The Hunting Target: Interpreting the Continuing US Economic Sanctions on Huawei as a Non-state Actor

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The Hunting Target: Interpreting the Continuing US Economic Sanctions on Huawei as a Non-state Actor

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Abstract

In 2018, the Trump administration imposed similar economic sanctions on two Chinese telecommunication multinational companies (MNCs), Huawei and ZTE. US sanctions on Huawei not only persist until today but also seem to escalate. On the contrary, ZTE’s sanctions lasted shortly and are now lifted. Why are sanctions lifted for ZTE but persisted for Huawei? Existing scholarly views often approach the subject of economic sanctions from a state’s perspective. However, these state-centric thoughts do not comprehensively fit into the case of Huawei and ZTE, since the two cases present similarities in many proposed conditions. By utilizing J.S. Mill’s method of difference, I examine the difference in three sources of MNCs’ power proposed by the bargaining model, I argue that the size of a firm provides the greatest source of power to counter the impact of economic sanctions, therefore allowing Huawei to refuse to comply to US sanctions, which eventually resulted in persistence of US economic sanctions. The finding of this paper provides a firm-level explanation of the ongoing sanctions on Huawei and fills the gap in analyzing the effectiveness of economic sanctions.
Lay Summary

Two Chinese companies, Huawei and ZTE, which specialize in producing telecommunication-related products, are both imposed economic sanctions by the Trump administration in the United States. Although the sanctions are lifted for ZTE, the same treatment is not applied to Huawei. Why is this the case? By comparing the differences between the two companies, I try to answer this question from a firm’s angle. I argue a firm’s size provides a strong counterforce to the impact of sanctions, because the larger the firm is, the greater its financial capacity is to withstand negative impacts from penalties. My analysis is valuable because other studies rarely consider the subject of sanction as a non-state actor.
Preface

This thesis is original, unpublished, independent work by the author, Yang Zheng.
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MNC  Multinational Corporation
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I have spent seven years here in Vancouver, Canada. My heartfelt appreciation for everything amazing in this city and this country in general. I consider here as my second hometown, and I look forward to more memories associated with this place.
Dedication

To my loving parents, Ms. Hongmei Sun and Mr. Dongxiao Zheng.

To all my friends, for their continuous care and support.

To the cutest puppy on earth, 肉球

And to my forever companion, Shikai Li.
Chapter 1: Introduction

In May 2019, the Trump administration made an announcement that caught the public’s attention about a series of sanctions specifically targeted Huawei Technologies Co., Ltd (hereinafter referred to as ‘Huawei’) – a Chinese multinational corporation (MNC) that specializes in telecommunications, starting from putting the company on what is now called an “Entity List”, which bans listed companies from doing business with any organization that operates in the US (Brown, 2022). Diving deeper into the timeline, sanctions on Huawei could be dated as early as the beginning of 2018 (Keane, 2021). US officials have accused the company of conducting a series of wrongdoing, including violations of US sanctions on Iran, spying, financial fraud, and trade secret theft (Keane, 2021). Despite making headlines for being imposed layers of sanctions, Huawei is not the first telecommunication company, nor the first Chinese-based MNC that has been placed on the sanction list by the US. In 2017, another Chinese telecommunication company, ZTE Corporation (hereinafter referred to as ‘ZTE’), pleaded guilty to violations of US sanctions against Iran and North Korea under the pressure of sanctions banning the company from associations with US suppliers and consumers (Farrell & Korosec, 2017). However, in late 2018, the Trump administration lifted the ban after confirming that ZTE agreed to settle with billion dollars in penalty and accepted various conditions in operational adjustment (Ballentine, 2018). Interestingly, unlike the experience of ZTE, the sanctions on Huawei not only continued but also escalated (Chen & Lei, 2022).

The experiences of Huawei and ZTE present an interesting comparison in International Political Economy. Although Huawei is charged with a greater number of allegations than ZTE, if we focus specifically on the early phase of the Huawei case, both were charged by the US Department of Justice for their concealed dealings of shipping US-based equipment to Iranian
markets (Mozur, 2018). In fact, the arrest of Meng Wanzhou, Huawei’s then Chief Financial Officer and daughter of the founder, was admitted by US officials to be directly related to Huawei’s violation of Iran sanctions (Jacobs & Coletta, 2021). Moreover, both cases are developed roughly around the same period under the Trump administration.

As Huawei faces mounting difficulties to operate in US markets, it is curious to many as to why Huawei and ZTE, two companies who both received sanctions from the Trump administration for identical reasons, have opposing outcomes in treatment. To be more specific, why are sanctions lifted for ZTE but not for Huawei? What are the conditions in the Huawei case that contribute to the persistence of US sanctions?

On a broader level, the actions of the Trump administration might not be surprising to scholars who have been following the trade battle between the US and Huawei’s home country – China. As Witt (2019) noted in his remarks, the Huawei ban is merely the tip of the iceberg of something more prominent in international relations, that is, the political clashes between two major trading partners, which is often described by the manifested term of ‘trade war’ (p.687). Based on Witt’s theory, ramifications of the ongoing trade war are likely to disturb the business environment for companies that originated in one country to operate in the other country’s market (Witt, 2019). Since Huawei is one of the big names among only a handful of competitors in the telecommunication sector, the US targeting Huawei seems to be an anticipated step to showcase its unwelcome to Chinese MNCs entering its domestic market.

