

**DOMESTIC VS. INTERNATIONAL:  
THE REAL CAUSE BEHIND CHINA'S ENVIRONMENTAL POLICIES**

by

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## **Abstract**

The current literature suggests that both domestic and international factors influence environmental policies. However, I argue that in China, domestic factors are more important than international factors in the process of domestic policy initiation and policy implementation. Domestic factors may also play a significant role in shaping policies that are driven by climate concerns. Process tracing is employed to reveal in what contexts domestic factors are more critical than international factors and why they are the real causes behind many environmental policies. Furthermore, I show that the concern of social instability may be the critical reason behind the initiation and implementation of China's environmental policies. I use four distinct environmental policies in this article to bolster my argument. I also propose a conjoint experimental survey design which may help disintegrate the general concept of domestic and international factors and tell people which specific factor is more important in forming a new environmental policy and shaping the policy implementation. The finding of this paper bridges the gap in understanding the drivers behind China's environmental policies and contributes to the theory building in environmental politics.

## **Lay Summary**

China is trying to be a global environment leader by initiating and implementing many environmental policies in the past ten years. However, are these environmental policies influenced more by domestic factors or international factors? I, using four environmental policies as case studies, take a look at the reasons behind China's environmental policies and argue that domestic factors are more important than international factors in the process of policy initiation and policy implementation. One particular crucial domestic factor may be the government officials' concern for social instability. I also propose an experimental survey to support my argument.

## **Preface**

This thesis is original, unpublished, independent work by the author, Yongzheng Li.

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## List of Abbreviations

|     |                            |
|-----|----------------------------|
| COP | Conference of the Parties  |
| CPO | Causal Process Observation |



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I also own particular thanks to my fellow students in this program for their comments and help, and I must express my gratitude to other faculty and staff members at the Department of Political Science, UBC.

Special thanks are owed to my parents and my sister. They are my rocks!

## **Dedication**

To Daniel Di Benedetto, Rehan Higgins, Chang Christina Pan, and Bowen Coco Tian.

## Chapter 1: Introduction

On June 1, 2017, President Donald Trump of the United States announced that the United States would withdraw from the Paris Agreement on Climate Change. His jarring claim that “the Paris accord is very unfair at the highest level to the United States” leaves the United States one of the only three countries that not involved in this agreement, aligning the United States with Syria and Nicaragua. Suddenly, the former champion of international agreement defected, and the world is looking for a new leader: China is on the top of the list.

Nevertheless, China has not always been a supporter of international norms regarding climate change and environmental policies. Yves Tiberghien summarizes China’s shifting position as follows: “China went from being essentially a bystander strictly insisting on the ‘common but differentiated responsibility’ principle in the Kyoto Protocol and an apparent spoiler at the Copenhagen climate summit in 2009 to the critical player that made the Paris Agreement possible in 2015.”<sup>1</sup>

China’s dramatic position shift sparks many different theories surrounding its environmental policy initiation and implementation. Two major approaches are provided by the scholars: an international approach and a domestic approach. Though these two approaches are not necessarily competing, and it is *not* an either-or condition, it is still interesting to ask which factor may be more critical in policy initiation and implementation in China. Policy initiation refers to the birth of a new policy: *why* there is a new policy; and policy implementation means *how* this policy is conducted or shaped.

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<sup>1</sup> Yves Tiberghien, “Chinese Global Climate Change Leadership and Its Impact,” in *China Champion of (Which) Globalisation?*, ed. Alessia Amighini (Milano: Ledizioni Ledi Publishing, 2018), 2018. 107.

I agree that all extant theories can partially explain China's environmental policies. However, there is a typology of environmental issues, and the current theories and studies often do not provide a clear scope condition under which they apply. Though most environmental issues are purely domestic issues (e.g., the construction of incinerators or dams), more and more environmental policies are having a global impact and therefore being influenced and shaped by international considerations. The most controversial environmental policies are climate policies, and they have entered global platforms like G20 and many other global governance negotiations. In other words, climate policies are now crucial to global governance,<sup>2</sup> and international factors—like international organizations—are trying to shape national climate policies.<sup>3</sup>

The focus of this study is domestic non-climate policies. I define those policies as domestic policies that are not explicitly formulated to tackle the problem of global climate change. This definition implies two categories of environmental policies: national level policies and international level policies. It also echoes Putnam's two-level game theory: an environmental policy would either be a national level policy where domestic groups "pursue their interests by pressuring the government to adopt favorable policies, and politicians seek power by constructing coalitions among those groups," or an international level policy where "national governments seek to maximize their own ability to satisfy domestic pressures, while minimizing the adverse consequences of foreign developments."<sup>4</sup>

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<sup>2</sup> Harriet Bulkeley, and Peter Newell. *Governing climate change*. Routledge, 2015.

<sup>3</sup> Anna Kukkonen, Tuomas Ylä-Anttila, Pradip Swarnakar, Jeffrey Broadbent, Myanna Lahsen, and Mark CJ Stoddart. "International organizations, advocacy coalitions, and domestication of global norms: Debates on climate change in Canada, the US, Brazil, and India." *Environmental science & policy* 81 (2018): 54-62.

<sup>4</sup> Robert D Putnam. "Diplomacy and domestic politics: the logic of two-level games." *International organization* 42, no. 3 (1988): 434.

It seems evident that domestic non-climate policies are shaped more by domestic factors. However, the causal mechanism between domestic factors (independent variable) and actual environmental policy initiation and implementation (dependent variable) in past studies stays murky. I use process tracing and propose one experimental research design to tackle this problem, and I provide causal evidence to show that in China, domestic factors are more important than international factors in domestic environmental policy initiation and policy implementation. Furthermore, I build a process-tracing framework for one plausibility probe case to show that domestic factors may also be able to shape policies that are driven by climate concerns. This framework further highlights the significance of domestic factors behind environmental policies.

Four environmental policies are analyzed in this research: the initiation of the plastic ban (stop importing foreign plastics) in 2017, the initiation of air pollution policies in China, the implementation of incinerator constructions in Wuhan (and the corresponding anti-construction protest), and the ban of coal using in winter in 2017. They are categorized under domestic non-climate policies. However, two of the domestic policies also have global impacts that are related to climate concerns (the plastic pollutes land and water; the spillover of air pollutions). The variation of the scope of my policy selection underscores the broad application of my argument. I also proffer a plausibility probe of potential policies driven by climate concerns. Observing CPOs fitting the plausibility probe will significantly enhance my argument while failing to observe it will not impugn my argument sharply. The plausibility probe serves as a hard case.

The goal of this study is to demonstrate that domestic factors matter more than international factors, *not* which particular domestic factor matters more than which particular international factor. However, for the sake of simplicity of this article, I use *social stability* as the

designation for domestic factors. Social stability is defined as the abilities of the government officials in preventing significant risks in seven areas—politics, ideology, economy, science and technology, society, the external environment, and Party building. This definition is in line with government definition.<sup>5</sup> The concept of social stability well summarizes the domestic factors in China from different dimensions, and it is one of the most common terms used by Chinese officials.<sup>6</sup> However, it is reasonable to use other domestic factors, like the middle-income trap,<sup>7</sup> as an explanation in some instances.

The rest of this article is organized as follows. Chapter 2 provides a brief discussion of current literature. Chapter 3 is the methodology section detailing the application of process tracing. Chapter 4 presents why domestic factors are more important in policy initiation, and Chapter 5 describes why domestic factors are more crucial in policy implementation. Chapter 6 explains that domestic factors may still play a significant role in climate policies. Chapter 7 proposes one conjoint survey experiment for future research. Chapter 8 concludes and discusses why this study also contributes to the more general understanding of global politics.

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<sup>5</sup> Jinping Xi. "Xij Jinping zai shengbuji zhuyao lingdao ganbu jianchi dixian siwei zhuoli fangfan huajie zhongda fengxian zhuan yantaoban kaibanshi shang fabiao zhongyao jianghua 习近平在省部级主要领导干部坚持底线思维着力防范化解重大风险专题研讨班开班式上发表重要讲话." Speech delivered at the Provincial Government Officials Conference on Major Risks Management on January 21, 2019. [http://www.gov.cn/xinwen/2019-01/21/content\\_5359898.htm](http://www.gov.cn/xinwen/2019-01/21/content_5359898.htm).

<sup>6</sup> Mary E Gallagher. "China in 2004: Stability above all." *Asian Survey* 45, no. 1 (2005): 21-32; Thomas Heberer and Gunter Schubert, eds. *Regime legitimacy in contemporary China: Institutional change and stability*. Routledge, 2008.

<sup>7</sup> Fang Cai. "Is There a "Middle-income Trap"? Theories, Experiences and Relevance to China." *China & World Economy* 20, no. 1 (2012): 49-61; Wing Thyee Woo. "China meets the middle-income trap: the large potholes in the road to catching-up." *Journal of Chinese Economic and Business Studies* 10, no. 4 (2012): 313-336; Linxiu Zhang, Hongmei Yi, Renfu Luo, Changfang Liu, and Scott Rozelle. "The human capital roots of the middle income trap: the case of China." *Agricultural Economics* 44, no. s1 (2013): 151-162.

## Chapter 2: Literature Review

China's dramatic position shift sparks many different theories, and one of the most popular theoretical branches fixates on international factors like international norms, international institutions, and international reputation. They can all be categorized under the term of *social constructivism*. For instance, Bain argues that China's commitment to environmental targets is the result of the greening of self-interests driven by its desire to improve China's international reputation, among others.<sup>8</sup> Others connect this change to China's utilization of its soft power (or under other names like smart power or sharp power) and President Xi Jinping's promotion of China taking a global governance leadership.<sup>9</sup> In 2018, the renowned power politics scholar Joseph Nye wrote an article discussing the right and wrong ways to respond to authoritarian influence, from the perspective of sharp power and soft power.<sup>10</sup> The environmental policy is the very field China wants to have more clout through its power spreading. On the other hand, people can also interpret China's position change through the lens of participation in international institutions. Xiaojun Li<sup>11</sup> notices that non-material gains (social rewards) and international recognition and reverence could be achieved through participating in international institutions: this explanation could be applied to China's rising role in environmental

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<sup>8</sup> Charlie Bain. "The greening of self-interest: why is China standing firm on its climate commitments despite US regression?." MA Thesis., University of British Columbia, 2017.

