themselves, such as using the Internet to build positive images for the public (Pan, 2013). Such theory did not deviate the “traditional” sense of understandings about media in authoritarianism—i.e., a tool for the regime to control the public. Given the importance and variety of control over people in such regimes, it

is not surprising that this topic has not be neglected.

The second theory is about censorship, another way by which the authoritarian regimes control the flow of information, which, for simplicity in this paper, could be called “censorship theory”. The existing literature has covered what kinds of techniques and strategies the state could use to censor the information and what purposes such moves would like to achieve (King et al., 2013, 2014), how the authoritarian governments conduct censorship as a strategy (Lorentzen, 2014), and what unpredictable or reverse effects censorship would generate (Hobbs and Roberts, 2016; Roberts, 2015). Similar to propaganda theory, censorship theory has been paid much attention to by the academy; what makes it distinguishing from propaganda theory is that given the emerging technologies of Internet, the Big Data and computer science as a whole, censorship could be much more efficient and advanced and serve more specific and diverse purposes.

The third and last theory is about how authoritarian regimes take measures to respond to the challenges brought by media, especially social media that could not be controlled easily as traditional media by the governments, which could be called “responsiveness theory”. Authoritarian regimes could choose to “compensate” their loss in traditional media (Lorentzen, 2014), to use traditional media to disseminate the rumors that might hurt the regime (Zhu et al., 2013), or be responsive to citizens’ pursuits expressed online (Chen et al., 2015).

It is worth noticing that even though these theories are dealing with different questions, sometimes they probably have overlapping space between each other—i.e., they are not mutually exclusive. For example, Guriev and Treisman (2015) tried to propose a theory about how dictators choose a combination of strategies from propaganda, censorship and co-optation of the elites. However, most of existing literature still focuses on using a certain theory to understand media’s role in authoritarianism, which might lead to the ignorance of possible complicated functions

media have in authoritarianism. Besides, as Chen et al. (2015) state, although there are some studies about authoritarian responsiveness assessed through public preferences, policy proposals or social preferences (Malesky and Schuler, 2010; Distelhorst and Hou, 2014), there are still limited studies about authoritarian responsiveness due to the difficulty of measurement. As for media, even though studies about how media could shape dictators' behavior (Lorentzen, 2014), it remains unclear that whether media could improve governance in authoritarianism.

This study, therefore, focuses on one key question: would social media be a factor that makes authoritarian regimes be responsive to the public? More specifically, would authoritarian regimes see social media as a different tool from traditional media (such as TV or newspapers) and use a different strategy to make use of it? Last but not least, if the answers to both questions are positive, would social media trigger regime transformation and finally democratize authoritarian regimes?

In fact, evidence from China can give some implications about questions above. Obviously, the importance that the Chinese Communist Party (CCP) attached to ideology and public opinion work is increasing, especially after the 18th National Congress of the Communist Party of China in 2012. The party leader, Xi Jinping, attended three important conferences about public opinion work—the National Propaganda and Ideological Work Conference in 2013,¹ the News and Public Opinion Work Forum of Chinese Communist Party in 2016,² and the Internet Security and Information Work Forum in 2016³—and gave important speeches. From the CCP's leader, it is obvious that the party is still trying to regulate the public opinion facing the new media. As Xi Jinping said, the work of ideology is “extremely important”,

¹ <http://www.xinhuanet.com/politics/szxzt/qgxcxgzhy/>

² <http://www.xinhuanet.com/politics/xjpzymtdy/>

³ http://news.xinhuanet.com/politics/2016-04/25/c_1118731175.htm

⁴ and the most fundamental part of news and public opinion work is to “insist the lead by the party”. ⁵ Therefore, on the one hand, there is no doubt that the party would always try to stay dominant in ideology field and tolerate no challenge, and some scholars have already found that the regime has already taken some steps to face the challenge (Lorentzen, 2014; King et al., 2013, 2014). On the other hand, however, the party realizes that simply the regulation of media might not work as well as in traditional media—unlike traditional media, the content in social media is created by the public, and complete regulation would be impossible. It has been said repeatedly that the Internet should “lead” the public opinion rather than “regulate” it. ⁶ In order to lead or guide the public opinion, the government has invested efforts in the Internet work, including hiring “fifty-cent army” (Rongbin, 2015), fabricating fake posts (King et al., 2016), and creating hundreds of thousands government social media accounts. ⁷ The government not only wants the Internet to be lead, but also tries to turn it into a tool that could offer help in public service. In short, the government offers “carrots and sticks” online simultaneously.

⁴ http://news.xinhuanet.com/politics/2013-08/20/c_117021464.htm

⁵ http://news.xinhuanet.com/politics/2016-02/19/c_1118102868.htm

⁶ http://news.xinhuanet.com/politics/2016-04/25/c_1118731175.htm

⁷ <http://yuqing.people.com.cn/n1/2017/0119/c209043-29036185.html>

3

Modelling and Theory

In this section, a model that incorporates key features about how authoritarian regimes might deal with different situations when facing traditional media and social media would be presented. We will start with the simple situation where only traditional media exist, and then consider what would happen when social media enter the game.

3.1 Model Settings

3.1.1 *Players*

There are two players in this game: The (authoritarian) state and the public. The state could be either strong (with the probability of q , for $q \in [0, 1]$) or weak (with the probability of $1 - q$), which is determined by the nature.

3.1.2 *The Game*

- Nature picks whether the state is strong (q) or weak ($1 - q$).
- The state moves first. No matter the state is strong, it can choose either to propagate (P) or not ($\sim P$).

- The public moves next. After observing the state's propaganda, the public can either choose to revolt (R) or not ($\sim R$).
- Finally, if the public revolt, the state can choose to suppress the public's revolt (S) or not ($\sim S$). The game ends.

3.1.3 Payoffs

For the state, the payoffs of different results are:

- The cost of propaganda depends on whether the state is strong or weak. When the state is strong, the cost is k_s ; otherwise it is k_w . It is reasonable to assume that the cost of propaganda when the state is weak is larger than the cost when the state is strong (which means $k_w > k_s > 0$), given the fact that usually when a state is weak, it should devote more efforts into making itself look strong.
- If the state can finally maintain its rule, the payoff it can get is J ; otherwise, the payoff would be 0 (for failing to maintain the regime). Here we assume that $J > k_w > k_s > 0$, which would be reasonable because usually if a state could maintain its rule no matter strong or weak, its final payoff would be larger than the cost of propaganda (or it would directly give up the rule, which is not common).
- The cost to suppress the public's revolt is $s > 0$.

For the public, the payoffs of different situations would be:

- If the public choose not to revolt, the regime would maintain its rule and the public would neither get benefits nor risks from suppression, which could be set to 0 here.

- If the public revolt, the payoff will be dependent on the state's strength and whether the state would suppress the revolt: If the state is strong and chooses to suppress, the public will fail and get a payoff of $-C < 0$, meaning that a strong state can successfully suppress the revolt and punish those who revolt; If the state is weak, even though it chooses to suppress, the revolt will succeed, and the public can get a payoff of $B > 0$, meaning that a weak state cannot suppress the public's revolt and the public successfully overthrow the regime; If the state chooses not to suppress, the public will also successfully overthrow the regime and get a payoff of B .

The process of the game is shown in Figure 3.1.

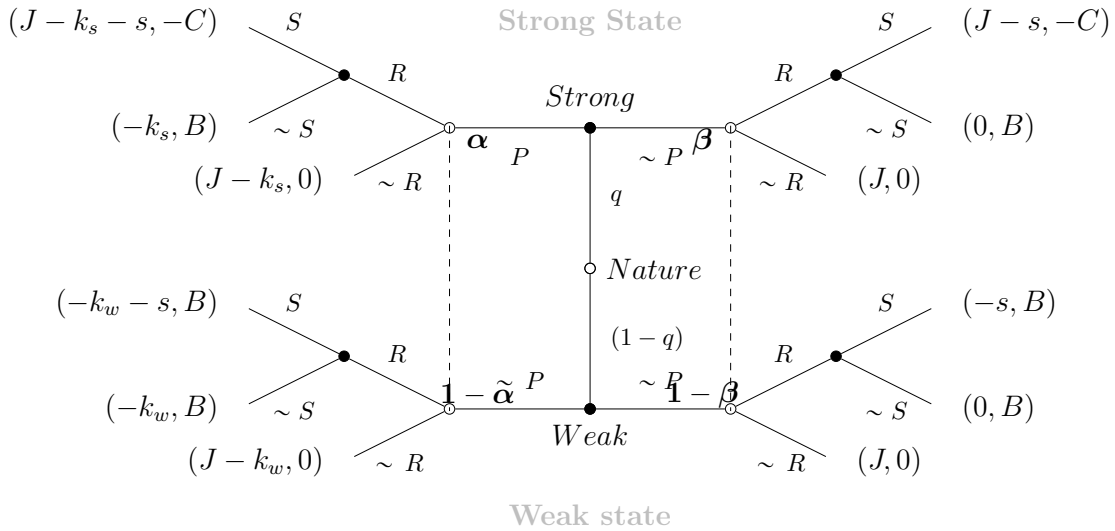


FIGURE 3.1: Game Tree

3.2 Analysis

3.2.1 Traditional Media Era

In traditional media era, as long as the media were owned or regulated by the authoritarian regime, the state could control all sorts of publications in the country—

meaning that the state could basically control the information flow, especially the information about the state's weakness. Under such conditions, it is hardly possible for the public to know about the true strength of the state, which creates an environment of incomplete information, the appropriate atmosphere for the regime's propaganda. Therefore, the propaganda conducted by the state could be a signal to show the strength of the regime.

