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Essays on Power Dynamics in Chinese Innovation Policy

By

Philip Carlton Rogers

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University of California, Berkeley

Committee in charge:

Professor Steven K. Vogel, Co-Chair

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## Abstract

### Essays on Power Dynamics in Chinese Innovation Policy

by

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Doctor of Philosophy in Political Science

University of California, Berkeley

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China watchers find it helpful to speak in terms of eras: the Mao era, the Open and Reform era, and now the Xi era. The two foundational themes in this story arc have been the use of autocratic power structures and the degree of integration into the global economy. Developments in the last decade have increasingly melded the more personalist, ideological, and centralized politics of Mao Zedong with the regulatory architecture his successors put in place for markets and internationalization. In this regard, a key dynamic—and a key tension—of the last four decades remains as fascinating as ever: What happens when institutions adopted from more liberal contexts are grafted onto an authoritarian power structure?

The following essays illustrate how this power dynamic plays out in three regulatory areas central to innovation policy: finance, antitrust, and intellectual property. These areas are not only major foci for Chinese policymakers in their prominently articulated goals of indigenous innovation and global technological leadership for the next stage of Chinese development; they are also key institutional frameworks for organizing and facilitating markets.

Taken together, these essays invite a more precise contextualization of the major changes underway in China's political economy: Rather than asserting the demarcation of eras, it is instructive to address iterations of fundamental tensions across them. Even amid Xi Jinping's current calls to "better balance security and development with a greater emphasis on security," Chinese leadership is affirming the commitment to "high level openness." The essays in this dissertation point to a reason why. Be it the way companies are financed, monopolistic actors are addressed, or intellectual property promoted, there is an affirmation of frameworks' value and just as strong an affirmation to bend them in the most facile way possible to the strategic or political imperatives of a given moment. Defining both that moment and those needs is the essential power dynamic in Chinese innovation policy specifically and Chinese political economy more generally.

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## Acknowledgements

I have come to believe that true greatness has never been achieved without a healthy dose of insanity. Our most remarkable achievements come from a willingness to endure challenges that most find too stiff, a will to push the boundaries with which we have become most comfortable, and an ability to see new possibilities in that which others find laughable. I therefore wish to recognize those who fostered the healthy dose of insanity I needed to make this dissertation a reality.

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Finally, this dissertation is a testament to the love and support I have from my parents. As my first and greatest teachers, they instilled in me the value of creating and building things. As my biggest fans, they continue to give me the strength to follow my passions.

Without the individuals above, I never would have been able to start, continue, or finish the dissertation process. Arduous though that process was, their support made it entirely worthwhile.

## PREFACE

### **Connecting Themes and Key Takeaways: Repurposing Rather Than Replacing**

China watchers find it helpful to speak in terms of eras: the Mao era, the Open and Reform era, and now the Xi era. The two foundational themes in this story arc have been the use of autocratic power structures and the degree of integration into the global economy. Developments in the last decade have increasingly melded the more personalist, ideological, and centralized politics of Mao Zedong with the regulatory architecture his successors put in place for markets and internationalization. In this regard, a key dynamic—and a key tension—of the last four decades remains as fascinating as ever: What happens when institutions adopted from more liberal contexts are grafted onto an authoritarian power structure?

The following essays illustrate how this power dynamic plays out in three regulatory areas central to innovation policy: finance, antitrust, and intellectual property. These areas are not only major foci for Chinese policymakers in their prominently articulated goals of indigenous innovation and global technological leadership for the next stage of Chinese development; they are also key institutional frameworks for organizing and facilitating markets.

The first essay focuses on the arrangement that over 80 Chinese companies—often from the scrupulously regulated and highly sensitive tech sector—use to attract foreign capital. In so doing, it grapples with the empirical puzzle of widespread permissiveness of the circumvention of China's FDI regime. Drawing on case studies and descriptive statistics, it probes the advantages of allowing firms to operate within the meso-layer between permissibility and proscription. The essay concludes that the understated application of state power has enabled the temporal flexibility necessary to meet evolving state goals. Post-Covid politics render this modulating power dynamic as salient as ever.

The second essay asserts that the regulatory scrutiny Chinese internet platforms have received illustrates that antitrust can function as both a limitation of firms' social power and a delegation of economic responsibility. This perspective comes from transporting the Brandeisian emphasis on antitrust as a tool for limiting power in democracies to an autocratic context in which various articulations of the Dictator's Dilemma for maintaining regime power are the most common theoretical starting point. After linking this exercise in conceptual travel to well-established Chinese governance motifs, a close reading of primary sources around the antitrust crackdown on internet platforms in late 2020 and early 2021 provides evidence that Chinese regulators have indeed used antitrust to remind corporate entities that the state views them as its de-facto agents for implementing the state's economic vision. The essay therefore contextualizes key developments in China's political economy while pointing to antitrust as a regulatory tool that addresses a more diverse set of political objectives than traditionally theorized.

Finally, the third essay investigates how Chinese firms reconcile contradictory incentives from patent policy in their home market on the one hand and the globalization of technology markets on the other. Standard essential patents for 5G telecommunications are the empirical focus because they are a prime example of the interplay between intellectual property being regulated territorially while the underlying technologies are traded in global markets. Chinese firms are major declarers of SEPs for 5G technologies, but filing practices that previous research identifies as responses to Chinese patent policy can disadvantage firms aiming to have their proprietary technology included in international standards and licensed globally. Patent data for their 5G SEP declarations show a partial but incomplete response to this dilemma: While filing

patterns reflect the schedule of international standard setting instead of a year-end surge to meet state targets, evidence remains for a year-end drop in patent quality and limited patent filings abroad. These findings illustrate the tensions that China's evolving patent policy must navigate in transitioning from an emphasis on quantity to an emphasis on quality.

Taken together, these essays invite a more precise contextualization of the major changes underway in China's political economy: Rather than asserting the demarcation of eras, it is instructive to address iterations of fundamental tensions across them. Even amid Xi Jinping's current calls to "better balance security and development with a greater emphasis on security," Chinese leadership is affirming the commitment to "high level openness." The essays in this dissertation point to a reason why. Be it the way companies are financed, monopolistic actors are addressed, or intellectual property promoted, there is an affirmation of frameworks' value and just as strong an affirmation to bend them in the most facile way possible to the strategic or political imperatives of a given moment. Defining both that moment and those needs is the essential power dynamic in Chinese innovation policy specifically and Chinese political economy more generally.

Geopolitics and national security concerns are indeed pushing toward the selective decoupling of Chinese technologies. Xi Jinping's reassertion of the state is generating considerable uncertainty for the private sector. Momentous though those changes may be, they must operate through institutional structures already in place. How those institutional structures are repurposed and to what ends will shape this new era of Chinese politics. But it is premature to declare China's openness a relic of the past. It may be increasingly less fulsome and more calibrated, but it is an inheritance not easily erased and a benefactor not easily discarded. In this regard, the power dynamics of Chinese innovation policy are truly befitting of the dialectical nature that has long defined communist rule.



