

**The Power Change of Authoritarian and Democratic Regimes during the
Times of Crisis - A Comparison between Mainland China and Taiwan**

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AUTHOR'S DECLARATION

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Abstract

The thesis is to explore whether there is any difference on the power change of the executive, legislative and judiciary branch between authoritarian and democratic states during the times of crisis. There are mainly two theories in this field. Prerogative executive theories believes that the executive is about to be granted additional power at their will without any formal and bounded executive theory contends that the additional executive power is provided with written and institutional constraints. A majority of existing research supports that during crisis the executive power increases. However, some studies come to divergent conclusions. There is a contradiction on the findings and there are few studies focusing on power change of authoritarian country as well as the difference between democratic and authoritarian ones. To fill in this research gap, this thesis selects three main crises from 1995 to 2022 respectively in China and Taiwan as cases and employs quantitative methods to conduct the analysis. The results shows that Taiwan's power change in 2003 SARS and Taiwan and mainland's power change in 2020 Covid-19 confirm the first hypothesis, but the average crisis year effect is extremely weak. After the 2020, China's three branches power change confirms hypothesis two. However, during and after other crises, the power changing trend in mainland and Taiwan does not meet expectation.

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Introduction

During the times of crisis, such as natural disasters, pandemics and wars, government always faces usual challenges to address raised problems and to recover the normal life. This research intends to take the cases of mainland China and Taiwan to explore whether there is any difference of government power change between autocracy and democracy during the times of crisis.

China is believed by most scholars to be an authoritarian state. It experiences several crises in modern age. In 1998, an unparalleled flood attacked most northern cities, which had a severe impact on people's lives. In 2003, SARS pandemic swept across the whole country, threatening many people's lives. In 2008, an 8.0 earthquake occurred in Sichuan province, which left 87, 587 people killed and nearly 400 thousand injured or missing. In 2020, Covid-19 pandemic broke out and people lived in zero-Covid strategy until the end of 2022. On the other hand, Taiwan is commonly recognized as having a democratic political system. It had two same crises as mainland: the SARS and Covid-19 Pandemic. Besides, it witnessed a lot of typhoons and the most severe earthquake in history in 1999.

The research question of the thesis is that is there any difference on the power change of the executive, legislative and judiciary branch between authoritarian and democratic states when the crises take place? The main popular theories about the government power change during the times of crisis are the prerogative executive theory (Grube, Morgan, Harrington, et.) and bounded executive theory (Morgan, Murray, Ferejohn, et). Both of them agree that the additional power is granted during crisis. A lot of existing research supports that during crisis the executive power increases (Jennings, Zwitter, Bolleyer et.) . However, some studies concluded that, in

some democratic countries, executive power may not increase a lot or that the government is willing to decentralize its power to deal with the crisis (Petridou, Aubrecht, et.). There is a contradiction on the findings and there are few studies focusing on power change of authoritarian country as well as the difference between democratic and authoritarian ones. This research proposes to fill in this gap.

This thesis hypothesizes that in democracy the executive power rises and legislative and judiciary power declines during the times of crisis, but soon the power in these three branches will return to the previous levels, and in authoritarian country, power in these three branches have the similar pattern during the time of crises, but they hardly return to the previous levels. To test the hypothesis, the research examines and compares Taiwan and mainland China during the times of crisis by using 2023 V-Dem projects data.

This research will adopt quantitative method. At first, it will measure the variables of interests and conduct an exploratory data analysis. Then it visualizes and compares the power change of the executive, legislative and judiciary branches between China and Taiwan. In the end, it conducts the regression discontinuity research and the linear regression two years after the crisis to secure more precise results.

The exploratory data analysis shows that the executive branch in China has more power than its counterpart in Taiwan, but both Chinese legislative and judiciary branch possess less power than the ones in Taiwan. The visualized comparison suggests that in 1998 China Floods, 1999 Taiwan Earthquake and the 2003 SARS the three branches' power change disconfirm the two hypotheses. In 2020 Covid-19 Pandemic, the hypothesis is confirmed on executive and judiciary power but not on the legislative one. The discontinuity research and linear regression concludes that Taiwan's three branches' power change in 2003 SARS and Taiwan and mainland's power

change in 2020 Covid-19 confirm the first hypothesis, but the average crisis year effect is extremely weak. After the 2020 Covid pandemic, China's three branches power change confirms hypothesis two. However, except for these two situations, the power changing trend during and after other crises in mainland and Taiwan disconfirms the hypotheses.

This research has some significance. First and foremost, it will provide more evidence on the government power change in times of crisis, which helps test the prerogative and bounded executive theories. As mentioned in the literature review, even though a large number of studies confirms that government power rises during crisis, there are still some discovering the opposite results. This paper will give its contribution and improve the theory by compare the difference between autocracy and democracy. Moreover, it lays foundation for related explanatory research. This descriptive research could present more information for researchers to further explore the reasons behind power changes and the difference between autocracy and democracy if there is any. Finally, this research will offer new resources for different branches of the government to make appropriate policies to deal with the crisis and necessarily limit the concentrated power. After understanding the trend of power change, the three branches of the government could more easily improve the system and policies to adjust the power distribution to tackle the crisis and constrain the power if any branch has too much of them.

This thesis consists of three chapters. In the first chapter, it reviews relevant research and introduces theoretical background. In the second part, it specifies the data it uses and how to design the research. Ultimately, it demonstrates the results this research discovers, provides discussion on the results and the conclusion.

Chapter 1: Literature review and theoretical framework

In this chapter, this thesis will explore the main theories on executive emergency power, conduct literature review and then offer its theory about the difference between democracy and authoritarianism. There are two main theories on power change in times of crisis. Prerogative executive theories states that the executive is about to be granted additional power at their will without any formal limitation (Grube, Morgan, Harrington, et.). Bounded executive theory contends that the additional executive power is provided with written and institutional constraints (Morgan, Murray, Ferejohn, et). The bounded theory includes constitutional model and legislative model. A majority of empirical research stand behind both theories, but some demonstrates divergent results that the executive power increase little or even decrease. Based on these theories and existing research, I assume that the executive power in both democratic and authoritarian regime increase when crisis takes place and the legislative and judiciary power see an opposite trend. After the crisis, power in three branches in democracy is expected to return to the previous position while the one in authoritarian countries has no salient change.

1.1 Regime Power in Times of Crisis

The additional power the executive has during the times of crises had a long research history from ancient Greek to modern times. There are two main theories on such emergency power owned by the executive.

1.1.1 Prerogative Executive Theory

The first one is prerogative executive theory. In this theory, the executive enjoys unbounded additional power during the crisis. The thoughts creating unfettered executive power in times of crisis could be tracked down to Plato. The emergency power is related to Plato's guardians

system where a country's ruler is selected. This kind of ruler has the absolute power especially during the times of crisis. Plato writes that when the state is assaulted it is the philosopher king alone who commend and use the greatest power (Grube 1992, Book 5). Plato argues that the ruler with little constraints is reasonable and trustable due to the fact that they are loyal and committed to the states healthy. The logic is that considering the ruler is philosopher king, the only reason they exercise power is they love ruling and willing to protect the state (Grube 1992, Book 5). Scattered power is extremely dangerous when crisis happens because the populace has high risk of being manipulated by evil politicians so that the democracy will turn into tyranny (Grube 1992, Book 5). A just society will create philosopher king who will not abuse the emergency power, so the society will remain healthy while overcoming the crises (Grube 1992, Book 5).

John Locke is another theorist clearly support the unbound executive power during the time of crisis. He creates the concept of prerogative power which means in the crisis executive decides how much power they should have to deal with the crisis and defend the state (Morgan 2011, Chapter Locke). Locke claims that the laws in peacetime created by the legislature are not enough for the ruler to reverse the disaster and protect people and the worst is that those laws may become obstacles for the ruler to take necessary actions (Morgan 2011, Chapter Locke). Therefore, during the times of crisis the Crown must enjoy the prerogative power to behave in their discretion without any limitations made by the laws or constitutions. When crisis happens, the scattered power prevents the executive to act effectively enough. In addition, the laws made by the legislature could not predicts what kind of crisis will take place and what concerns people have in the crisis. Thus, the executive does not need to take actions allowed by laws. Locke also takes into account the problem of abusing emergency power by the executive. He suggests the

necessity of putting limits on it, but it is not from the documents or institutions (Morgan 2011, Chapter Locke). He believes the limitation should be the communal interests, which implies that the reason why the executive does not abuse the emergency power is that they believe that such power is to serve the public (Morgan 2011, Chapter Locke). Like Plato's philosopher king, the high morality of the ruler warns them against utilizing the power for personal interests.

Similar to Plato and Locke, James Harrington (1700) asserts that the leader must have the necessary amount of power to hinder the state from being jeopardized by the crisis. The laws and institutions should not clearly state what kind of or how much emergency power the leader have, because different crisis with different magnitude and severity require different power. According to him, the leader should have the emergency power to charge money and man as well as make laws (Jóhannesson 2020, p46-70). Harrington claims that the emergency must enable the power of the executive to enact laws, which is different from Locke's view that the executive could flex laws but not make new laws in face of the crisis. Harrington regards the law-making power as necessary to reduce the destruction of the crisis and suggests such power to be only exercised for the public goods. Even John Stuart Mill, being considering as an ardent supporter of the representative democracy, points out that the crisis reflects an inherent flaw of democracy: the executive is not granted the adequate power to successfully dispel the crisis (Mill 1924, Chapter 6). To confront the tremendous crisis, it is necessary for the democracy to deliver absolute power to the executive to create temporal dictatorship (Mill 1924, Chapter 6).

In summary, the prerogative executive theory states that in the times of crisis the executive must enjoy the full power to take efficient action based on their prerogative. There are little constitutional or legal provisions to limit the using of power by the executive during crisis. Two contemplations explain why the unlimited executive emergency power is reasonable. First, the

magnitude and category of crisis is unpredictable, so the constitution and laws cannot prescribe what kinds of action the executive should take. Second, considering that crisis needs swift response, the legislature doesn't behave efficiently enough to decide what amount of power the executive should be granted after it breaks out. In the end, the judiciary branch is a passive organization, so it also cannot act rapidly enough to handle the crisis. Therefore, the executive plays the most suitable role to have unlimited power to respond to the crisis. However, this theory states that the executive must renounce the emergency power when the crisis is put to an end.

1.1.2 Bounded Executive Theory

Like the prerogative theory, bounded executive theory emphasizes that the executive must be endowed with the emergency power during crisis. However, such power must be limited by the written provisions. This theory is traced back to Aristotle's thinking, which supports that the constitutional limitation is necessary for the executive emergency power (Morgan 2011, Chapter Aristotle). The Roman constitutional mode clearly reflects Aristotle's thoughts. The senate of Roman Republic is aware of the necessity to grant more power to the executive for handling the crisis swiftly and with needed energy and its constitution explicitly prescribes the power owned by the executive during crisis (Murray, Boardman, and Griffin 1986, Chapter 17). After the emergency erupts, the senate can instruct the consuls, who exercises executive function, to select a dictator for up to half a year to provide effective resolutions (Murray, Boardman, and Griffin 1986, Chapter 17). The laws allow this dictator to put in abeyance personal rights and legitimate process as well as command necessary forces, including the military one, to cope with any threats and defend the republic (Murray, Boardman, and Griffin 1986, Chapter 17). The laws

also stipulate that when the emergency comes to an end, the dictator must relinquish all these powers and recover the status quo (Murray, Boardman, and Griffin 1986, Chapter 17).

There exist two models of the bounded executive power. One is the constitutional model where the constitution includes clauses granting emergency power to the executive. In contemporary era, a majority of countries' constitutions allow the declaration of the state of emergency (Bjørnskov and Voigt 2018, p101–127). For instance, the constitution of South Africa prescribes that when the public and the state are threatened by invasions, wars, natural disasters, and other disorders the parliament has the power to declare the state is in emergency (ÁFRICA 2020). Under the state of emergency, like Roman Republic, some individual rights are restrained and other political organizations such as legislature and the courts surrender some power to the executive for the necessity of handling crisis. However, the main function of constitutions in most countries is to supervise the exercise of executive emergency power and put it under control to prevent power abusing which has been witnessed several times in history. For instance, Latin America's executives resort to claiming emergency power to abrogate constitution and parliament and end up with dictators (Hamill 1995). And in 1933 Adolf Hitler took advantage of the Reichstag fire to gain numerous amounts of power (Paxton 2007, Chapter 3). There are several ways that constitution checks and balances the executive emergency power. The constitutions in over 70% democratic countries stipulates that it is the legislative branch that is able to declare the state of emergency and some constitutions clarify the circumstances where the parliament can declare the state of emergency (Maddex 2007). Moreover, many constitution states how long the executive can exercise emergency power and the extension must be approved by the legislature (Elkins and Ginsburg 2021). In addition, according to constitutions in some countries, the executive has no power to dissolve the parliament and invalid the constitution

during crisis (Elkins and Ginsburg 2021). The judiciary branch also plays a role in constraining the executive power during emergency. Based on some constitutions, the courts can review whether the executive invokes and exercises the emergency power constitutionally (Greene 2018). In short, the constitutional model agrees to provide additional power to the executive in times of crisis, but it is limited by the constitution clauses.