We can start with considering the relationship between J and s . If the $s > J > 0$, the state would never repress the public's revolt when facing it. Therefore, as long as the public revolt (R), the public could get a payoff of B , entailing that the public would always succeed in revolt. Compared to the payoff of no revolting (0), it is obvious that revolt (R) is the dominant strategy for the public. Given that the public would always choose to revolt, there is also a dominant strategy for the state: no propaganda ($\sim P$). So the equilibrium here is $\{(P|Strong, P|Weak), (R|P, R| \sim P)\}$.

However, such situations rarely happen. $s > J > 0$ implies that the benefit of maintaining the rule is less than the cost of suppressing the revolt. In reality, as long as the authoritarian regime could maintain the rule, it can usually extract enough amount of benefits from the people to compensate its loss in repression.

For $J > s > 0$, There are four sets of equilibria given the different beliefs (α and β) and q :¹

- For $s \geq k_s$, $\alpha = q > \frac{B}{B+C}$ and $\beta < \frac{B}{B+C}$, $\{(P|Strong, P|Weak), (\sim R|P, R| \sim P)\}$;
- For $\beta = q < \frac{B}{B+C}$ and $\alpha < \frac{B}{B+C}$, $\{(\sim P|Strong, \sim P|Weak), (R|P, R| \sim P)\}$;
- For $\beta = q > \frac{B}{B+C}$ and $\alpha > \frac{B}{B+C}$, $\{(\sim P|Strong, \sim P|Weak), (\sim R|P, \sim R| \sim P)\}$;

¹ See Appendix 1 for detailed solutions

- For $\beta = q > \frac{B}{B+C}$ and $\alpha < \frac{B}{B+C}$, $\{(\sim P|Strong, \sim P|Weak), (R|P, \sim R|\sim P)\}$.

From the equilibria above, There are three findings. First, if the public thinks that the state is always weak, they will always revolt no matter whether the state will engage in propaganda or not. Likewise, if the public thinks that the state is always strong, the public will never choose to revolt. In both cases, the state would never choose to propagate.

Second, it is easy to find that the only situation in which propaganda works—meaning that propaganda can deter the public from revolting—is when the public think the state is very likely to be strong ($\alpha = q > \frac{B}{B+C}$), and if the state chooses not to propagate, the public would see it as a signal of a weak state. Therefore, we have

Proposition 1 If the public believes that the state is very likely to be a strong state, and once the state stops propagating, it is because the state is weak, the propaganda by the state could deter the public.

Third, if the state would never choose to propagate, the public who have the similar beliefs as in *Proposition 1* would see propaganda as a falsification of a weak state and choose to revolt after observing propaganda. That is to say, if the state would choose no propaganda no matter whether it is strong or weak, propaganda would have no effect of deterrence; instead, it would be regarded as a signal of being a weak state! Thus, based on this situation and *Proposition 1*, we have

Proposition 2 Once a state chooses to propagate or not, it could never deviate, which would be regarded as a signal of a weak state and causes public's revolt.

3.2.2 Social Media Era

Social media, unlike traditional media, do not have the feature of centralized publication—which means an entity could easily set barriers to control the process of information flow. Instead, the decentralization of content manufacturing in social media makes it rather difficult to control the spread of information among the users, although in reality, they could choose to censor or falsify the posts with some advanced technologies (King et al., 2013, 2014, 2016). Even the state chooses to censor large amounts of information, it is impossible to censor all the information that the state does not want the public to know. Therefore, the environment of “perfect” incomplete information has been broken; it is at least possible for the public to get access to some of the information about the true nature of the state.

The influence of the change of incomplete information could be reflected as relaxation of one assumption: the probability of being a strong state, q , would range from $[0, \bar{q}]$, in which $\bar{q} \in (0, 1)$, instead of $[0, 1]$, which means the public knows the authoritarian regime could be strong, but would never be too likely to be strong. The “leak” of information about the true strength of the regime in social media would set an upper bound that is less than 1 for the probability of being a strong state and how the public believe it.

How does the change of \bar{q} influence the equilibria? For the equilibrium $s \geq k_s$, $\alpha = q > \frac{B}{B+C}$ and $\beta < \frac{B}{B+C}$, $\{(P|Strong, P|Weak), (\sim R|P, R| \sim P)\}$, in which propaganda works, the threshold set by the change (\bar{q}) could be larger or no larger than $\frac{B}{B+C}$. If $\bar{q} \geq \frac{B}{B+C}$, it would not influence the equilibrium. However, if $\bar{q} < \frac{B}{B+C}$, meaning the belief of the public is now that the probability of a strong state is no larger than $\frac{B}{B+C}$, the equilibrium does not exist. Therefore, propaganda would never work. Furthermore, this works for 3 of the 4 equilibria, which means the only equilibrium that would still hold is that the public would always revolt no matter

whether the state is strong or weak with the belief that the state is not very likely to be strong ($\bar{q} < \frac{B}{B+C}$) and the propaganda sends a signal that the state is not very likely to be strong ($\alpha < \frac{B}{B+C}$), and the state would never propagate given the public's strategy of revolt.

Proposition 3 If the change of q due to the coming social media is large enough—i.e., $q \in [0, \bar{q}]$ and $\bar{q} < \frac{B}{B+C}$, propaganda would never work as a way of deterrence, and the only existing equilibrium is that the public would always revolt with the belief of $q < \frac{B}{B+C}$ and $\alpha < \frac{B}{B+C}$, and the regime would never propagate.

This conclusion matches with the result of existing literature (Lorentzen, 2014)—new media make it more difficult to control information flow, which would cause more strict control in other aspects of authoritarian regimes, such as traditional media. Other literature also considers some aspects of propaganda, such as the signaling effect of propaganda (Huang, 2015), the problem of credulity with propaganda (Little, 2015), and the combination with co-optation or censorship (Guriev and Treisman, 2015). However, scholars ignored that new media themselves might be a factor to trigger changes in authoritarian regime—perhaps not revolutions as the Arab Spring anymore (Lindgren, 2013; Khondker, 2011), but they would have potential to trigger negative feelings of the public (Tang and Huhe, 2014), which may force the government to change.

What kinds of changes social media would make authoritarian regimes to achieve, and/or what kinds of situations would authoritarian regimes maintain when facing new media? First, given the government control of traditional media and the feature of traditional media (e.g., centralized content generation, strict censorship of publication), traditional media may still be a main tool for propaganda. Second, it is neither possible nor practical to control the content on social media, so that the

regime had better try some “positive” means to maintain its positive status as much as possible on social media. Therefore, social media of the government might not be a tool for propaganda; they are supposed to be a connection between the government and the public, which means the content on social media should be the information that the public really cares about. Third, however, even though the government might want to build a bridge to connect with the public, there are still some aspects that the regime would not like the public to know, such as information that might trigger collective action (King et al., 2013, 2014). Thus, the social media accounts of the government would only be responsive to those public issues that are not related to collective actions. So the first two hypotheses of this research are:

Hypothesis 1 In a long period, traditional media in authoritarian regimes would be mainly serving as a tool of propaganda, meaning the content on traditional media would mainly be about party and policy issues.

Hypothesis 2 In a long period, social media in authoritarian regimes would be mainly as a tool to connect with the public, meaning the content on social media would mainly be about the public’s daily life issues—to put it differently, would be more responsive ² to the public.

However, some special events in authoritarian regimes might be extremely important for the nation. Therefore, it is reasonable to assume that the media (both social and traditional) would spend large amount of sources to cover the events and manufacture content on such events. But given the different roles of traditional and social media, if the event is more “political”, which means it might be important to the government but not directly related to people’s daily life, the divergence between

² Here I choose the definition of responsiveness from Chen et al. (2015)—i.e. responsiveness means the “the extent to which officials of the regime adhere to demands”

traditional media and social media would be obvious. Therefore, the third hypothesis of this research is:

Hypothesis 3 During a period of a special political event, the traditional media would mainly cover the event, but the social media would still cover the public's daily life as the main content.

This comparison between social media and traditional media, as far as I know, has not been conducted by any studies to date. Therefore, there are 3 main contributions of this research to studies about media in authoritarian regimes: First, this research would enrich the theoretical knowledge about social media's role in authoritarian regimes; Second, this study would also help to reveal some facts about how authoritarian regimes try to react in order to respond to new challenges for the regimes; Third, it would also contribute to our knowledge about what would and how to trigger authoritarian government responsiveness.

Content Analysis: Traditional Media VS. New Media in China

4.1 Research Design

In order to test the hypotheses, Content from traditional media, which are controlled by the Chinese government, and from new media, which represents the government, would be collected and compared. There are 3 reasons to choose China as the research case: First, China is the most powerful authoritarian regimes in the world today, and the country has developed relatively comprehensive ways to control the social media (King et al., 2013, 2014, 2016); Second, China has more than 120, 000 government accounts on social media,¹ which offers large amount of data for this research; Third, it is practical to choose a case with familiar language.

The analysis would contain two major comparisons: Long-period comparison and specific-period comparison. The long-period comparison would generally collect data in a relatively long period and compare the content in the two platforms; The specific-period comparison would focus on a relatively short period during which a specific event happened and drew a large amount of attention.