## Essay 1

### **Modulating Power: The Case of Chinese Variable Interest Entity Arrangements**

Since 2000, the Chinese government has allowed more than 80 domestic companies- often from the scrupulously regulated and highly sensitive tech sector- to use an arrangement known as the Variable Interest Entity (VIE) structure to attract foreign capital. Assessments of the approach that have characterized it as a technically illegal circumvention of the PRC's foreign ownership restrictions, and the passage of a new Foreign Direct Investment Law along with post-pandemic geopolitics invite a reassessment of this practice moving forward. This article initiates that discussion by looking back on the larger empirical puzzle of such widespread permissance of the circumvention of China's FDI regime. Drawing on case studies and descriptive statistics, it points to the temporal flexibility that the understated application of state power has enabled. Speaking to audiences in law, business, public policy, and political economy, it argues that a combination of forbearance and mixed signals has enabled the Chinese state to meet both short and long run goals without having to resort to heavy-handed or blunt force measures. The article concludes by applying this perspective to post-Covid politics, for which the modulating power dynamic that past practice has enabled remains as salient as ever.

## A. INTRODUCTION: WHAT WORKING ON A WORK AROUND CAN TELL US

Chinese tech giant Alibaba grabbed global headlines on 19 September 2014 by executing what at the time was the largest initial public offering in the history of the New York Stock exchange, surpassing the likes of Visa, Facebook, General Motors, Google and Amazon.<sup>1</sup> However, the means by which it did so remains a legal grey area to this day. Alibaba is among the more than 80 domestic companies—often from the scrupulously regulated and highly sensitive tech sector—that the Chinese government has allowed to use an arrangement known as the Variable Interest Entity (VIE) structure to attract foreign capital. The practice emerged in 2000, and more blunt assessments have characterized it as “a circumvention of foreign ownership restrictions by the PRC regulatory authorities and courts”<sup>2</sup> and even “a means to an illegal end.”<sup>3</sup> Since internet technology companies first pioneered and popularised its use, other companies in media, gaming, and educational services have followed suit. The VIE arrangement thus presents an empirical puzzle: Why would the Chinese government be loose on ownership in regulatory areas otherwise characterized by considerable intervention and capacity?

The answer lies involves a deeper consideration of the meso-layer between permissibility and proscription. The Chinese government could void the practice of using VIE arrangements at any time, and it is not the only method Chinese companies use to list shares overseas.<sup>4</sup> Yet its relative longevity in the face of a putatively constrictive policy makes it a valuable object of study. As Man puts it, “The colorful and elusive life of [the VIE] in China in the last 15 years has afforded us a fertile test field to observe the dynamics between policy and law in China’s foreign investment regulatory regime.”<sup>5</sup> Indeed, the interdisciplinary nature of this topic speaks to audiences in law, business, and public policy. For purposes here, though, the phenomenon invites a politically oriented approach that seeks to further understand state decisions about when and how to exercise power. Unpacking this specific feature of the Chinese business environment tells a story beyond the discretionary allocation of property rights in the interest of rent-seeking, clientelist relationships, or other relationships of dependency; it likewise informs the context Chinese firms looking to list abroad will face in the geopolitics of a post-Covid world.

This article borrows perspectives from the politics of development and contentious politics, looking back on the past to inform the present and future. After describing the key structural features and legal/policy implications of Chinese VIEs, it synthesises the ideas of

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<sup>1</sup> Laura Lorenzetti, “China’s Alibaba Launches Record Public Stock Offering,” 18 September 2014, available at <https://fortune.com/2014/09/18/alibaba-delivers-on-biggest-u-s-ipo-with-21-8-billion-offering/>.

<sup>2</sup> Schindelheim 2012, 195.

<sup>3</sup> Samuel Ziegler 201, 541.

<sup>4</sup> For example, several state-owned enterprises have used careful repackaging techniques of their own to list in New York and Hong Kong. See Walter and Howie 2006, 85-95.

<sup>5</sup> Man 2015, 215.

forbearance,<sup>6</sup> mixed signals,<sup>7</sup> and control parables<sup>8</sup> to offer an explanatory interpretation in which a *lack* of clarity and *minimalist* reaction provide the flexibility to advance different development agendas over time. A leaked memo from the China Securities Regulatory Commission and two high-profile examples of VIE usage elucidate the interpretation, and data drawn from the US Security and Exchange Commission illustrating variation in new VIE listings in response to signals from the state. The conclusion applies these perspectives to a post-Covid coda, in which the modulating power dynamic that past practice has enabled remains as salient as ever.

## B. THE STRUCTURAL DESIGN AND IMPLICATIONS OF CHINESE VIES

It only takes a quick Google search of “Variable Interest Entity” to get an idea of the financial gymnastics at play. Interpretation 46 of the United States Financial Accounting Standards Board characterizes a VIE as a recipient of investment for whom the equity investors lack essential characteristics of a controlling financial interest, the most prominent of which is the direct or indirect ability to make decisions about the entity’s activities through voting rights.<sup>9</sup> Chinese VIEs reflect these principles in a rather specific manner. As “Chinese wine in the American bottle,”<sup>10</sup> they are investment vehicles “simulat[ing] the effects of ownership exclusively by contracts, without acquiring an actual equity interest in the PRC business.”<sup>11</sup> A Chinese style VIE arrangement thus consists of three types of corporate entities: a local Chinese company, an offshore holding company, and a wholly foreign owned enterprise (WFOE).<sup>12</sup>

The foundation of the endeavor is the local operating company established and domiciled in the People’s Republic of China. As a local Chinese business, it conducts revenue-generating operations because it (quite critically) holds the necessary licenses, permits and intellectual property to do so. This local Chinese business might, for example, house internet servers or have regulatory approval and proprietary software to process electronic payments. Indeed, companies like these tend to be the original startups borne from the sweat and toil of plucky Chinese entrepreneurs.

It is most often those same entrepreneurs who establish the second (though globally more high-profile) facet of the arrangement: an offshore holding company. Such offshore holding

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<sup>6</sup> Holland 2016, 246.

<sup>7</sup> Stern and O’Brien 2012, 198.

<sup>8</sup> Stern and Hassid 2012, 1254.

<sup>9</sup> This is a simplified and abridged distillation of the defining characteristics found in the Board’s interpretation. The more complete (and technical) list is available in the summary of the Board’s interpretation. See Financial Accounting Standards Board, “Summary of Interpretation No. 46: Consolidation of Variable Interest Entities – An Interpretation of ARB No. 51” <[http://fasb.org/jsp/FASB/Pronouncement\\_C/SummaryPage&cid=900000010203](http://fasb.org/jsp/FASB/Pronouncement_C/SummaryPage&cid=900000010203)> .

<sup>10</sup> Li 2014, 571.

<sup>11</sup> Shi 2014, 1277.

<sup>12</sup> The description below synthesizes those found in Serena Shi 2014, 1277-1278; Schindelheim 2012, 203-207; and Ziegler 2016, 573-575.

companies are most often domiciled in tax havens like the Cayman Islands or British Virgin Islands and are what foreign investors ultimately put their money into. Critically, this holding company does not hold the local Chinese operating company but rather the WFOE.