The other is the legislative model where the legislation acts as the source of emergency power. This model is put forward by Pasquale Pasquino and John Ferejohn (Ferejohn and Pasquino 2004). In legislative model, the constitution is not directly involved in the handling the crisis. The common legislation could be added new provisions or amended to offer additional power to the executive during crisis, such as suspending individual rights for common good (Alexy 2010). The laws providing emergency power can either be made before crisis or after crisis takes place. The *ex ante* one enables laws to be made through thorough consideration and witnesses no active participation of the legislature in dealing with crisis. However, in some countries, the laws for emergency only take effect when the legislature declares the state of emergency and such laws automatically become invalid when the crisis ends. And the extension of emergency time must be approved by the legislature. In these methods, the legislature could directly check the executive emergency power. The *ex post* mode makes sure the active involvement of the legislature in crisis and is able to customize laws based on different crisis. However, *ex post* laws often suffer from more problems and flaws than *ex ante* ones due to the hurried law-making process (Feldman 2005). In short, similar to the constitutional model, the legislative model ensures the executive emergency power bounded. The legislature actively takes part in handling crisis to check and balance the executive power. At the same time, the

constitution always exists to limit the emergency power by allowing the judiciary branch to review whether the executive actions are acceptable.

In conclusion, compared to the prerogative theory, the bounded executive theory is to use the written words, constitution or legislations, to grant and limit the emergency power of the executive. Both theories advocate that the executive must be offered additional power in times of crisis and such power must be surrendered at the end of the crisis. The controversy between them is that whether the checks and balances on the executive emergency power is imposed by written rules and institutions or just the morality of the executive. The prerogative theory believes little explicit limitation allows the executive to resolve the crisis more efficiently, but the bounded one argues that constitutional clauses or legislative provisions are necessary to restrain emergency power.

The prerogative executive theory is consistent with the argument of the authoritarian states on the exercise of executive, legislative and judiciary power. It can give some inspiration on predicting how the power of China's executive, legislative and judiciary branches change during the times of crisis. The bounded executive theory depicts the outlook of democratic states. Therefore, this theory lays the foundation of hypothesizing the power change in Taiwan in the times of crisis. In the next part, this thesis will review the existing empirical studies on the government power change which intend to test the two theories.

1.2 Literature Review on Specific Empirical Studies

A lot of existing research provide empirical evidence that the executive power increases during the time of crisis, which is claimed in both prerogative executive theory and bounded executive theory. Jennings (1974) comes to the conclusion that the executive power tends to balloon to better tackle the emergency and the public often express intension to rally around the

leader. Zwitter (2012) claims that the state of emergency will shift the power from the legislative to the executive. Bolleyer and Salat (2021) study six European government and concludes that during the emergency the executive autonomy increases, and unified executive causes more destruction to the parliament power than the populist government. Levitsky and Ziblatt (2019) argues that the crisis provides an opportunity for the executive to justify the power concentration. Gebrekidan (2020) believes that the Covid-19 pandemic has an effect of moving the regime toward the autocratic direction. Suhay and Hetherington (2011) find that the support for the democratic value declines during the time of crisis. Fleischer and Parrado (2010) use comparative method to study the executive of Germany and Spain between 2008 and 2009 economic crisis and reach a conclusion that both countries' executive decision-making is centralized while Spain witnesses larger effect than Germany. Some research pinpoints that the legislative and judiciary branch becomes affiliated to the executive. Howell et al. (2013) concludes that during the time of war, the legislature tends to become obedient to the executive in terms of proposing and passing policies. Howell and Ahmed (2014) detect that the courts are also inclined to endorse the decision of the president during the war. Epstein et al. (2005) notice that the judiciary employs a different working mechanism which tends to give a green light to the president. Saldin (2004) concludes that when Bush administration dealt with the terrorism after the September 11, the US supreme court has more likelihood to agree with Bush using military tribunals.

Several normative research also imply that the executive power becomes greater during the crisis. For instance, Adrein and Eric (2003) defend that the US judiciary should supervise the power increase of the executive during the times of crisis. DePlato (2014) puts forward the

theory of executive emergency power, which argues that the executive should be provided with the emergency power during the times of crisis.

Furthermore, in some democratic countries, executive power may not increase a lot, which complies with the bounded executive theory. Gross and Aoláin (2006) suggests that democratic societies adopt the models of accommodation, which means that in the times of crisis legal and constitutional structures are relaxed a bit to deliver more space to the executive leader to deal with crisis, but normal constitutional and legal principles are maintained as much as possible. Lozano, Atkinson and Mou (2023) explore the government performance in four parliamentary democratic countries and discover that even though executive power increases in these countries, those having strong accountability traditions are more likely to adhere to the democratic principles during the Covid-19 pandemic. Ng and Gray (2021) examine Australian executive power during the Covid-19 and conclude that the legislative safeguards can foster the public trust in the government to not abuse the increasing power as well as exercise it in a way not violating the human rights.

However, some studies find that the executive is willing to decentralize its power to deal with the crisis. For instance, Petridou (2020) discovers that Sweden resorts to decentralized policy to deal with the Covid-19 pandemics and succeeds. Aubrecht et al. (2020) concluded that government may adopt centralized and decentralized policy based on different conditions.

All these research conduct a great job in exploring the government power change during the crisis, but there is a contradiction on the findings. Most empirical research are in agreement with both prerogative and bounded executive theories that there displays a mounting of the executive power in times of crisis. A variety of studies also comes up with discovery consistent with the bounded theory that institutional and written limitation are imposed on executive additional

power and executive power does not increase a lot in crisis. Yet, there is in existence a number of literatures showing the executive power decreases in times of crisis, which diverges from both executive emergency power theories. Moreover, there are few studies focusing on power change of autocracy and the difference of power change between democratic and authoritarian regime during the crisis. This research aims to fill in this gap.

1.3 Theory Building and Hypothesis

In this part, the main theory of this thesis about the difference between democratic and authoritarian states' power and hypothesis on Taiwan and China will be presented. As mentioned in 1.1, there exist two main theories on the executive power in times of crisis: prerogative theory and bounded theory. Both of them consent that the executive power incline to surge during crisis. They do not explicitly state the influence of crisis on the power of legislative and judiciary branch. However, according to prerogative theory, the only limitation on the executive power is the rulers' morality, which suggest that the power of other institutions to constrain the executive power is almost not existent. The bounded executive theory implies that the legislative and judiciary dispatches some of their power to the executive during crisis, even though they put some limitation on the executive emergency power. A certain amount of research also discover that in times of crisis the legislature and courts is subjective to the executive policies or decisions. Based on these literature, this thesis assumes that the executive power in both democratic and authoritarian regimes is prone to expand in times of crisis. Correspondingly, the power in legislative and judiciary branch is inclined to subside when crisis take place.

The bounded executive theory emphasizes that the constitution or legislation is to put necessary limitations on the executive emergency power, including allowing legislature and courts to check the exercise of such power. For example, it is the legislature that has the power to

declare the state of emergency, only in which the additional power could be provided to the executive. The legislature has the power to create the legislative provisions which prescribe what kind of and how much power the executive can obtain in crisis. Moreover, the judiciary has the power to review the implementation of emergency power. The bounded theory seems more applicable to the democratic regime because it directly alleges that in the ordinary times there are checks and balances among executive, legislative and judiciary branches. In contrast, the authoritarian countries often observe weaker checks on the executive than democratic ones and its rulers tend to take the chance of crisis to gain more power. Therefore, this thesis suggests that after the crisis happens the executive power swells less in democratic countries than in authoritarian states. Correspondingly, the legislative and judiciary power diminish more obviously in the latter than former.

Ultimately, the bounded theory clearly points out that the legislature plays the role to determine how long the emergency power can be held, declare the end of state of emergency and state that executive must relinquish the additional power immediately when the crisis comes to an end. Therefore, this thesis conveys that in democratic countries the executive power is supposed to decline and return to the previous position very swiftly when crisis terminates. In authoritarian states, the check and balance system is fragile, so there barely exists a mechanism demanding the ruler to surround emergency power. Thus, the executive power authoritarian regime is expected to maintain the position in the crisis, at least not shifting to other institutions easily and quickly compared to the democratic counterpart. On the other hand, the legislative and judiciary power have less opportunity to increase to the position before crisis.

In summary, based on the prerogative and bounded executive theory, there is a difference on the regime power change between authoritarian and democratic states. Compared to democratic

countries, the authoritarian regime power is inclined to remain unchanged after crisis, even though when crisis broke out their regime powers change present the similar trends.

This research adopts Taiwan and mainland China to examine the power difference between democratic and authoritarian countries in times of crisis. Based on the above analysis, it brings forward two hypotheses.

H1: When crisis breaks out, in China and Taiwan, the executive power ascends and the legislative and judiciary power descends.

H2: When the crisis finishes, the powers of three branches returns to the previous level in Taiwan and they almost remain unchanged in China.

In the authoritarian country, there is little obstacle for ruler to obtain more power to deal with crisis, so I expect that when crisis happens the executive power increase rapidly. In democratic regime, ex ante law mode can let the executive react speedily to the crisis, but the ex post mode need collaboration between the executive and other institutions. Therefore, it is difficult to say whether the power changes quickly or not. Meanwhile, it is uncertain whether the power changes more substantively in authoritarian regime than in democratic one. Under the situation where the authoritarian ruler already has almost absolute power and the democratic executive is granted large emergency power, the power change in the former would be smaller than the latter and vice versa. Therefore, the key of confirming the hypotheses is whether power shifts saliently after the crisis. If the three branches' power in China is observed little significant change and the one in Taiwan witnesses an obvious and swift change, the hypothesis would be validated.

Chapter 2: Research Design

In Chapter two, the thesis first illustrates the method it uses to conduct the research and the conditions of the data on which the research depends. Then it describes the cases of crisis it selects. In the end, the measurement of variables of interest is introduced. In order to test the hypotheses this thesis employs quantitative analysis on the 2023 V-Dem dataset which contains more than 600 indicators for different aspects of democratization and measure them annually. For the crisis cases, it selects the 1998 China Floods, the 1999 Chichi Earthquake in Taiwan, the 2003 Severe Acute Respiratory Syndrome (SARS) epidemic and the 2020 Covid -19 pandemic based on five criteria. The variables of interest in this research are the power of executive, legislative and judiciary branches in Mainland China and Taiwan and are measured by calculating the weighted mean of relevant indicators in the V-Dem dataset.

2.1 Method and Data

To test the two hypotheses, this research will use quantitative method to analyze the data on executive, legislative and judiciary power provided by V-Dem project. At first, considering the fact that the original dataset is massive and contains a large number of indicators, this research cleans the dataset and only selects the indicators relevant to the measurement of executive power, legislative power and judiciary power of Mainland China and Taiwan. Second, it creates the indicators of executive power, legislative power and judiciary power in China and Taiwan by using the following measurement method. Third, it conducts an exploratory data analysis of these variables of interest to present their features. In the next, this research demonstrates the change of power respectively in executive, legislative and judiciary branches from 1995 to 2022, and analyze whether disasters will lead to the power change and whether there is a difference between China and Taiwan. In the final phrase, it conducts regression discontinuity research with

the year when the crisis takes place as the discontinuous point to quantify the average crisis year effect and linear regressions between power change and the time after the disaster to demonstrate the trend of executive, legislative and judiciary power change after crisis and the difference between China and Taiwan.

This research is conducted based on the 2023 V-Dem dataset issued in March 2023, which covers the data from 1789 to 2022 (Varieties of Democracy Project 2023). The V-Dem project is to take advantage of a comprehensive way to measure and analyze the democratization of countries around the world. Its dataset contains over 600 indicators for different aspects of democratization and measure them annually. This project employs a large number of scholars worldwide to conduct the survey and collect the data, who are comprised of 22 project managers, 33 regional managers, more than 100 coordinators and over 3000 experts (V-Dem Project). Therefore, the V-Dem dataset is the largest data project measuring democratization in the world. Because this dataset is highly separated into a variety of components, it is useful to use it to explore the different aspects of the democracy. This research is interested in the power change of executive, legislative and judiciary organizations and adopts the indicators in The Executive, Legislative, Judiciary, Civil Liberty, Civil Society and The Media parts. It focuses on these indicators in China and Taiwan and the time interval of interest is from 1995 to 2022.

2.2 Cases Selection

This section is about the crisis selection. The crisis selection in this thesis has the following criteria. First, the crisis causes a large scale of casualty compared to other crisis in this country's history. Moreover, the crisis is broadly reported by a variety of media for relatively long time in the society. Third, people normal lives are largely affected, and they have to change previous customs to cope with the crisis. All these three standards are to ensure that the disaster has the

broad influence. The next criterion is that the crisis takes place as latest as possible, which is to guarantee that the conclusion of the analysis is more valid in contemporary era. Last but not least, the time and category of crisis selected in China is as similar as possible to those in Taiwan. This is to minimize the confounding factors and ensure that the difference of the power change among the three branches between China and Taiwan is only decided by the different political system. Based on these five criteria, this thesis selects the 1998 China Floods, the 1999 Chichi Earthquake in Taiwan, the 2003 Severe Acute Respiratory Syndrome (SARS) epidemic and the 2020 Covid -19 pandemic, the last two of which attacked both Mainland China and Taiwan.