Nevertheless, the trade war explanation only paints a picture of the background to the research question in this paper, a more detailed answer is required to explain the differentiated outcomes of Huawei and ZTE. Existing knowledge posits that the goal of implementing economic sanctions is to induce compliance from the target, if compliance from the target is
successfully achieved, such sanctions could be deemed as effective. However, empirical findings indicate effective sanction results are rarely achieved in practice (Pape, 1998). Regardless of the evidence, economic sanctions are considered favorable tools by policymakers. Given the paradoxical situation, the trick to making sense of the use of sanctions is to determine the conditions under which sanctions are more likely to be effective to achieve the goal of compliance. Following the logic from current literature, the first step would be determining the compliance of Huawei and ZTE. In statements relating to Huawei and ZTE’s allegations, it is apparent that the US demanded the two companies’ compliance to be actions such as a plea to guilt, fines, termination of wrongdoings, and efforts to change decision-making bodies (Lee-Makiyama, 2021). Given that sanctions are continued to be imposed on Huawei, a simple answer to the research question is that the US sees compliance in ZTE but not in Huawei. Indeed, on one hand, we see that ZTE paid $1.19 billion fines, plead guilty and the case was settled after the judge halted ZTE’s five-year probation (Reuters, 2022). On the other hand, Meng Wanzhou, as a non-representative of Huawei, only admitted illegal conduct in a deferred prosecution agreement. Therefore, sanctions are deemed effective for ZTE, and such a conclusion thus led to the termination of ZTE sanctions. Adversely, the non-compliance of Huawei indicates the ineffectiveness of sanctions and therefore results in the persistence of the ban. However, we ought to not accept the simple answer and dig closer to the root: why does Huawei not comply with US sanctions?

Viable explanations from sanction literature seem lacking. As I will demonstrate later, current sanction studies fail to distinguish 1) state-specific analysis of sanctions; 2) imposed sanctions from threatened ones; 3) the importance of non-state actors; 4) shortcomings in the current method, all of which have made it difficult to approach this subject from a purely
theoretical manner. Given that the cases of Huawei and ZTE exhibit many similarities in the process of being sanctioned, the spotlight of analysis shall be adjusted to other directions apart from traditional thinking. One of which is focusing on the firm-level differences. Despite the scope of analysis being limited in the sanction studies, luckily, the bargaining model offers some insights regarding the sources of power of an MNC. Three possible sources of firm-level power are generated from the model: size, technological intensity, and ownership. Combining the knowledge from both sanction studies and the bargaining model, I plan to compare the cases of Huawei and ZTE using J.S. Mill’s method of difference (hereinafter referred to as ‘method of difference’ or ‘the method’). While assuring the Huawei and ZTE cases hold similarities in other alternative arguments, I examine the differences between Huawei and ZTE in three proposed factors and argue that the size of a firm has the most significant role in determining sufficient conditions for the persistent of US sanctions on Huawei. Furthermore, I intend to emphasize that firm-level factors are often overlooked in discussions about the conditions of an effective sanction.

The remaining article is planned as follows: Chapter 2 provides a historical recap of scholars' views on the effectiveness of sanctions, and a large portion of this chapter focuses on the limitations identified by critics, which are intended to be extended by my research. Chapter 3 proceeds with the theoretical framework that allows firm-centric analysis and proposes three possible conditions that might affect the outcomes of sanctions. Chapter 4 explains the rationales regarding my choice of methodology, emphasizing how my research design is related to controls for several similarities. In Chapter 5, detailed analyses are conducted to present the most significant source of power that allows Huawei to counter compliance pressure from sanctions. Finally, Chapter 6 discusses some implications from my research as well as self-reflects some
limitations that are left unexplored, it also concludes the findings of my research and indicates likely directions for future exploring.
Chapter 2: Literature Review

Existing scholarly works have offered a long line of reviews on economic sanctions, originally surrounding two questions: when to impose economic sanctions and do sanctions work, and two actors: sanction sender state and sanction target state.

The former question fixates on the goals which the sender intends to achieve when making decisions to implement sanctions, as indicated by the work of Baldwin (1985), economic sanctions should be considered as a form of economic statecraft, a technique that alters the “external environment in general or the policies and actions of other states in particular to achieve the objectives that have been set by policymakers” (p.8). Hufbauer et al. (2007) believe that sanctions are imposed to change strategic decisions made by an opposing party who threatens the sanctioner’s interests, they further elaborate on the process as “deliberate, government-inspired withdrawal, or threat to withdrawal, of customary trade or financial relations” (p.8). Scholars have been able to achieve an agreement on the former question. They believe that economic sanctions are imposed on targets whenever senders 1) perceive threats from the targets’ intentions; 2) aim to alter the behavior of targets; 3) see a violation of international norms from targets. In other words, the primary goal of economic sanctions is to induce compliance of the target state.

However, scholarly arguments are not as consistent on the latter question. Baldwin (1985) asserts economic sanctions are the “first-best” intermediate policy between either diplomacy or propaganda and warfare since sanctions exert more pressure on targets than diplomatic means but are not as potent as coercive forces (p.107; p.110). Despite admitting sanctions could be policy makers’ favorable alternative to military instruments, he did hold a negative stance towards the effectiveness of economic sanctions, saying “it would be difficult to find any
proposition in the international relations literature more widely accepted than those belittling the utility of economic techniques of statecraft” (p.57). According to Hovi et al. (2005), the dominant view historically has been suggesting the ineffectiveness of sanctions. Furthermore, recent studies not only affirm the ineffectiveness of sanctions but also emphasize the negative externalities of imposing sanctions that exponentially harm sanctioning states and their partners (Peksen 2010; Peksen & Drury 2009, 2010).