<sup>9</sup> Tiberghien, 106; Joseph S Nye. "Hard, soft, and smart power." In *The Oxford Handbook of Modern Diplomacy*. 2013; Yixian Sun. "The Changing Role of China in Global Environmental Governance." *Rising Powers Quarterly* 1, no. 1 (2016): 43-53.

<sup>10</sup> Joseph S Nye. "How sharp power threatens soft power: the right and wrong ways to respond to authoritarian influence." *Foreign Affairs* 24 (2018): 2018-01.

<sup>11</sup> Xiaojun Li. "Social rewards and socialization effects: an alternative explanation for the motivation behind China's participation in international institutions." *The Chinese Journal of International Politics* 3, no. 3 (2010): 347-377.

management at a global level. In a nutshell, there is a plethora of literature trying to link China's environmental policies to international factors.

Another school of scholars analyzes China's environmental issues from the domestic approach. For instance, Gilley's seminar paper, using China as an example, explores the meaning, causes, and consequences of authoritarian environmentalism, defined as a non-participatory approach to public policy-making and implementation in the face of severe environmental challenges.<sup>12</sup> He argues that authoritarian environmentalism is more effective in producing policy outputs than outcomes.<sup>13</sup> Many studies, in the same vein, follow his approach. For example, see Eaton and Kostka<sup>14</sup> and Lo.<sup>15</sup> However, there is a lack of studies analyzing the same issue from other domestic aspects. Besides, most of the domestic-driven research focuses on domestic governance and management<sup>16</sup> or legal issues<sup>17</sup> or a particular group like NGOs or domestic activists.<sup>18</sup> Though these approaches have a domestic identity in them, lots of them still

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<sup>12</sup> Bruce Gilley. "Authoritarian environmentalism and China's response to climate change." *Environmental Politics* 21, no. 2 (2012): 287-307.

<sup>13</sup> Ibid.

<sup>14</sup> Sarah Eaton and Genia Kostka. "Authoritarian environmentalism undermined? Local leaders' time horizons and environmental policy implementation in China." *The China Quarterly* 218 (2014): 359-380.

<sup>15</sup> Kevin Lo. "How authoritarian is the environmental governance of China?." *Environmental Science & Policy* 54 (2015): 152-159.

<sup>16</sup> Arthur PJ Mol and Neil T. Carter. "China's environmental governance in transition." *Environmental politics* 15, no. 02 (2006): 149-170; Neil Carter and Arthur PJ Mol. *Environmental governance in China*. Routledge, 2013; Guizhen He, Yonglong Lu, Arthur PJ Mol, and Theo Beckers. "Changes and challenges: China's environmental management in transition." *Environmental Development* 3 (2012): 25-38; Han Shi and Lei Zhang. "China's environmental governance of rapid industrialisation." *Environmental Politics* 15, no. 02 (2006): 271-292.

<sup>17</sup> Lei Zhang, Guizhen He, Arthur PJ Mol, and Xiao Zhu. "Power politics in the revision of China's Environmental Protection Law." *Environmental Politics* 22, no. 6 (2013): 1029-1035.

<sup>18</sup> Lei Xie. "China's environmental activism in the age of globalization." *Asian Politics & Policy* 3, no. 2 (2011): 207-224.



try to link themselves to an international factor. For example, Schroeder investigates how transnational NGO cooperation can influence the domestic Chinese officials' stance on climate change politics and proposes a spiral model of international relations.<sup>19</sup> Xie puts China's environmental activism in the context of the age of globalization, which is an extension of the international factor.<sup>20</sup> Kassiola demonstrates his attitudes toward China's environmental politics in his edited book titled "China's Environmental Crisis: Domestic and Global Political Impacts and Responses."<sup>21</sup> A recent study conducted by Pan argues that the change in political elites' perception of sustainable development, a domestic factor, has driven China to become more cooperative, and she reveals that the ideational source of this perception shift is the incorporation of the climate protection norm advocated by domestic political leaders.<sup>22</sup> However, the causal factor behind this "incorporation of the climate protection" stays murky. It may be the international factors (for instance, international norms) that cause the domestic leaders' perception change.

To be clear, in no way am I suggesting that the study of the international impact on China's environmental politics is misleading. However, the current studies do not illustrate which factor is *more* critical—domestic or international—in causing the environmental policy changes in China. Moreover, they tend to blend the process of policymaking and policy implementation. Nevertheless, these two processes may be determined under different

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<sup>19</sup> Miriam Schroeder. "The construction of China's climate politics: transnational NGOs and the spiral model of international relations." *Cambridge Review of International Affairs* 21, no. 4 (2008): 505-525.

<sup>20</sup> Xie, 2011.

<sup>21</sup> Joel Kassiola ed. *China's environmental crisis: domestic and global political impacts and responses*. Springer, 2010.

<sup>22</sup> Chang Pan. "From the coal monster to the green giant: how leaders' perceptions changed China's climate diplomacy?." MA Thesis., University of British Columbia, 2018.

considerations. Another limitation of the current literature is that they do not distinguish different types of environmental issues clearly. Some issues are purely domestic, while some are not. The undefined scope of past studies weakens their argument. In contrast, the research scope of this paper is crystal clear: domestic non-climate environmental policies.

Besides, many studies are telling readers *what* is happening instead of *why* it is happening. For those that are doing a causally explaining work, the methodology employed may lack the internal and external validity and may not be able to proffer a convincing causal explanation. For example, Jeffreys contends that the celebrity-driven NGO campaigns and the business elites-driven activities against shark-fin consumption in mainland China have missed their target, being heavily influenced by communication strategies used in international campaigns and providing incoherent local framing.<sup>23</sup> However, it skirts many compelling and worthy-discussion arguments by using the phrase “probable,” blurring the causality connection. Jeffreys juxtaposes different pieces of facts together but does not glue them casually.

Another limitation of the current literature is the lack of a thematic review of the existing literature of environmental politics in the broad context of China studies. Themes should include state and environmental governance, public awareness and environmental social activism, foreign environmental relations, and environmental activism. The only research I can garner is an article written by Wu.<sup>24</sup> However, that review may be outdated, considering China’s attitudes toward environmental policies changed dramatically in the past ten years.

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<sup>23</sup> Elaine Jeffreys. "Translocal celebrity activism: shark-protection campaigns in mainland China." *Environmental Communication* 10, no. 6 (2016): 763-776.

<sup>24</sup> Fengshi Wu. "Environmental politics in China: An issue area in review." *Journal of Chinese Political Science* 14, no. 4 (2009): 383-406.

Due to all the limitations of the current literature, it is necessary to conduct updated research to causally explain which factor—domestic or international—is more critical in shaping China’s environmental policies. Moreover, my study also contributes to the general understanding of environmental politics because it may help policymakers in other countries deal with Chinese companies regarding environmental issues, and it contributes to the current discussion of the virtues of country-specific studies.

### Chapter 3: Methodology

Methodologically speaking, I utilize process tracing as the analytical tool to prove that in China, domestic factors do matter, and matter more than international influence in policy initiation and policy implementation. I also construct a process-tracing chart for one plausibility probe case which examines the role of domestic factors in climate policies. Furthermore, this paper provides a brief research design of one empirical-driven conjoint survey experiment to examine further the causal significance of domestic factors in China's environmental politics.

Considering the goal of this paper is to emphasize the importance of domestic factors in China's environmental politics and highlight in which contexts they are more important than international factors, the traditional quantitative empirical test, like the frequentist analysis, is beyond the scope of this paper. However, the proposed conjoint survey experiment sheds light on the empirical significance of my argument and strengthens the causal argument of my research.

Bennett and Checkel define process tracing as the method to “identify the intervening causal process—the causal chain and causal mechanism—between an independent variable (or variables) and the outcome of the dependent variable” based on “histories archival documents, interview transcripts, and other sources.”<sup>25</sup> They argue that process-tracing is “particularly well suited for measuring and testing hypothesized causal mechanisms.”<sup>26</sup> However, the probative value of the evidence varies. They propose four different tests in process tracing—hoop tests, smoking gun tests, doubly decisive tests, and straw-in-the-wind tests—to determine the probative

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<sup>25</sup> Jeffrey Checkel and Andrew Bennett, “Process Tracing,” in *Process-Tracing: From metaphor to Analytic Tool*, ed. Jeffrey Checkel and Andrew Bennett (New York: Cambridge University Press, 2014), 6.

<sup>26</sup> *Ibid.*, 3.

value of evidence.<sup>27</sup> Passing a hoop test requires certain but not unique evidence, which will not increase the probative value of evidence greatly, but failing a hoop test will help to exclude an explanation. A smoking-gun test needs unique but not certain evidence. Passing a smoking-gun test will enhance the leverage of an explanation, but failing a smoking-gun test will not greatly impugn a hypothesis. Doubly decisive tests require both unique and certain evidence, which greatly boosts confidence in a hypothesis. By contrast, a straw-in-the-wind test only has weak or circumstantial evidence, which cannot offer a final evaluation of a hypothesis. Thus, the leverage of the testing hypothesis depends on the type of tests it passed.

These four tests share the same mechanism of the “hard case” “easy case” distinction introduced by Eckstein: the uniquely tailored hard cases and “easy” (or “most likely”) cases provide researchers substantial inferential leverage to confirming or disconfirming a theory, respectively.<sup>28</sup> Hard case context poses difficult tests of theories in that—unlike easy cases—one would not expect a theory’s expectations to be borne out by a review of the case evidence.<sup>29</sup>

In this paper, an easy case would be to prove that, at the absence of international factors, domestic factors cause the initiation of a new policy and causally shape how the policy is implemented. This case is an easy case because international factors are not present and thus would not be considered in the causal sequence. If my theory failed the easy case (the most likely case),

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<sup>27</sup> Ibid., 16.

<sup>28</sup> Harry Eckstein. "Case study and theory in political science." *Case study method* (2000): 119-164.