In 1998, the severe floods strike at the Northern part of China, affecting the areas of Yangtze River, Songhua River, Nen River and Pearl River (中新網, 2013). The regions where the most threatening flood took place were Hubei and Hunan Provinces considering their low-lying localization near two large lakes (Ye and Glantz, 2005, p159–182). The main reason of this unprecedented flooding is the large-scale rainfall which was above the annual average level and lasted for months during the spring and summer season (You 2012). A large number of areas recorded two-times or even three times of the historical average rainfall level (You 2012). It raised the river levels to the dangerous ones and leads to the floods near those rivers. These floods wreaked havoc from June to September and is regarded as one of the most detrimental events in Northern China for four decades (Spignesi 2004, p37). The flooding caused about 4000 people dead (You 2012). About 200 million people were affected and the evacuation was employed in about 100 million square kilometers (You 2012).

On September 21, 1999, a 7.7 M_w earthquake took place in Chi-Chi, Taiwan and caused an enormous destruction (M 7.7 - 21 km S of Puli, Taiwan n.d.). About 2500 people died, 29 was missing and about 11 thousand people were severely injured (內政部消防署全球資訊網專業版). The buildings which were demolished exceeded the number of 51 thousand and those critically damaged reached to about 53 thousand, which is equivalent to the loss of about 10 billion US dollars (內政部消防署全球資訊網專業版). Due to the destruction of the power plants, the electrical power was broken off for most areas of Taiwan. About one hundred bridges were destructed and nine hundred schools were crushed. The influence of the earthquake on the economy was also disastrous (內政部消防署全球資訊網專業版). A lot of factories were shut down and the estimated damage on the economy is near 10% of the gross domestic product of Taiwan in 1999 (Taipei Times 1999 p1). The Chi-Chi earthquake is considered as Taiwan's secondly most fatal earthquake in history only after Shinchiku Taichu earthquake in 1935 (Taipei Times 1999 p1). The Chi-Chi earthquake delivered a huge stroke to Taiwan and its people and caught the broad attention of the world which sent more than 7 hundred rescue workers from over 20 countries to Taiwan (Chang 1999).

The Severe Acute Respiratory Syndrome (SARS) epidemic took place in the world from 2002 to 2004. The first patient was discovered in Guangdong province of China in November 2002 and broke out at the early of 2003 (A Chronicle on the SARS Epidemic 2003). In January, the Ministry of Heath of PRC sent medical experts to investigate the pandemics. On February 11, Chinese government discovered over 300 cases and reported this pandemic to the WHO (非典防治工作综述). In March, China established the central leading group and ten provincial expert groups to deal with the fast spread of the epidemic (非典防治工作综述). From the beginning of

April, the SARS spread to most of provinces in China, in which Beijing, Tianjin, Shanxi, Inner Mongolia and Hebei reported the most cases (非典防治工作综述). China imposed a variety of policy to control the pandemic, such as lockdown and mask policy. Since June, the pandemic started to get under control in the mainland and government announced the end of SARS (非典防治工作综述). In mainland, the SARS resulted in the infection of over 5000 people and the death of over 340 (非典防治工作综述). Taiwan discovered the first SARS patient traveling from mainland on March 10, 2003 (SARS). In April, there was a breakout of cases in Taipei Municipal Hoping hospital (SARS). The WHO stated that Taiwan was in the travel advisory list in May and in July removed it from the list of regions where SARS was transmitted (SARS). Like the mainland, Taiwan government took a series of efforts to control this epidemic, such as quarantine, community surveillance and travel limitation (SARS). During the SARS epidemic in 2003, there were about 350 positive cases reported and 73 people died in Taiwan (Summary of probable SARS cases with onset of illness).

The Covid-19 pandemic case was first found in Wuhan, China at the end of 2019 and the central government started to take action to deal with the pandemic in January next year (In Depth). When pandemic broke out in Hubei in the early stage of Covid, Hubei suspended the application of entering and existing from the mainland and locked down Wuhan on January 23 (“Painful lesson” 2020). At the end of this month, the Covid-19 virus was spread to all Chinese provinces (《抗击新冠肺炎疫情的中国行动》白皮书-国家国际发展合作署). The Chinese government adopted the zero-Covid policy in order to restrict the transmission of the pandemic (Ramzy 2022). The business which is not essential to people’s lives were closed. High risk regions were locked down and its residents were ordered to stay at home. People’s movement was restricted and entering public spaces demanded the negative Covid proof. The international

traveling was limited and those coming to mainland must receive quarantine. Routine Covid testing and public screening was imposed on the high-risk cities and provinces. This zero-Covid policy lasted until the end of 2022 (Griffiths 2022). From January 2020 to the end of 2022, there were over 95 million people infected with Covid-19 and more than 80 thousand people died in Mainland (China). Taiwan discovered the first Covid case in January 2020 (衛生福利部 2020). After the discovery, Taiwan government implemented various methods to control its transmission. It suspended the travel to and from mainland at the beginning of the pandemic. The international travelers to Taiwan were quarantined for two weeks. Travel notice and border control were announced. The face mask policy was imposed when the confirmed cases increased. From the start of the pandemic to the end of 2022, more than 8 million people were tested positive and about 15 thousand died (最新台灣疫情關鍵報告 2021).

2.3 Measurement of Variables of Interest

In this thesis, the variables of interest are the power of the executive, legislative and judiciary branches. This research uses the various V-Dem indicators to measure them, and the measurement method is the following.

Executive Power:

Executive power = $\frac{1}{4}$ *General Indicators + $\frac{1}{4}$ *Civil liberty + $\frac{1}{4}$ *Civil Society + $\frac{1}{4}$ *Media

General Indicators = $\frac{1}{9}$ *(constitution respecting + chief executive appointment + implicit approval in appointment + executive corruption + executive embezzlement + $\frac{1}{2}$ *public sector corruption + $\frac{1}{2}$ *public sector embezzlement + $\frac{1}{2}$ *Policy justification + Respect counterarguments + Consultation + $\frac{1}{2}$ *Engaged society)

Civil liberty = $\frac{1}{8}$ *(Freedom from torture + Freedom from political killings + public administration + $\frac{1}{2}$ *Male justice access + $\frac{1}{2}$ *Female justice access + $\frac{1}{2}$ *Male discussion

freedom + 1/2*Female discussion freedom + Academic and cultural freedom + foreign movement + 1/2*Male domestic movement + 1/2*Female domestic movement)

Civil Society = 1/3*(CSOs Control + CSOs repress + 1/2*CSOs consultation + 1/2*CSO participatory environment)

Media = 1/5*(media censorship + internet censorship + Print/broadcast media critical + Journalist harassment + Media self-censorship)

For executive power measurement, the general indicators are those directly suggesting the power of the executive branch. Civil liberty, civil society and media are also considered because they are regulated by the executive, so they are able to reflect the power change of the executive. There is no obvious difference between these four indicators, so they are treated equally. For each of the four indicators, I calculate the weighted mean because each part has different number of variables. Just calculating the sum may allow the indicator having more variables to have more weight. For not so important variables, they are given a half weight. Specifically, public sector corruption and embezzlement describe the executive employees' behavior not the leaders'. Policy justification and engaged society have relatively weak connection to the power of the government compared to other variables. For gender related variable, male and female are given a half weight each. In terms of CSOs consultation, the executive may not consult CSOs no matter whether it has large or small power. For participation, people don't participate in CSOs, maybe because they have no interest but not because of government repression, so CSO participatory environment is given a half weight.

Legislative Power:

Legislative power = 1/3*Questioning executive officials + 1/3*Executive oversight + 1/3*Resources control

For the measurement of legislative power, the logic is the same as the aggravation of the executive power.

Judiciary Power:

Judiciary power = $\frac{2}{7} * (\text{High court independence} + \text{Low court independence} + \text{Compliance with high court} + \frac{1}{2} * \text{Compliance with judiciary})$

For the judiciary power measurement, the logic is the same as the aggravation of the executive power. The compliance with judiciary means government complies with the decision of non-high court. It is less important than complying with the judges of the high court because even the judiciary with large power may not see government conform to all other judges.

Chapter 3: Result and Discussion

In this chapter, the thesis presents the results of quantitative analysis and related discussion. The exploratory data analysis demonstrates that the executive branch in China has more power than its counterpart in Taiwan, but both Chinese legislative and judiciary branch possess less power than the ones in Taiwan. Moreover, the average difference of legislative and judiciary power between mainland and Taiwan is larger than the executive power difference. Finally, China and Taiwan have the similar variance in terms of executive and legislative power, but China has more saliently large variance on judiciary power than Taiwan does.

The visualization of the power change of three branches across time suggests that in the 1998 China Floods, the 1999 Taiwan Earthquake and the 2003 SARS the three branches' power change disconfirm the two hypotheses. In addition, in 2020 Covid-19 Pandemic, the hypothesis is confirmed on executive and judiciary power but not on the legislative one.

The discontinuity design and linear regressions after the crisis come to the conclusion that three branches' power change in Taiwan 2003 SARS and Taiwan and mainland's power change in 2020 Covid-19 confirm the first hypothesis, but the average effect is extremely weak. Furthermore, after the 2020 Covid pandemic, China's three branches power change confirms hypothesis two. Ultimately, the power change trend during and after other crises in mainland and Taiwan disconfirms the hypotheses.


3.1 Exploratory Data Analysis

In this section, the data description on the variables of interests are conducted to demonstrate their features. In V-Dem dataset, the authors converted the original value of each index of interest which is ordinal into the interval ones by using their measurement model. For each

indicator of executive power this thesis measures, namely general executive power (gep), civil liberty (cl), civil society (cs), and media, the larger the value is the less power the executive branch has. Therefore, the aggravated indicator, executive power (ep), also has the opposite meaning between value and power. However, for the indexes of legislative and judiciary power, the larger the value is the more power the legislative and judiciary branches have. The Table 1 shows the means, standard deviation and quartiles of each variable of interest. The distribution of each variable of interest is presented from figure 1 to 7.

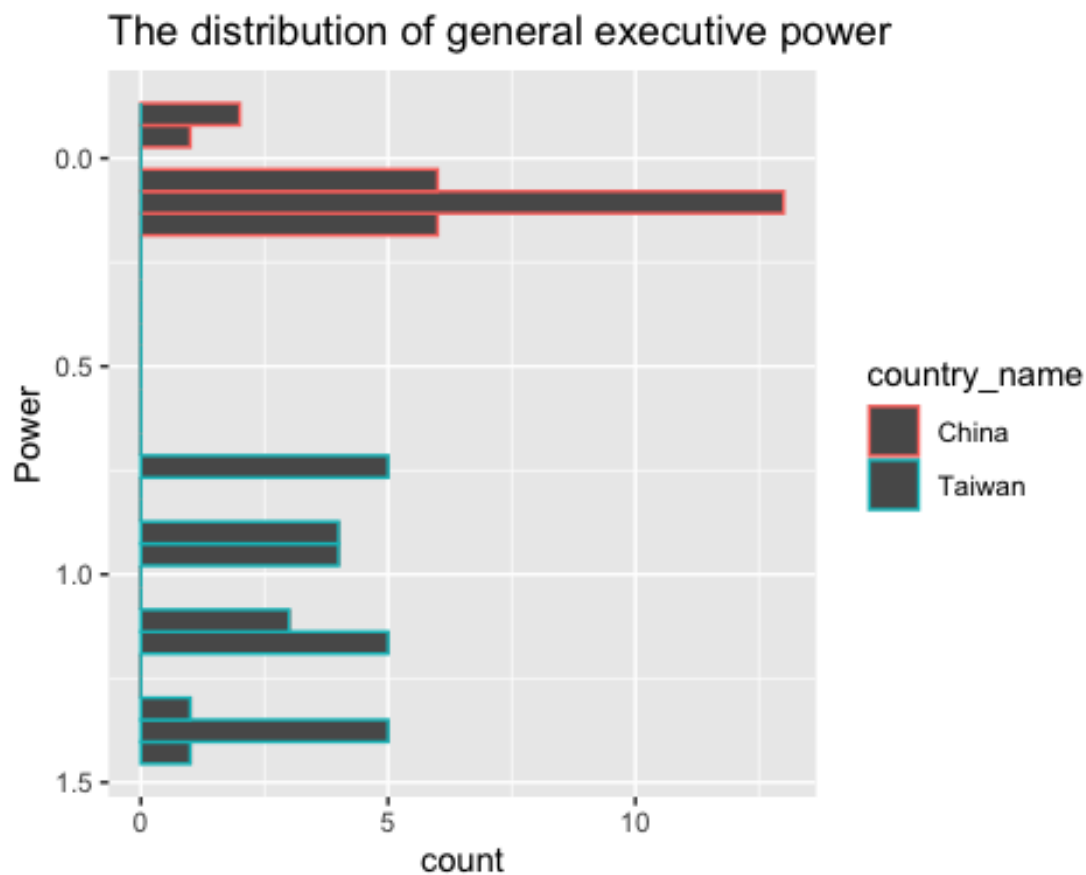
Table 1 Variables Description

variable	country	missing	Complete rate	mean	sd	p0	p25	p50	p75	p100	hist
gep	China	0	1	0.09	0.07	- 0.12	0.07	0.11	0.12	0.17	
gep	Taiwan	0	1	1.08	0.22	0.75	0.91	1.13	1.20	1.42	
cl	China	0	1	-0.59	0.19	- 1.07	- 0.70	- 0.52	- 0.44	-0.35	
cl	Taiwan	0	1	2.17	0.33	1.46	2.27	2.30	2.32	2.46	
cs	China	0	1	-0.97	0.31	- 1.75	- 1.17	- 0.98	- 0.65	-0.61	
cs	Taiwan	0	1	1.98	0.28	1.18	1.90	2.02	2.17	2.40	
media	China	0	1	-1.29	0.51	- 2.16	- 1.65	- 1.21	- 0.86	-0.67	
media	Taiwan	0	1	1.57	0.34	0.78	1.21	1.73	1.78	1.94	
ep	China	0	1	-0.69	0.24	- 1.25	- 0.82	- 0.55	- 0.55	-0.44	
ep	Taiwan	0	1	1.70	0.26	1.04	1.70	1.79	1.87	1.93	
lp	China	0	1	-1.43	0.20	- 1.67	- 1.67	- 1.36	- 1.28	-1.01	
lp	Taiwan	0	1	1.56	0.21	1.12	1.59	1.61	1.66	1.80	
jp	China	0	1	-1.54	0.57	- 2.41	- 1.85	- 1.82	- 0.83	-0.80	

variable	country	missing	Complete rate	mean	sd	p0	p25	p50	p75	p100	hist
jp	Taiwan	0	1	1.17	0.47	0.26	1.01	1.46	1.46	1.57	