But a small school of scholars confronts the mainstream, arguing sanction policies are successful in terms of inducing compliance from targets, famously led by Hufbauer et al. (1990). In their evaluation of 116 cases, they found that over 30% of these selected cases eventually resulted in certain forms of acquiescence by the targets as consequences of sanctions. Yet, their results faced critics from various aspects. First, as Peksen (2019) points out, it is crucial to determine what counts as “successful” or equivalently, “effective” (p.636). Although both Hufbauer et al (2007) and Baldwin (1985) agree to a more lenient measure of total acquiescence by targets in response to an imposed sanction, Pape (1997) holds a stricter threshold of what counts as “effective”, in his reexamine of the original study of Hufbauer et al (1990), he concludes that less than 5% of the 116 selected cases had “significant political concessions” in the target country (Hovi et al., 2005). Indeed, a precise description of an effective sanction is lacking since the lines differentiating ‘successful’ and ‘unsuccessful’ are blurred. Hovi et al. (2005) outline three reasons why the effectiveness of sanctions is difficult to properly assess. First, it is hard to ensure sanctions are aimed accurately at the target bodies. For instance, if sanctions are aimed at the political elite in target countries, they might be able to evade sanctions entirely or reduce the harm by using counterstrategies. Second, sanctions are double-edge swords, when the costs of the sender imposing sanctions outweigh the harm of the target
receiving sanctions, the net loss might be evidence of an ineffective sanction. Finally, sanctions might be counterproductive. While theories believe sanctions would cause protest against the regime in the target country in order to induce change in its behavior, reality shows sanctions might also “arouse defiance, protectionism, and popular support for the regime” (Hovi et al., 2005).

Nevertheless, Sabtan et al. (2019) emphasize economic sanctions remain an essential foreign policy tool in international relations. Given that negative views about the effectiveness of sanctions are dominant in historical discussions of the matter, then why do states, especially those in the western sphere, favor such economic instruments as alternatives to either diplomacy or coercive forces?

From a policy perception-oriented perspective, one plausible explanation of states favoring sanction policies is due to its higher credibility than diplomatic arrangements, for example, when the sender country tries to discipline the target via diplomatic channels, the underlying message sent through such behavior suggests trust towards the opponent, the sender side believes an alternation or correction of actions from the target side could be achieved without it taking any tangible actions. However, such trust of cooperation could be easily ignored by the other party. Therefore, diplomatic solutions often fail the sender’s expectations. Retrospectively, whenever diplomacy is enforced, chances are, such efforts would not be likely to produce compliance from its target. Unlike diplomacy, economic sanctions are actual actions taken to cause harm to the target’s economic activities to force the target’s yield to the sender’s will. Compared to diplomatic approaches, sanctions are tangible policies for punishment, it gives the public of the sender country a sense of satisfaction of their government is actually “doing something” (Hovi et
al., 2005). Hence, sanctions are perceived as having higher credibility than diplomacy by the sender, the target, and external viewers.

Moreover, looking through a policy implementation-inspired lens, “sanctions are a low-cost, low-risk course of action compared to aggressive measures such as warfare” (Sabtan et al., 2019). Economic sanctions are the most desirable policy since they rest perfectly on the equilibrium of evaluation among credibility, cost, and risk (Freedman, 1986). Indeed, it is no wonder that sanctions are western policymakers’ favorite pick. Instead of persuading taxpayers for millions of dollars to purchase warfare and utilize the army, sanctions require significantly fewer resources to be adopted. In addition, compared to aggressive policies such as warfare, sanctions are less likely to induce heated reactions from the targets in events of retaliation. Generally, it is safe to assume by lawmakers that harsh consequences are unlikely to occur when sanctions are imposed instead of those that are more aggressive in nature.

Considering the effectiveness of sanctions is passively viewed by most scholars but the instrument itself is favored by many western policymakers. In the current discussion of the effectiveness of sanctions, a noticeable shift in focus regarding the question “do sanctions work?” has been spotted by several scholars. They indicate that the answer to this question might not be as direct as they had estimated decades earlier, rather, it should lie somewhere when conditionalities are applied. Hence, reframing the question became necessary. Li (2014) points out that the spotlight has been gradually moved from the question “do sanctions work?” to “under what conditions are sanctions most likely to be effective?” (p.312). Interestingly, conversations became exceptionally fruitful in response to this second question.

Pape (1997) proposes three conditions that would be supportive of effective sanctions. In his prediction, sanctions are more likely to achieve desired goals if 1) issues are less salient to the
target state’s security, sovereignty, and regime legitimacy. 2) the target’s trade has a significant dependency on the sanctioning state. 3) extreme inequality of income distribution presents in the target state. His hypotheses primarily fix on the interrelations between the coercer and the target states, after reexamining the database constructed by Hufbauer et al (1990), he urges future researchers shall take these conditions into consideration and test them against emerging evidence. Indeed, a decade later, Ang and Peksen (2007) repeat similar ideas, adding that the perceptions of sanctioning and sanctioned states determine the salience of issues. However, Blanchard and Ripsman (1999) believe that the essence of effective sanctions is in the interplay of domestic and international conditions. Using three historical cases of successful sanctions, they assert that when domestic and international conditions ensure the target state faces a high political cost of non-compliance, low costs of changing behavior, and executive autonomy, sanctions are meant to succeed (p.251).