<sup>29</sup> Aaron Rapport. "Hard thinking about hard and easy cases in security studies." *Security Studies* 24, no. 3 (2015): 431-465.

then it would be unnecessary to test it at all in the hard case (the least likely case). A hard case would be to prove that, even when international factors are present, it is still the domestic factors that cause the initiation of a new policy and causally shape how the policy is implemented. One way to examine the hard case, using process tracing, is to prove that the international factors stay the same before and after the policy initiation/implementation, but the domestic factors change significantly. In other words, when other things constant, only the changed factors would be causally related.

The argument presented in this paper is not confined in a specific period. The argument could be and should be applied to the most, if not all, non-climate environmental policymaking and implementation cases in China. However, I focus on cases that happened in or after 2015. The selection of 2015 creates a hard case context where my theory would be more supported than examples that happened before 2015. In December 2015, the Paris Climate Conference (COP 21) witnessed China's cooperative stance, a stance wholly different from the previous hostile attitudes in the Copenhagen Climate Conference (COP 15), where China was fiercely against a universal global climate agreement. China faces more international pressure and bears more international obligations after COP 21. It is easier to find more evident international influence after 2015. For example, President Xi reaffirmed China's commitment that "the Paris agreement is a milestone in the history of climate governance. We must ensure that this endeavor is not derailed...China will continue to take steps to tackle climate change and fully honor its obligations" in the 2017 Geneva conference.<sup>30</sup> Another international obligation example is that

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<sup>30</sup> Jinping Xi. "Work Together to Build a Community of Shared Future for Mankind," January 19, 2017. Speech delivered at the United Nations Office in Geneva, Switzerland on January 18, 2017. [http://www.xinhuanet.com/english/2017-01/19/c\\_135994707.htm?from=singlemessage](http://www.xinhuanet.com/english/2017-01/19/c_135994707.htm?from=singlemessage)

China announced another 3 billion US dollars investment to its South-South Climate Cooperation Fund to help other developing countries address climate change in 2016.<sup>31</sup> Considering the existence of the more evident international factors after 2015, if I were able to find causal evidence bolstering the domestic factors approach; then I would have much more confidence in my theory.

The process-tracing approach also requires the consideration of alternative theories. Refuting the alternatives does not mean that the alternatives are entirely baseless and have no causal effects in all cases. However, rebutting the substituted theories would increase confidence in the null theory. As noted by Mahoney, “process tracing contributes to causal inference primarily through the discovery of causal process observations (CPOs).”<sup>32</sup> The novelty of my process tracing framework is that it combines my-theory-driven CPOs and alternative-theory-driven CPOs in the same process tracing framework. In other words, my framework can strengthen my theory (domestic factors are more important) and weaken the alternatives (international factors are more important) at the same time. CPOs are defined as “an insight or piece of data that provides information about context, process, or mechanism.”<sup>33</sup>

To be more specific, the independent variable in this research is the different embodiments of domestic factors. I use the presence/absence of social stability as one primary

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<sup>31</sup> “China South-South Climate Cooperation Fund Benefits Developing Countries.” *China Daily*, last modified November 30, 2015.

[http://www.chinadaily.com.cn/world/XiattendsParisclimateconference/2015-11/30/content\\_22557413.htm](http://www.chinadaily.com.cn/world/XiattendsParisclimateconference/2015-11/30/content_22557413.htm)

<sup>32</sup> James Mahoney. "After KKV: The new methodology of qualitative research." *World Politics* 62, no. 1 (2010). 124.

<sup>33</sup> Henry E Brady, David Collier, and Jason Seawright. "Refocusing the discussion of methodology." In *Rethinking social inquiry: Diverse tools, shared standards*, pp. 3-20. Rowman and Littlefield, 2004. 227-228.

consideration of this variable. The dependent variable is the actual environmental policy action. This action could either be the initiation of new environmental policies or the alteration of current policies. The dependent variable in my research is domestic policy behavior, not China's international behavior. I also include international influence to check the validity of the alternative theory. The principal measurement of international influence in this research is the presence of foreign news reports.



## **Chapter 4: Policy Initiation**

$H_0$ : Domestic factors cause the initiation of a new environmental policy

$H_{1a}$ : Domestic factors do not cause the initiation of a new environmental policy

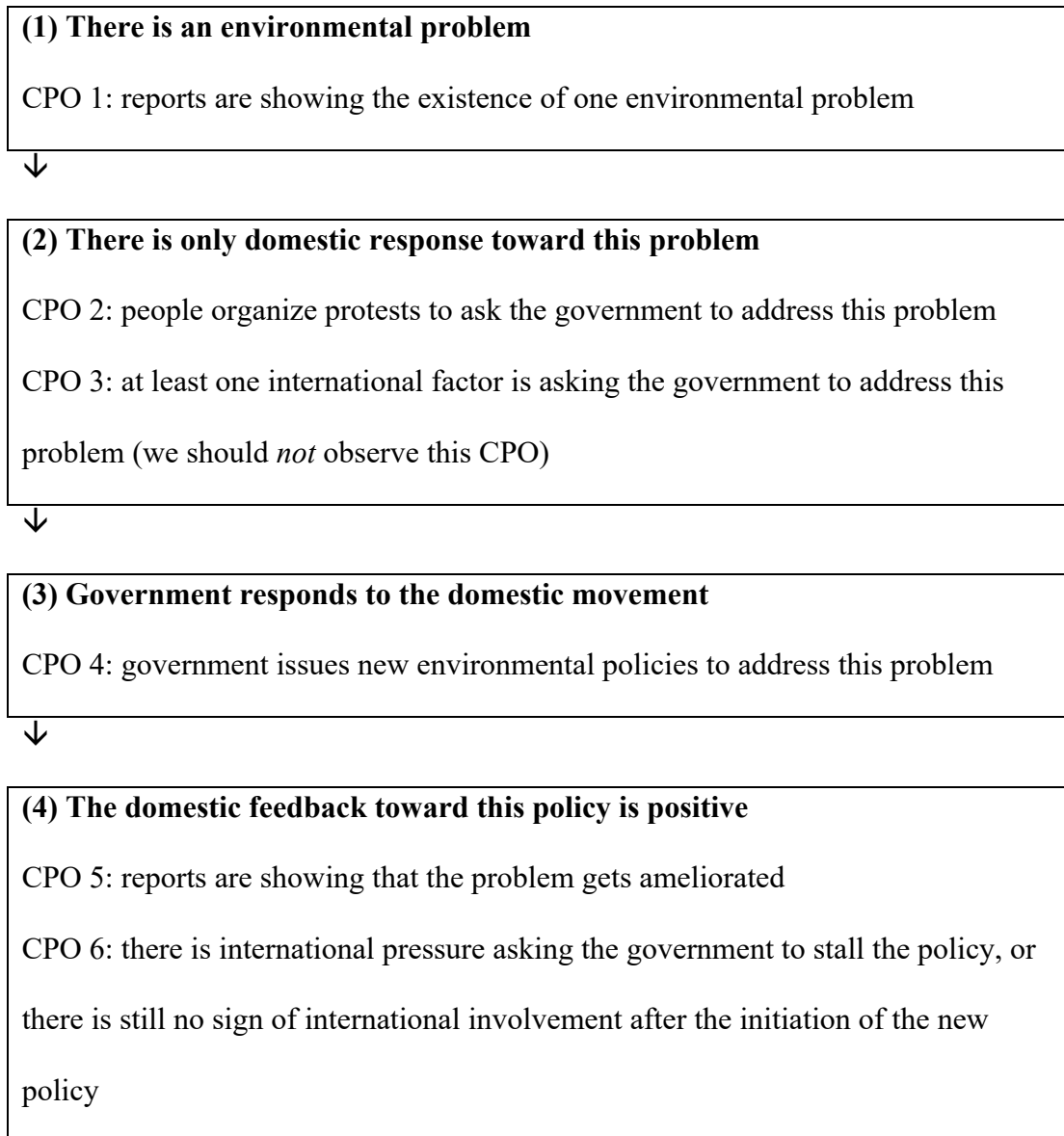
$H_{1b}$ : International factors cause the initiation of a new environmental policy

This section presents two cases, one easy case, and one hard case, to prove the null hypothesis ( $H_0$ ) that domestic factors cause the initiation of a new environmental policy. Two corresponding process-tracing charts with CPOs are attached to detail the two cases. Passing the easy case rebuts the alternative theory ( $H_{1a}$ ) that domestic factors do not cause the initiation of a new environmental policy while passing the hard case meanwhile invalidates the second alternative theory ( $H_{1b}$ ) that international factors cause the initiation of a new environmental policy. Please be noticed that under the logic of process tracing, “invalidation” does not mean entirely deny the possibility of the alternative theory. Instead, it shows that we would have higher confidence in our null hypotheses and lower confidence in the alternatives.

### **4.1 Ease Case Analysis**

Figure 1 shows the process tracing framework in the easy case analysis of policy initiation.

This case is an easy case because of the absence of CPO 3. The lack of CPO 3 means that international factors are not present before the initiation of the policy. Therefore, international factors cannot cause the birth of the new policy: the cause must happen before the result.



**Figure 1 Process-Tracing Chart with Causal Process Observations, Easy Case in Policy Initiation**

The observation of CPO 2 (protests) shows the observation of domestic factors. It is reasonable to switch from observing protests to other domestic factors. For instance, the empirical evidence below uses the movie *Plastic China* as the evidence of domestic influence instead of a protest or demonstration. I put protest as CPO 2 in the framework because the environmental group is a subgroup of disadvantaged groups, and there has been robust literature

about how social movement represents disadvantaged groups and how social protest makes policies.<sup>34</sup> One channel through which protest makes policy is to take advantage of government officials' fear of social instabilities. The government must take preventive measures to avoid social instability, which is seen as a threat both to the political order and to the continued rapid growth of the economy in China.<sup>35</sup> Therefore, observing social protests and demonstrations is one of the most direct ways to observe social instability, which is a significant part of the analysis of domestic factors. One recent policy for the easy case analysis in policy initiation is China's ban on the import of plastic wastes in 2017. This ban—stopping taking 24 types of scraps from foreign countries—shows China's efforts to clean its environment.

Figure 2 shows how domestic factors lead to the plastic ban.