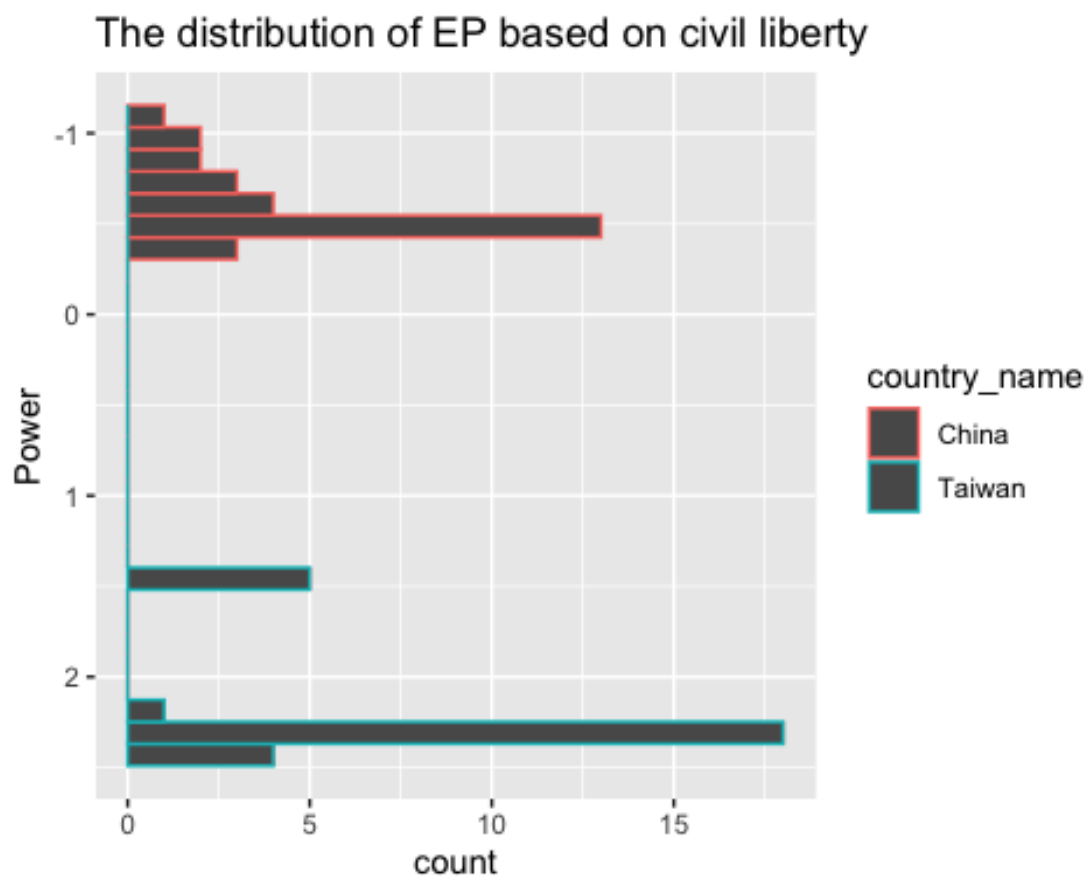
For the general executive power, the mean shows that mainland China's executive branch has more power than Taiwan's counterpart on average. The standard deviation reflects that China's executive power has less variance than Taiwan's from 1995 to 2022. The distribution demonstrates that China's values is left skewed and mostly centers on 0.12. The value of Taiwan is distribution more evenly.

Figure 1 The distribution of general executive power



For civil liberty, China has less liberty than Taiwan and the average difference between China and Taiwan is large than the general executive power. China has more executive power reflected by the civil liberty than the one reflected by gep and Taiwan has less. The standard deviation shows that China is less variant than Taiwan, but the distribution suggests that Taiwan's civil liberty has less variance and witnesses most value near 2.25 from 1995 to 2022. The civil liberty in China has a left skewed distribution and most values center on -0.5.

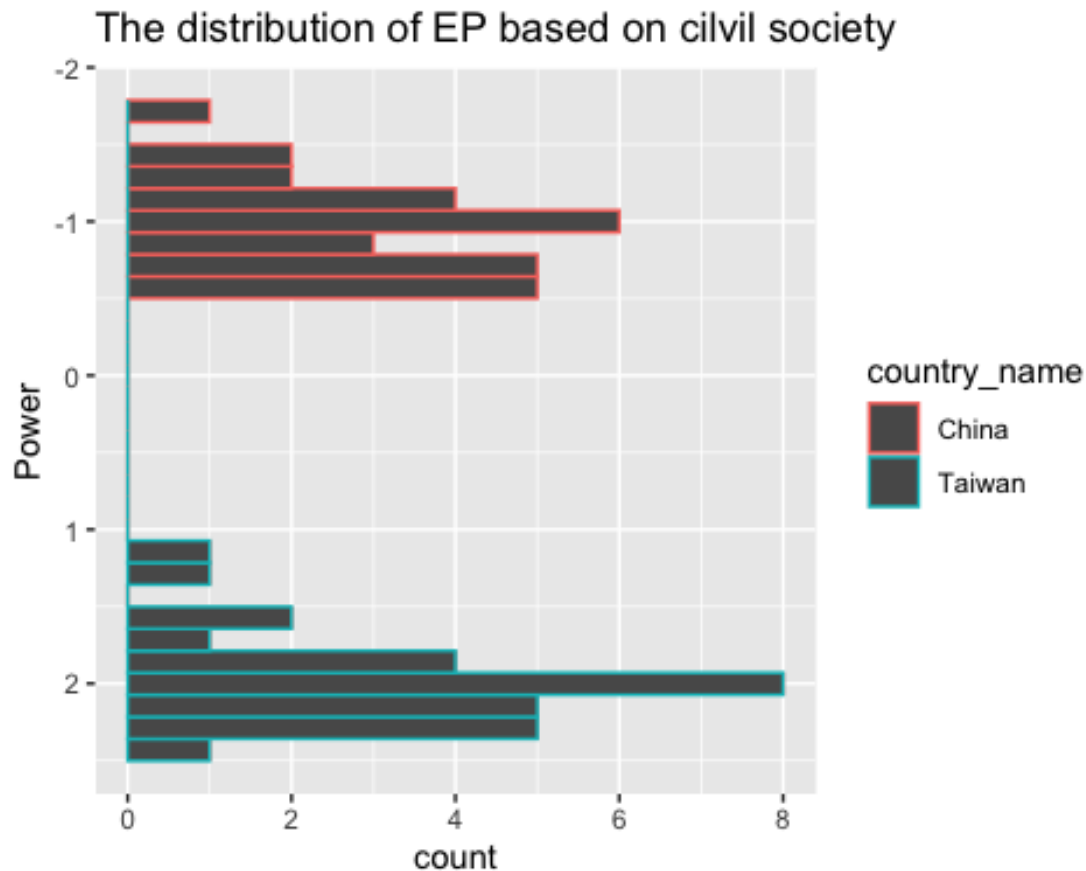
Figure 2 The distribution of executive power based on civil liberty



For civil society, Taiwan is freer than mainland on average and the difference of executive power reflected by civil society between the two is smaller than the one reflected by civil liberty. The civil society has more variance in China than in Taiwan across years. Most of China's score

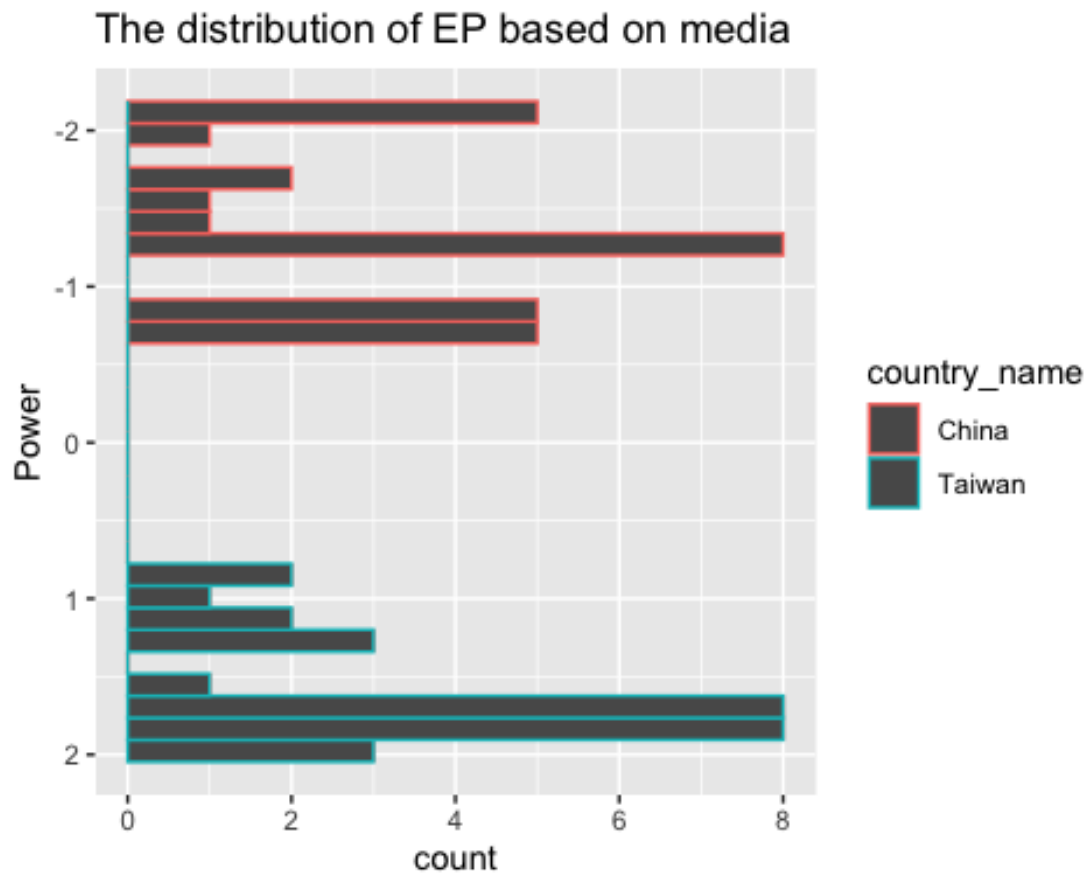
centers on -1 and Taiwan is on 2. The distribution of civil society in both areas is left skewed. For the media, China has more strict control on it than Taiwan on average.