¹ <http://yuqing.people.com.cn/n1/2017/0119/c209043-29036185.html>

4.1.1 Data Collection

Due to the limitation of budget and time as well as the limitation of Sina Weibo, the data of social media is restricted in the year of 2016. Here I chose the Top 100 governmental social media accounts on Sina Weibo (coming from the Public Opinion Research Center of People’s Daily ²) as the sample for 2 reasons. First, this ranking is based on a ranking conducted by a semi-official public opinion research institute in China, which has been being valued by the government for years. This ranking, to some extent, sets the “models” for governmental social media accounts and has the significance of guidance for social media operation. Therefore, choosing this sample is to explore what the “ideal” type social media accounts look like for Chinese government. Second, due to a large amount of governmental social media accounts, the full list of these accounts are almost impossible to get. This ranking reveals perhaps the most reachable data for social media accounts operated by the government. I chose Sina Weibo because it is the most famous Chinese edition of Twitter and now it is the most common Twitter-like in China; others are either not representative enough or not operating now by the Internet companies after failing to challenge Sina Weibo. In terms of the time period, 2016 is a closest year for this research, which would offer freshest data.

As for the data of traditional media, I chose the People’s Daily reports in 2016. The reasons for choosing the People’s Daily are similar to the two reasons above: The People’s Daily is the only highest-level official newspaper in China, which means it is representative enough; and it has its own complete dataset which contains all the published reports, unlike other national-level media in China, which may not have a full dataset or not go public. Choosing the year of 2016 is simply to match the period of content from social media.

² <http://yuqing.people.com.cn/n1/2017/0119/c209043-29036185.html>

I used web crawlers to get data from social media accounts in Sina Weibo and the People’s Daily. Given the difficulty of getting data from Sina Weibo now, I requested help for data collection from Qingbo Public Opinion Research Institute.³ For getting data from the People’s Daily, I used Web Scraper⁴ to collect reports directly from their online dataset.

4.1.2 Data Management

There are 723,297 observations (posts) in the dataset of Sina Weibo after cleaning some missing data for the 100 governmental Weibo accounts in 2016. Based on the departments that operate them directly, I use different tags (“Tag” in the dataset) to code them for 13 different categories: Police, Culture, Youth League, News Office, Education, Transportation, Tourism, Weather, Fire department, Central Government, Diplomacy, Judiciary, and Other. Generally speaking, every Weibo post would be no longer than 140 Chinese characters, although there are a few exceptions. 37,591 reports in People’s Daily of 2016 are collected into the dataset for this research. The length of these reports varies from several characters to more than a thousand characters. All the pictures, URL links or videos are removed before the analysis.

Samples are chosen for two specific purposes: A long-term period and a specific event. Because of the limitation of programming and computer performance, the full sample of Weibo cannot be analyzed; instead, 50, 000 posts of Weibo have been selected from all the Weibo posts, and 5,000 reports of People’s Daily have been selected from the population. From Figure 4.1, Figure 4.2, Figure 4.3 and Figure 4.4 we can see that the distribution of time in both samples are almost identical as in the populations. As for the specific event, the 2016 G20 Hangzhou Summit is selected

³ <http://yuqing.gsdata.cn/>

⁴ <http://webscraper.io/>

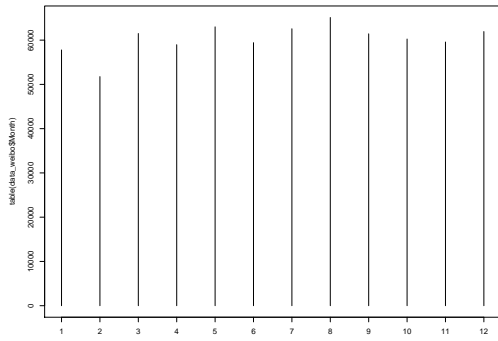


FIGURE 4.1: Distribution of Time of Weibo Posts: Population

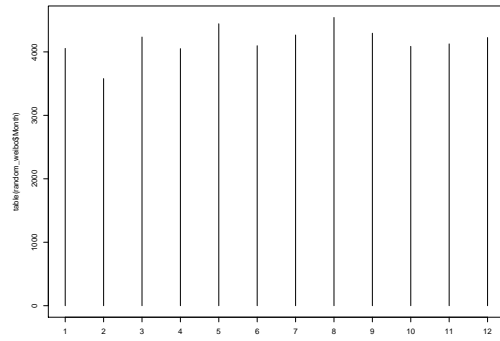


FIGURE 4.2: Distribution of Time of Weibo Posts: Sample

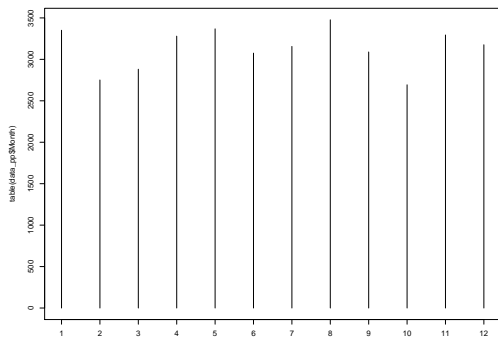


FIGURE 4.3: Distribution of Time of People's Daily: Population

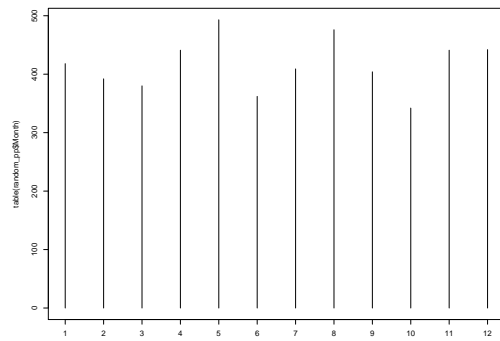


FIGURE 4.4: Distribution of Time of People's Daily: Sample

as the event because (1) it is one of the most important national events in China in 2016, and (2) the preparations for this summit are rich and long enough so that it is reasonable to choose a relatively longer time period for choosing the sample. Given that the actual conference date is September 4-5, 2016, the time period for this event is chosen as one week prior to the summit and one week after this event, which means from August 28, 2016 to September 12, 2016, a 16-day period. The sample size of Weibo posts in this period is 30,413 in total, and the sample size of reports of People's Daily is 1,599.

4.1.3 Pre Analysis

Due to the particularity of analyzing Chinese characters and for the efficiency of analysis, several steps of preparations for content analysis about Weibo posts and reports of People’s Daily were done before the analysis procedure. First, meaningless numbers and English letters have been removed from the dataset. Second, word segmentation is done to segment Chinese characters into meaningful words or phrases. A specific word segmentation package JiebaR⁵ is used for word segmentation because of its up-to-date features and relatively new dictionaries. Last, specific stopwords (meaningless words) are removed, based on an online Chinese stopwords list.⁶

4.2 Analysis

Structural Topic Model (STM) (Roberts et al., 2014) is used in this research to analyze the topics of Weibo posts and Reports on People’s Daily. First, Based on the diagnostic values (Figure 4.5), including choosing relatively high held-out likelihood, low residuals and high semantic coherence and high lower bound, I chose 20 topics for the sample of reports on People’s Daily.⁷

From the results (Figure 4.6), we have four major findings. First, the party newspaper pays lots of attention to policy issues, including foreign affairs, cultural policies, judicial issues, reform and economic growth. Words included in these topics are mainly advocacy and propagating words with general and macroscopic meanings, such as (international) relationships (关系), development (发展), promote (推进), etc. This indicates that People’s Daily, as a party newspaper, is a tool for advocating national-level policies and calling for policy changes. Second, as is defined as a party newspaper, People’s Daily also focuses on party issues, such as the work of party