In fact, the WFOE is established by the offshore holding company to connect foreign investors with the local Chinese operator. The term “Wholly Foreign Owned Enterprise” (*Waishang Duzi Qiye*) is a type of legal person created and defined by the Law on Wholly-Foreign Owned Enterprises of The People’s Republic of China originally promulgated in 1986; WFOEs- limited liability companies whose capital is totally provided by a foreign investor- formed under this law’s registration requirements have been a common component of China’s corporate landscape since well before the invention and popularization of the VIE arrangement. The WFOE in a VIE arrangement is a wholly owned subsidiary of the holding company that applies for a business license in a non-restricted area like business consulting. It then enters into a series of contracts with the local Chinese operator, the most important of which are a technical service agreement and an asset licensing agreement; under these contracts, the WFOE acts as the local Chinese operator’s exclusive technological consultant and service provider in exchange for the rights to the local Chinese operator’s residual profits.<sup>13</sup> This is how the offshore holding company accesses the profits of the local Chinese operator: by virtue of fully owning the WFOE, it is entitled to all of the WFOE’s revenue. Global investors can then invest capital into the offshore holding company and, by virtue of their investor status, obtain a portion of the revenue stream from the local Chinese operator to the WFOE in the form of dividends. Note also that while foreign investors often come in the form of personal or institutional investors buying stock in New York or Hong Kong, it is also possible for the arrangement to function with other companies investing privately in the offshore holding company.<sup>14</sup>

For the companies that use a VIE arrangement, the primary source of intrigue has more commonly been the areas in which they operate. The tactic was popularized by and typically associated with the unique Chinese eco-system that has emerged considering controls over the internet. Its first user was Sina, the company responsible for China’s functional equivalent of Twitter, in 2000. Since then, other high-profile users of the VIE arrangement have included Baidu, Youku and Tudou, Tencent, Qunar.com, and JD.com Foreign investment in the industries in which these companies operate has traditionally been explicitly proscribed by the state.

The VIE is thus a deliberate circumvention of China’s authorities. Instead of having to deal with approval authorities like the Ministry of Commerce in the context of joint ventures with foreign partners traditionally required vis-à-vis restricted industries,<sup>15</sup> the approval process is on paper instead one of a consulting company incorporated in China that happens to be the wholly owned subsidiary of a Cayman Islands company. The local Chinese operator is technically the entity engaging in the regulated sectors of the Chinese economy and has the formal licenses necessary to do so. Despite the juggling act, a VIE arrangement can easily beat the

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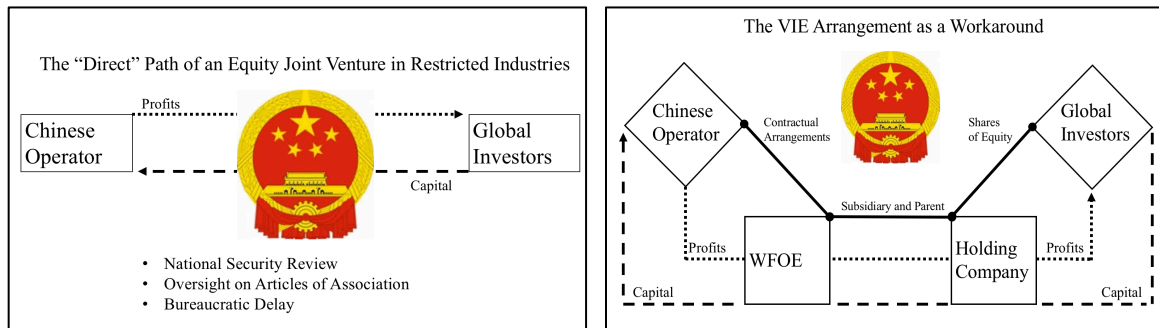
<sup>13</sup> Li, 2014, 280.

<sup>14</sup> This distinction will be important for understanding the examples of Alibaba and Yihaodian in the next section.

<sup>15</sup> Foreign investment in such industries is still possible through a Sino-foreign joint venture in which the foreign investors hold a maximum equity interest of 50 percent, but the approvals required for such an undertaking are quite difficult to obtain in practice. See Clifford Chance Law Firm, “VIE Structure in China Faces Scrutiny” (6 October 2011), available at <https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2011/10/vie-structure-in-china-faces-scrutiny.pdf>.

bureaucratically plagued alternatives in the eyes of Chinese executives engaged in cutting edge but tightly scrutinized businesses of the 21<sup>st</sup> Century. Figure 1 juxtaposes what may be thought of as the “direct” route for foreign investment in restricted industries with the VIE approach.

Figure 1



The VIE arrangement is a clever response, but its political and jurisprudential implications are by no means trivial. Starting from a policy-oriented perspective, the situation poses a real dilemma. On the one hand, the infusion of cash and increased name recognition globally (as well as the possible importation of best practices) are at least *prima facie* desirable in some sense. While Made in China 2025 has aroused considerable attention, it would not be possible without the rapid development of the Chinese tech sector at the beginning of the millennium. China’s relationship with the VIE arrangement helped enable just that, but it did so with the state taking a less hands-on approach to key sources of investment. In areas demarcated as strategically critical and subject to greater state oversight, looking the other way could chip away at broader policy foundations in the long-run, or at very least necessitate the sort of abrupt shifts Chinese leadership has tended to avoid since the reform era.

The micro-economic implications are likewise quite salient. The use of VIE arrangements to list on stock markets outside of China gives international investors an opportunity that normal citizens in China (*laobaixing*) do not have investing in some of China’s newest and most innovative companies. Chinese capital controls prevent Chinese citizens from investing abroad, so the use and prevalence of VIE arrangements for listing abroad effectively means that they cannot invest in arguably the most dynamic parts of their economy (Economist 2017). As *The Economist* points out, foreigners have made a capital gain of at least USD 500 billion on China’s internet sector, but local investors have essentially been shut out with it being “easier for a pensioner in Dundee to invest in firms in the world’s most exciting e-commerce market than it is for one in Dalian.”<sup>16</sup>

While the capital gains for those international investors have been impressive, they have not come without risk. Most literature on the subject comes from law and business journals, asserting the uncertainty involved in using VIE arrangements that comes from their being a “legal gray area” (*huise didai*). As explained above, VIE arrangements are a rather overt circumvention of regulatory frameworks. Without a strong, public response from the government one way or the other, the legal permissibility of the process is ambiguous, making the issue very much one of

<sup>16</sup> The Economist, 2017

public law as well. On this issue, Ye reminds us: “Indeed, the VIE structure is a type of tool for circumventing China’s financial oversight policy. But on a jurisprudential note, a workaround for evading examination and approval cannot in and of itself demonstrate the illegality of behavior.”<sup>17</sup> Shen (2012) labels the practice as a form of “creative compliance” in which Chinese laws and regulations are technically complied with (279; 281).<sup>18</sup>

Not all analysis leads to an equally sanguine conclusion, however. A critical and often cited<sup>19</sup> provision in this regard is Article 52 of China’s Contract Law. This provision lists circumstances under which a contract has no effect (recall that it is contracts that drive the VIE arrangement). In the case of Chinese VIE arrangements, the contracts involved make every attempt to control the local Chinese operator. In addition to the technical service agreement and asset licensing agreement described earlier, VIE arrangements also typically involve such elements as a loan agreement, an equity pledge agreement, a call option agreement, and powers of attorney.<sup>20</sup> These pledges and proxies act as control mechanism to enable the WFOE’s de facto control over the operating company.<sup>21</sup> Far from merely being a financial quid pro quo, Chinese VIE arrangements are on paper geared to allow for considerable foreign control over the operating entity.<sup>22</sup>

Notably, then, item three in Article 52 of China’s contract law adduces “concealing illicit purposes with a lawful form”<sup>23</sup> while item five specifies “violating compulsory provisions of laws and administrative regulations”.<sup>24</sup> Though not especially well defined, such clauses raise alarm bells when it comes to the ultimate legality of VIE arrangements as currently used. Ziegler, for instance, explicitly reasons that “this scheme is designed to circumvent Chinese law and is therefore a means to an illegal end.”<sup>25</sup> Man similarly points out that China’s Catalogue for Guidance on Foreign Invested Industries does not draw a distinction between foreign participation by contractual arrangement resulting in effective control while arguing that “it is not difficult to detect the non-compliance elements embedded in the VIE structure.”<sup>26</sup> For his

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<sup>17</sup> This quotation is the author’s translation of the original Chinese in Ye 2012, 13: “的确，VIE 结构是一种曲线绕过我国金融监管政策的工具。但在法理上，绕道规避审批本身并不能论证行为的非法性。”

<sup>18</sup> Shen 2012, 279-281.