**(1) There is an environmental problem**

CPO 1: Since the 1980s, China has become the world's largest importers of waste. In 2012, up to 56% of global exported plastic waste ended up in China. Imported plastic waste alone reached a peak of almost 9 million tons in 2012: imported plastic waste poses severe dangers to China's environment situation and people's life of quality.<sup>36</sup>



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<sup>34</sup> Laurel Weldon. *When protest makes policy: How social movements represent disadvantaged groups*. University of Michigan Press, 2011.

<sup>35</sup> John Knight. "The economic causes and consequences of social instability in China." *China Economic Review* 25 (2013): 17-26.

<sup>36</sup> Costas Velis. "Global recycling markets-plastic waste: A story for one player—China." *Int Solid Waste Assoc—Glob Waste Manag Task Force* (2014): 1-66.

## (2) There is only domestic response toward this problem

CPO 2a: The production of the movie *Plastic China*<sup>37</sup> alarms the Chinese society about the damage caused by imported plastic wastes. The movie, through the storytelling of one waste-recycle family, has enormous social impact and is noticed by the government: it is banned by the Chinese government, fearing it may cause social instability.<sup>38</sup>

CPO 2b: many companies illegally imported plastic wastes for monetary profits, worsening the environmental conditions in China, and wasting government law enforcement resources.<sup>39</sup>

CPO 3: I do not observe any international evidence that is asking China to ban the plastic wastes. Instead, many countries, primarily Western countries, are highly depended on China to dispose and recycle waste. It is not in their benefits to push for a plastics ban.<sup>40</sup>



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<sup>37</sup> Jiuliang Wang (Director). *Plastic China* [Video File]. 2016. [www.plasticchina.org/](http://www.plasticchina.org/)

<sup>38</sup> Zhao, Kiki. "China's environmental woes, in films that go viral, then vanish." *The New York Times* 28 (2017). [https://www.nytimes.com/2017/04/28/world/asia/chinas-environmental-woes-in-films-that-go-viral-then-vanish.html?\\_ga=2.246007876.1385166272.1564389470-487507960.1521679163](https://www.nytimes.com/2017/04/28/world/asia/chinas-environmental-woes-in-films-that-go-viral-then-vanish.html?_ga=2.246007876.1385166272.1564389470-487507960.1521679163); Bo Tang. "Plastic Kingdom: a censored documentary and its story." (塑料王国：一部被遮蔽的纪录片和它的故事) August 25, 2017. *Vice*. <http://www.vice.cn/read/the-story-about-plastic-china>.

<sup>39</sup> State Council of China. "Guowuyuan Bangongting guanyu yinfa jinzhi yanglaji rujing tuijin guti feiwu jinkou guanli zhidu gaige shishi fangan de tongzhi 国务院办公厅关于印发禁止洋垃圾入境 推进固体废物进口管理制度改革实施方案的通知." January 18, 2017. Retrieved from [http://www.gov.cn/zhengce/content/2017-07/27/content\\_5213738.htm](http://www.gov.cn/zhengce/content/2017-07/27/content_5213738.htm)

<sup>40</sup> Velis, 2014.

### **(3) Government responds to the domestic movement**

CPO 4: China announced the ban in July 2017. It bans 24 types of waste under four categories: certain types of mining slag, household waste plastics, unsorted waste paper, and waste textiles. It comes into force on 1 January 2018.<sup>41</sup>



### **(4) The domestic feedback toward this policy is positive**

CPO 5: people feel positive about the new policy, and there is a sharp drop of plastic imports. The regulation becomes stricter.<sup>42</sup>

CPO 6: China's ban on imports of waste is a wakeup call to the world,<sup>43</sup> and the recycling industries in many other countries are struggling.<sup>44</sup> For instance, the UK recycling industry warned that the decision would be a "game-changer" and that it would be a struggle to deal with the country's waste. Many other international organizations show their frustration with China's ban and are worrisome with the future.<sup>45</sup>

**Figure 2 The Initiation of Plastic Ban in 2017, Easy Case Analysis in Policy Initiation**

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<sup>41</sup> State Council of China, 2017.

<sup>42</sup> Lu Hu and Jing Gao. "Quanjian jinzhi yanglaji rujing chengxiao xianzhu 全面禁止洋垃圾入境成效显著." *Xinhua*. May 28, 2018. [http://www.xinhuanet.com/legal/2018-05/28/c\\_1122900602.htm](http://www.xinhuanet.com/legal/2018-05/28/c_1122900602.htm)

<sup>43</sup> "China's Ban on Imports of 24 Types of Waste Is a Wake up Call to the World - Greenpeace." *Greenpeace*, December 29, 2017. <http://www.greenpeace.org/eastasia/press/releases/toxics/2017/Chinas-ban-on-imports-of-24-types-of-waste-is-a-wake-up-call-to-the-world---Greenpeace/>.

<sup>44</sup> Jeff Lewis and Molly Hayes. "Reduce, Reuse, Recycle, Rejected: Why Canada's Recycling Industry Is in Crisis Mode." *The Globe and Mail*. May 15, 2019. <https://www.theglobeandmail.com/canada/article-wish-cycling-canadas-recycling-industry-in-crisis-mode/>

<sup>45</sup> Roger Harrabin and Tom Edgington. "Recycling: Where Is the Plastic Waste Mountain?" *BBC News*. January 1, 2019. <https://www.bbc.com/news/science-environment-46566795>.

## 4.2 Hard Case Analysis

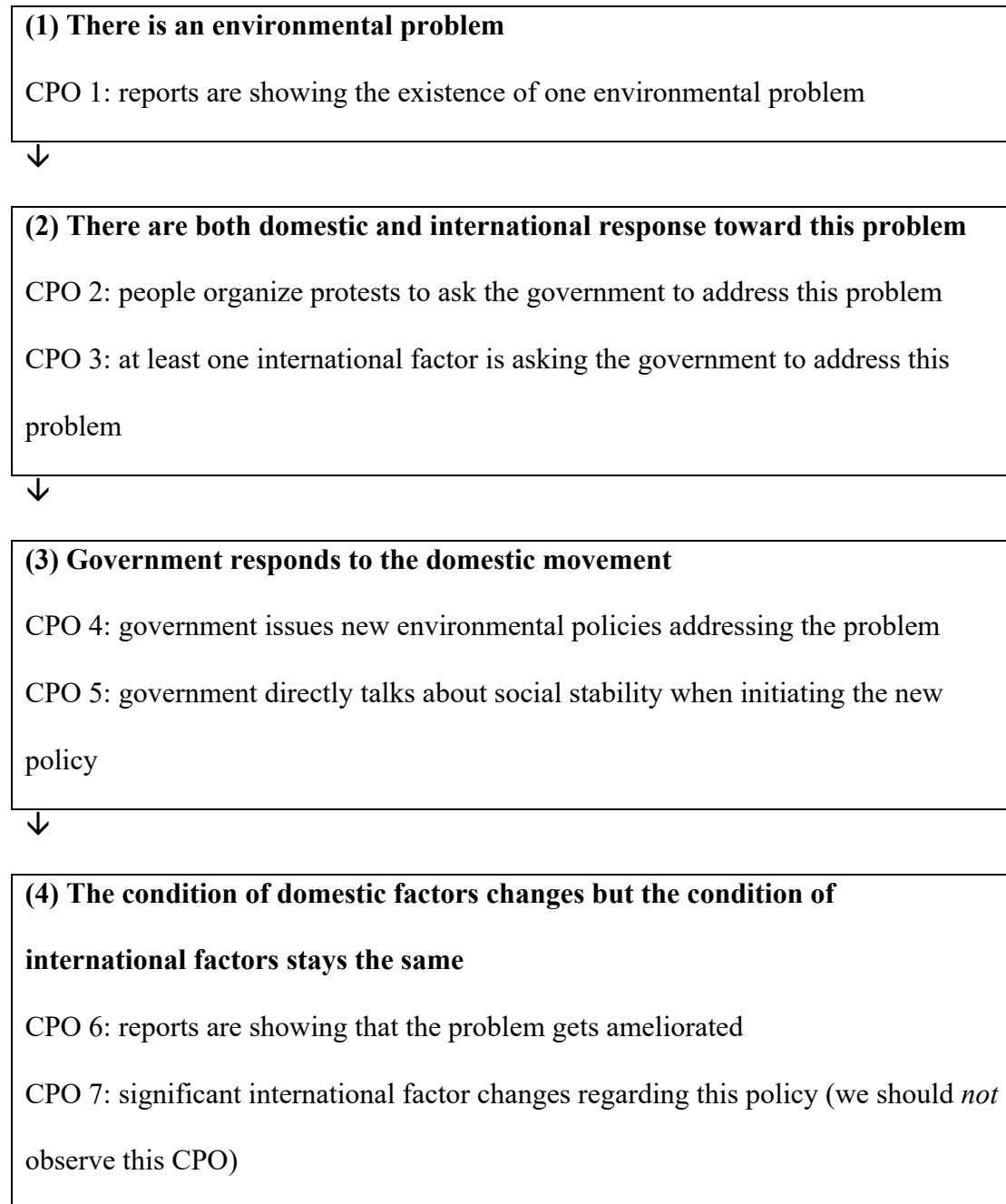
Figure 3 shows the process tracing framework in the hard case analysis of policy initiation.

This case is a hard case because of the presence of both CPO 2 and CPO 3 before the new policy initiation: it is possible that one of them causes the policy initiation or both of them cause the initiation. Therefore, to prove that only domestic factors lead to the making of the new policy is to prove that only domestic factors change significantly before and after the new policy. More importantly, observing CPO 5 is a piece of smoking-gun evidence linking domestic factors to the formation of a new policy. The key here is that the government directly links the policy to one (or more) domestic factors.