⁵ <https://github.com/qinwf/jiebaR>

⁶ <http://blog.csdn.net/shijiebei2009/article/details/39696571>

⁷ For the remove of low frequency words and convergence, see the Appendix

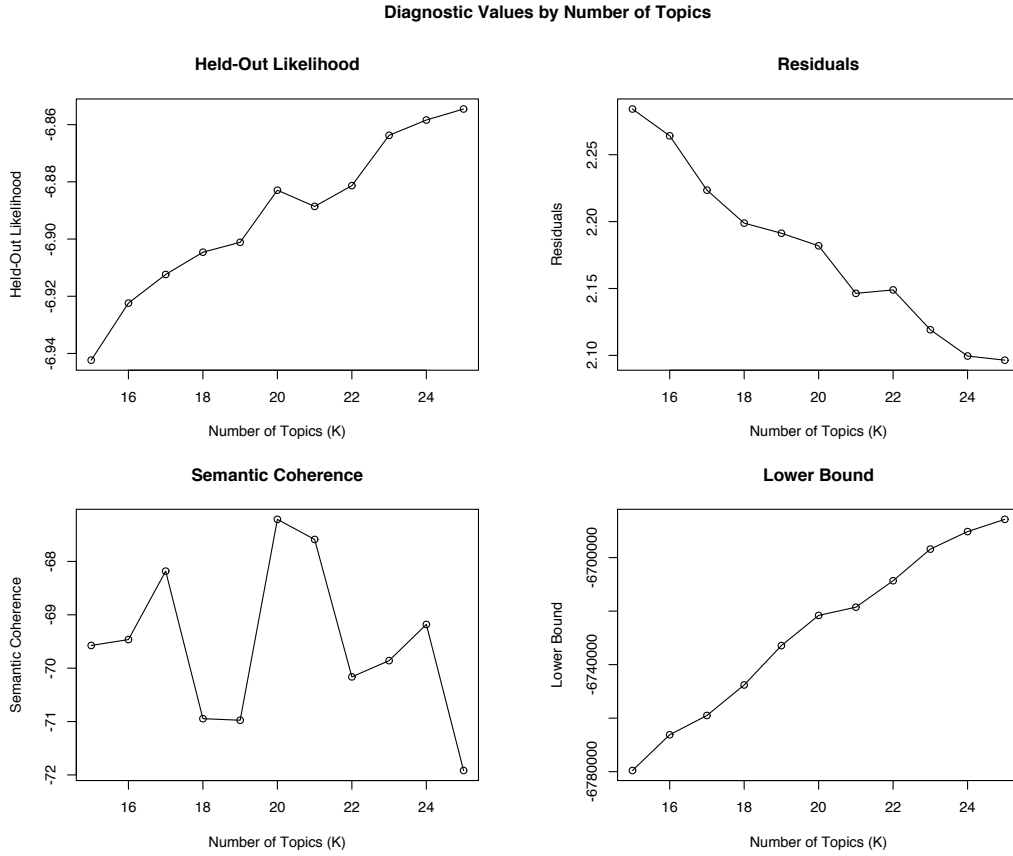


FIGURE 4.5: Diagnostic Values for Choosing Number of Topics: People’s Daily

building and party lead and thoughts. Words appeared in topics about party issues include party/party members (党/党员), politics (政治), Chinese characteristics (中国特色), etc.

Third, combining with the results in Table 4.1, we could see that in fact, some words about the party are actually very frequent in the whole sample, such as “Xi Jinping”, “The General Secretary”, etc. The reason why they did not appear in Figure 4.6 is perhaps because they appear so frequent in several topics so that I removed those words during the processing to create more accurate results. The results both in Figure 4.6 and Table 4.1 again prove that People’s Daily regards party issues as its priority. Last but not least, an interesting result is that the 2

Top Topics

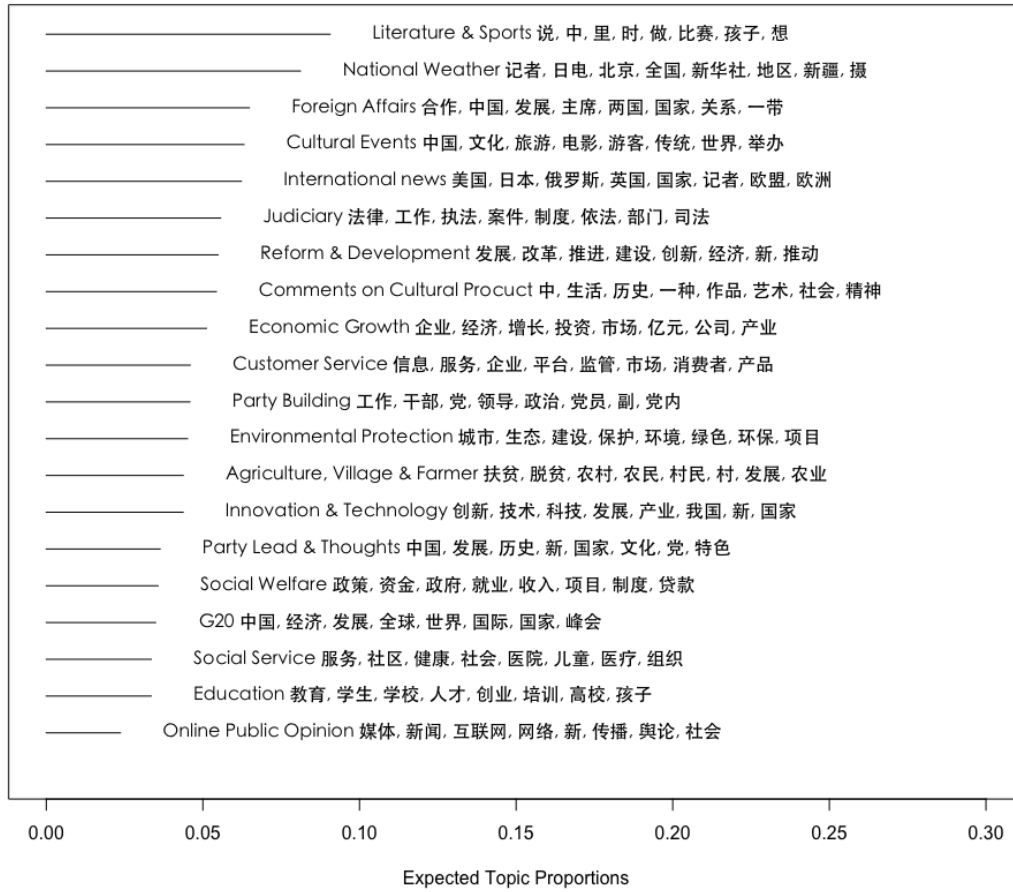


FIGURE 4.6: Topics and Proportions: People's Daily

Table 4.1: Top 10 Word Counts from People's Daily

Xi Jinping	2342
To move forward	1635
Internet	1574
The General Secretary	1127
The State Council	918
More and more	847
Xinhua News Agency	803
The Central Committee	799
Infrastructure	770
Principal	697

most frequent topics are actually Literature and Sports and National Weather. But this might result from the Literature and Sports topic covers too general articles, and National Weather actually contains both reports and photo reports, the latter of which usually contains only several words and has extremely high semantic coherence.

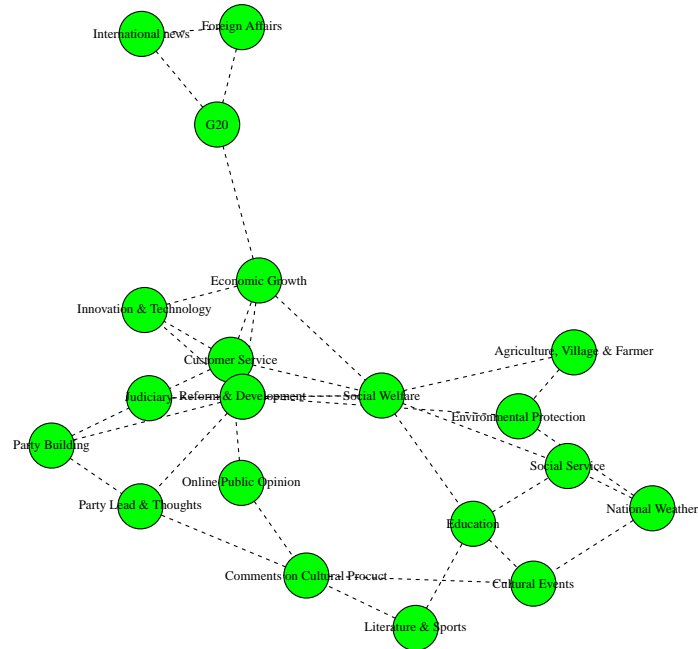


FIGURE 4.7: Topic Correlations: People’s Daily

The correlations of different topics in People’s Daily are shown in Figure 4.7. Generally, we could find three different clusters in this figure. The first cluster is the three topics on the top, which are mainly international reports. The second cluster is the one containing seven topics on the right side of the bottom, which are mainly about specific fields of policy issues, including agriculture, education, social service, and so on. The topics on the left side of the bottom constitute the last

cluster, containing party issues and macro-level policies, the latter of which includes economic growth and reform and development. To sum up, in the year of 2016, party issues and policy issues (including specific policies and macro policies) are still the concentration of People’s Daily, which, as evidence, supports *Hypothesis 1*, which means that traditional media represented by People’s Daily serve as a tool of propagating the party and regime.

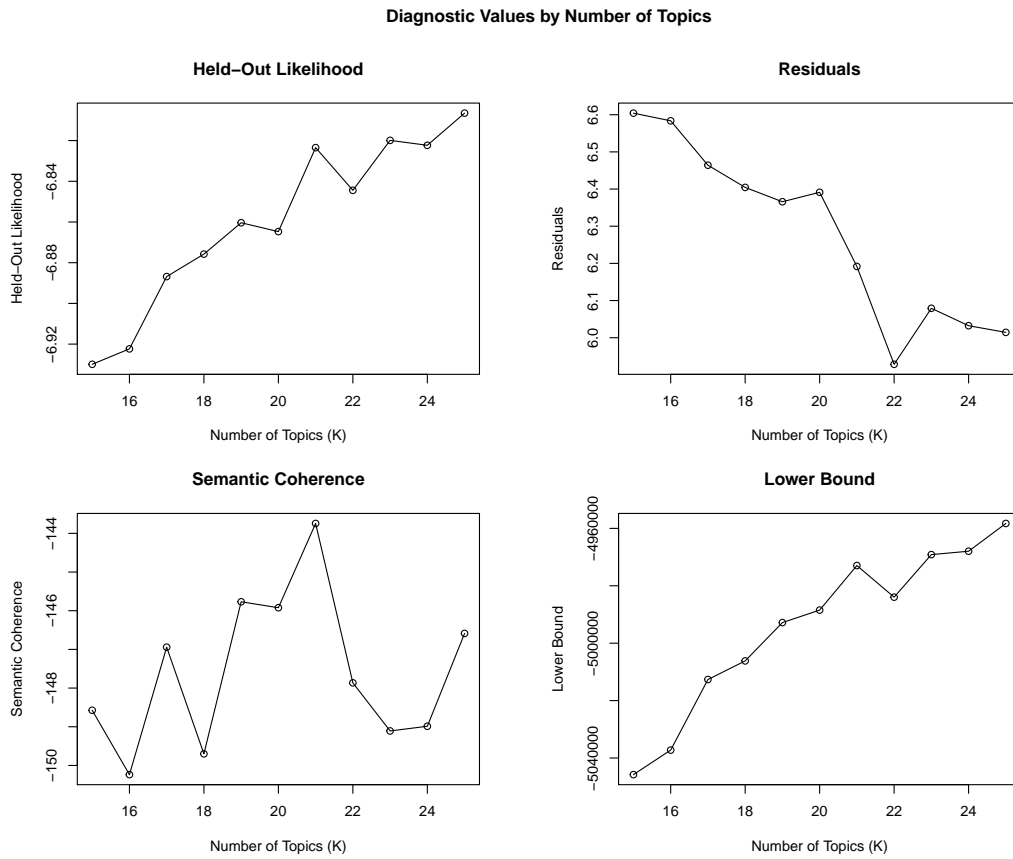


FIGURE 4.8: Diagnostic Values for Choosing Number of Topics: Weibo

Based on the diagnostic values (Figure 4.8), 20 topics are chosen for the analysis.