<sup>19</sup> Li 2014, 47 217; Shi 2014, 1295; Schindelheim 2012, 218.

<sup>20</sup> Li 2014, 579.

<sup>21</sup> Shen 2012, 279.

<sup>22</sup> The extent to which such action is truly “foreign” is up for debate, as the founders and board members of the operating company are often major shareholders in the offshore holding company that is the WFOE’s parent, but on paper the arrangements very much open the door for non-Chinese nationals to contribute to decisions about how companies in restricted industries operate.

<sup>23</sup> The Chinese text corresponding to the translation this footnote references is “以合法形式掩盖非法目的”. See 《中华人民共和国合同法》(Contract Law of the People’s Republic of China), Article 52.

<sup>24</sup> The Chinese text corresponding to the translation this footnote references is “违反法律、行政法规的强制性规定”. See 《中华人民共和国合同法》(Contract Law of the People’s Republic of China), Article 52.

<sup>25</sup> Ziegler 2016, 541.

<sup>26</sup> Man 2015, 217-218.

part, Schindelheim contends that the VIE arrangement could be interpreted as a violation of any of the items listed in Article 52 while assessing that a Chinese court likely would be influenced by the Chinese Communist Party and regulatory authorities to find that the contracts in a VIE arrangement subvert public policy.<sup>27</sup>

As a legal grey area rife with policy implications, the situation fundamentally revolves around state decision making vis-à-vis private actors willing to test institutional and authoritative boundaries. At the most basic level, then, the issues of VIEs in China speaks to our understanding of state control. It is tempting to see a polity like China's in black and white, but its formidability operates in shades of grey. Though Beijing is committed to actively guiding the economy, it simply cannot exert white-knuckle control over everything under the heavens. Indeed, it may not even want to, preferring instead to “grasp the large and let go of the small”<sup>28</sup> when it comes to policy issues and enterprises alike. Rather than seeing the Chinese government as a no non-sense micromanager, viewing it instead as a shrewd tactician that is highly selective about how and when it exerts control provides the basis for a richer and more nuanced understanding of how it pursues broader objectives. Such an understanding in turn enables a more informed assessment of what may lie ahead in the post-Covid world.

### **C. EXPLAINING THE STATE'S RESPONSE: THE ADVANTAGES OF AMBIGUITY**

The policy and jurisprudential issues discussed in the previous section invite a deeper consideration of the meso-layer between permissibility and proscription; insights from political science are useful in this regard. If, for instance, we recall that China's contract law treats agreements that conceal illicit purposes under legal forms as null and void, it is possible to interpret the use of VIEs as an illegal activity. This calls to mind Holland's work on forbearance, which she defines as “intentional and revocable government leniency toward violations of the law.”<sup>29</sup> While her work focuses on politicians instead of their bureaucratic agents and elucidates electoral contexts in the developing world, noting Holland's definitional emphasis on intentionality and revocability is nonetheless quite useful. In the electoral contexts Holland studies, such forbearance is strategically used to maximize political support (in the form of votes). In China's context where economic growth has been paramount in legitimising Communist Party rule, being lenient toward new-wave industries is a form of interacting with the ascendant capitalist class that the reform era gave rise to, and the use of the VIE structure is intriguing precisely because it deals in no small part with areas of the economy that one might expect to fall into what characterises as strategic industries over which deliberate control is exercised.<sup>30</sup> In considering Holland's broader insights about the flexibility that forbearance affords in meeting political objectives, selective permissibility speaks to the balancing act of both

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<sup>27</sup> Schindelheim 2012, 218.

<sup>28</sup> This is a reference to the official terminology of “Zhua Da Fang Xiao (抓大放小)” (literally “grasp the large and let go of the small”) used to describe the approach to the reform of state-owned enterprises in the late 1990s.

<sup>29</sup> Holland 2016, 233.

<sup>30</sup> Hsueh 2011.

fostering and reigning in an entrepreneurial class as China transitions from a middle-income country to a rich and powerful one.

Yet forbearance, whether with regards to policy or law, is at its core a mixed signal. Individual actors observe discrepancies between what is stated and what is done at some points but not others. In a situation redolent of a signaling game in formal modeling, those individuals do not know for sure which type of state actor they are facing but do have beliefs about the probability that they are facing a lenient or strict state. Individual actors can proceed rationally based on their beliefs, but they ultimately cannot know with certainty what actions they will or will not be permitted to take in practice. While economic modeling values the reduction of uncertainty, there are power-based motivations for the state to adopt this sort of approach. Though speaking most specifically to the boundaries of the permissible in China's contentious politics, Stern and O'Brien quite relevantly point out: "emitting (and failing to clarify) mixed signals can enhance adaptability, a necessity for any regime that expects to survive. In contrast to the expectations and vested interests that form around a clear, public commitment, allowing mixed signals to emerge and persist can help leaders evolve with the times."<sup>31</sup>

While it is neither possible to get into the heads of Chinese leaders nor treat the Chinese state as an assembly of unified actors, it is possible to see the VIE arrangement in terms of different goals at different points in time. Initially, the creativity of business executives and their lawyers enabled cash flows and international linkages helpful for quickly building up areas of the innovative, service-based economy Chinese leaders yearn for. Riding this wave for a time has its benefits but is by no means costless. Continued forbearance erodes regulatory legitimacy, and -as mentioned in the preceding section- some of China's most vibrant companies are in a very real sense detached from Chinese investors. But once path dependencies have been established, eliminating the practice in one authoritative swoop could incur significant financial and reputational costs for the companies involved. In managing this dilemma, the temporal flexibility that mixed signals affords presents an opportunity to the state.

Specifically, the state can selectively send signals that accentuate the underlying uncertainties of the VIE arrangement. The state has hitherto eschewed a definitive statement one way or the other toward the VIE arrangement's status, prompting observers to look for signs of what to expect. Recall, for instance, that the VIE arrangement is based on contractual relationships that would need to be enforced in Chinese courts. In 2015, the Ministry of Commerce (MOFCOM) promulgated its Notice on Soliciting Public Opinions on the Foreign Investment Law of the People's Republic of China (Draft for Comments). Article 18 of the accompanying draft for comments indicated that control exists "Where the party is able to exert a decisive influence on the operations, finance, personnel, technology, etc. of the enterprise through contract, trust or other means."<sup>32</sup> This definition would presumably treat VIE arrangements the same as mergers or acquisitions subject to considerable and legally mandated scrutiny. Though the subsequent revision of the Foreign Investment Law passed in 2020 has arguably stepped back from this orientation (see the concluding section), such language at the time could have been interpreted as

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<sup>31</sup> Stern and O'Brien 2012, 187.