Figure 3 The distribution of executive power based on civil society



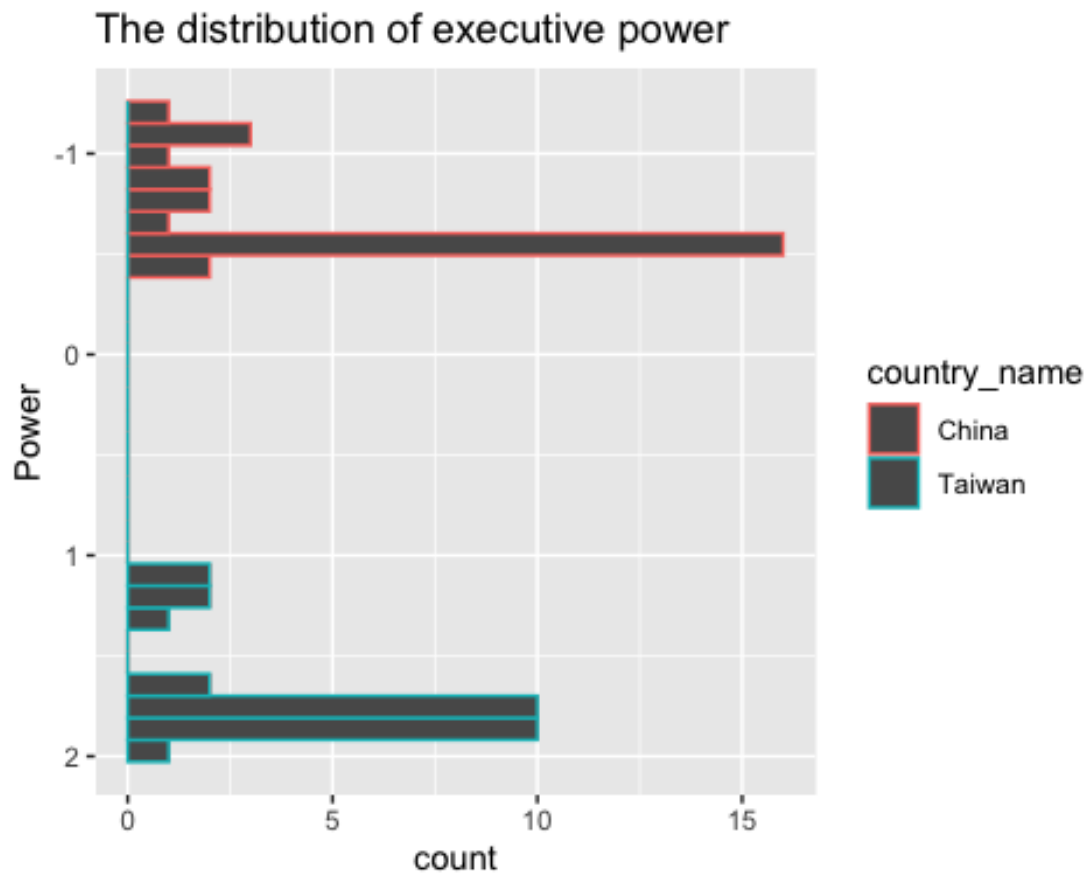
The executive power implied by the media in China and Taiwan has smaller difference than those implied by civil liberty and civil society. The media score in China varies more broadly than the one in Taiwan. In China, most media score centers on -1.75 and Taiwan's is on 1.75. Taiwan's media distribution is left-skewed and there is no clear pattern in mainland.

Figure 4 The distribution of executive power based on media



By considering all these variables, the executive branch in China has more power than the counterpart in Taiwan with the different of approximate 2 score on average. The variance of executive power between China and Taiwan is similar from 1995 to 2022. China has more years in which the executive power shows the similar score, near -0.6, than Taiwan, which is close to 1.18. Both distributions are quasi-left-skewed.

Figure 5 The distribution of executive power



For legislative power, Taiwan's legislative branch has more power than the one in mainland with the difference of approximate 3 score on average. China's variance of legislative power is almost same as Taiwan. The distribution of China's score is left-skewed and the one of Taiwan is right-skewed. For the judiciary power, similar to legislative one, the judiciary branch in Taiwan possesses more power than China with the difference of approximate 2.7 score on average. China's judiciary power has more variance than Taiwan, indicating less stability. The score distributions in both China and Taiwan are close to right-skewed.

Figure 6 The distribution of legislative power

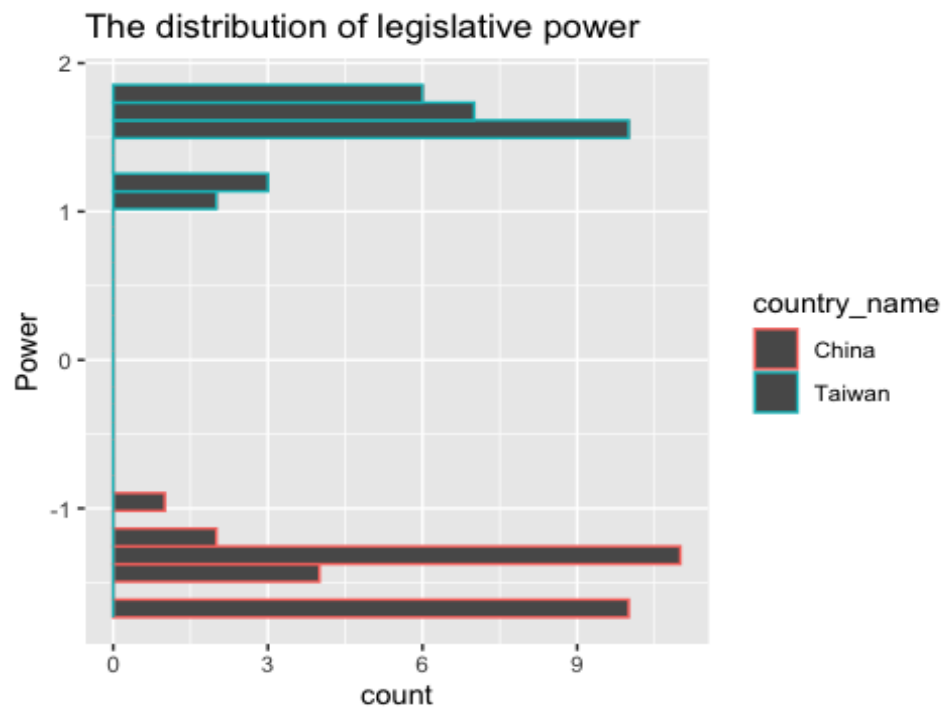
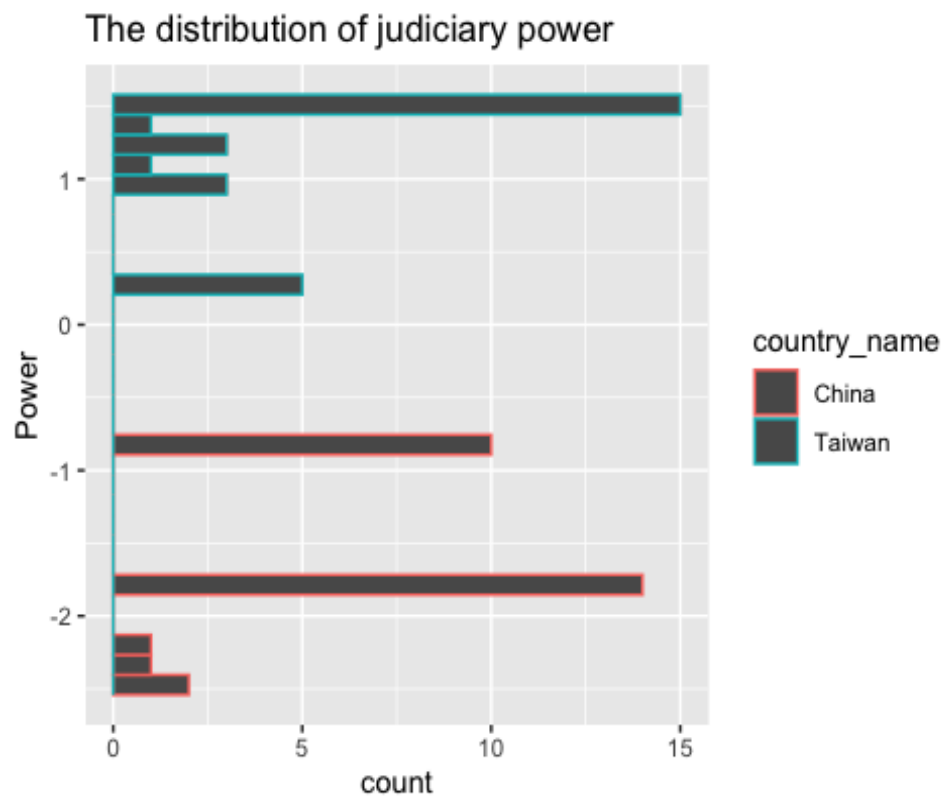


Figure 7 The distribution of judiciary power

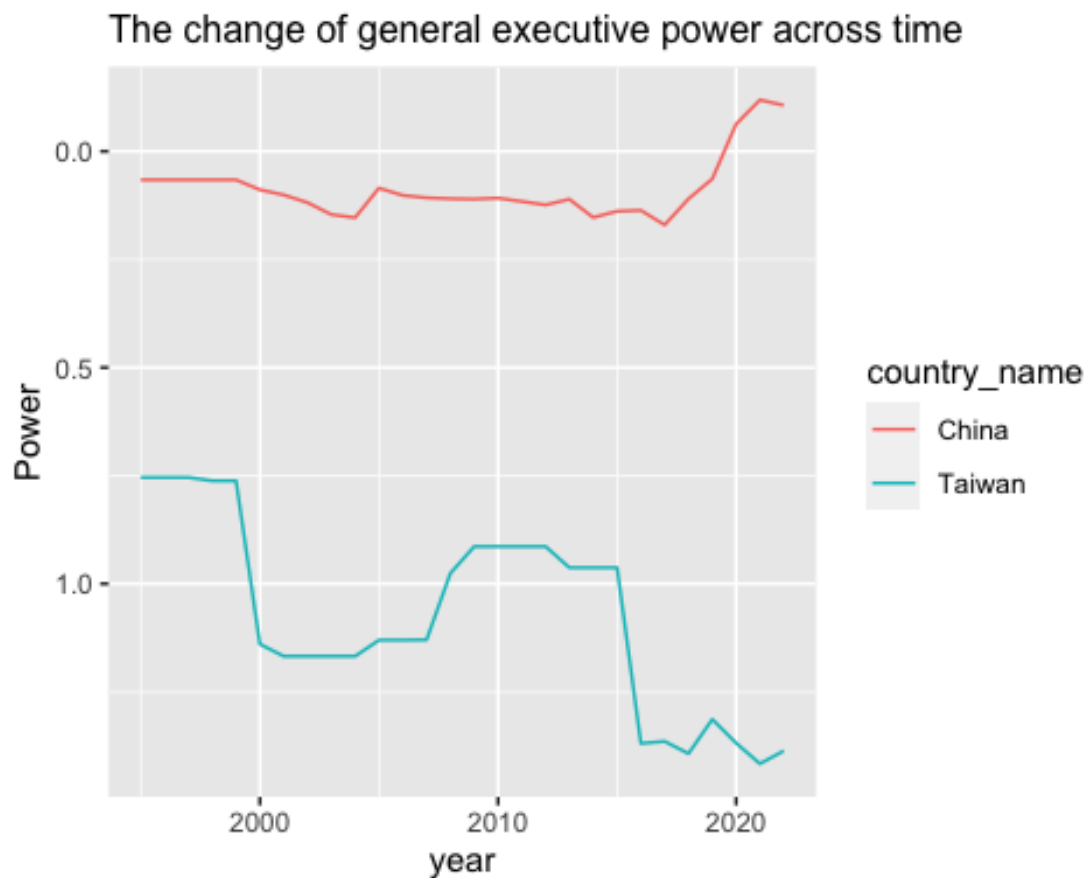


In summary, the executive branch in China has more power than its counterpart in Taiwan, but both Chinese legislative and judiciary branch possess less power than the ones in Taiwan. All indicators of the executive power in China suggest that China executive power is larger. China and Taiwan have more different in civil liberty and civil society than in other areas, and China's media control experiences more variance than Taiwan. The average difference of legislative and judiciary power between mainland and Taiwan is larger than the executive power difference. China and Taiwan have the similar variance in terms of executive and legislative power, but China has more saliently large variance on judiciary power than Taiwan does. The result conforms to the situation that authoritarian regime's power is more concentrated on the hand of executive branch than democracy.

3.2 Power Change between China and Taiwan Across Time

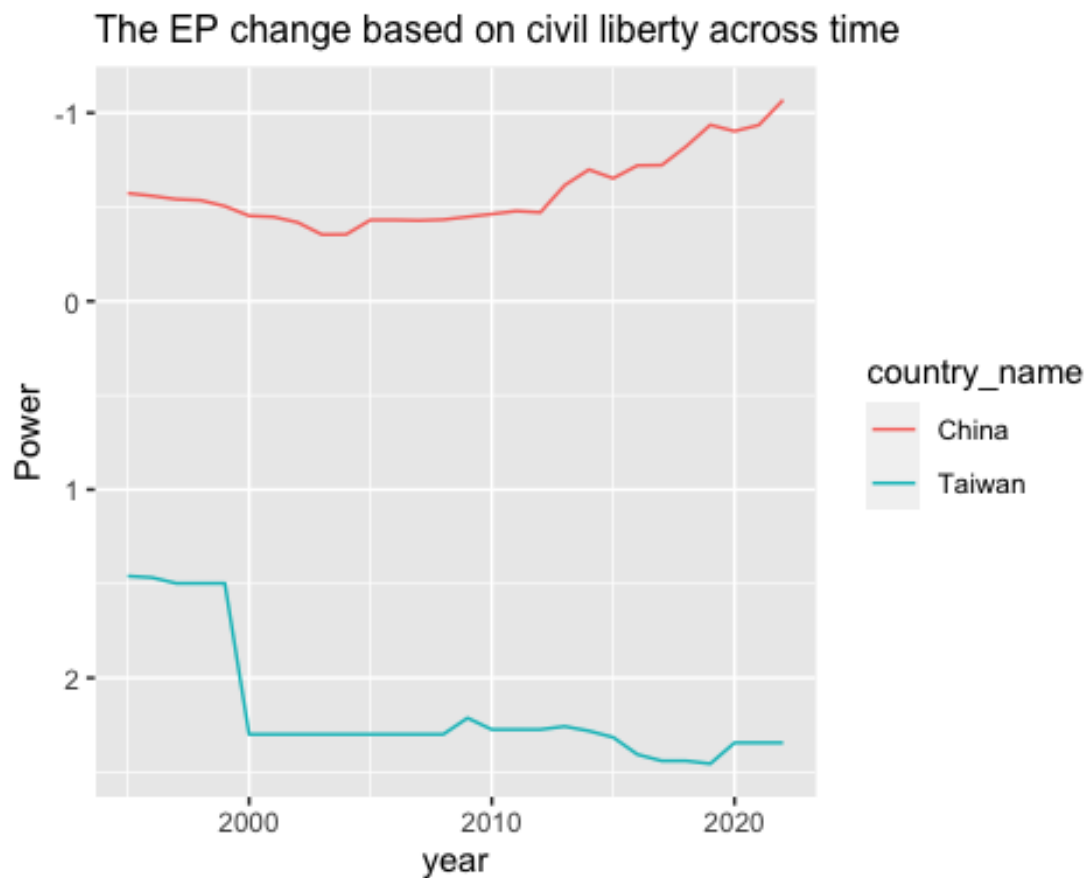
After the exploratory data analysis, the power change of executive, legislative and judiciary branches are compared from 1995 to 2022. The results are demonstrated from figure 8 to table 14. Like the exploratory data analysis, the larger the value of power is for executive branch and its component indicators, the less power the executive branch has. And for legislative and judiciary branch, the power value is positively related to the real power these two organizations have.