⁸ The results are shown in Figure 4.9. There are three main findings from the results. First, Only two topics are directly related to the government’s work (Government

⁸ For the revmoe of low frequency words and convergence, see the Appendix

and Leader activity), both of whose proportions are between 0.05 to 0.10. These two topics are special because their words and expressions look similar to those official expressions reports on People’s Daily—they include words like development (发展), construction (建设), reform (改革), and innovation (创新), which distinguishes them from other topics on this figure. This means that government Weibo accounts may also use official expressions and words in communication with the public; however, the frequency of such words is much lower than in traditional media.

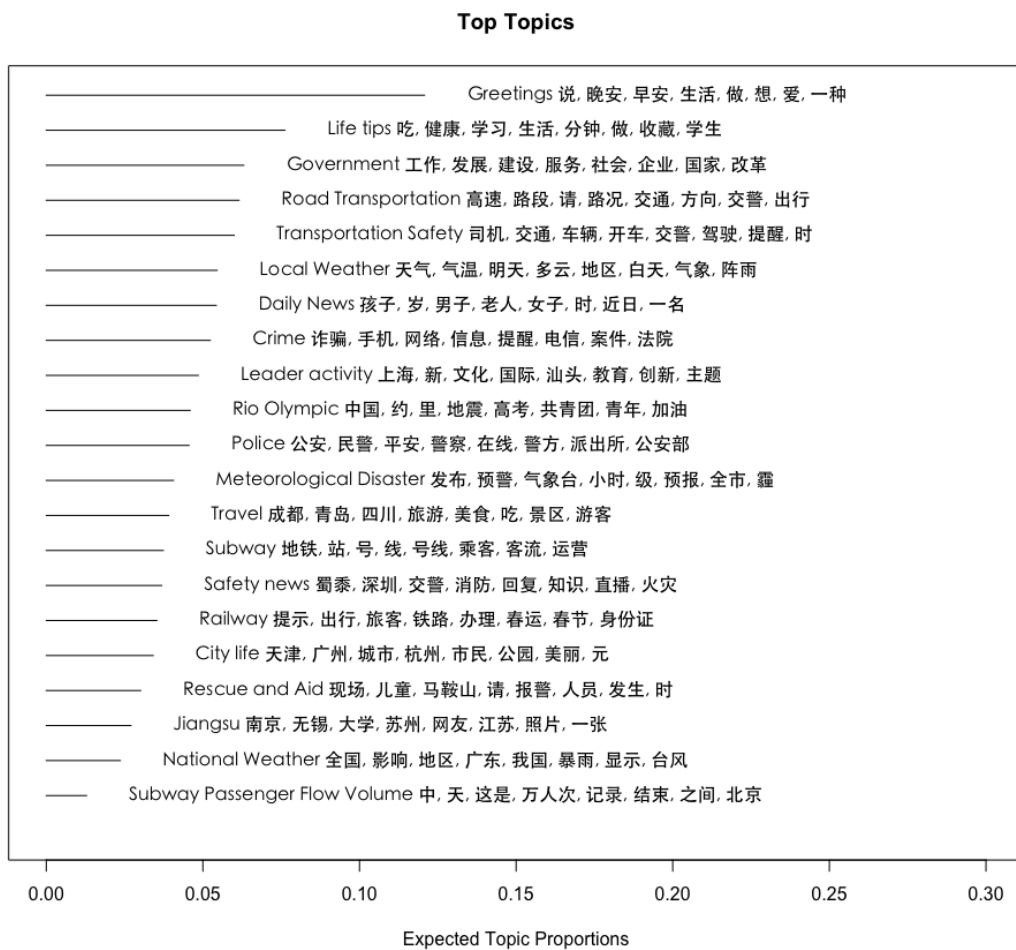


FIGURE 4.9: Topics and Proportions: Weibo

Second, topics like greetings (more than 0.10) and life tips (about 0.08) have extremely high proportions, which do not appear on People’s Daily at all. Such

phenomenon is reasonable on social media, especially considering that interactions on social media are much easier than on traditional media. What’s more, these topics are not even required tasks or official work of the government; these topics make the accounts look like an unofficial vivid person with real personalities, rather than official accounts operated by the government. To put it differently, governmental Weibo accounts are doing more than what the governments are required to do—they are caring about the public’s daily life.

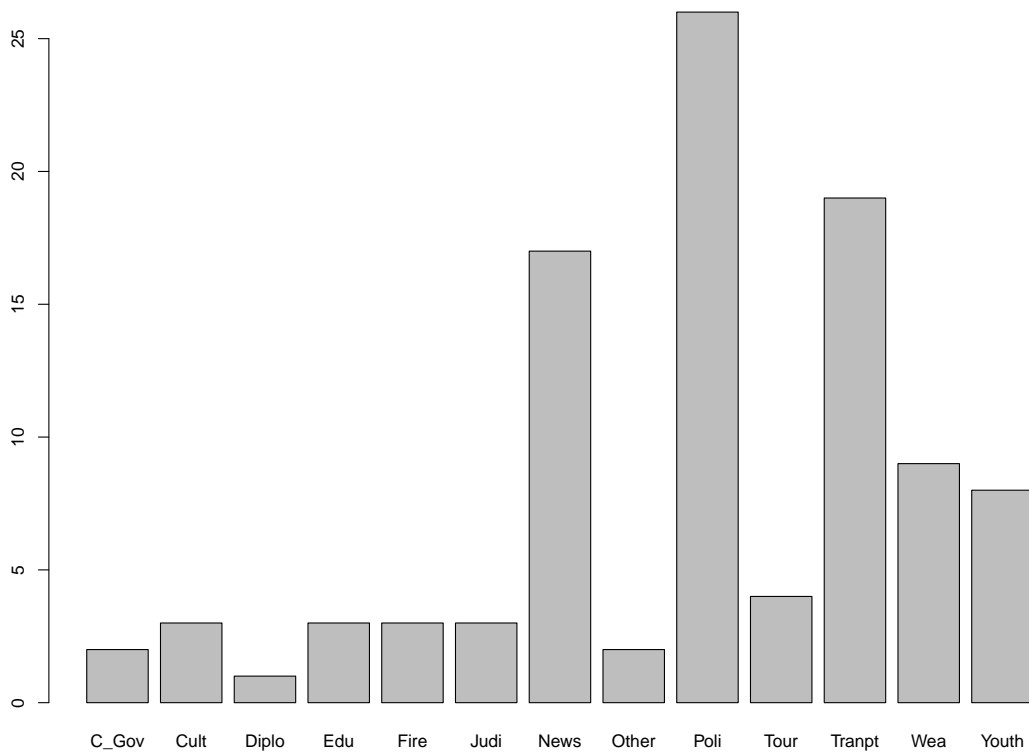


FIGURE 4.10: Categories of Top 100 Weibo Accounts

Note: Due to the limitation of space, I use abbreviations to represent different categories. Here is the list of abbreviations: C_Gov–Central government; Cult–Culture; Diplo–Diplomacy; Edu–Education; Fire–Fire department; Judi–Judiciary; News–News office; Other–Other; Poli–Police; Tour–Tourism; Tranpt–Transportation; Wea–Weather; Youth–Youth League.

Third, comparing to the categories of these 100 Weibo accounts (Figure 4.10), we could find that the percentage of some topics are proportional to the number of accounts amount this ranking, while other topics are not proportional—they appear too frequent or too rare. For example, accounts operated by police and transportation departments are the most, which could reflect on the proportions of topics: There are several topics about police—such as crime, safety news and rescue and aid—and transportations, such as road transportation, transportation safety, etc. However, some high proportional topics belong to none of these categories, including greetings and life tips mentioned above, and Rio Olympics and Daily News. These topics do not belong to governments’ own work—usually they are supposed to be covered by media or other social entities. The covering of these topics by governmental Weibo accounts matches what Xi Jinping said in the Internet Security and Information Work Forum—Building a good Internet “ecology”.⁹

The correlations of topics from Weibo indicates four different clusters. On the top are three correlated topics about weather that are isolated with other topics. The second clusters are the five on the left side of the bottom, which are mainly about police and safety information. Notice that the topic of Daily News is also included in this cluster, which means Weibo accounts operated by police also pay attention to the daily news in their daily work. The third cluster includes 8 topics on the right side, containing even more complicated topics than the “police” cluster—the high proportional topics of Greetings and Life Tips appear in this cluster. The last cluster contains five topics about transportation. The results above about Weibo posts strongly support *hypothesis 2*—governmental social media accounts pay a lot of attention to daily issues of the public, especially trying to draw public attention by greetings, offering life tips or spreading the news to show their responsiveness toward the public.