<sup>32</sup> In adumbrating the conditions that constitute "control", the original Chinese translated in the main text accompanying this footnote reads "通过合同、信托等方式能够对该企业的经营、财务、人事或技术等施加决定性影响的". See "商务部就《中华人民共和国外国投资法（草案征求意见稿）》公开征求意见 (Notice of the Ministry of Commerce Soliciting Public Opinions on the Foreign Investment Law of the People's Republic of China (Draft for Comments))", 19 January 2015.



a sign that MOFCOM has shifted its position on the general acceptability of the VIE arrangements. For instance, Man (writing in 2015) contended “Whether by design or pure chance, MOFCOM’s newly revealed official position on VIE structures is conveniently coinciding with the maturity of the domestic capital market, which makes it possible for the Chinese Internet and e-commerce companies that have been relying on foreign capital via a VIE arrangement to switch to the domestic capital market to satisfy their financing needs.”<sup>33</sup>

Signals also come in the form of observations of past experiences. Returning to the terminology of a signaling game, actors update their priors based on the actions they have seen from the state to infer where the boundaries of the permissible lie. The Chinese context in particular is characterized by what Stern and Hassid refer to as “control parables”, or “didactic stories that seek to explain the hidden reasons behind state crackdowns by imagining a set of rules that mark the limits of political safety” that journalists and lawyers create and spread.<sup>34</sup> Though not as politically sensitive as issues like media censorship or human rights lawyering per se, the epistemic community involved in the use of the VIE arrangement parallels the one that Stern and Hassid describe. Corporate lawyers are major participants in the process of successfully implementing a VIE arrangement and as such look to experiences firms have had with the VIE arrangement to gauge its practical feasibility and advise their entrepreneurial clients accordingly. Individual cases of VIE arrangements may thus be thought of as the seeds for control parables if not control parables themselves. Within this dynamic, the state can in the aggregate channel and dissuade activity with a nudge rather than push.

Synthesizing these perspectives ultimately enables us to understand the state response as a nuanced choice about how power is used. In the 1980s, reformer Chen Yun poignantly analogized China’s economic development to a bird in a cage. Though the situation regarding VIE usage may not have been exactly what Chen had in mind, his metaphor for explaining market freedoms being allowed within the boundaries of a central plan devised by the state is still valuable here. Boundaries can be clearly delineated, but a fascinating interplay emerges when the state does not do so. In the case of the VIE arrangement, the state can use blurred lines instead of clear ones to enable economic benefit while ultimately keeping the approach in question contained. It is also important to keep in mind that while Chinese economic reform has delivered results at vertiginous speeds, its implementation has been gradual and incremental. Though ambiguous, the mixed signals of forbearance enable temporal flexibility without necessitating the abrupt shifts that Chinese development strategy has long avoided. It is thus possible to see the state’s reaction to the VIE arrangement more in terms of ambiguity’s implications than operational shortcomings.

## **D. PAST SIGNALS: A LEAKED MEMO AND AFFIRMATIVE BUREAUCRATIC ACTION**

### **1. Sending a Signal to Corporate Lawyers: A Leaked Memo from China’s Securities Regulator**

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<sup>33</sup> Man 2015, 220.

<sup>34</sup> Stern and Hassid 2012, 1231.

One data point from the perspective of signaling games and control parables comes in the form a memo leaked by the China Securities Regulatory Commission (CSRC) to four different law firms in 2011.<sup>35</sup> While a closer look at the memo is not definitive proof how the state feels about VIE usage, it does cast doubt on the possibility that VIEs are permitted out of the absence of state concern. Titled “A Report Regarding the Situation of Internet Companies Like Tudou Listing in Foreign Markets”,<sup>36</sup> the CSRC memo most frequently refers to the “contractual control model” (*xiexi kongzhi moshi*); during the 12-page document, the term “VIE” is not mentioned until the fifth page and used only one other time thereafter (on the sixth page). To be sure, the content merely represents the unofficial opinions of but one agency. Even so, it can offer a hint regarding potential shifts in regulatory practices.<sup>37</sup>

As one might reasonably expect from the agency overseeing China’s stock markets, there are repeated references to the desire to see the internet and technology companies using the VIE arrangement to list abroad to list in China instead. The introduction on the first page opens with the declaration that:

Currently, among the leading companies in the internet sector, the majority choose to go to America to list, which has become a serious threat to the national security of China’s internet. As we understand it, the Ministry of Information and Technology has reported to the State Council on multiple occasions, hoping to arrange for the aforementioned industry giants to come home to China’s A-share market<sup>38</sup> as soon as possible in order to prevent China’s internet strategy from being controlled by other players. But due to the fact that the aforementioned internet companies’ listings are all suspected of violating China’s industrial admission policies for foreign investment, the issue has consistently been difficult to actually solve from an operational standpoint.<sup>39</sup>

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<sup>35</sup> Brown 2017, 236.

<sup>36</sup> 《关于土豆网等互联网企业境外上市的情况汇报》 (“Report Regarding the Situation of Internet Companies Like Tudou Listing on Markets Abroad”). An English translation by Global Capital is available. See Global Capital Asia, “Asiamoney translates leaked China CSRC document” [2011] <<https://www.globalcapital.com/article/k3blsbdgdrmv/asiamoney-translates-leaked-china-csrc-document>> (accessed 25 October 2017). This chapter, however, cites the original Chinese version with the author’s translations.

<sup>37</sup> Brown 2017, 214.

<sup>38</sup> Chinese shares traded in Shanghai and Shenzhen are classified either as A-shares (traditionally available only to Chinese citizens but now also available to large institutional investors abroad) and B-shares (specifically meant for sale to foreigners).

<sup>39</sup> This quotation is the author’s translation of the original Chinese text: “目前，国内互联网领域的龙头企业中，绝大部分选择赴美上市，对我国互联网络的国家安全已经形成严重威胁。据了解，信产部曾多次上报国务院，希望安排上述龙头企业尽早回归 A 股市场，以避免我国的互联网络战略受制于人，但由于上述互联网外上市企业均涉嫌实质违反我国外资行业准入政策，在实际操作上一一直难以解决。” See Page 1 of 《关于土豆网等互联网企业境外上市的情况汇报》 (“Report Regarding the Situation of Internet Companies Like Tudou Listing on Markets Abroad”), available at <https://www.docin.com/p-265389328.html> (accessed 26 October 2017).

Consistent with other Chinese literature cited in the first section of this chapter, the memo adduces the high barriers for domestic listings as motivation for using VIE arrangements,<sup>40</sup> and the policy recommendations at the end of the memo urge the quick implementation of policies to encourage companies listing abroad to list in China.<sup>41</sup>

Concerns about the development of China's stock markets aside, the memo is also notable for some of the other observations and assertions it makes. For instance, it provides a candid assessment of VIE arrangements as a violation/circumvention of state policy, even if legally ambiguous:

When it comes to the issue of contractual control, even though there is much debate, the prevailing opinion within foreign and domestic legal, accounting, and industrial circles is that contractual control is in essence the behavior of mergers and acquisitions... In practice, companies listing abroad that employ the method of contractual control all adhere to VIE standards, clearly stating in their prospectuses they have already in essence gained control of voting rights, management rights, income rights, and consolidated accounting. As such, the contractual control model of companies listing abroad actually takes the form of foreign capital controlling domestic enterprises and should fall within the scope of oversight policies for foreign M&A and foreign investment in industry.<sup>42</sup>

Not surprisingly, then, the memo characterises the VIE as a phenomenon that is spiraling out of hand:

[The VIE Arrangement] has without a doubt played a positive, catalytic role, and it has indirectly facilitated the formation of a batch of world-class internet giants like Baidu, Alibaba, and Tencent. But in the wake of more and more leading internet companies

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<sup>40</sup> “No Method for Satisfying the A-Share Listing Requirements” (“无法完全满足 A 股上市条件”) is the second subsection under the heading “Reasons for Internet Companies Listing Abroad” (“互联网企业境外上市的原因”). See Page 2 of 《关于土豆网等互联网企业境外上市的情况汇报》 (“Report Regarding the Situation of Internet Companies Like Tudou Listing on Markets Abroad”), available at <https://www.docin.com/p-265389328.html> (accessed 26 October 2017).