Figure 8 The change of general executive power across time



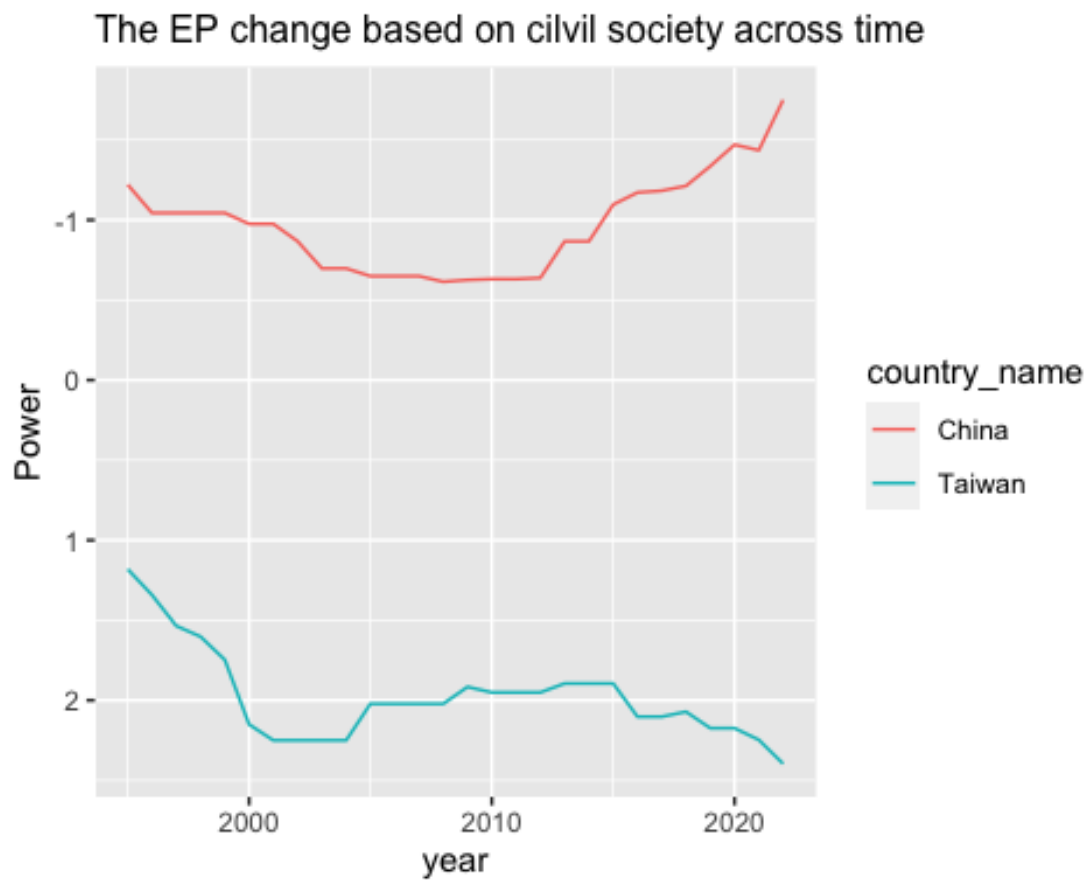
Based on the general indicators, China's executive power increase in general from 1995 to 2022 and Taiwan presents the declining trend. Specifically, China's executive power decreases from 1999 to 2004 and rises to the previous level in 2005. From 2005 to 2017 it is slowly reducing and since 2017 the executive power increases saliently. In Taiwan, the executive power reduces significantly in 1999. In 2007, the value increases distinctly and remain basically unchanged until 2015. Since then, it starts to reduce.

Figure 9 The EP change based on civil liberty across time



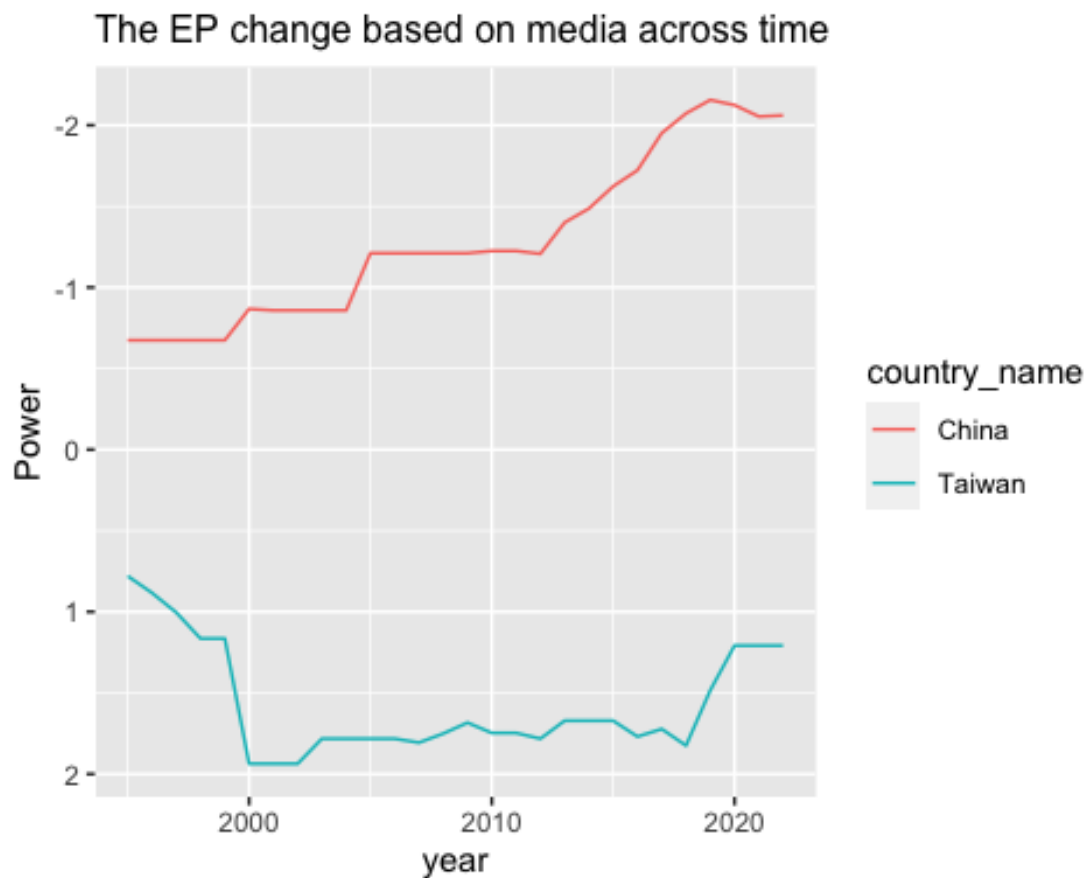
When taking civil liberty as the indicator, China's executive power has the general rising trend and Taiwan demonstrate the dropping trend. In China, the executive power declines less saliently than the one reflected by general indicators from 1999 to 2004 and the power increases extremely since 2012, which means the civil liberty decreases correspondingly. Taiwan's executive power demonstrates the same reduction in 1999 as the one based on general indicators and remain flat until 2015. Afterward, it slightly declines, but in 2020 the power increases again.

Figure 10 The executive power change based on civil society across time



In terms of civil society as an indicator, China's power presents a rising trend and Taiwan is opposite to China over time in general. In China, government's control on civil society is relieved slowly from 1995 to 2008 and then remains unchanged. From 2012 to 2022, the control enhances extremely. In Taiwan, the civil society control declines saliently from 1995 to 2000 and since then almost remain flat.

Figure 11 The executive power change based on media across time

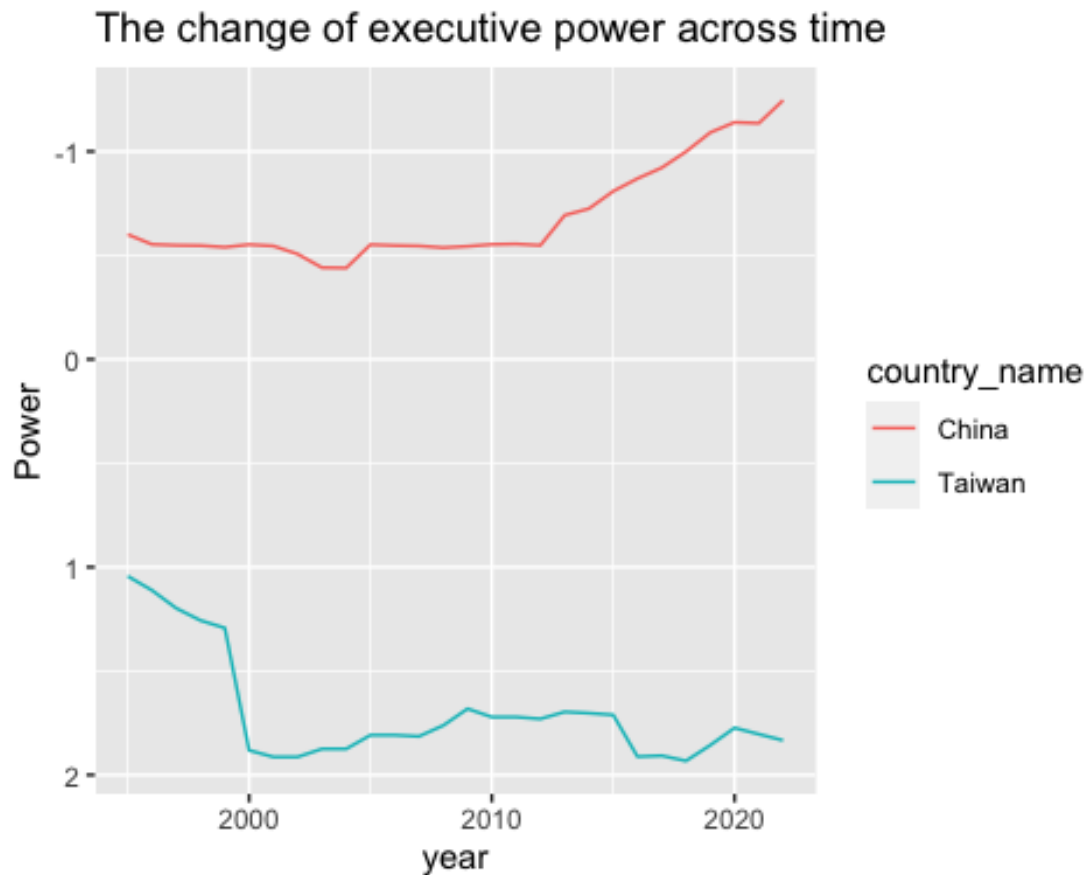


For media as an indicator, China's executive power demonstrates a trend of increasing, which is more extremely than the trend suggested by the general, civil liberty and civil society indicators, and Taiwan's power has a trend of decrease in general. In China, the government's control on media builds up marginally in 1999 and 2004. From 2012 to 2019, the control increases distinctly, but unlike the previous indicator, the media shows that the executive power drops slightly from 2019. In Taiwan, the media control extremely diminishes before 2000 and increases after 2018. Between the interval, the control basically remains unchanged. In short, all these indicators show that China's executive power rises and Taiwan's reduces over time.

However, only general indicators presents that the executive power in Taiwan escalates from 2007 and decrease rapidly from 2015. The media indicates the largest executive power rise

among the indicators and only it shows that Taiwan's executive power ascends saliently after 2018.