In response to the possible conditions of effective sanctions laid out by previous discussions, critics have also offered their reasons for concern. First, the unit of analysis has been unnecessarily generalized to a wide range of actors. In fact, at a closer look, only a handful of states have been aggressively utilizing such bargaining tools, among which, the US has a definite lead in the usage of sanctions against other states, particularly against those in the Asia-Pacific region (Taylor, 2009). Given the unique economic capacity of the US and the large portion of the US-issued sanctions with respect to the total pool of cases, merging the US-related sanctions with others could neglect distinctive features that define the genre of US-specific sanctions. As Taylor (2009) stresses, emerging views are now challenging the prevailing scholarship about the effectiveness of sanctions (p.3). Hence, the scope of analysis shall be downsized to eliminate biases from generalization.
Second, before assessing the effectiveness of sanctions, one might ask a more fundamental question “What are economic sanctions?”. Both Hovi et al. (2005) and Li (2014) raise this question, arguing what counts as sanctions matters greatly in later assessments and scholars have various interpretations of their own, therefore, if the definition of sanctions is treated loosely by researchers, how could their conclusions fit into this subject as a whole? One key debate surrounding the “what are sanctions” question is the distinction between ‘imposed sanctions’ (those that are issued by political decision-making bodies) and ‘threatened sanctions’ (those that generally remain in uncertain, verbal forms). Sanctions are normally threatened before being imposed, if a target country refuses to comply when credible threats are made, there are legitimate reasons to expect sanctions would fail even after threats escalate to implementation (Hovi et al., 2005). Unfortunately, previous studies often mix these two forms of sanctions together when analyzing, hence it is likely that results, such as the one derived from Hufbauer et al (1990), suffer from selection bias. It is thus obvious to researchers the need to distinguish the type of sanctions and strictly define sanctions in order to examine their effectiveness of sanctions.

Third, existing literature heavily relies on a state-centric approach to studying economic sanctions. When it comes to stakeholders, traditional thinking primarily regards states as the center of attention. After all, as one of the techniques in the foreign policy toolbox, sanctions are intended for modifying behaviors in strategic interactions between states (Peksen, 2019). Although it is customary to assume a state-to-state relation when explaining the use of economic statecraft, it is important to note the sanctioning body and the sanctioned body could involve a variety of non-state actors even though they appear to be led by state actors. Peksen (2019) confronts the dominant state-centric approach, indicating that non-state actors’ involvement in
economic sanctions remains underexplored (p.641). Indeed, in recent years, evidence shows that non-state actors, such as corporations, interest groups, and non-governmental organizations, have either been increasingly targeted in sanctions or have been increasingly demanded to cooperate in line with actions taken by senders (Peksen, 2019). Similarly, Bapat & Kwon (2015) also point out that arguments rest on the premise that states are in full control of the outcome of sanctions are overestimated, and non-state actors like firms play vital roles in transforming imposed sanctions into enforced ones (p.132). Given that hardly any studies would be willing to discuss this subject without taking a state-centric approach, continuously neglecting non-state actors might allow growing hidden dangers to the theoretical framework used by many.

Finally, current methods dealing with sanction studies are insufficient to capture the driving factors that determine the effectiveness of sanctions. One of the popular methods favored by scholars is quantitative analysis, which uses a pool of sanctions cases to observe commonalities among selected examples, however, due to selection bias and discrepancies in measuring standards mentioned above, results conducted from the same set of data could agree, disagree, or even oppose, with each other (Hovi et al., 2005; Li, 2014; Peksen, 2019) Another method often attempted by researchers in this subject is the game-theoretical model, in which both the sender and the target are placed in strategic interactions guided by a certain set of rule and conditions (Hovi et al., 2005; Bapat & Kwon, 2015). Yet, a key assumption of this model expects actors to behave rationally, however, violations of this assumption have been observed repeatedly in reality. Hence, we need to recognize that alternative explanations are required to fill in the current gaps identified by scholars in the field of sanction studies.

Due to these unfulfilled gaps in current knowledge, my research becomes necessary to address some of those unanswered questions about the limited coverage of the effectiveness of
economic sanctions. Based on a reinterpreted design of the theoretical model and methodology, my research aims to address the less-discussed area of firm-level ability in shaping the effectiveness of economic sanctions. While controlling for several confounding factors that could potentially affect the outcome of sanctions, the selected case studies try to approach the subject with a comparative view. Hopefully, it can shed light on the autonomy of non-state actors and enrich sufficient conditions studied for imposing an effective economic sanction from a micro-level analysis.
Chapter 3: Theoretical Framework

The current discussion on sanction studies offers insufficient interpretation from a non-state actor’s perspective, to serve the purpose of approaching the subject of sanction from a firm-centric perspective, it is necessary to build a ground for analyzing the power of MNCs with respect to host governments, understand existing theories on the sources of MNCs’ autonomy in strategic interactions with host governments. Ideally, this paper hopes to derive some possible factors from existing theories that serve the purpose of facilitating interpretations of effective sanctions as a non-state actor. Since Huawei did not fully satisfy the demands of the US including paying fines, pleading guilty, and changing its decision-making bodies, it is curious as to the reasons why Huawei chose not to comply. To be more specific, this chapter answers the question “From which sources within the MNCs themselves are they empowered to confront unilateral decisions from a state?”.