<sup>41</sup> More specifically, the memo concludes with the following assertion: “There is a need to come up with and implement corresponding policies as quickly as possible to encourage leading internet companies listing abroad to gradually come home to the A-share market (“应当尽快制定实施相应政策，鼓励已经在海外上市的互联网龙头企业逐步回归 A 股”)”. See Page 8 of 《关于土豆网等互联网企业境外上市的情况汇报》 (“Report Regarding the Situation of Internet Companies Like Tudou Listing on Markets Abroad”), available at <https://www.docin.com/p-265389328.html> (accessed 26 October 2017).

<sup>42</sup> This quotation is the author's translation of the original Chinese text: “对于协议控制问题，尽管存在许多争论，但国内外法律、会计、企业界的主流意见均认为协议控制实质上是并购行为..... 实践中，采取协议控制方式的境外上市公司，均按照 VIE 标准，在其招股说明书中明确宣称已经实质控制了境内实体公司的投票权、管理权、收益权、并合并报表。因此，境外上市公司的协议控制模式，实质上形成外资对境内企业的控制，应纳入外资并购、外资行业准入政策的管理范围。” See Page 6 of 《关于土豆网等互联网企业境外上市的情况汇报》 (“Report Regarding the Situation of Internet Companies Like Tudou Listing on Markets Abroad”), available at <https://www.docin.com/p-265389328.html> (accessed 26 October 2017).

listing overseas one after another, it has gradually formed a distorted situation in which China's high-tech products as represented by the internet industry are totally grafted on to foreign capital markets<sup>43</sup>...

But due to the complexity of the contractual control model, both parties to the agreement along with their legal and financial counsel circumvent the regulatory oversight of China's governmental departments. China's laws and regulations with regards to contractual control also lack clear and detailed definitions, in addition to some administrative departments adopting an attitude of tacit acceptance of contractual control, which gradually leads to contractual control transactions running rampant.<sup>44</sup>

And while the memo itself responds primarily to developments in the internet sector, it also expresses fears of VIE arrangements providing a slippery slope:

Their ulterior purpose is to gradually transfer assets abroad... In the future all companies can imitate this type of method, actually transferring profits and interests abroad. That is, company assets will still be domestic in their form, but future profit rights derived therefrom will have already been totally and permanently transferred abroad.<sup>45</sup>

Functionally, then, the memo acts as a call for greater oversight, a clearer articulation of the rules, and the building of China's own financial markets. In these regards, it speaks to the various implications of VIE usage adumbrated in Section I. Though it cannot realistically be expected to speak monolithically on the Chinese government's behalf, its leakage nevertheless is readily interpretable as a signal. In an environment in which a clear stance has not been

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<sup>43</sup> This quotation is the author's translation of the original Chinese text: “无疑起到了正面推动作用，也间接促成了百度网、阿里巴巴、腾讯等一批世界级互联网龙头企业的形成。但随着越来越多的互联网龙头企业纷纷到海外上市，逐渐形成了以我国互联行业为代表的高科技产业全面“嫁接”到海外资本市场的扭曲局面。” See Pages 3-4 of 《关于土豆网等互联网企业境外上市的情况汇报》 (“Report Regarding the Situation of Internet Companies Like Tudou Listing on Markets Abroad”), available at <<https://www.docin.com/p-265389328.html>> (accessed 26 October 2017).

<sup>44</sup> This quotation is the author's translation of the original Chinese text: “但由于协议控制的形式非常复杂，协议控制的双方及其法律顾问、财务顾问等均以各种理由绕开我国政府部门的管理监督，我国法律法规对于协议控制也缺乏明确和详解的界定，加上一些行业管理部门对于协议控制采取默许的态度，逐渐导致对协议控制交易泛滥成灾。” See Pages 6-7 of 《关于土豆网等互联网企业境外上市的情况汇报》 (“Report Regarding the Situation of Internet Companies Like Tudou Listing on Markets Abroad”), available at <<https://www.docin.com/p-265389328.html>> (accessed 26 October 2017).

<sup>45</sup> This quotation is the author's translation of the original Chinese text: “其背后目的，是逐步向境外转移资产.....未来几乎所有企业都可以模仿这种方式，将实际利益转移到境外，即企业的资产形式上还在中国境内，但是其未来的收益权已经全部、永久的转到境外。” See Page 7 of 《关于土豆网等互联网企业境外上市的情况汇报》 (“Report Regarding the Situation of Internet Companies Like Tudou Listing on Markets Abroad”), available at <<https://www.docin.com/p-265389328.html>> (accessed 26 October 2017).

forthcoming, even leaks pique interest. At least someone- probably multiple people- within the CSRC felt strongly enough about the analysis to write it down and make sure it got out beyond the office's walls. But though the language is forceful and direct, it is not official and even notes the tacit permissiveness of some state actors. The characteristics makes it a distinctly mixed signal, but a relatively strong one given the environment of silence that largely prevailed otherwise. Indeed, the memo can be thought of as the basis for a control parable. The contents of the memo are not entirely surprising; what is noteworthy is that it got out and who it got out to. It is this process that falsifies the explanation that the state simply does not care. Members of the state apparatus may not have chosen to make the memo official, but there was a desire to make apprehensions about VIE usage known to key professional actors.

## **2. Alibaba: It Only Took One Fax**

The real-world experience of the companies who deploy the tactic likewise brings the practice to life in a way that informs the Chinese state's relationship with it. If positing a spectrum of experiences with the VIE arrangement in terms of the involved Chinese brand's experience attracting foreign capital, there would likely be no company that has done so with more panache than internet giant Alibaba, as suggested in the chapter's introduction. Alibaba's history with the VIE arrangement dates back before its record-breaking initial public offering (IPO) on the New York Stock Exchange. While objectively speaking the outcome of these previous arrangements furthered Alibaba's interests, it also highlights a major risk for foreign investors involved in Chinese VIE arrangements: the contracts involved in the process emulate but do not guarantee control over the behavior of local Chinese operators. Recall from the first section that, while foreign investors often come in the form of personal or institutional investors buying stock in New York or Hong Kong, it is also possible for the arrangement to function with other companies investing privately in the offshore holding company. Prior to its IPO, Yahoo! and Softbank (of Japanese banking fame) were doing precisely that in holding equity stakes in Alibaba Holding Company Limited. They found out the hard way that the contracts, while by no means insignificant, are still only pieces of paper when the Chinese state comes calling.