⁹ http://news.xinhuanet.com/politics/2016-04/25/c_1118731175.htm

Topics with correlations about Weibo

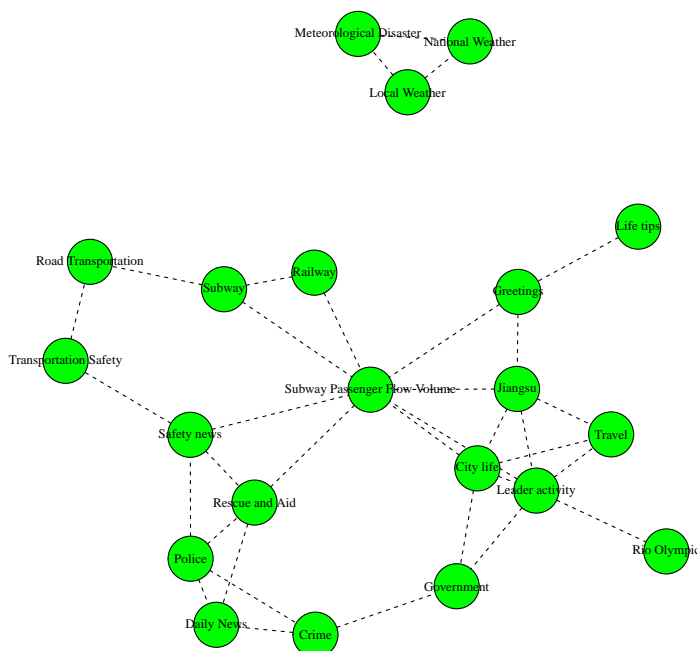


FIGURE 4.11: Topics Correlations: Weibo

Last, in order to test *hypothesis 3*, reports from People’s Daily and posts from governmental Weibo accounts about G20 Hangzhou Summit in China are analyzed. The number of topics is chosen as 23, which is based on the results shown in Figure 4.12.¹⁰

From Figure 4.13 and Figure 4.14, two findings are worth noticing. First, apart from the topic of Weather, which is isolated with all the other topics, there are mainly three clusters based on the correlations—the 6 topics on the middle of the top, mainly about G20 and national/party activities, the 7 topics on the bottom, mainly about transportation and police, and the 8 topics on the left, including some high proportional topics such as Greetings and Life Tips.

¹⁰ For the remove of low frequency words and convergence, see the Appendix

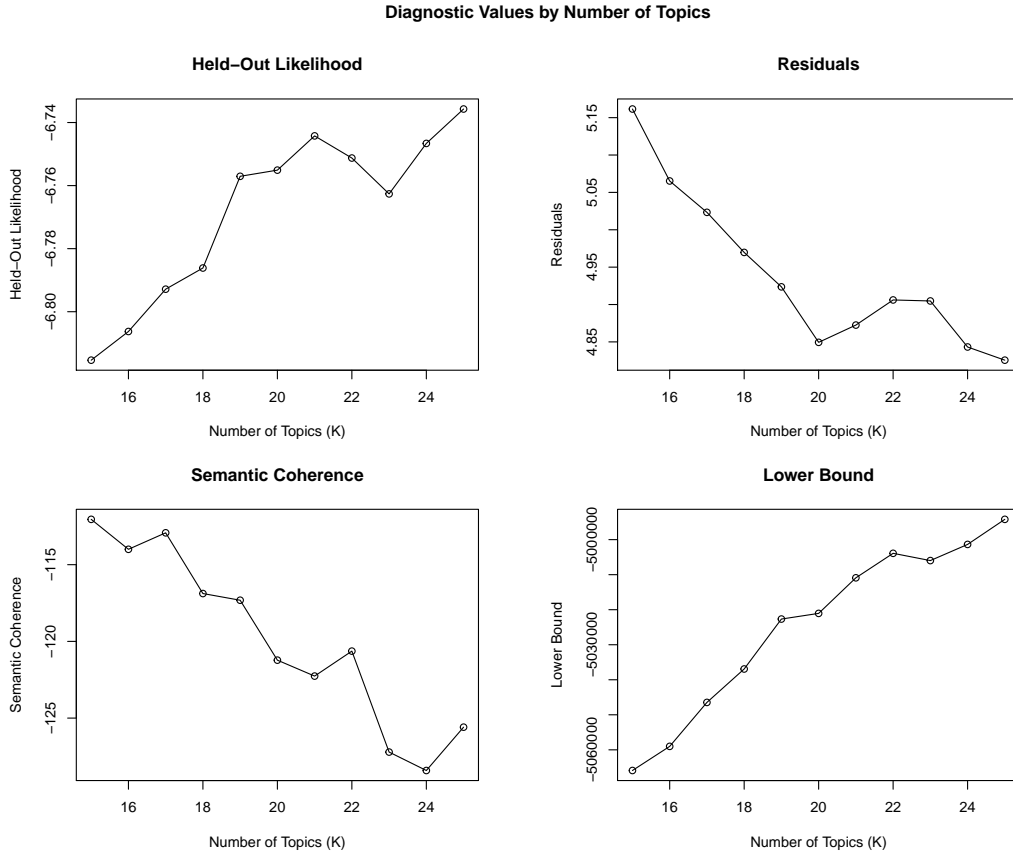


FIGURE 4.12: Diagnostic Values for Choosing Number of Topics: G20

Figure 4.6 and Figure 4.9, we can notice that most of the topics that appear in Weibo categorization (Figure 4.9) still remain the same, while topics from People’s Daily (Figure 4.6) do not appear as many as Weibo.

Then what about the difference between Weibo and People’s Daily—i.e. social media VS. traditional media? As is shown in social Figure 4.15, except Information Service and Travel, most of the topics can be easily classified as “Weibo” topics or “People’s Daily” topics, which means that the divergence between topics from Weibo and those from People’s Daily is obvious. On the one hand, topics on People’s Daily are mainly official and political—including Enterprise Development, Party Activities, One Road & One Belt, G20, Xi Jinping in G20, Departments Work and The

Top Topics

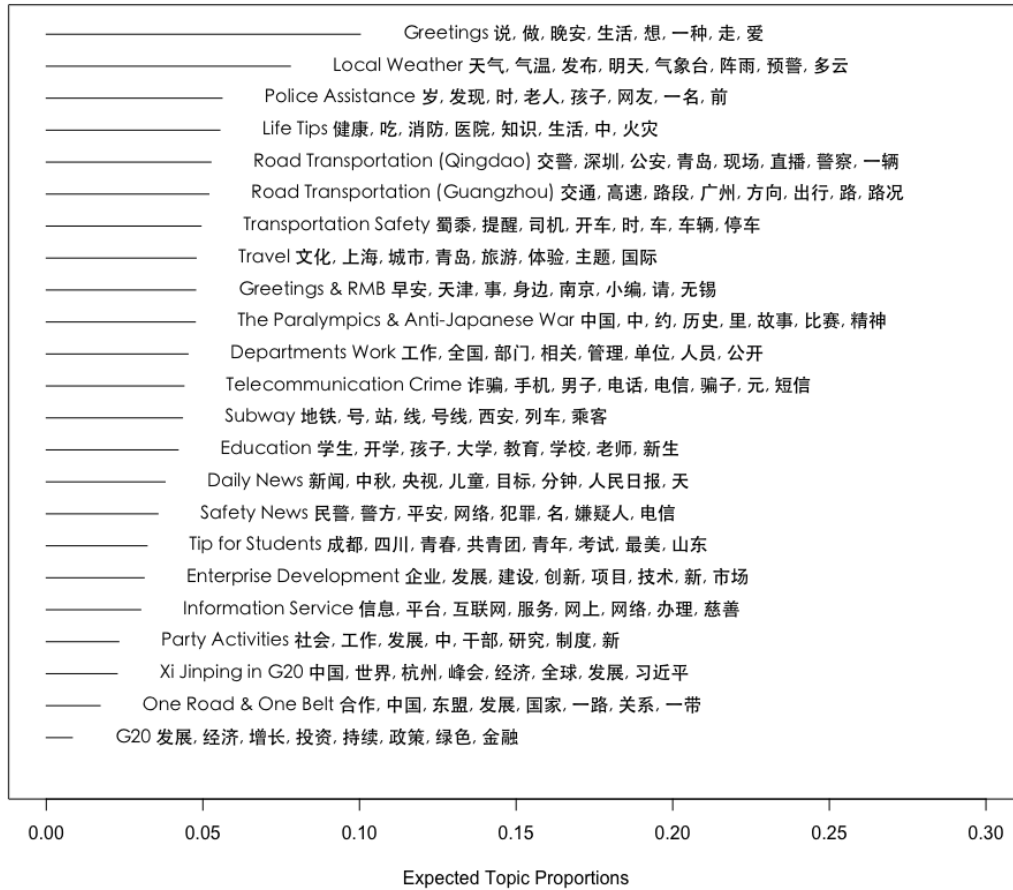


FIGURE 4.13: Topics and Proportions: G20

Paralympics & Anti-Japanese War. We could conclude that during the G20 summit, People’s Daily extremely concentrates on the party’s activities and national policies. On the other hand, however, topics from Weibo still look closer to daily life. The only topic that contains some direct information about G20 is the topic of Greetings & RMB, the latter of which is embedded in the format of greetings. Although the highest-level of newspaper in China casts a large amount of concern on the summit, social media seem to play the same strategies as usual—dealing with the public’s daily lives. Therefore, *hypothesis 3* is supported by the evidence above.