The theoretical framework of the bargaining model assumes the negotiation between MNCs and the host government, respectively Huawei and the US government, in this case, involves tradeoffs and the relative gains and losses result from relative strength from both sides, MNCs with greater bargaining power are believed to have greater influence in altering interventions from host countries. Even though the bargaining process ought to be studied on a case-by-case basis, there are general themes merged from commonalities of the sources of each party’s bargaining power (Ramamurti, 2001). Previous studies found the sources of MNC bargaining power come from three levels – firm, industry, and country levels (Moon & Lado, 2000). For the sake of a firm-centric analysis, I briefly review the three most-discussed factors at the firm level as hints to suggest the sources of MNC power.
Size. The size of an MNC refers to either the size of its subsidiary in the host country or the size of the parent firm. Both theoretical arguments and empirical findings have extensive discussions, however, a unanimous view regarding the effect of firm size is nowhere to be found (Moon & Lado, 2000). Theoretically, a school of theorists argued that the size of the subsidiary is negatively related to the bargaining power of the MNC, since the significance of its size means any tendency of the firm is easily detected by the host government and thus attracts immediate attention, a larger subsidiary is definitely a priority target on any government’s watch-list, therefore, greater government attention leaves no space for larger firms to prepare for the forthcoming, which ultimately makes larger firms vulnerable to intervention policies (Bradley, 1977; Hawkins et al., 1976; KNUDSEN, 1972; Poynter, 1982, 1985.) Another school of thought, on the contrary, asserted that host governments tend to yield to larger-sized MNCs due to difficulties of “digest, manage and compensate” as well as the benefits of greater financial resources MNCs bring into the country (Fagre & Wells, 1982; Gasser & Rossier, 1974; Moon & Lado, 2000; TRUITT, 1970). In addition, Lecraw (1984) also noted that the more abundant capital of the parent company, the more persuasive its subsidiary is in shaping decisions of the host country. Empirically, each school of thought claimed to be supported by evidence from correlational studies. In specific, the size of the subsidiary was captured by assets, outputs, sales, and the number of employees, and the effect on government decisions was measured by intervention level and expropriation rate (Bradley, 1977; Fagre & Wells, 1982; Lecraw, 1984; Poynter, 1982, 1985). It is important to stress that nearly every study in the bargaining model discusses firm size matters to some degree, hence, it is wise to consider the size of MNC as one possible determinant of bargaining outcomes.
**Technological Intensity.** Technological intensity indicates the level of technology possessed by an MNC and is hypothesized to be positively correlated with the firm’s bargaining power (Bradley, 1977; Fagre & Wells, 1982; Lecraw, 1984; Moon & Lado, 2000; Poynter, 1982, 1985). Scholars who support the positive hypothesis reasoned that a high level of technological complexity confuses government since it exists beyond policy competence of regulating but is also preferred by policymakers as advances of overall development, it is thus rational to assume states would yield to high-tech MNCs in exchange for access to their technology (Moon & Lado, 2000). Other scholars suggested such a positive relationship is only observed in advanced industries but does not necessarily hold valid in areas with low and medium technology requirements (Fagre & Wells, 1982). Some scholars, such as Bradley (1977), demonstrated that states are more likely to yield to either low-level or high-level technology firms but hold firm baselines with firms with a medium level of technology, hence, indicating a curvilinear relationship between technology and bargaining power. In sum, technology intensity has been deemed as a key influencer in shaping bargaining power in MNCs.

**Ownership.** Finally, Bradley (1977) recognized ownership of the MNC could also be a source of bargaining power (p.80). For example, despite common beliefs arguing that jointly owned firms have larger bargaining power through higher-level of localization, his research found the opposite that US MNCs whose subsidiaries are jointly operated by local governments or other foreign entities are more likely to be intervened by host governments than those own 100% by parent MNCs (Bradley, 1977). His findings provided additional insights for us to investigate the sources of bargaining power of MNCs.

In sum, previous theories in MNCs versus host country bargaining model provide helpful clues for us to conduct further research in determining driving factors of a firm’s autonomy in
confronting intervening decisions of a host country. Namely, the size of the firm, technological intensity, and ownership have been identified to measure the bargaining power of a firm. In terms of modifying the existing theoretical framework for my study, it is generally assumed that economic sanctions are considered a form of intervention tool. According to the theory, Huawei, as an MNC, possesses bargaining powers in confronting sanctions decisions of the US government. Next, I will turn to the methodology and research design of my analysis.
Chapter 4: Methodology

4.1 Mill’s Method of Difference

Methodologically speaking, this paper designs a comparative case study by employing the method of difference, in which a pair of cases are selected based on holding controlled variables similar to each other but distinguishing hypothesized determinative variables, if the observed outcomes are different, thus the differentiated variables are deemed as casual to the outcome (Zhozhikashvili, 2015). To have a simpler visualization of the method in use, details of a formulated explanation are listed as the example below as complementary to understanding:

Case A: Condition: ‘F+’ + F3 + F4 + F5 → Outcome: E+
Case B: Condition: ‘F-’ + F3 + F4 + F5 → Outcome: E-
Differences in A & B → Differences in E+ & E-

The first line indicates a case with conditions F+ (presence of F), F3, F4, and F5 having an outcome of E+ (i.e., a positive outcome). The second line means another case with similar conditions F3, F4, and F5 as the first case, and a different condition F- (absence of F) from F+ in the first case has a different outcome of E- (i.e., a negative outcome). The third line concludes that the differences in positive and negative outcomes are because of Case A having F presence but B having F absence.

Perhaps many would challenge the use of the method of differences in studies like mine, for example, Lieberson (1991) questioned the method of differences for its ability to 1) interpret probabilistic theories; 2) explain interaction effects; 3) allow multiple causes; 4) assume measurement errors (p.318). However, SAVOLAINEN (1994) defended the method arguing that
the purpose of the method is not to present nor prove causal relations, rather, it is used to eliminate alternative explanations for a causality. In other words, in no way am I arguing a factor causes differences in the outcomes, instead, I am trying to present that a factor is sufficient to lead to a particular outcome, the idea is to identify the effect of a particular factor on the causal process, regardless of the occurrence of an outcome. Furthermore, as SAVOLAINEN (1994) noted, the method of differences serves well in offering explanations for historical events, particularly when sample sizes are small. Therefore, the use of the method of differences is reasonably justified when taking the case of Huawei into account.