China issued the “Air Pollution Prevention and Control Action Plan” in 2013, and this policy could be used for the hard case analysis in policy initiation. Figure 4 details the process tracing of this policy. This policy is a tough case because it takes time to manage air pollution, and air pollution policymaking is so complicated that it would be hasty to claim that international factors do not matter at all. Furthermore, the spread of air pollution to surrounding countries makes air pollution a regional, even global issue. As a matter of fact, international factors may play a more prominent role in short-term air pollution management in China.<sup>46</sup>

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<sup>46</sup>Jim Yardley. “Cities Near Beijing Close Factories to Improve Air for Olympics.” *New York Times*, July 7, 2008. <https://www.nytimes.com/2008/07/07/sports/olympics/07china.html>; Shen Lu and Wilfred Chan. “Blue Sky Vanishes Immediately after Beijing's Massive Parade.” *CNN*, September 4, 2015. <https://www.cnn.com/2015/09/04/asia/china-beijing-blue-sky-disappears-after-military-parade/index.html>.



**Figure 3 Process-Tracing Chart with Causal Process Observations, Hard Case in Policy Initiation**

However, in the initiation of a long-term policy, I argue that it is still the domestic factors that matter more. Because the weather is unpredictable, and it is hard to pinpoint one particular CPO in air pollution management, the CPOs in this policy may not strictly follow the time

pattern. However, considering there are so many policies related to air pollution management in China and air pollution management is a long-term-oriented policy, using non-chronological CPOs would not invalidate my framework.

**(1) There is an environmental problem**

CPO 1: there were so many severe smog days in China (for instance, the Eastern China smog in December 2013) that the government had to implement emergency procedures to combat the smog.<sup>47</sup>



**(2) There are both domestic and international response toward this problem**

CPO 2: there were reports about Chinese activists crack China's wall of denial about air pollution<sup>48</sup> and how environmentalists see the internet is powering the fight against Beijing's dirty air.<sup>49</sup> A more recent protest would be the unsuccessful 2016 anti-smog protest in Chengdu.<sup>50</sup>

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<sup>47</sup> "2013 Review of the Development of China's Air Quality Policy Management 2013 年中国空气质量管理政策发展回顾." Clean Air China, 2013.

[https://cleanairasia.org/wp-content/uploads/portal/files/2013nian\\_zhong\\_guo\\_kong\\_qi\\_zhi\\_liang\\_guan\\_li\\_zheng\\_ce\\_fa\\_zhan\\_hui\\_gu\\_.pdf](https://cleanairasia.org/wp-content/uploads/portal/files/2013nian_zhong_guo_kong_qi_zhi_liang_guan_li_zheng_ce_fa_zhan_hui_gu_.pdf)

<sup>48</sup> Sharon LaFraniere. "Activists crack China's wall of denial about air pollution." *New York Times* 27 (2012): 18-20. <https://www.nytimes.com/2012/01/28/world/asia/internet-criticism-pushes-china-to-act-on-air-pollution.html>

<sup>49</sup> Christina Larson. "How the internet is powering the fight against Beijing's dirty air." *The Guardian*. April 10, 2012. <https://www.theguardian.com/environment/2012/apr/10/internet-beijing-dirty-air-pollution>

<sup>50</sup> Benjamin Hass. "China riot police seal off city centre after smog protesters put masks on statues." *The Guardian*. December 12, 2016. <https://www.theguardian.com/world/2016/dec/12/china-riot-police-seal-off-city-centre-after-smog-protesters-put-masks-on-statues>; Frank Tang. "Planned protest against smog in southwest China shut down before it begins." *South China Morning Post*. December 10, 2016. <https://www.scmp.com/news/china/article/2053556/planned-protest-against-smog-southwest-china-shut-down-it-begins>



CPO 2b: Chai Jing, a former China Central Television journalist, released a self-financed documentary film in 2015, demonstrating the failure of China's regulations on pollution. It was viewed over 150 million times on Tencent within three days of its release, and had been viewed a further 150 million times by the time it was taken offline four days later because the government considered it as a sensitive topic and could alter public perception of smog and may lead to unstable collective action of the people.<sup>51</sup>

CPO 3: 1.2 million Chinese died due to air pollution in 2010. China needs to have policies to improve its air quality.<sup>52</sup>



### **(3) Government responds to the domestic movement**

CPO 4: China issued the "Air Pollution Prevention and Control Action Plan."<sup>53</sup>

(This CPO could be changed to many other air pollution management-related policies.)

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<sup>51</sup> Fan Yang. "Under the dome: "Chinese" smog as a viral media event." *Critical Studies in Media Communication* 33, no. 3 (2016): 232-244; Shuqin Cui. "Chai Jing's Under the Dome: A multimedia documentary in the digital age." *Journal of Chinese Cinemas* 11, no. 1 (2017): 30-45.

<sup>52</sup> Global Burden of Disease Study. The Lancet. 2010.

<sup>53</sup> The Central People's Government of the People's Republic of China. "The Central People's Government of the People's Republic of China issues the "Air Pollution Prevention and Control Action Plan" 10 Regulations 国务院发布《大气污染防治行动计划》十条措施." September 12, 2013. Retrieved from [http://www.gov.cn/jrzq/2013-09/12/content\\_2486918.htm](http://www.gov.cn/jrzq/2013-09/12/content_2486918.htm)

CPO 5: the term *social stability* was included in many policy announcements, and the government reacted unfavorably to smog-related protests due to the fear of social movement.<sup>54</sup>



**(4) The condition of domestic factors changes but the condition of international factors stays the same**

CPO 6: there were substantial changes in air pollution across China during 2015-2017 following the initiation of multiple air pollution policies.<sup>55</sup> Specifically speaking, the reduced household solid-fuel consumption is the leading contributor to the rapid decrease in the integrated exposure to ambient and household PM2.5 pollution during 2005-2015, even though there was no explicit household control policy. However, clean household heating fuels have become part of new control policies in northern China.<sup>56</sup> There were still some protests, but the frequency and the size of the protests decreased sharply.

CPO 7: I have not found any concrete evidence to demonstrate that there were significant international factor changes regarding air pollution policies in China. Though the air quality improves over the years in China, the world still sees China as one of the most polluted countries and asks the Chinese government to have

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<sup>54</sup> Yang, 2016; Cui, 2017.

<sup>55</sup> B. Silver, C. L. Reddington, S. R. Arnold, and D. V. Spracklen. "Substantial changes in air pollution across China during 2015–2017." *Environmental Research Letters* 13, no. 11 (2018): 114012.

<sup>56</sup> Bin Zhao, Haotian Zheng, Shuxiao Wang, Kirk R. Smith, Xi Lu, Kristin Aunan, Yu Gu et al. "Change in household fuels dominates the decrease in PM2.5 exposure and premature mortality in China in 2005–2015." *Proceedings of the National Academy of Sciences* 115, no. 49 (2018): 12401-12406.

more environmental policies to tackle the persistent severe haze and smog episodes. A recent study demonstrates that in the current situation, by the end of the year 2030, even if the Chinese government fulfills its target to meet national ambient air quality standard of PM2.5, total premature mortality attributable to PM2.5 will still be 574 thousand across the sampled 161 cities.<sup>57</sup>

**Figure 4 The Initiation of Air Pollution Policies in China, Hard Case Analysis in Policy Initiation**

Figure 4 demonstrates that even in hard cases, domestic factors matter more than international factors in China's initiation of domestic non-climate environmental policies.

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<sup>57</sup> Kamal Jyoti Maji, Anil Kumar Dikshit, Mohit Arora, and Ashok Deshpande. "Estimating premature mortality attributable to PM2.5 exposure and benefit of air pollution control policies in China for 2020." *Science of The Total Environment* 612 (2018): 683-693.

## **Chapter 5: Policy Implementation**

*H<sub>0</sub>*: Domestic factors shape the implementation of environmental policies

*H<sub>1a</sub>*: Domestic factors do not shape the implementation of environmental policies

*H<sub>1b</sub>*: International factors shape the implementation of environmental policies

This section, the same as Chapter 4, presents two cases, one easy case, and one hard case, to prove the null hypothesis ( $H_0$ ) that domestic factors shape the implementation of environmental policies. Two corresponding process-tracing charts with CPOs are attached to detail the two cases. Passing the easy case at the same time rebuts the alternative theory ( $H_{1a}$ ) that domestic factors do not shape the implementation of environmental policies, while passing the hard case meanwhile invalidates the second alternative theory ( $H_{1b}$ ) that international factors shape the implementation of environmental policies.

### **5.1 Ease Case Analysis**

Figure 5 shows the process tracing framework in the easy case analysis of policy implementation. This case is an easy case because of the absence of CPO 3. Following the same logic as Chapter 4, the lack of CPO 3 means international factors are not present before the changing of the policy. Therefore, international factors cannot shape the implementation of the policy: the cause must happen before the result. Like Chapter 4, the observation of CPO 2 shows the observation of domestic factors. It is reasonable to switch from observing protests to other domestic factors.

**(1) There is an existing environmental policy**

CPO 1: the government implements an environment policy



**(2) There is only domestic response toward this policy**

CPO 2: people voice their opposition to this policy through protests or other channels

CPO 3: there is international pressure asking the government to stall this policy (we should *not* observe this CPO)



**(3) Government responds to the domestic movement**

CPO 4: government alters the environmental policy



**(4) The domestic feedback toward the alternation is evident**

CPO 5a: if the alteration is in line with people's interest, then we should observe positive feedback toward the alternation (fewer or no protests)

CPO 5b: if the alteration is not in line with people's interest, then we should observe more opposition to the policy, or we see that the government physically suppresses the protests

CPO 6: there is international pressure asking the government to stall the policy, or there is still no sign of international involvement after the implementation of the new policy

**Figure 5 Process-Tracing Chart with Causal Process Observations, Easy Case in Policy Implementation**

An empirical example of the easy case analysis in policy implementation would be the policies to *prepare* to build an incinerator, an oil and chemistry refinery, or other government projects that may be against the residents' interests. Due to the conflict of interests or the fear of pollution and other negative impacts, the residents would then take actions (for example, organize protests) to try to alter the policy implementation. However, because the plans have not been conducted, the international factors, like media pressure or international reputation, would be less possible to have an impact due to the nature of those policies. To government officials, especially the local officials who are implementing the policies, the fear of social instability in his local region is more tangible and compelling than international pressures.