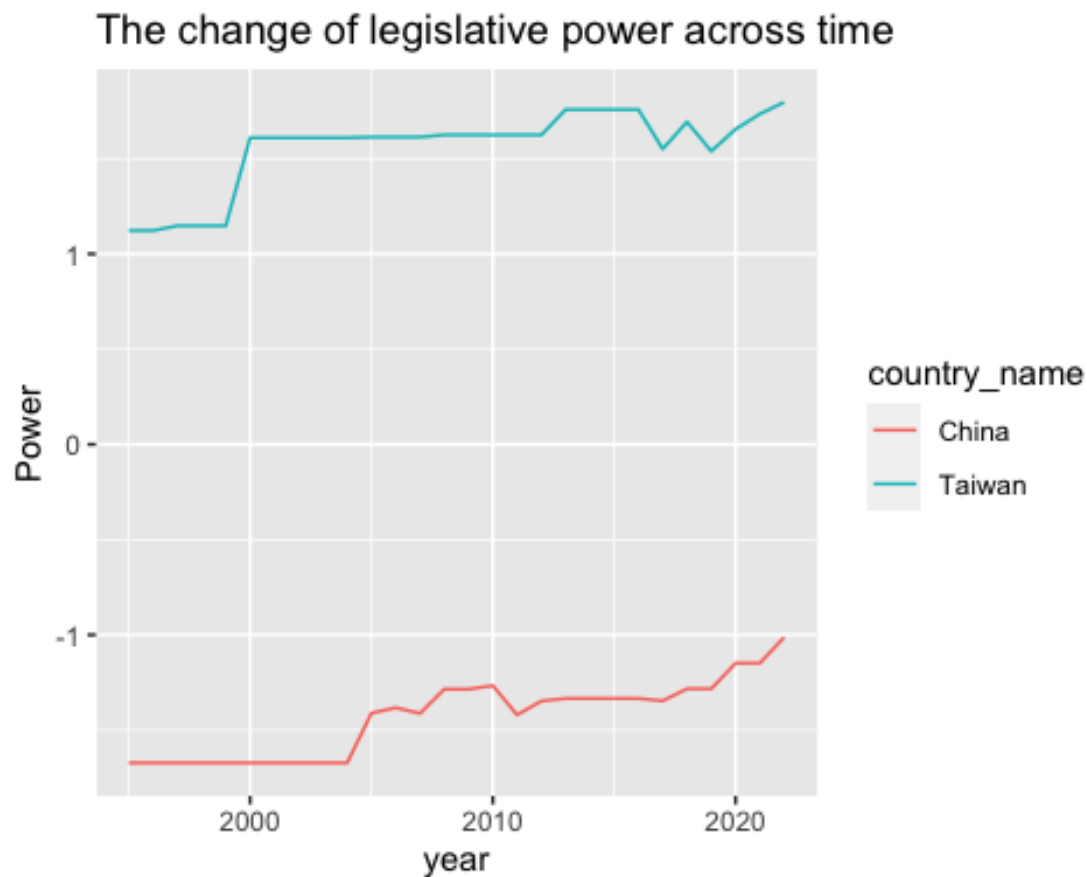
Figure 12 The change of executive power across time



Through considering all executive indicators based on the measurement method, the thesis provides the executive power change from 1995 to 2008. The result presents that China's executive power increases and Taiwan's declines during this time. In specific, China's power decreases to a slight extent from 2001 to 2004 and increases a lot since 2012. In Taiwan, the executive power reduces substantially between 1999 to 2000 and slightly rises from 2007 to 2009 as well as from 2018 to 2020. Additionally, its power drops a little between 2015 to 2016. In 1998 China Floods, there seems no salient power change before and after it. In 1999 Chi-Chi

earthquake, Taiwan's executive power reduces slightly and in the next year the power decrease is substantive. In 2003 SARS, China's power decreases a little and rise after 2004. Taiwan's power increases a little in 2003 and does not decrease after it. For Covid-19 pandemic, China executive power shows a salient increase from 2020 to 2022. However, Taiwan's executive power increases in 2020 and returns to the 2019 level in 2022.

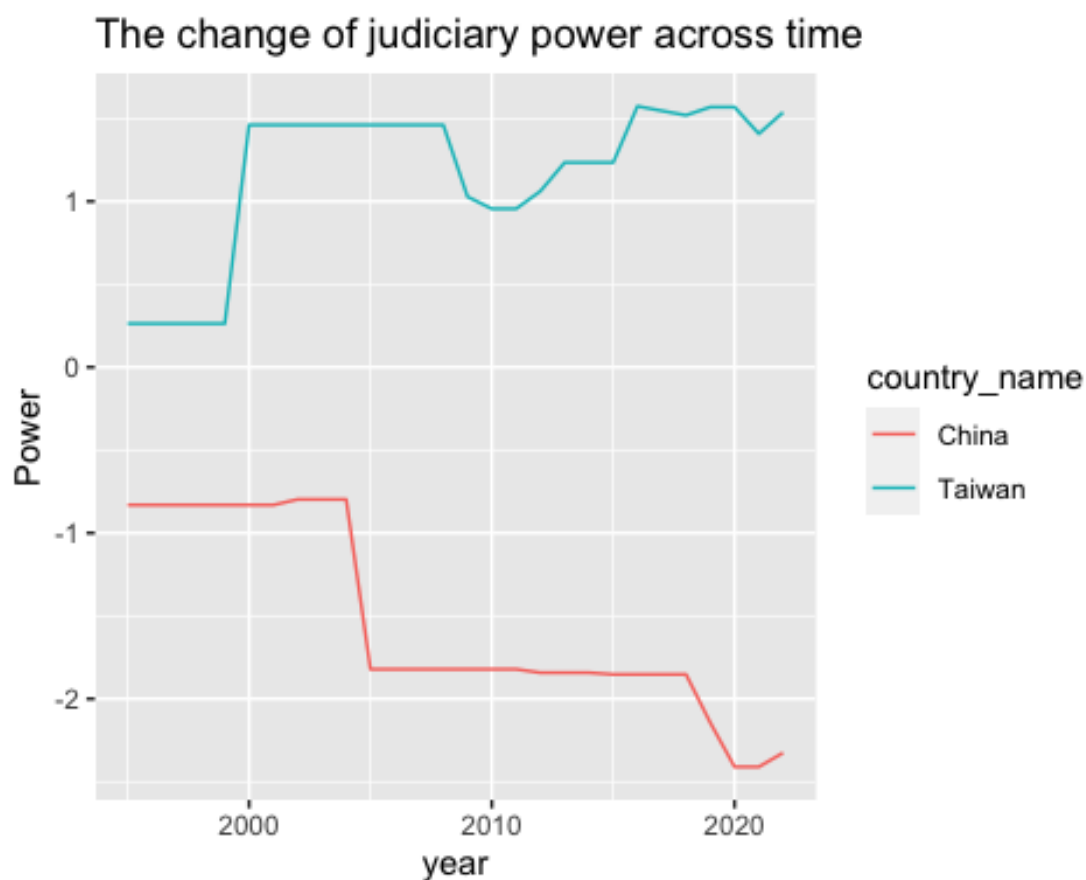
Figure 13 The change of legislative power across time



For the legislative power, Taiwan's legislative organization has more power than the mainland and both Taiwan and China demonstrate a trend of a slight increase from 1995 to 2022 in general. Before 2005, China's legislative power remains unchanged and since then it rises. From 2010 to 2011, there is a small decline and from 2019 the legislative power increases more

distinctly. In Taiwan, it builds up rapidly from 1999 to 2000 and from 2000 to 2012 the power demonstrates little change. Since then, there is several up and down of the legislative power but it basically remains the same level. From 2020, it starts to increase and there is no sign of reduction before 2023. For the crisis cases, China's legislative power demonstrates little change before and after 1998 floods as well as before and after SARS. After the Covid-19 broke out, the power presents a sign of an increase. In 1999, Taiwan's legislative power remains unchanged compared to 1998, but it rises tremendously in 2000. Like the mainland, there is no salient power change before and after SARS and after Covid its legislative power keeps rising.

Figure 14 The change of judiciary power across time



For the judiciary power, China demonstrates a declining trend and Taiwan presents an increasing one over time in general. Moreover, Mainland and Taiwan's judiciary power has larger changing latitude than their executive and legislative power. China's power changes little before 2004 and in the next year it reduces extremely. Then from 2006 to 2018, it remains flat, and it declines a lot in 2019 and 2020, after which the increase takes place. Taiwan's power advances substantially in 2000 and remains little change. It shows a distinct reduction again from 2008 to 2010 and keeps increasing until 2016. Since then, it demonstrates slight change. To consider the crisis year, the judiciary power in mainland presents little change before and after 1998 floods. In Taiwan, the power is at the almost same level when earthquake happens compared to 1998, but it escalates in 2000. Before and after SARS, there is no salient power change in mainland and Taiwan. When Covid-19 broke out, China's judiciary power decreases in 2020 and then increases a little in the next two years but it still does not return to the 2019's level. Taiwan's power demonstrates a reduction in 2021 when Covid cases there recorded a historical high level and returns to the previous level in the next year.

In conclusion, the executive branch has more power in China than in Taiwan and the other two branches shows the opposite. In 1998 China floods and 1999 Chi-Chi earthquake, mainland executive power changes little and Taiwan's drop slightly and decreases greatly after it. The legislative power in mainland keeps little change and the one in Taiwan also presents the same trend in 1999 but it increases in the next year. The judiciary power in China and Taiwan has the similar change as the legislative one. The result seems to disconfirm the thesis's two hypothesis. When SARS takes place, the executive in mainland decreases slightly and increases again two years later, and the one in Taiwan enhances a little and does not show the trend of returning. For legislative power, China presents little change and an increasing in 2005 and Taiwan provide no

silent change. The judiciary power in mainland has little change and only decreases in 2005, and Taiwan has the same trend as the legislative power. This result also seems to disconfirm the hypotheses. When the Covid-19 pandemic breaks out, the executive power in China increases and does not return to the previous level. It moves up again in 2022 when the pandemics deteriorates. The one in Taiwan also increases and gradually returns to the previous level in 2022. The legislative power in China demonstrates the similar trend as the executive one and Taiwan's legislative power rises and shows no sign of returning. The judiciary power in China diminishes and increase slightly afterward and the one in Taiwan decreases in 2021 and restores to the previous level next year. This result seems confirming the hypothesis on executive and judiciary power but not on the legislative one. These conclusions are just the rough drawn based on the plot tables. The liner regression and discontinuity research will lead to more precise conclusions.

3.3 The Linear Regression and Discontinuity Result

In order to acquire more precise result on the crisis effect, this thesis conducts regression discontinuity research. The discontinuous point is the year when these crises happen in mainland and Taiwan. This research is intended to get rid of the possibility that other events before and after the crisis year result in the power change. After conducting the linear regressions between three branches' power and year before and after the crisis, it predicts the power in the crisis year and calculate the average effect of crisis year with 95% confidence intervals. The results are the following.

Table 2 Average crisis year effect in China's three branches

Average crisis year effect	lower range	upper range	year	organization
0.1861186	0.1500333	0.2222039	1998	ep

Average crisis year effect	lower range	upper range	year	organization
0.1382945	0.0996688	0.1769202	2003	ep
-0.2228320	-0.6654316	0.2197677	2020	ep
-0.0113026	-0.0823320	0.0597269	1998	lp
0.1426905	0.0571584	0.2282226	2003	lp
0.0261026	-0.5517027	0.6039079	2020	lp
-0.0080963	-0.2183161	0.2021236	1998	jp
-0.5167952	-0.7424395	-0.2911510	2003	jp
-0.1572869	-0.3558962	0.0413223	2020	jp
0.1861186	0.1500333	0.2222039	1998	ep
0.1382945	0.0996688	0.1769202	2003	ep
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Average crisis year effect	lower range	upper range	year	organization
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-0.0080963	-0.2183161	0.2021236	1998	jp
-0.5167952	-0.7424395	-0.2911510	2003	jp
-0.1572869	-0.3558962	0.0413223	2020	jp