4.2 Research Design

Due to the origin of interests for this paper, it becomes natural that Huawei and ZTE are chosen to be the comparative cases for the research design. Even if ZTE was not considered as the de facto comparative to Huawei from the beginning, it would have been chosen later since ZTE obtains numerous similar conditions to Huawei: same country of origin, same industry, identical products, being issued similar sanctions by the same country around the same time for same alleged excuses (Lee-Makiyama, 2021). Besides the obvious similarities in the background of Huawei and ZTE, they also post similar conditions in alternative perspectives other than the firm-level point of view. Among only a handful of prominent figures in the telecommunication industry, Huawei and ZTE serve as a rare opportunity for comparative studies using the method of difference. In the previous chapter, I have proposed three factors that could differ between Huawei and ZTE, combined with the identified commonalities, the method of difference is applied as such:
Factors in similarity \( (F_{\text{similar}}) \): country of origin; industry; products; sanction sender; sanction time; accusations.

Examined factors: size; technological intensity; ownership.

Huawei:
Size + Technological intensity + Ownership + \( F_{\text{similar}} \) → persisted sanctions

ZTE:
Size + Technological intensity + Ownership + \( F_{\text{similar}} \) → lifted sanctions

In the succeeding chapter, I will analyze each examined factor through a comparative lens. Evidence is primarily gathered from Huawei and ZTE’s business reports before 2018 to exclude the impact of US sanctions. Considering US sanctions on both companies were first put in place in starting 2018, focusing on the evidence before 2018 helps eliminate sanction impacts on the proposed factors.
Chapter 5: Analysis

In Chapter 3, three firm-level factors are selected from the bargaining model to bridge the gap in limitations outlined in the literature on sanctions. In the remaining section, I plan to analyze each factor in greater detail in isolation, following a systematic logic of analysis: First, I define the set of measurements of the factor. Then, I compare both horizontal differences and vertical differences of a factor, with the former comparing the differences of a particular factor between Huawei and ZTE for a given time and the latter comparing the differences of a particular factor between different periods within the same firm. Next, I distinguish the factor that has the largest difference among the three proposed possibilities and concludes it to be the most likely answer to the research question.

5.1 Size

The size of a company is often captured by many elements, strictly from a financial-building perspective, this analysis uses a combination of revenue, net profit, and an asset to assess the size of a company. For simplicity, each element is weighted equally in the consideration of size. Figure 1 illustrate the changes in the size of Huawei and ZTE, respectively.

Despite having steady growth over the five years between 2013 and 2017, Huawei has a steeper linear growth than ZTE, which suggests Huawei has a faster expansion than ZTE in terms of size. Moreover, as Table 1 demonstrates, Huawei has had dominance over ZTE in size since 2013 and the gap has been expanding more significantly, which reached its maximum in 2017, just before the US implemented the sanctions on both companies.
From the size comparisons between Huawei and ZTE, Huawei’s dominating advantage over ZTE reveals major differences between these two companies, which, in turn, provides supportive evidence to the hypothesis that the size of the two companies offers a sufficient condition for different outcomes in sanction decisions.
Table 1 Comparison between Huawei’s and ZTE’s sizes (Source: Huawei’s and ZTE’s Annual Reports 2013 - 2017)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huawei</td>
<td>168,039.7</td>
<td>208,612</td>
<td>268,024.7</td>
<td>334,086.7</td>
<td>385,433.7</td>
</tr>
<tr>
<td>ZTE</td>
<td>59,844.8</td>
<td>65,088.1</td>
<td>76,359.3</td>
<td>82,772.7</td>
<td>86,498.8</td>
</tr>
<tr>
<td>Differences</td>
<td>108,194.9</td>
<td>143,523.9</td>
<td>191,665.4</td>
<td>251,314.0</td>
<td>298,934.9</td>
</tr>
<tr>
<td>Differences</td>
<td>180.8%</td>
<td>220.5%</td>
<td>251%</td>
<td>303.6%</td>
<td>345.6%</td>
</tr>
</tbody>
</table>

Note. Author’s calculation based on Huawei’s and ZTE’s Annual Reports 2013 – 2017

5.2 Technological Intensity

A common measurement of technological intensity is by looking at the number of patent applications. Figure 2 describes Huawei’s growth of patent applications since the 90s with distinctions in filed locations. For the applications filed in China, although Huawei’s patent applications were only a few in the beginning, after 2000, an exponential growth rate of patent applications is observed, and the strong growth boosted the annual number to reach its peak in 2006, after that year, the number of patent applications filed in China slightly decreased but remained above 3,000. In the United States, Huawei began to file patent applications starting in 2000, which is later than when it started to file in China. However, unlike the growth in China, the number of patent applications steadily increased in the US. Another interesting pattern
indicates the differences in applications between those filed in China and those filed in the US are becoming smaller, nevertheless, China remains the biggest destination where Huawei’s patent applications are filing to.

Figure 2 Assessment of Huawei’s patent applications (Kang, 2015)

Note. Calculation based on (Kang, 2015)

For ZTE, the company started filing patent applications only in the 2000s. The overall growth pattern of patent applications filed in China has been exponential in the ten years since ZTE started filing applications. In the United States, the growth rate is linear rather than exponential, proportionally speaking, applications filed in the US occupy only a minimal portion of the overall number while the majority of applications are filed in China. ZTE peaked in both annual numbers of patent applications filed in China and the United States in 2009. However, the
two application destinations obtain the largest differences in numbers of applications in 2009. Figure 3 provides a summary of the changes in the number of patent applications for the decade between 1999 and 2009.