The most famous environmental protest against major economic development projects would be the anti-PX protest in Xiamen in 2007. There is a slew of research analyzing the Xiamen incident from many aspects, and their common theme is the focus on domestic factors like citizen journalism and civic engagement.<sup>58</sup> Steinhardt and Wu<sup>59</sup> examine four prominent anti-projects cases and identify four innovations in China's popular politics: broadened protest constituencies, mobilization for public goods, a proactive strategy to prevent government projects, and mutual reinforcement of street mobilization and policy advocacy. All of them are domestic factors.

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<sup>58</sup> Ronggui Huang and Ngai-ming Yip. "Internet and activism in urban China: A case study of protests in Xiamen and Panyu." *Journal of Comparative Asian Development* 11, no. 2 (2012): 201-223; Guosong Shao, Jiayin Lu, and Jiani Wu. "New media and civic engagement in China: The case of the Xiamen PX event." *China Media Research* 8, no. 2 (2012).

<sup>59</sup> Christoph Steinhardt and Fengshi Wu. "In the name of the public: environmental protest and the changing landscape of popular contention in China." *The China Journal* 75, no. 1 (2016): 61-82.

It seems that domestic factors, through social protest, can shape the policy implementation positively. However, social protests may also negatively direct policy implementation into the direction against people's interests. In both cases, international factors are not playing a significant role due to their absence in the process.

Figure 6 uses the unsuccessful Wuhan anti-incinerator protest in July 2019 as an example to demonstrate how social protest may lead the policy implementation into a destructive end. The CPOs are mainly drawn from news reports, see Bradsher<sup>60</sup> and BBC News.<sup>61</sup>

**(1) There is an existing environmental policy**

CPO 1: Wuhan drew up plans for a colossal incinerator to handle the waste generated by its 10 million residents.



**(2) There is only domestic response toward this policy**

CPO 2: due to the concern of dioxins emission and sub-standard incinerator construction, residents took to the street for several days, demanding that the location to be re-thought (the same location already hosts a waste landfill).

Residents estimate that the biggest crowd may include 10,000 people.

CPO 3: coincident with the pro-democracy protest in HK, the Wuhan protest did not gather enough international attention (very few reports). Though there were

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<sup>60</sup>Keith Bradsher. "Protests Over Incinerator Rattle Officials in Chinese City." *New York Times*, July 5, 2019. <https://www.nytimes.com/2019/07/05/world/asia/wuhan-china-protests.html>.

<sup>61</sup> "Wuhan Protests: Incinerator Plan Sparks Mass Unrest." *BBC News*, July 8, 2019. <https://www.bbc.com/news/blogs-china-blog-48904350>.

some news reporting this protest, I did not find evidence showing that the international community is trying to influence the government to rescind the incinerator plan.



**(3) Government responds to the domestic movement**

CPO 4: the government warned the public that security authorities would crack down on any illegal criminal acts such as malicious incitement and provocation.

Police was sent to quash the protest. Many people were detained or injured.

However, after several days of confrontation, the district government said they would stall the project temporarily, but the residents do not believe in the assurance because it is the municipal authorities that make the final decision. However, the municipal authorities have not made any commitments.



**(4) The domestic feedback toward the alternation is evident**

CPO 5b: the alteration of policy implementation is not consistent with people's interests. The confrontation lasted for several days until the military was sent to quell the protest. However, some residents still do not trust the government and may organize more protests in the future.

CPO 6: Foreign news reports were condemning the use of government power, but I did not find any evidence showing the change of international factors regarding the implementation of this policy.

**Figure 6 Wuhan anti-Incinerator Protest, Easy Case Analysis in Policy Implementation**



## 5.2 Hard Case Analysis

### **(1) There is an existing environmental policy**

CPO 1: the government implements an environment policy



### **(2) There are both domestic and international response toward this policy**

CPO 2: people voice their opposition to this policy through protests or other channels

CPO 3: at least one international factor is asking the government to stall this policy



### **(3) Government responds to the domestic movement**

CPO 4: government alters the environmental policy

CPO 5: government directly talks about social stability when altering the policy



### **(4) The domestic feedback toward the alternation is evident**

CPO 6a: if the alteration is in line with people's interest, then we should observe positive feedback toward the alternation (fewer or no protests)

CPO 6b: if the alteration is not in line with people's interest, then we should observe more opposition to the policy, or we see that the government physically suppresses the protests

CPO 7: there are significant international factor changes regarding this policy (we should *not* observe this CPO)

**Figure 7 Process-Tracing Chart with Causal Process Observations, Hard Case in Policy Implementation**

Figure 7 shows the process tracing framework in the hard case analysis of policy implementation. This case is a hard case because of the presence of both CPO 2 and CPO 3 before the policy change. Therefore, to prove that only domestic factors lead to the making of the new policy is to prove that only domestic factors change significantly before and after the policy alteration. More importantly, observing CPO 5 is a piece of smoking-gun evidence linking domestic factors to the implementation of the policy. The key here is that the government *directly* links the policy to one (or more) domestic factors. Also, the condition of the international factors should not change much before and after the alteration of the policy.

Using the ban on coal consumption in the winter of 2017, figure 8 shows the process tracing framework in the hard case analysis of policy implementation.

**(1) There is an existing environmental policy**

CPO 1: to tackle the air pollution crisis, Beijing-Tianjin-Hebei promoted the usage of natural gas and issued a ban on coal using in the winter of 2017 to meet the air quality target of the Air Pollution Prevention Action Plan.<sup>62</sup>



**(2) There are both domestic and international response toward this policy**

CPO 2: millions of people, especially people in the poor regions, were reported left without proper heating, after failing to switch from coal to other fuels in time for

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<sup>62</sup> The Central People's Government of the People's Republic of China. "The Central People's Government of the People's Republic of China issues the Air Pollution Prevention Action Plan. 国务院关于印发大气污染防治行动计划的通知." September 10, 2013. Retrieved from [http://www.gov.cn/zwgc/2013-09/12/content\\_2486773.htm](http://www.gov.cn/zwgc/2013-09/12/content_2486773.htm)

winter. The coal ban had also led to a gas shortage, and the price of the gas soared.<sup>63</sup> People posted on Weibo and other social media to voice their opposition. CPO 3: international media and organizations widely reported on this incident and analyzed this issue from inequality, social instability, government official performance, and many other perspectives. They urged the Chinese government to alter its policy to put people as their priority.<sup>64</sup>



### **(3) Government responds to the domestic movement**

CPO 4: the government allowed some northern cities to burn coal in a temporary policy U-turn, as the country faces a heating crisis in early December 2017, and the National Energy Administration officially stated to reform the coal-to-natural gas program in 2019.<sup>65</sup>

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<sup>63</sup> "China forcefully implemented the coal-gas transition project. Some citizens are suffering due to the absence of gas. 中国入冬强推 '煤改气' 致部分地区民众无气受冻." *BBC News*, December 4, 2017. <https://www.bbc.com/zhongwen/simp/chinese-news-42219912>; "China does U-turn on coal ban to avert heating crisis." *BBC News*, December 8, 2017. <https://www.bbc.com/news/world-asia-42266768>

<sup>64</sup> Ibid; Steven Lee Myers. "In China's coal country, a ban brings blue skies and cold homes." *The New York Times* 10 (2018). [https://www.nytimes.com/2018/02/10/world/asia/china-coal-smog-pollution.html?\\_ga=2.178900196.1385166272.1564389470-487507960.1521679163](https://www.nytimes.com/2018/02/10/world/asia/china-coal-smog-pollution.html?_ga=2.178900196.1385166272.1564389470-487507960.1521679163); Chuck DeVore. It's Cold in China, And Environmental Central Planning Has Turned Off The Heat. *Forbes*. January 23, 2019. <https://www.forbes.com/sites/chuckdevore/2019/01/23/its-cold-in-china-and-environmental-central-planning-has-turned-off-the-heat/#f3c945e69296>; Pinghui Zhuang. As winter grips rural China, who's really paying the price for Beijing's clean air plan? *South China Morning Post*. January 21, 2019. <https://www.scmp.com/news/china/politics/article/2182521/winter-grips-rural-china-whos-really-paying-price-beijings-clean>

<sup>65</sup> National Energy Administration. "Letter from the National Energy Administration for the "Notice on Solving the Relevant Issues Concerning the Clean Heating Process in the Process of "Coal to Gas" and "Coal to Electricity. 国家能源局综合司征求《关于解决“煤改气”“煤改电”等清洁供暖推进过程中有关问题的通知》意见的函。” July 3, 2019. [http://www.nea.gov.cn/2019-07/03/c\\_138195454.htm](http://www.nea.gov.cn/2019-07/03/c_138195454.htm)

CPO 5: In the statement,<sup>66</sup> the reasons to reform the program are all domestic reasons. The statement does not mention anything related to international reputation, international obligation, or any other international factors.<sup>67</sup>



**(4) The domestic feedback toward the alternation is evident**

CPO 6a: I did not find any substantial evidence to show that residents do not agree with the alteration of the policy implementation. There is nearly no gas shortage or lack of heating reports at the national level newspaper since the stall of the policy in December 2017.

CPO 7: I did not observe any significant international factor changes regarding this policy. There has been a paucity of international reporting regarding this policy since December 2018. However, the absence of reporting does not mean the existence of changes of international factors. The true counterfactual case would be the presence of news reports praising the government's termination of this policy. However, the counterfactual has not happened. Therefore, it is not reasonable to suppose the existence of changes of international factors.

**Figure 8 The Ban of Coal Using in Winter, Hard Case in Policy Implementation**

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<sup>66</sup> Ibid.

<sup>67</sup> At the current stage, it is unclear if the policy alteration is fully due to the local protests. It is possible that the National Development and Reform Commission does not provide enough support to the local governments to implement this policy. However, though there may be other causes, my conclusion stays valid because both the local protests and other causes are domestic factors.