To sum up, *hypothesis 1* and *hypothesis 2* are supported by the evidence that

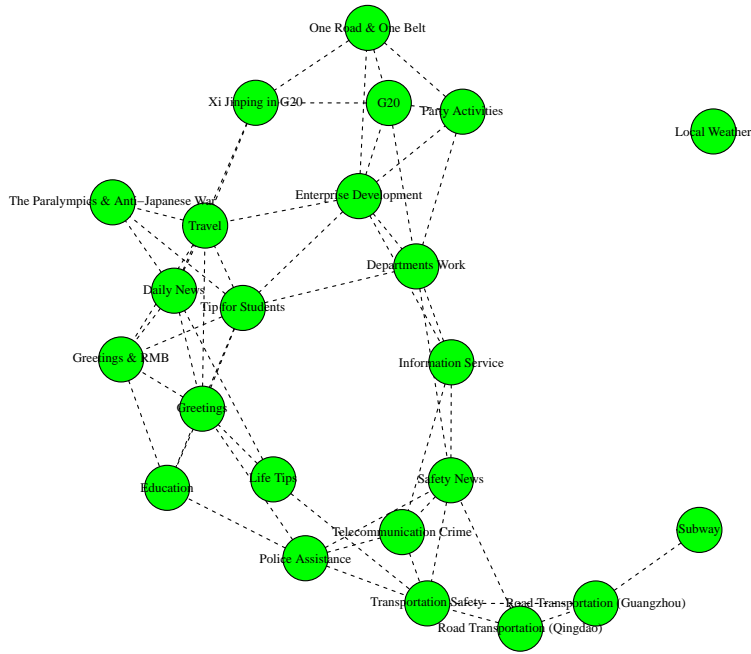


FIGURE 4.14: Topic Correlations: G20

content on social media is mainly about the public’s daily lives, while the content on traditional media mainly focuses on political and official issues; *hypothesis 3* is supported by the evidence of comparison between content about G20 in China, 2016 from social media and traditional media, indicating that even during specific events which traditional media would concentrate on and propagate, social media would still “care” more about public’s more trivial daily issues.

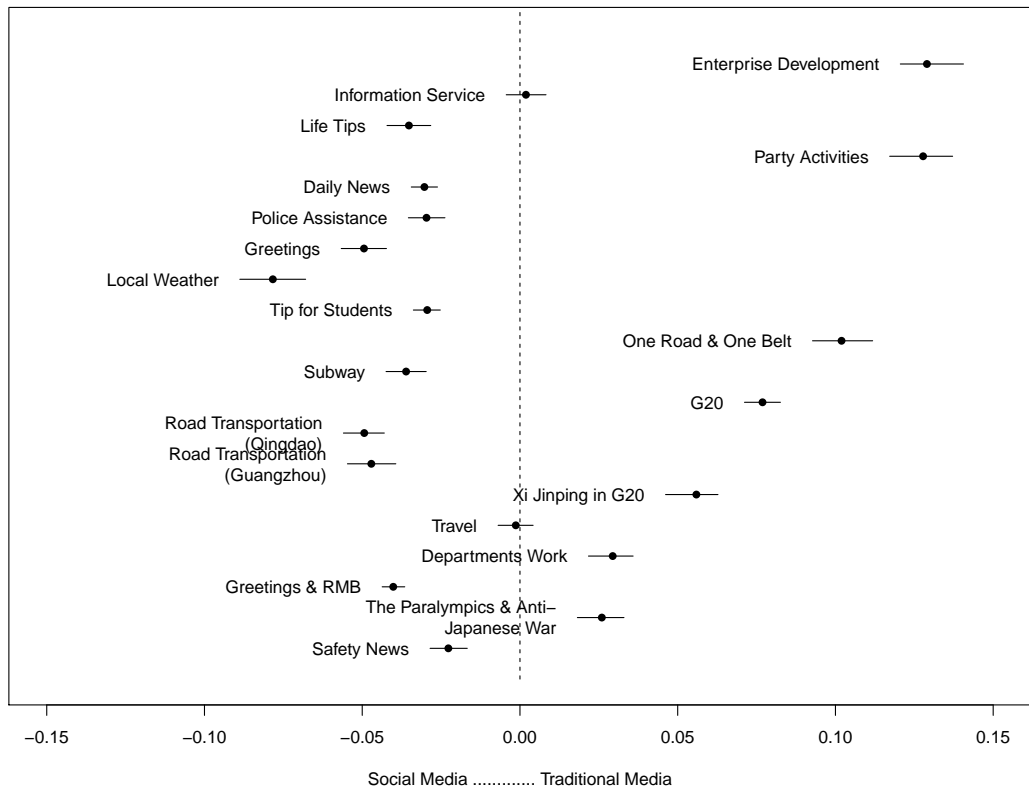


FIGURE 4.15: Difference of Topics from Weibo and People's Daily

Conclusion

How governments control media and how media, especially social media, can influence democratization, governance and politics are two interactive questions in political science. At the first glance, studies about media in authoritarianism are not so organized; they could either focus on how media can improve governance in authoritarianism (Chen et al., 2015) or question how the state uses media to control people (King et al., 2013). In fact, different studies about media are still similar to other studies about institutions in authoritarianism—they are still about the interaction between the governors and the institutions. Existing studies have shown that authoritarian regimes can update or even have updated their means to respond to the challenge of Internet (Creemers, 2016; Gehlbach and Sonin, 2014). Based on deduction of formal modeling and content analysis about traditional media and social media in China, this research tries to answer the question how authoritarian regime would respond to the challenge and then take advantage of social media, and how social media could influence authoritarian governance and responsiveness. The results of this research have some further indications for research about media in authoritarianism.

First, the relationship between government and media is a changing relationship—the two entities would respond to each other’s actions repeatedly, until reaching an equilibrium. As other institutions in authoritarianism, every change within the relationship might generate a new equilibrium, which may have effects on both regime and institutions.

Second, apart from a tool for revolution or a tool for controlling people, a third way for studying media in authoritarian regimes can be taken into consideration—the “middle way”. New media may not be a tool which could directly cause revolutions and democratization, and non-democratic regimes may finally develop new strategies and technologies to deal with the new challenge, but during the process of adaptation, the politics of authoritarianism might also be changed. Even though the substance of the regime remains the same, the governance or policy would be influenced.

Third, studying media in authoritarianism is an emerging field in political science, with new theories proposed and developed in recent years. A key to solving this puzzle might rely on the combination of different research angles, such as control over media and counter-effect of media. Given the extreme importance of ideology and public opinion, ways of controlling media could only be developing in authoritarianism. However, it is important to regard media as a kind of institution, which means the institutional arrangements would not only have reasons, but also have results, both of which are goals of the future research.

Last but not least, instead of thinking media as a tool with single function, this research implies that media in authoritarianism, based on their different features, may have different functions. Although in this study the separation of traditional media and social media is clear, in reality there are many traditional media that have chosen the way of being new media, including those as tools of propaganda. How would they function in a new media platform, and what is the effect of such transformation? These are still questions that should be answered in order to understand

the role of media in authoritarian regimes more comprehensively.

Since this study is a new trial for understanding different roles of different kinds of media in the authoritarian regime, it is still very rough and with several limitations. First, the comparison between content from traditional media and social media is not rigorous. The analysis about different topics of the content is also not comprehensive. In particular, the difference shown above does not indicate strict causal inference. Further research could focus on what mechanism forces the government to treat social media differently compared to traditional media. Second, the data is limited due to both the ability of data collection and the limited time. To further develop this study, data from a wider range of sources (both social media and traditional media) should be included. Last, as for responsiveness, governmental Weibo accounts in China have more ways to respond to the public pursuits than publicly reply, such as private messaging. This research only concerns the posts that are publicly available, which might ignore some aspects of responsiveness from authoritarian governments. Indeed, as the emerging field of media study in authoritarianism, this research along with the research questions should be further developed and answered, based on larger sample of data and causal mechanisms. Propaganda is developing; so are governance in authoritarianism and studies about it.

Appendix A

Model Solutions

There are 4 different strategies for the state: $(P|Strong, P|Weak)$, $(P|Strong, \sim P|Weak)$, $(\sim P|Strong, P|Weak)$, and $(\sim P|Strong, \sim P|Weak)$.

1. If the state chooses $(P|Strong, P|Weak)$, $\alpha = q$ and β is unrestricted.

For the public, the expected payoffs of R and $\sim R$ after observing P are:

- $EU_{Public}(R|P) = -Cq + B(1 - q) = B - (B + C)q;$
- $EU_{Public}(\sim R|P) = 0.$

$EU_{Public}(R|P) > EU_{Public}(\sim R|P)$ if $q < \frac{B}{B+C}$.