Figure 15 Average crisis year effect in China's three branches

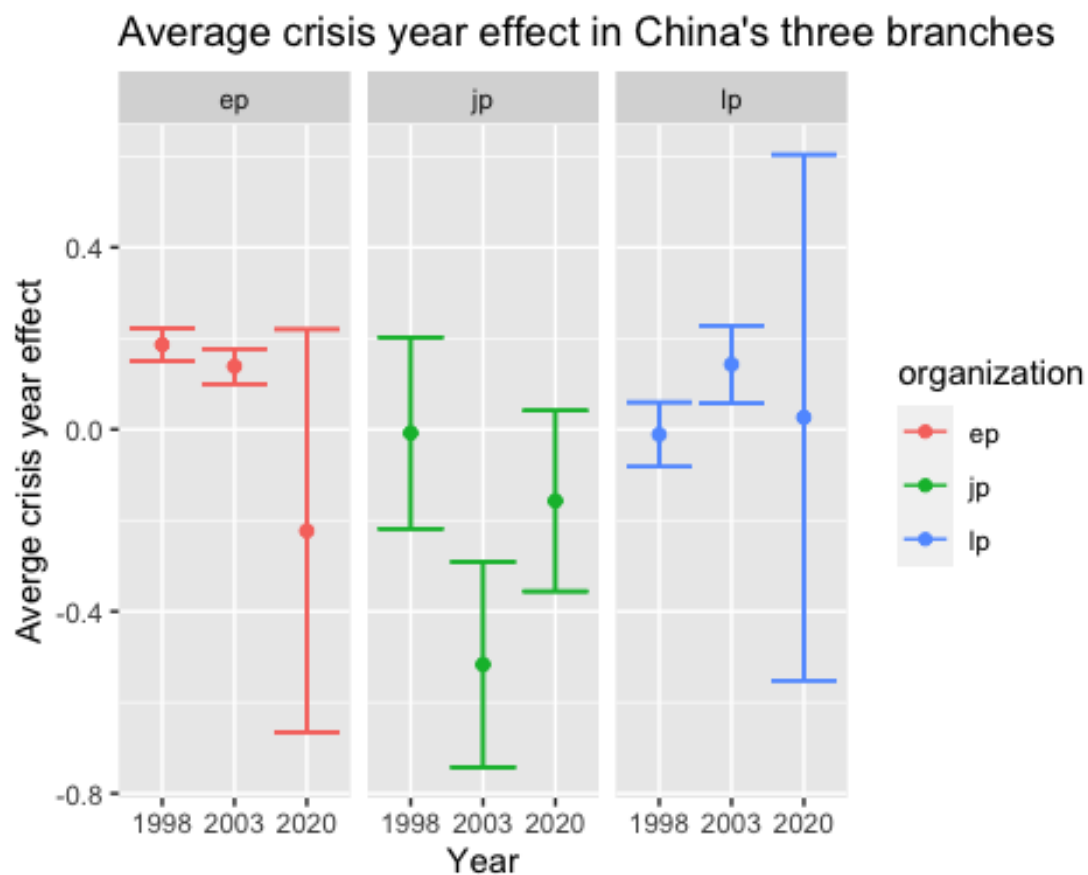
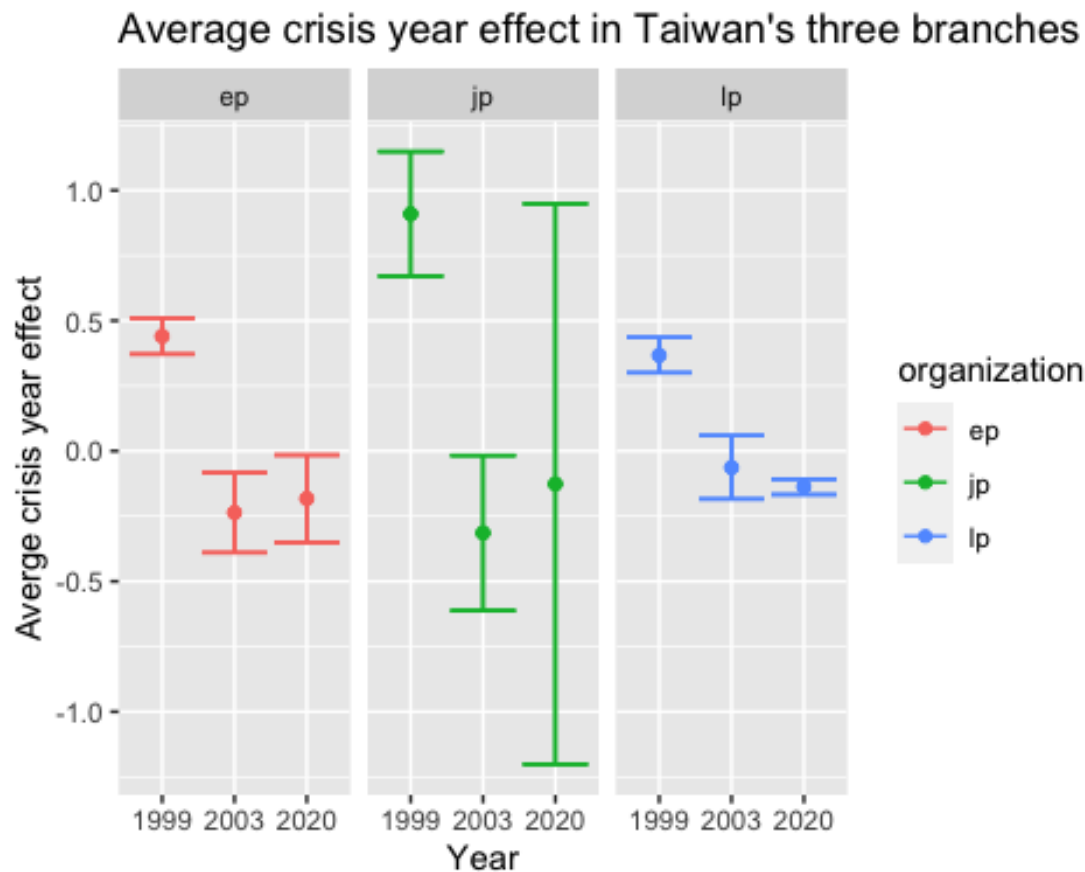


Table 3 Average crisis year effect in Taiwan's three branches

Average crisis year effect	lower range	upper range	year	organization
0.4405774	0.3712234	0.5099314	1999	ep
-0.2368082	-0.0832876	-0.3903288	2003	ep
-0.1830634	-0.0153247	-0.3508022	2020	ep
0.3677156	0.2997649	0.4356662	1999	lp
-0.0626974	0.0590878	-0.1844825	2003	lp
-0.1373519	-0.1074887	-0.1672150	2020	lp
0.9099881	0.6710596	1.1489166	1999	jp
-0.3144512	-0.0166994	-0.6122031	2003	jp
-0.1266056	-1.2016601	0.9484489	2020	jp
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Figure 16 Average crisis year effect in Taiwan's three branches



For the executive branch, the larger the predicted power value is the less power the executive branch has. In other words, if the value of average crisis year effect is positive, the executive power decreases. In 1998, China's crisis year effect on executive power is 0.1861186, meaning in this year the executive power decreases by 0.1861186 and the true value is between 0.1500333 and 0.2222039. Taiwan's 1999 crisis year effect is 0.4405774, which means the executive power reduces. Those values are very small. In 2003, China's power decreases and Taiwan rises with small amount. In 2020, the executive power in mainland and Taiwan rises by small amount, with the possibility that mainland power may remain unchanged or show opposite trend given that the confidence interval has zero and positive value.

For the legislative branch, the larger the predicted power value is the more power the legislative organization has. In 1998, China's power declines with very value and has the possibility of unchanging or increasing. In 1999, Taiwan's power increases a little. In 2003, mainland increases a little and Taiwan drops by a very small amount with the possibility of unchanging or increasing. In 2020, mainland's increases by a small amount with the possibility of unchanging or declining. Taiwan's decreases a little.

For the judiciary branch, the predicted power value is positively related to the judiciary power. In 1998, mainland's power decreases by near zero with the possibility of unchanging and increasing. In 1999, Taiwan's increases by relatively large number compared to other average effect. When SARS takes place, the power diminishes in mainland and Taiwan. When Covid arrives, power also reduces in mainland and Taiwan but with the possibility of unchanging or the increase.

The discontinuity research shows that when the SARS and Covid pandemic breaks out, Taiwan's executive power increases and legislative and judiciary power decrease by small amount. The confidence intervals shows that there is possibility that the crisis effect is weak and legislative power in 2003 and judiciary power in 2020 present different trend. In 1999 earthquake, Taiwan's executive power reduces and legislative and judiciary one increase. For China, the average crises year effect is extremely weak in 1998 and 2003, except in 2003 the judiciary power decreases by relatively large amount. In 2020 Covid, the branches power change meets the expectation, even though the effect is also weak.

To see the trend after crisis, the thesis conducts a linear regression between the crisis year and two years later. The results are listed in the following regression tables.

Table 4 The Executive Power Regression Two Years After Crisis

	China 98-00	China 03-05	China 20-22	Taiwan 99-00	Taiwan 03-05	Taiwan 20-22
(Intercept)	-0.55 ** [-0.61, -0.49]	-0.48 * [-0.82, -0.14]	-1.17 * [-1.52, -0.83]	1.70 * [0.03, 3.36]	1.85 ** [1.65, 2.05]	1.80 *** [1.80, 1.80]
year	-0.00 [-0.08, 0.07]	-0.06 [-0.47, 0.36]	-0.05 [-0.47, 0.37]	0.31 [-1.73, 2.35]	-0.03 [-0.28, 0.21]	0.03 ** [0.03, 0.03]
N	3	3	3	3	3	3
R2	0.14	0.74	0.72	0.79	0.75	1.00

All continuous predictors are mean-centered and scaled by 1 standard deviation. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Table 5 The Legislative Power Regression Two Years After Crisis

	China 98-00	China 03-05	China 20-22	Taiwan 99-00	Taiwan 03-05	Taiwan 20-22
(Intercept)	-1.67 *** [-1.67, -1.67]	-1.58 * [-2.37, -0.80]	-1.10 * [-1.51, -0.70]	1.46 * [0.07, 2.84]	1.61 *** [1.60, 1.62]	1.73 ** [1.67, 1.78]
year	0.00 [0.00, 0.00]	0.13 [-0.83, 1.09]	0.07 [-0.43, 0.57]	0.23 [-1.46, 1.93]	0.00 [-0.01, 0.02]	0.07 * [0.00, 0.14]
N	3	3	3	3	3	3
R2	0.60	0.75	0.75	0.75	0.75	0.99

All continuous predictors are mean-centered and scaled by 1 standard deviation. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Table 6 The Judiciary Power Regression Two Years After Crisis

	China 98-00	China 03-05	China 20-22	Taiwan 99-00	Taiwan 03-05	Taiwan 20-22
(Intercept)	-0.83 *** [-0.83, -0.83]	-1.14 [-4.21, 1.93]	-2.38 ** [-2.64, -2.13]	1.06 [-2.53, 4.65]	1.46 *** [1.46, 1.46]	1.50 * [0.64, 2.37]
year	0.00 [0.00, 0.00]	-0.51 [-4.27, 3.24]	0.04 [-0.27, 0.35]	0.60 [-3.79, 4.99]	0.00 [0.00, 0.00]	-0.02 [-1.08, 1.05]
N	3	3	3	3	3	3
R2	0.67	0.75	0.75	0.75	0.67	0.03

All continuous predictors are mean-centered and scaled by 1 standard deviation. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

The results demonstrates that after the SARS and the Covid, the power of three branches in Taiwan changes little. After Covid-19 in China, the three branches power also remain a little and insignificant change. After 1999, Taiwan's three branches keep its previous trend, but the confidence intervals indicate a possibility of unchanging or opposite trend. After 1998 and 2003, mainland branches' power remains little change, except the judiciary power after 2003 continuing to reduce and legislative power after 2003 enhancing a little, and most results are statistically insignificant.

The power change may be caused by other factors in the crisis year. However, there are few other events which can influence the power in three branches except that in 2000 Taiwan hold a presidential election and the 2003 is the first year that the new Chinese communist leading group start to take control as well as two local disasters (2003 in China & 2000 in Taiwan). These events may give rise to the trend of power change against the hypothesis. Considering the fact

that China's authoritarian government has accumulated the enough power, the three branches' power change little during the 1998 flood and only the tremendous crisis may cause more salient effect, such as the Covid-19 pandemic. The average crisis year effect is weak in Taiwan maybe because the related laws in Taiwan has already assigned a lot of power to the local government to deal with the crises and the Covid-19 is not as severe in Taiwan as in other regions (災害防救法 & 傳染病防治法).

In summary, Taiwan's three branches' power change in 2003 SARS and Taiwan and mainland's power change in 2020 Covid-19 confirm the first hypothesis, but the average effect is extremely weak. After the 2020 Covid pandemic, China's three branches power change confirms hypothesis two. However, except for these two situations, the power changing trend during and after other crises in mainland and Taiwan disconfirms the hypotheses.

Conclusion

This thesis is to explore whether there is any difference between authoritarian and democratic countries on the power change of their executive, legislative and judiciary branches during the times of crisis. It selects the cases of mainland China and Taiwan from 1995 to 2022 and employs a quantitative method to answer the research question. It has two discovers. First, for Taiwan, when the crisis happens in 2003 and 2020, the executive power increases and other two branches power decreases, which confirm the hypotheses, but in 1999 crisis, the power change is contrary to the hypothesis; for mainland China, when the crisis happens in 2020, the executive power rises and other two branches power reduce, which confirm the hypothesis, but in other crisis the power change disconfirm the hypothesis. Second, for China, after 2020, the three branches power remains unchanged which confirms the hypothesis; for Taiwan and China after other crises, the three branches' power change disconfirms the hypothesis.

These conclusions are hardly applied to other authoritarian and democratic countries, most importantly because Taiwan and mainland's legislations on dealing with crisis are specialized. In mainland China, most power provided by the related crises dealing and relieving laws is already possessed by the executive branch and in Taiwan, the crises preventing and relieving laws provides a lot of power to the local government. Therefore, the crisis effects are weak in mainland and Taiwan.

This research has several limitations. First, it cannot completely cancel out other factors in the crisis year that may affects the power change of three branches. Second, this research uses annual data which does not has the data on every month. Considering that some crises selected in this paper end less than one year, the conclusion may not be very precise. Finally, this research uses linear models to demonstrates the average crisis year effect, but some other models may be

more suitable. Future research can be conducted to overcome these limitations. In addition, the qualitative analysis is suggested to be done to explore the mechanism behind the three branches' power change in Taiwan and mainland China discovered in this thesis.

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