The government also learns from its previous mismanagement experience and tries to avoid it in the new policy. This learning process also highlights the significance of domestic factors. For instance, in 2009, the Guangzhou government utilized the contact-persuade (接触-说服) method to convince the residents that it was beneficial to have a waste incineration plant in the neighborhood to accelerate the trash-sorting process. However, facing extreme pushback from the residents, the government decided to stall the process. Ten years later, in 2019, the Shanghai government applied the segregate-implement (隔离-推行) method: implementing the policy through telling residents the benefits of trash-sorting but segregating the residents from knowing the end result of the trash (through incineration). This time, the policy works, and Shanghai becomes the first mandatory trash-sorting city in mainland China.<sup>68</sup> Comparing the Guangzhou case with the Shanghai case, we can see that the Shanghai officials, learning from the Guangzhou case, intentionally separate the residents from knowing the negative impact of incineration to avoid facing the same pushback as the Guangzhou officials did.<sup>69</sup> There has been consistent international pressure asking the Chinese governments to manage the waste environmentally, and this pressure does not change much in the past ten years. Therefore, we can attribute the policy change to the internal learning process instead of international factors.

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<sup>68</sup>Buyun Kou. "The Shocking 10-year Change: The Guangzhou Model and Shanghai Model regarding Rubbish Management. 十年惊变：垃圾处理的广州模式和上海模式。” *FT Chinese*, July 2, 2019. <http://www.ftchinese.com/story/001083437?full=y&archive>.

<sup>69</sup> Ibid.

## Chapter 6: Plausibility Probe of Domestic Factors in Climate Policies

Climate policies are very different from other environmental policies because the climate is multi-functional and there is a plethora of literature showing the direct relationship between climate change and agricultural policies,<sup>70</sup> trade policies,<sup>71</sup> global governance,<sup>72</sup> technology policy,<sup>73</sup> and many other policy fields.

Climate policy itself provides a least-likely condition for my argument because many climate policies are international-level policies (e.g., The Paris Agreement), which are out of the original scope condition of this research, and many of them have clear origins from international factors.<sup>74</sup> However, this chapter aims to conduct plausibility probe: a case study at a preliminary stage of inquiry is employed to judge whether the potential validity of the hypotheses is great enough to warrant future more thorough and more decisive hypothesis-testing studies.<sup>75</sup>

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<sup>70</sup> Shuai Chen, Xiaoguang Chen, and Jintao Xu. "Impacts of climate change on agriculture: Evidence from China." *Journal of Environmental Economics and Management* 76 (2016): 105-124.

<sup>71</sup> Zhu Liu, Steven J. Davis, Kuishuang Feng, Klaus Hubacek, Sai Liang, Laura Diaz Anadon, Bin Chen, Jingru Liu, Jinyue Yan, and Dabo Guan. "Targeted opportunities to address the climate–trade dilemma in China." *Nature Climate Change* 6, no. 2 (2016): 201.

<sup>72</sup> Bulkeley, 2015.

<sup>73</sup> Stephen Pacala, and Robert Socolow. "Stabilization wedges: solving the climate problem for the next 50 years with current technologies." *science* 305, no. 5686 (2004): 968-972.

<sup>74</sup> For example, see Phillip Stalley. "Norms from the periphery: tracing the rise of the common but differentiated principle in international environmental politics." *Cambridge Review of International Affairs* 31, no. 2 (2018): 141-161; Steven Bernstein. "Liberal environmentalism and global environmental governance." *Global Environmental Politics* 2, no. 3 (2002): 1-16.

<sup>75</sup> Eckstein, 2000.

**(1) There is an environmental problem caused by climate change**

CPO 1a: there are reports showing that there is an environmental problem

CPO 1b: there are reports showing the region is suffering from climate change

CPO 1c: there are government documents or academic research connecting the environmental problem with climate change

CPO 1d: the environmental problem should not be a circular problem



**(2) There is only domestic response toward this problem**

CPO 2a: local people voice their concerns toward this problem

CPO 2b: local people identify climate change as one primary reason

CPO 2c: local officials discuss this problem with the citizens

CPO 2d: local officials identify climate change as one primary reason

CPO 3a: there is international pressure asking the government to solve this problem. International pressure could take the forms of foreign news reports, public shaming, etc. (should *not* observe this CPO)

CPO 3b: there is pressure from the upper-level government to ask the local government to solve this problem. Upper-level government pressure could take the forms of public shaming, setting environmental tasks for the local government to achieve, organize conferences with local officials to address these issues, etc. (we should *not* observe this CPO)



**(3) Government responds to the domestic factors**

CPO 4a: local government considers/initiates new policies to address this issue

CPO 4b: local government cites domestic factors (e.g., to help the farmers well prepared for the climate change) as their reasons to consider/initiate the policies

CPO 4c: local government collects local feedback regarding this issue

CPO 4d: local government organizes talks about climate change

CPO 4e: local government puts combatting climate change on their yearly work agenda and publishes it to the public



**(4) The domestic feedback toward this policy is positive**

CPO 5: there are reports showing that the environmental problem gets ameliorated

CPO 6a: there is still no sign of international involvement after the initiation of the new policies

CPO 6b: there is still no sign of international involvement after the local government's actions (collecting feedback, organize talks, etc.) regarding this issue

CPO 6c: there is international pressure asking the government to stall the new policies

CPO 7a: there is still no sign of upper-level government involvement after the initiation of the new policies

CPO 7b: there is still no sign of upper-level government involvement after the local government's actions (collecting feedback, organize talks, etc.) regarding this issue

**Figure 9 Process-Tracing Chart with Causal Process Observations, Climate Policies**



The plausibility probe emphasizes the validity at the theoretical level. Therefore, I provide as many CPOs as possible to increase the chance of observing the theoretical causal relations. Though no real policies are examined in this chapter, figure 9—showing the process tracing framework for the plausibility probe—should lay a solid foundation for future analysis.

The observations of CPO 2a, 2b, 2c, and 2d show the presence of domestic factors. The absence of CPO 3a and CPO3b shows the non-involvement of international factors. Please be noticed that CPO 3b could also be a domestic factor. However, the purpose of the plausibility probe is to demonstrate the plausibility of the argument at a *preliminary* stage. Observing upper-level government processes introduces uncertainty to this framework because the causes behind their pressure are unclear. It is possible that the upper-level pressure is driven by international commitment, which may diffuse to local government officials. If that were the case, then people would argue it was international factors that causing the initiation of the policy. The same consideration applies to CPO 7a and CPO 7b. However, if there is strong evidence showing that the upper-level pressure is unrelated to international factors, then the observation of CPO 3b becomes a reliable indicator of domestic influence. In the same vein, the absence of CPO 7b will then strongly buttress the argument that domestic factors matter in climate-driven policies.

The core of this plausibility probe is to identify cases that are at a preliminary stage. It is also essential to ensure that climate change is the principal concern behind the policy initiation. Passing the probe test is relatively easy, but failing the plausibility probe will significantly weaken the strength of my argument. International and domestic factors may co-exist behind climate policy initiation and implementation. However, the plausibility probe concerns more about the fundamental validity of the co-existence: if my argument were correct, then domestic factors alone should matter in at least some climate policies.

## Chapter 7: Research Design for Future Research

This section briefly proposes one experimental research design for future research. It shares the same causal essence and is highly related to the domestic versus international argument discussed in Chapters 4, 5, and 6.

This design is undoubtedly not the only design that can be undertaken to showcase the significance of domestic factors. However, this design is well suited for China's environmental politics because it decomposes the multidimensional domestic and international factors and tells people not only if domestic factors matter but which particular domestic factor matters (the most). This design may also be applied to other country settings (especially the ones confined by the term of authoritarian environmentalism) or policy settings (the conjoint experiment is well used in economic policies and other policy fields).

One significant advantage of experimenting is that it collects new data. The paucity of reliable data has been an obstacle to the study of China's environmental politics for a long time. There is a report that local officials have devised creative ways to cover up their lack of action on tackling pollution and falsified monitoring data to direct clean-up efforts away from where they are needed most.<sup>76</sup> This cover-up leaves the residents no other channels but through protests and demonstrations to fight for environmental protection. The latest Karplus, Zhang, and Almond's paper also offers valid evidence that on average the ratios of the declines of SO<sub>2</sub> measures in the trust-worthy NASA satellite data and the Chinese-company driven Continuous Emissions

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<sup>76</sup> Echo Xie. "China's Green Efforts Hit by Fake Data and Corruption among the Grass Roots." *South China Morning Post*, May 19, 2019. <https://www.scmp.com/news/china/politics/article/3010679/chinas-green-efforts-hit-fake-data-and-corruption-among-grass>.

Monitoring Systems (CEMS) data are about 0.5. In other words, there is an SO<sub>2</sub> data mismatch/inaccuracy (the result also holds in NO<sub>x</sub>, PM 2.5, and other environmental data).<sup>77</sup> Their results suggest a need for increased scrutiny of emissions data quality and a need to collect more non-biased data. Experimental data is a good source for this purpose.

It is true that the survey experiment also faces data limitations in the forms of biases, especially social desirability bias. However, after careful experiment design and the utilization of the population-based survey experiment, the biases would be reduced to the extent that the survey could provide reliable causal information.<sup>78</sup> More importantly, compared with other experiments, conjoint experiment yields a higher accuracy rate. For instance, comparing the results of paired conjoint experiment, paired conjoint forced-choice experiment, paired vignette experiment, single conjoint experiment, single vignette experiment with the behavioral benchmark, Hainmueller, Hangartner, and Yamamoto declares that the paired conjoint design, the same design approach of this paper, comes closest to the behavioral benchmark (on average, the difference is within a 2% percentage range).<sup>79</sup>

My experiment design is derived from the well-cited paper written by Hainmueller, Hopkins, and Yamamoto.<sup>80</sup> Their paper convincingly demonstrates that people can and should

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<sup>77</sup> Valerie J Karplus, Shuang Zhang, and Douglas Almond. "Quantifying coal power plant responses to tighter SO<sub>2</sub> emissions standards in China." *Proceedings of the National Academy of Sciences* 115, no. 27 (2018): 7004-7009.

<sup>78</sup> Diana C Mutz. *Population-based survey experiments*. Princeton University Press, 2011.

<sup>79</sup> Jens Hainmueller, Dominik Hangartner, and Teppei Yamamoto. "Validating vignette and conjoint survey experiments against real-world behavior." *Proceedings of the National Academy of Sciences* 112, no. 8 (2015): 2395-2400.