![Figure 3](image.png)

**Figure 3** Assessment of ZTE’s patent applications (Kang, 2015)

*Note. Calculation based on (Kang, 2015)*

In comparison, both Huawei and ZTE experienced astonishing growth in patent applications in the 2000s, especially if focusing on the applications filed in China. Despite having small differences in the overall number of applications, Huawei and ZTE share more commonalities in the trend of their developments in technological intensity. For example, both companies started filing applications in the US in 2000, and the growth remains steadily increasing. They both peaked at the annual number of records slightly below 6,000. Table 2 summarizes the number of
worldwide patent applications of Huawei and ZTE, ZTE has a small advantage over Huawei by leading four out of the seven years measured. Yet, it is difficult to conclude that one firm has a clear dominance over the other in the overall comparison of patent applications, which suggests that although the two companies have differences in their technological intensity, such differences are not major enough to assume clear sign of dominance, therefore, the factor of technological intensity does not provide sufficient proof to explain differences in sanction outcomes.

<table>
<thead>
<tr>
<th>Year</th>
<th>Rank 1</th>
<th>Rank 2</th>
<th>Rank 3</th>
<th>Rank 4</th>
<th>Rank 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td><strong>Huawei</strong> 1,737</td>
<td><strong>Panasonic</strong> 1,729</td>
<td><strong>Philips</strong> 1,551</td>
<td><strong>Toyota</strong> 1,364</td>
<td><strong>Robert Bosch</strong> 1,273</td>
</tr>
<tr>
<td>2009</td>
<td><strong>Panasonic</strong> 1,891</td>
<td><strong>Huawei</strong> 1,847</td>
<td><strong>Robert Bosch</strong> 1,586</td>
<td><strong>Philips</strong> 1,295</td>
<td><strong>Qualcomm</strong> 1,280</td>
</tr>
<tr>
<td>2010</td>
<td><strong>Panasonic</strong> 2,154</td>
<td><strong>ZTE</strong> 1,863</td>
<td><strong>Qualcomm</strong> 1,677</td>
<td><strong>Huawei</strong> 1,528</td>
<td><strong>Philips</strong> 1,435</td>
</tr>
<tr>
<td>2011</td>
<td><strong>ZTE</strong> 2,826</td>
<td><strong>Panasonic</strong> 2,463</td>
<td><strong>Huawei</strong> 1,831</td>
<td><strong>Sharp</strong> 1,755</td>
<td><strong>Robert Bosch</strong> 1,508</td>
</tr>
<tr>
<td>2012</td>
<td><strong>ZTE</strong> 3,906</td>
<td><strong>Panasonic</strong> 2,951</td>
<td><strong>Sharp</strong> 2,001</td>
<td><strong>Huawei</strong> 1,801</td>
<td><strong>Robert Bosch</strong> 1,775</td>
</tr>
<tr>
<td>2013</td>
<td><strong>Panasonic</strong> 2,881</td>
<td><strong>ZTE</strong> 2,309</td>
<td><strong>Huawei</strong> 2,094</td>
<td><strong>Qualcomm</strong> 2,036</td>
<td><strong>Intel</strong> 1,852</td>
</tr>
<tr>
<td>2014</td>
<td><strong>Huawei</strong> 3,442</td>
<td><strong>Qualcomm</strong> 2,409</td>
<td><strong>ZTE</strong> 2,179</td>
<td><strong>Panasonic</strong> 1,682</td>
<td><strong>Mitsubishi Electric</strong> 1,593</td>
</tr>
</tbody>
</table>

*Table 2 Patent applications of Huawei and ZTE with the World Intellectual Property Organization, 2008 – 2014 (Kang, 2015)*

*Note. Calculation based on (Kang, 2015)*

5.3 Ownership

In the bargaining model, ownership is defined as the parent company’s share of holding in its subsidiaries in the host country. To measure each company’s share of holding, I turn to the
corporate structures of Huawei and ZTE, both MNCs confirm that they have registered subsidiary firms in the United States.

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Futurewei Technologies, Inc.</td>
<td>Huawei</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>ZTE (USA), Inc.</td>
<td>ZTE</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3 Huawei’s and ZTE’s ownerships of subsidiary in the US (Source: Huawei’s Annual Reports 2013-2017; ZTE’s Annual Reports 2013-2017)

*Note. Author’s calculation based on Huawei’s and ZTE’s Annual Reports 2013 – 2017*

In the case of Huawei, its operational strategy details that each subsidiary operates solely within the country or region where the said subsidiary is incorporated, therefore, it is simple to trace the subsidiary that is responsible for Huawei’s operation in the United States. According to Huawei’s annual reports from 2013 to 2017, only one subsidiary is incorporated in the United States, and it is the sole representative of Huawei in the United States. From a vertical
comparison, it becomes clear that Futurewei Technologies, Inc – Huawei’s sole subsidiary in the US, has been wholly owned by Huawei whose share of holding stays consistent at 100% during this period before the US implementation of the sanctions. Table 3 depicts the comparison between Huawei’s share of holding of its US subsidiary and ZTE’s share of holding of its US subsidiary.

On the other hand, ZTE also has only one subsidiary listed under US registrations. From 2013 to 2017, ZTE (USA), Inc. operated as a business representative of ZTE in the United States. Identical to Huawei’s change in share of holding of its US subsidiary, ZTE remains the sole holder of ZTE (USA), Inc. during these five years.

Based on the above assessments, it is obvious that both companies have exclusive ownership of their subsidiaries operated in the United States. Hence, identical conditions in the factor of ownership conclude that significant differences are not spotted to support the proposed relations using the method of differences.