In 2011, Alipay (the forerunner of Ant Financial) was a subsidiary of the Alibaba group. As an online payment service provider, it was (and still is in its current incarnation as Ant Financial) subject to the Administrative Measures on Payment Services of Non-Financial Institutions issued by the People's Bank of China in 2010.<sup>46</sup> Those measures make it mandatory for all non-financial institutions that provide payment services- including online payment services- to apply for a license, and all applicants must be a limited liability company or joint-stock company legally formed inside China.<sup>47</sup> After Alipay proffered its application, the People's Bank of China sent a fax requesting Alipay to declare whether or not it was involved in a VIE arrangement, implicitly indicating the application would be rejected unless Alipay could demonstrate it was a purely Chinese-owned company not involved in a VIE arrangement.<sup>48</sup> Alibaba founder Jack Ma then unilaterally terminated the existing VIE contracts for Alipay and transferred its ownership to Zhejiang Alibaba E-Commerce Company, a locally established Chinese company that he was

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<sup>46</sup> Shen 2012, 292.

<sup>47</sup> Ibid.

<sup>48</sup> Shen 2012, 277.

the majority owner of.<sup>49</sup> Though Ma contended that the board of Alibaba Holding Group (of which Yahoo! and Softbank were a part) had spent more than three years discussing the Alipay issue, Yahoo! insisted that the transaction was made without the knowledge or approval of the board of directors or shareholders.<sup>50</sup>

The episode highlights an underlying instability in the VIE arrangement. While the contracts described in the previous section aim at creating de facto control over the local Chinese operator, they cannot fully prevent the local Chinese operator from acting as its own agent. The contracts are signed in China, not another jurisdiction. Rigorously enforcing them would thus require foreign investors to seek remedies in a Chinese court, who may very well be inclined to declare the contracts null and void for reasons indicated in the previous section. In the case of Alibaba, the VIE arrangement has effectively advanced its interests as a Chinese brand and business, but not without drawing demands from the Chinese state that elicited swift compliance from the Chinese actors involved. Given Ma's willingness to disregard his foreign investors at the behest of intimations by state actors, there is very much reason to believe that the state reserves the right to intervene at any time, even when the company involved is an economically powerful one. Indeed, Ma's compliance was in a very real sense rewarded by being allowed to pursue a major IPO.

### **3. Yihaodian: The Ministry of Commerce Makes Its Voice Heard**

A more complicated but less positive situation for the VIE arrangement came in the form of Wal-Mart's dealings with another online business, Yihaodian. Literally translating to "Store Number One", Yihaodian is a popular online platform for buying and receiving groceries and other everyday items (often with same-day delivery). The service is especially popular in the Shanghai area, perhaps in no small part because the company that holds the license necessary for its business, Yishiduo, is headquartered in Shanghai.<sup>51</sup> Yishiduo, in turn, was contractually linked to Niu Hai Holdings, a Hong Kong company.<sup>52</sup> That is to say, Yishiduo was a VIE for Niu Hai Holdings, with an apparent WFOE named Niu Hai Shanghai linking the two.<sup>53</sup> On 15 August 2012, the Chinese Ministry of Commerce ultimately approved Wal-Mart's acquisition of a 33.6% equity stake in Niu Hai Holdings, giving it a controlling stake in Yihaodian's online direct business sales.<sup>54</sup>

The transaction generated attention because of the Ministry of Commerce's announcement specifying the conditions of its approval. The announcement was centered around concerns of

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<sup>49</sup> Li 2014, 588.

<sup>50</sup> Ibid.

<sup>51</sup> Ning, Yan and Wu 2012.

<sup>52</sup> Gillis 2012.

<sup>53</sup> For greater discussion on this point, see Stan Abrams, "Wal-Mart M&A: Yihaodian Restructures its VIE. I Still Have Questions" [2012] *Business Insider* (11 October 2012) <<https://www.businessinsider.com/wal-mart-ma-yihaodian-restructures-its-vie-i-still-have-questions-2012-10>> (accessed 25 January 2022).

<sup>54</sup> Gillis 2012.

market-competition, as it was technically responding to an anti-monopoly filing.<sup>55</sup> But it was noteworthy because MOFCOM broke its public practice of not referring to the VIE arrangement by name: “After the completion of this transaction, Wal-Mart may not use the VIE structure to engage in the value-added technology services currently operated by Yishiduo.”<sup>56</sup>

One possible interpretation of this episode is that the VIE issue was really only tangential; the central issue as far as the state was concerned was that Wal-Mart (who has become a reasonable player in the Chinese consumer market in its own right) would reduce competition in its quest for greater market share; the real issue is only the VIE as it pertains to market concentration.<sup>57</sup> But some interpreted it as a sign of greater scrutiny over VIE usage.<sup>58</sup> Both viewpoints are significant. The fact that one of the only documented recognitions of VIEs by the Chinese government came in a decision for an anti-monopoly filing suggests that MOFCOM was at least framing the issue for itself in terms of the macroeconomic effects it has on the economy over fears of foreign domination in particular industries. If, however, the case was meant to imply greater scrutiny, the ultimate signal was still mixed. It bears pointing out that Yihaodian was already the product of a VIE (Yishiduo) for a Hong Kong holding company (Niu Hai). The announcement as written left open the question of whether a company like Wal-Mart can still derive revenue from a company like Yihaodian so long as it does not use the VIE arrangement to promote its own brand. In any event, the ending was partially a happy one for Yihaodian in the sense that it was involved in a VIE arrangement and did get connected to Wal-Mart in an apparently non-VIE way.<sup>59</sup>

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<sup>55</sup> See 《商务部公告 2012 年第 49 号 关于附加限制性条件批准沃尔玛公司收购纽海控股 33.6% 股权经营者集中反垄断审查决定的公告》 (2012 Ministry of Commerce Announcement 49: Decision Regarding the Restrictive Conditions Attached to Wal-Mart’s Purchase of 33.6% Equity in Niu Hai Holdings for the Anti-Monopoly/Concentration of Industries Filing), available at <<http://www.mofcom.gov.cn/aarticle/b/c/201208/20120808284418.html>> (accessed 11 March 2018). For the English version of this document, see Ministry of Commerce of the People’s Republic of China, “MOFCOM Announcement No. 49, 2012 on Approval of Decision made upon Anti-monopoly Review on Concentration of Operators for Purchasing 33.6% Equity of Niu Hai Holdings by Wal-Mart with Restrictive Conditions” (13 August 2012) <<http://english.mofcom.gov.cn/article/policyrelease/buwei/201209/20120908366994.shtml>> (accessed 11 March 2018).

<sup>56</sup> This quotation is the author’s translation of the original Chinese text: “本次交易完成后，沃尔玛公司不得通过 VIE 架构从事目前由上海益实多电子商务有限公司（益实多）运营的增值电信业务。” See 《商务部公告 2012 年第 49 号 关于附加限制性条件批准沃尔玛公司收购纽海控股 33.6% 股权经营者集中反垄断审查决定的公告》 (2012 Ministry of Commerce Announcement 49: Decision Regarding the Restrictive Conditions Attached to Wal-Mart’s Purchase of 33.6% Equity in Niu Hai Holdings for the Anti-Monopoly/Concentration of Industries Filing), available at <<http://www.mofcom.gov.cn/aarticle/b/c/201208/20120808284418.html>> (accessed 11 March 2018).

<sup>57</sup> Abrams 2012.

<sup>58</sup> Ning, Yin, and Wu 2012.