<sup>80</sup> Jens Hainmueller, Daniel J. Hopkins, and Teppei Yamamoto. "Causal inference in conjoint analysis: Understanding multidimensional choices via stated preference experiments." *Political Analysis* 22, no. 1 (2014): 1-30.

delve into the causal inference in conjoint analysis: the stated preference experiment is an appropriate vehicle via which people can decompose the multidimensional choices and sift out the most fundamental causal factor. This design suits our purpose well because it can decompose the general term of domestic factors and tell us which internal factor is driving the policy initiation and policy implementation process. I expect that people may put different weights on different domestic factors. However, the causal pillar should be the consideration of “social stability.”

My design simplifies the original experiment design because all factors (or *attributes* in their paper) in my design are binary variables (Yes/No). This change leads to a more straightforward calculation and a more intuitive explanation of the *average marginal component effect* (AMCE). As their paper suggests, the conjoint experiment also renders the causal quantities of interest as *average treatment effect* (ATE) of the limits of basic profile effects and the *average component interaction effect* (ACIE). My design also helps the discussion of ATE and ACIE. However, the focus of my design is AMCE because the goal is to disintegrate the domestic and international factors and tell people which multidimensional facet gives a stronger causal impact, shown as a higher AMCE value.

The survey target is a population-based sample, which reflects how society as a whole thinks about environmental policy making and implementation. However, a better sample would be a government official population-based sample because it explains how the real policymakers take domestic and international factors under consideration. Nonetheless, it would be extremely challenging to collect survey data from government officials directly, and their answer, compared with the public, may not embody their real thoughts and intentions. One way to

address this problem is to utilize process tracing to track the effects of ideas<sup>81</sup> and to add the components identified by the ideational theory to the survey. However, this is beyond the scope of this section. This section only aims to provide a practical and feasible approach to causally prove if domestic factors matter, and if yes, which specific dimension of domestic factors matters the most. A survey experiment, compared with tracking the effects of ideas, is more natural to be conducted, and it helps to find the causally important domestic factors. This survey experiment would be conducted online.

I focus on seven factors that have been discussed in relevant environmental politics literature. Three factors are under the theme of international factors: international norms, international institution participation, and international reputation. The other four factors are under the theme of domestic factors: middle-class power, NGOs or other environmental groups, social stability (protest or demonstration), and anti-corruption campaign. All factors take the value of Yes or No. These seven factors can also be transformed into corresponding CPOs and be inserted into the process-tracing charts in Chapters 4, 5 and 6. In other words, this experiment can also be used to test the significance of the CPOs we selected in the charts. We may want to use CPOs that match higher AMCE values.

The same as Hainmueller, Hopkins, and Yamamoto's<sup>82</sup> design, each survey respondent sees six pairs of profiles that are generated using the fully randomized approach: the factor values are randomly assigned to them, and the factors are presented in a randomized order that is fixed across the six pairings for each respondent. The two environmental policy profiles of each

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<sup>81</sup>Alan M Jacobs. "Process tracing the effects of ideas." *Process tracing: From metaphor to analytic tool* (2015): 41-73; Pan, 2018.

<sup>82</sup> Jens Hainmueller, Daniel J. Hopkins, and Teppei Yamamoto, 2014.

pair are presented side-by-side, and each pair takes one separate computer screen. This design has been theoretically and empirically examined, and it can detect the causal process behind the decision-making process.

For each pair, the respondents are asked three questions that serve as the dependent variables. In total, there will be six values for each dependent variable (because we have 6 pairs). The first question is to ask the survey taker to evaluate each profile and only pick one profile from each pair as the policy they prefer to initiate/implement. This decision is closer to reality because policy takes priorities, and it is quite common for people to make one policy change at one time. The second and third questions ask the respondents to rate each profile on a scale from one to seven, evaluating the levels of the respondents' absolute support or opposition to each profile.

The next step is to collect and insert the data into the model proposed by Hainmueller, Hopkins, and Yamamoto.<sup>83</sup> If the hypotheses I analyzed in Chapters 4 and 5 were correct, then the average AMCE values of domestic factors would be higher than the average AMCE values of international factors. Furthermore, the social stability factor should have the highest AMCE value.

Figure 10 provides a sample pair of profiles and shows the format of the conjoint survey experiment.

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<sup>83</sup> Ibid.

| Would this policy  | Policy 1 | Policy 2 |
|--|----------|----------|
| follow international norms                                   | Yes      | Yes      |
| increase China's participation in international institutions | No       | Yes      |
| increase China's international reputation                    | Yes      | No       |
| increase the benefits of middle-class people                 | Yes      | No       |
| involve NGOs or other environmental groups                   | No       | Yes      |
| worsen social stability (more protests or demonstration)     | Yes      | Yes      |
| help the anti-corruption campaign                            | No       | Yes      |

|   | Policy 1 | Policy 2 |
|---|----------|----------|
| If you had to choose between them, which of these two policy profiles would you choose to implement |          |          |

On a scale from 1 to 7, where 1 indicates that you absolutely oppose the policy and 7 indicates that you absolutely support the policy. How would you rate policy profile 1?

|                   |                    |
|-------------------|--------------------|
| Absolutely Oppose | Absolutely Support |
| 1                 | 7                  |
| 2                 |                    |
| 3                 |                    |
| 4                 |                    |
| 5                 |                    |
| 6                 |                    |

Using the same scale, how would you rate policy profile 2?

|                   |                    |
|-------------------|--------------------|
| Absolutely Oppose | Absolutely Support |
| 1                 | 7                  |
| 2                 |                    |
| 3                 |                    |
| 4                 |                    |
| 5                 |                    |
| 6                 |                    |

Figure 10 Conjoint Survey Experiment Sample Pair and Format

This conjoint survey experiment not only fulfills the purpose of deciding which factors—domestic or international—shape the environmental policies in China but also decompose the multidimensional factors and tell people exactly which particular factor matters the most. Besides, this experiment is flexible in the sense that we can add or omit more factors and rate their importance level following the different selection of our CPOs in the process-tracing charts. My hypothesis of the experiment outcome is that the average AMCE values of domestic factors should be higher than the average AMCE values of international factors. Furthermore, the social stability factor should have the highest AMCE value.



## Chapter 8: Conclusion

Under four similar but different process tracing frameworks, I demonstrate that domestic factors are more important than international factors in the process of policy initiation and policy implementation in China. I also demonstrate a causal framework that can decide if domestic factors are also significant in shaping policies driven by climate concerns. Furthermore, I propose a conjoint experiment design that may help disintegrate the general concept of domestic and international factors and tell people which specific factor is more important.

Nevertheless, one limitation of this research is the narrow selection of environmental policies. It is possible that the process tracing framework would yield different results if other policies were selected. For instance, it is highly possible that international factors would have more power on policy initiation and implementation when discussing international level policies. One way to disentangle the national-international interaction is to follow Putnam's<sup>84</sup> two-level game model. However, the scope of this research is national non-climate policies, and my goal is not to deny the importance of international factors but to causally explain the potential causal mechanism in domestic non-climate policies.

Another limitation of this research is its weak power in explaining the potential diffuse framework: China's international promise in combatting climate change and environmental issues may diffuse from its leaders (e.g., President Xi's speech in Geneva in 2017<sup>85</sup>) to provincial or local officials who balance this signal and conduct corresponding policies for personal benefits (e.g., promotion). It is possible that this diffusion, at some point, may override domestic

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<sup>84</sup> Putnam, 1988.

<sup>85</sup> Jinping Xi, 2017.

interests and forces in directing policy initiation and implementation. My analysis of the plausibility probe shows the possibility that local government officials may still introduce climate-related policies without pressure from the upper-level government. Also, my proposal for the survey experiment may further evaluate the importance of domestic and international factors. However, the significance of the diffusing and facilitation power of international commitment and reputation is non-ignorable, and this diffuse framework deserves more theoretical and empirical research.

This research is also meaningful because it sheds light on how other countries may be able to manage China-related projects that may render environmental problems, or to a more general scope, social problems in their home country. For instance, in May 2019, Sihanoukville authorities in Cambodia shut down a Chinese-owned casino for pouring raw sewage into the sea after the casino ignored repeated orders to cease operations. One possible cause of this shut down is the protests carried out by the anti-Chinese sentiment Cambodians.<sup>86</sup> Though it is not diplomatically feasible for the Cambodian authorities to use the anti-Chinese sentiment as their argument to shut down the Chinese business, they can package the protest movement as a potential fuse to future social instability. The Chinese businessmen and officials, facing similar problems within their territory, may then adjust their business behavior because they do not want to take the accusation of “causing social instability” and they know how badly their business would be influenced in an unstable social context.

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<sup>86</sup> Yaqiu Wang. ‘See, They Are So Happy with Our Generosity!’ *China File*, July 18, 2019. <http://www.chinafile.com/reporting-opinion/viewpoint/see-they-are-so-happy-our-generosity>

More importantly, even though my study focuses on one policy field in only one country, the results contribute to the general understanding of authoritarian politics. My study leads to the question that if the goal to initiate or alter a policy is to avoid social instability/follow domestic factors, is not this practice, to some extent, demonstrating the supervision power of the *vox populi*, which is a significant indicator of democracy? How do scholars further distinguish and sift out a potential democratic practice in an authoritarian system? People may use authoritarian environmentalism to explain this situation, but undoubtedly, it deserves further research.

Also, my study should interest people who are concerned with the research limitation of globalization and regionalization. Many political leaders, like Donald Trump of the United States and Boris Johnson of the United Kingdom, are pushing the anti-globalization and anti-climate change agenda, and one corresponding effect is the weakening power of international organizations like United Nations, World Trade Organization, International Monetary Fund, and World Bank. The last two decades of political economy research was dominated by the school of pro-globalization and *relatively speaking*, there was a lack of country-oriented studies. I am not proposing to abolish the research of globalization, but it is reasonable to argue that each country may adopt different policy strategies in the current wobbly political climate. Therefore, to some extent, my study adds to the need for more country-specific studies in the current turbulent global order.

Moreover, one extension of this study is to explore the role of domestic factors and international factors in global climate policies. People tend to treat climate change as a global condition, which is entirely valid. However, using country-specific studies to analyze policies that may have a global impact may lead us to some novel findings.

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