Among the three examined factors, my analyses showed that the size of a firm presents the greatest difference between Huawei and ZTE, hence the factor of size is identified as the most likely source of power for Huawei to refuse to comply with US sanctions. In specific, one possible explanation could be derived from the definition of size, since the size is defined as composites of revenue, net profit, and assets, all measuring components are chosen in line with the financial capacities of a firm, and the finding of this paper could be suggesting a deeper relationship between a firm’s earning potentials and its ability to withstand the impact of economic sanctions. Comparatively speaking, since Huawei has greater financial capacities than ZTE, being imposed similar economic sanctions on ZTE could have a smaller impact on Huawei since its greater earning potential could allow the company to cope with the impact of sanctions.
by expanding its product lines, diversifying with suppliers, or investing in other industries that are not excluded from sanctions. These coping strategies could enable Huawei to undermine the impact of sanctions and choose to not comply under sanction pressure. Consequently, Huawei’s noncompliance convinces policymakers in the US that sanctions on Huawei are ineffective, which ultimately contributes to the persistence, or even escalation, of the Huawei ban.

Another possible interpretation of size considers it as a proxy of threats. In advanced industries such as telecommunication, it is considered vital to countries like the US that their companies occupy a large portion of the overall market to maintain dominance. Based on this assumption, the persistence of sanctions could be attributed to the finding of Huawei having a greater size acts as a proxy for its being a greater threat. Since Huawei has a greater size than ZTE, the greater size could be reflecting the greater market share Huawei has compared to ZTE. The US government might be able to ignore ZTE because of its insignificance compared to US competitors. However, the US government would not think similarly about Huawei. As a greater competitor in the international market, the presence of Huawei poses a greater threat to US MNCs than ZTE does, therefore the non-compliance of Huawei worries policymakers in the US as signs of a major threat to the dominance of US telecommunication MNCs in the international market. As a result, policymakers extended the sanctions on Huawei in an effort to protect domestic firms under Huawei’s threats to market dominance.

It is also likely that the greater size of Huawei compared to ZTE allows Huawei to become a more symbolic representation of the Chinese brand overseas. Given that these sanctions are imposed under the background of an intensifying trade relationship between the US and China, Huawei’s greater size makes itself a more suitable target for Washington to showcase its firm
stance in competing with Chinese products. Hence, the persistence of Huawei’s sanctions could be interpreted as a reflection of an ongoing trade battle between the US and China.
Chapter 6: Conclusion

Using Mill’s method of difference, my analysis compared three possible hypotheses for the US continuing economic sanctions on Huawei, among which, the differences in the size of the firm provide the strongest support to a sufficient condition that explains why Huawei’s sanctions persist while sanctions are lifted for ZTE. Apart from the traditional approach of analyzing sanction-related topics, I entered the conversion through a non-state actor’s point of view that allowed isolated examination of firm-level factors – elements that were not addressed sufficiently in previous literature. Thanks to the bargaining model framework, I relied on its discussion of the sources of MNC’s power in strategic exchanges with a host government to derive three possible factors from the firm itself. By combining previous literature on the effectiveness of sanctions with the bargaining model, my analysis built a bridge over the gap in understanding economic statecraft from a firm’s perspective.

However, some limitations need to be addressed in the discussion of my research. First, my measurement of each factor strictly follows the ones outlined in the bargaining model, yet each measurement needs to be more carefully assessed before application. For example, when measuring the size of an MNC, my measurement captures size from a rent-seeking side. Besides financial capital, a firm could be measured from a human resource capital side as well. Huawei and ZTE could likely be assessed by the number of employees as a reference for their sizes, consequently, the result of the evaluation of size could be different than that of my analysis. Second, since my analysis controls multiple factors in similarity, it is difficult to generalize the result to a broader context. To be more specific, the discussion limits itself, by the research design, to cases within the general background of China-US trade relations, within the Trump administration and his style of foreign policy, and the telecommunication industries. However,
one can further argue that the result has, to some degrees, broader implications if, we consider the significance of China-US trade relations concerning the global trade system; we consider the legacy of the Trump administration in shaping US foreign policies of Trump’s successors, or we consider the inter-industrial influence of the telecommunication sector on other sectors in the economy. Then, the implication of my research can go beyond the controlled conditions outlined in my design. Third, my discussion of the bargaining model is one-dimensional, it only covers the firm-to-country route of discussion. However, a state-to-firm dimension of power is largely ignored due to the firm-centric unit of analysis. Had the bargaining model been discussed bilaterally rather than unilaterally, the analysis would have been more comprehensive in understanding the interactions between firm and state in shaping each other’s actions or decisions.

Regardless of these limitations, my study still contains rich implications for future researchers on two grounds. On one hand, my study probes the vacancy of sanction studies that exclusively focus on MNCs. Current work on sanctions often assumes that sanction senders target primarily governments, officials, or other state actors, however, recent sanctions increasingly involve non-state actors such as MNCs to raise the stakes of the target to induce its compliance. Lack of concerns about these non-state actors should be sufficiently considered in the subject of the effectiveness of sanctions, and my study stresses the necessity of this urgent issue. On the other hand, given the oligopolistic nature of the telecommunication industry, the application of Mill’s method of difference offsets the shortcomings of large-number quantitative analysis and game-theoretical model – the two most-used methods of sanctions studies. Since these two methods believe a larger number of sanction cases are beneficial for generating overall trends in conditions but ignore biases from generalization, the method of differences counters
oversimplification by specifying the controlled conditions and differentiated conditions, therefore, the method of difference is more suitable for analyzing small-number cases.

Still, further exploring this subject is essential to understanding the conditions under which economic sanctions are more likely to be effective. Perhaps a combination of both state-actors and non-state actors’ lenses could produce a more dynamic explanation of the research question in this paper. Hopefully, my research could add one more piece of the puzzle to the complete picture of sanction discussions.
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