For the public if they observe $\sim P$, belief β ,

- $EU_{Public}(R|\sim P) = -C\beta + B(1 - \beta) = B - (B + C)\beta;$
- $EU_{Public}(\sim R|\sim P) = 0.$

$EU_{Public}(R|\sim P) > EU_{Public}(\sim R|\sim P)$ if $\beta < \frac{B}{B+C}$.

So there are 4 possible sets of equilibria:

- $\{(P|Strong, P|Weak), (R|P, R| \sim P)\}$ for $\alpha = q < \frac{B}{B+C}, \beta < \frac{B}{B+C}$.

This is not a weak sequential equilibrium (WSE) because the state can deviate from P to $\sim P$ when the public revolt and the state is weak.

- $\{(P|Strong, P|Weak), (R|P, \sim R| \sim P)\}$ for $\alpha = q < \frac{B}{B+C}, \beta > \frac{B}{B+C}$.

This is not a WSE because the state can deviate from P to $\sim P$ when the state is strong and the public revolt.

- $\{(P|Strong, P|Weak), (\sim R|P, R| \sim P)\}$ for $\alpha = q > \frac{B}{B+C}, \beta < \frac{B}{B+C}$.

Whether this is a WSE depends on the relationship between k_s and s . If $s \geq k_s$, this is a WSE; otherwise it is not.

- $\{(P|Strong, P|Weak), (\sim R|P, \sim R| \sim P)\}$ for $\alpha = q > \frac{B}{B+C}, \beta > \frac{B}{B+C}$.

This is not a WSE because the state can always deviate from P to $\sim P$.

So there is one (possible) weak sequential equilibrium when the state chooses $(P|Strong, P|Strong)$: $\{(P|Strong, P|Strong), (R|P, R| \sim P)\}$ for $\alpha = q > \frac{B}{B+C}, \beta < \frac{B}{B+C}$, and $s \geq k_s$.

2. If the state chooses to play $(P|Strong, \sim P|Weak)$. Here $\alpha = 1$ and $\beta = 0$.

For the public, the best strategy is to play $(\sim R|P, R| \sim P)$. However, when the state is weak, it can always deviate from $\sim P$ to P . Therefore, this is not a WSE.

3. If the state chooses to play $(\sim P|Strong, P|Weak)$, $\alpha = 0$ and $\beta = 1$.

The best strategy for the public is $(R|P, \sim R| \sim P)$. However, when the state is weak, it can deviate from P to $\sim P$ and get a higher payoff. Therefore, this is not a WSE.

4. If the state chooses $(\sim P|Strong, P|Weak)$, α is unrestricted and $\beta = q$.

For the public, the expected payoffs of R and $\sim R$ after observing $\sim P$ are:

- $EU_{Public}(R|\sim P) = -Cq + B(1 - q) = B - (B + C)q;$
- $EU_{Public}(\sim R|\sim P) = 0.$

$EU_{Public}(R|\sim P) > EU_{Public}(\sim R|\sim P)$ if $\beta = q < \frac{B}{B+C}.$

For the public if they observe P and belief α :

- $EU_{Public}(R|P) = -C\alpha + B(1 - \alpha) = B - (B + C)\alpha;$
- $EU_{Public}(\sim R|P) = 0.$

$EU_{Public}(R|P) > EU_{Public}(\sim R|P)$ if $\alpha < \frac{B}{B+C}.$

So there are 4 possible sets of equilibria:

- $\{(\sim P|Strong, \sim P|Weak), (R|P, R|\sim P)\}$ for $\beta = q < \frac{B}{B+C}, \alpha < \frac{B}{B+C}.$

This is a WSE because the state can never deviate and get a higher payoff, given the strategy of the public.

- $\{(\sim P|Strong, \sim P|Weak), (\sim R|P, R|\sim P)\}$ for $\beta = q < \frac{B}{B+C}, \alpha > \frac{B}{B+C}.$

However, the state can deviate for form $\sim P$ to P when it is weak and get a higher payoff. So this is not a WSE.

- $\{(\sim P|Strong, \sim P|Weak), (\sim R|P, \sim R|\sim P)\}$ for $\beta = q > \frac{B}{B+C}, \alpha > \frac{B}{B+C}.$

This is a WSE because the state cannot deviate to get a higher payoff.

- $\{(\sim P|Strong, \sim P|Weak), (R|P, \sim R|\sim P)\}$ for $\beta = q > \frac{B}{B+C}, \alpha < \frac{B}{B+C}.$

This is a WSE because the state cannot deviate and get a higher payoff.

To sum up, there are 4 sets of equilibria:

- $\{(P|Strong, P|Strong), (\sim R|P, R|\sim P)\}$ for $\alpha = q > \frac{B}{B+C}, \beta < \frac{B}{B+C}$ if $s \geq k_s.$

- $\{(\sim P|Strong, \sim P|Weak), (R|P, R| \sim P)\}$ for $\beta = q < \frac{B}{B+C}, \alpha < \frac{B}{B+C}$.
- $\{(\sim P|Strong, \sim P|Weak), (\sim R|P, \sim R| \sim P)\}$ for $\beta = q > \frac{B}{B+C}, \alpha > \frac{B}{B+C}$.
- $\{(\sim P|Strong, \sim P|Weak), (R|P, \sim R| \sim P)\}$ for $\beta = q > \frac{B}{B+C}, \alpha < \frac{B}{B+C}$.

Appendix B

Model Selections

B.1 Searching number of topics for People's Daily

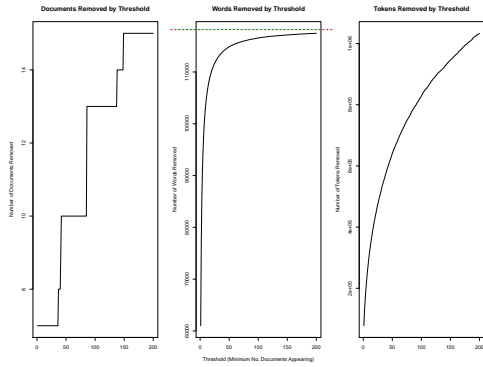


FIGURE B.1: Low Frequency Words: People's Daily

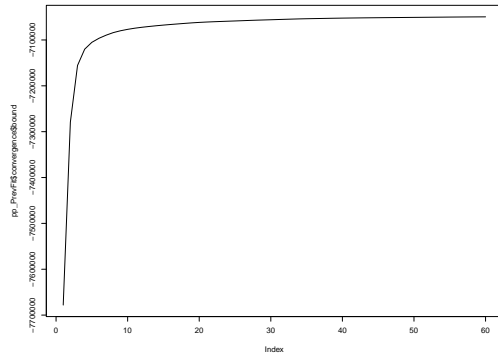


FIGURE B.2: Convergence of Topic Model: People's Daily

B.2 Searching number of topics for Weibo

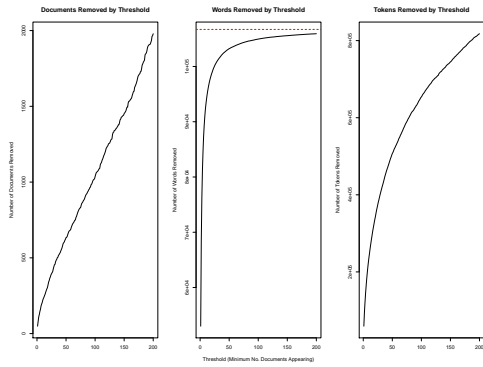


FIGURE B.3: Low Frequency Words: Weibo

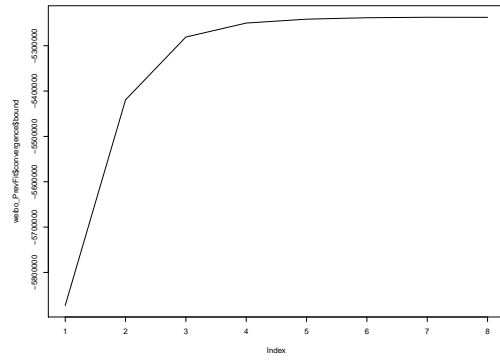


FIGURE B.4: Convergence of Topic Model: Weibo

B.3 Searching number of topics for G20 coverage

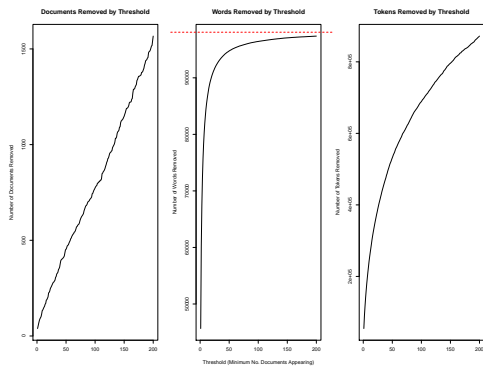


FIGURE B.5: Low Frequency Words: G20

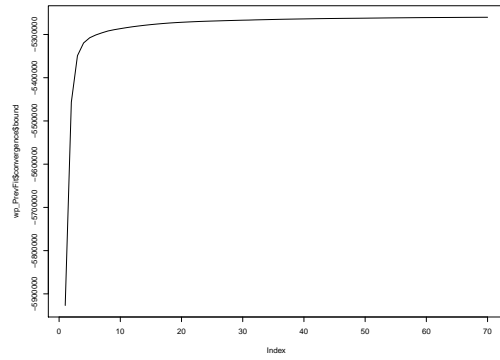


FIGURE B.6: Convergence of Topic Model: G20

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