<sup>59</sup> It should be pointed out, however, that Wal-Mart ended up canceling its stake in 2016. See Ministry of Commerce of the People’s Republic of China, “MOFCOM Announcement No. 23 of 2016 on the lifting of Wal-Mart’s acquisition of 33.6% niuhai holdings’ centralized restriction on operators” <<http://www.mofcom.gov.cn/article/b/c/201606/20160601335240.shtml>> (accessed 1 April 2018).

Read in conjunction with the leaked memo from the CSRC and the Alibaba's pre-IPO maneuvering, the Yihaodian case undermines the argument that state permissiveness merely reflects a state that is too disaggregated or too unconcerned to act. Multiple agencies- the China Securities Review Commission, the People's Bank of China, and the Ministry of Commerce- have all reacted in ways not entirely amenable to VIE usage. We cannot categorically say that any one ministry is especially soft or especially hard on the issue. The mixed signals at play come from multiple bureaucratic sources and paint a generally consistent (but necessarily incomplete) picture.

## **E. EMPIRICS FROM NEW YORK: SHARPENING THE ANALYSIS**

These sketches bring to light the inherent uncertainties of dealing in a VIE framework. In the specific examples of Alibaba and Yihaodian, VIE arrangements were already in play. In neither case did state actors directly prohibit the companies from having a VIE arrangement per se, but their treatment of it subtly and not so subtly accentuated the arrangement's inherent risks, thereby providing anecdotes that inform perceptions. This situation begs the question of how commercial actors ultimately respond.

On this point, it is useful to leverage data available by virtue of the VIE arrangement most frequently being used as an avenue for a public listing in New York. While not all Chinese companies listed on the NYSE or NASDAQ use a VIE arrangement, those who do are required to disclose as much to the US Securities and Exchange Commission (SEC) in their yearly financial reports and prospectus; such documents are publicly available through the SEC's online database (EDGAR), enabling the compilation of key descriptive statistics for the list of Chinese companies currently selling shares in New York.<sup>60</sup>

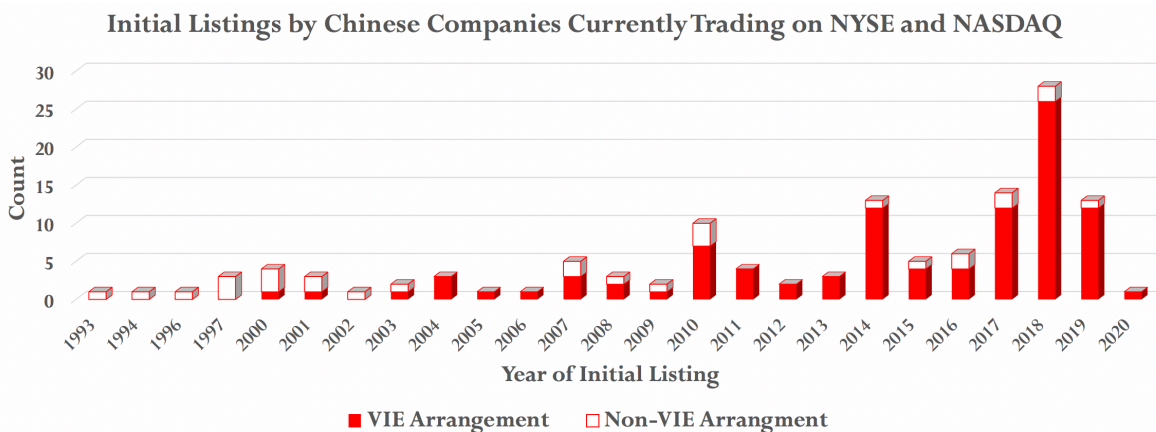
Figure 2 summarizes the result of this exercise with data on the companies' initial listing and listing method. Two major points stand out. First, VIE arrangements have become the primary vehicle for listings in New York since the introduction of the strategy in 2000. Among the companies currently listing, a super majority of them deploy a VIE arrangement. In this regard the prevalence of Chinese listings and VIE usage are at this point essentially two facets of the same discussion. Second, the prevalence seemed to have reached an apex in 2018 after a series of smaller fluctuations. In particular, the period between 2011 and 2013- which corresponds to the leaked CSRC memo and the Alibaba and Yihaodian cases described in the previous section- is a brief valley. While 2014 featured a brief uptick, the situation again slowed in 2015 (when Article 18 of the Ministry of Commerce's Draft for Comments asserted that contractual arrangements as a form of corporate control) and 2016. We then see a distinct inverse-U centered around 2018. In this regard, it is worth noting that the National People's Congress passed the new version of the Foreign Investment Law in March of 2019, and the period also corresponds with the escalation of trade tensions with the United States as well as the economic slowdown brought on by the outbreak of Covid-19.

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<sup>60</sup> The research for this chapter used the list of Chinese ADRs on the New York Stock Exchange and NASDAQ as of 15 August 2020. See Topforeignstocks.com, "The Complete List of Chinese ADRs" <<https://topforeignstocks.com/foreign-adrs-list/the-full-list-of-chinese-adrs/>> (accessed 1 September 2020).



**Figure 2**



These data suggest sensitivity to signals from the state. As the next section will discuss by way of conclusion, the signals remain decidedly mixed, but the geopolitical situation has certainly been altered by both policy and pandemic. Does the bell shape at the right tail of Figure 2 merely indicate another valley, or does it suggest a reduced prevalence in the VIE arrangement moving forward?

## **F. CONCLUSION: THE POST-COVID CODA AND MODULATING POWER**

Looking back on the Chinese experience with the VIE arrangement, we are in a sense left with the same set of underlying uncertainties that have characterized the practice since its inception. As a creative piece of financial engineering predicated on contractual arrangements, it has connected exciting Chinese companies to international financial markets; it has in this sense contributed to catch-up and rapid growth China’s big tech sector. But in doing so, it has also established a legally grey area in which state forbearance is key. In a state with a history of strike hard campaigns, shifts in that forbearance—modulations in the exercise of state power—are no small matter.

Though definitely noteworthy, China’s passage of a new foreign investment law on 15 March 2019 that entered into force on 1 January 2020 provided limited clarity on the future of VIE feasibility. Consider, for example, the following disclosure that Youdao, an intelligent learning company listed on the New York Stock Exchange through a VIE structure, made to investors in its annual report for the fiscal year ending 31 December 2019:

The Foreign Investment Law embodies an expected PRC regulatory trend to rationalize its foreign investment regulatory regime in line with prevailing international practice and the legislative efforts to unify the corporate legal requirements for both foreign and domestic investments. The enacted Foreign Investment Law does not mention concepts such as “actual control” and “controlling PRC companies by contracts or trusts” that were

included in the previous drafts, nor did it specify regulation on controlling through contractual arrangements, and thus this regulatory topic remains unclear under the Foreign Investment Law. However, since it is relatively new, uncertainties still exist in relation to its interpretation and implementation. For instance, though the Foreign Investment Law does not explicitly classify contractual arrangements as a form of foreign investment, it contains a catch-all provision under the definition of “foreign investment,” which includes investments made by foreign investors in China through means stipulated in laws or administrative regulations or other methods prescribed by the State Council. Therefore, it still leaves leeway for future laws, administrative regulations or provisions promulgated by the State Council to provide for contractual arrangements as a form of foreign investment. Furthermore, if future laws, administrative regulations or provisions prescribed by the State Council mandate further actions to be taken by companies with respect to existing contractual arrangements, such as unwinding our existing contractual arrangements and/or disposal of our related business operations, we may face substantial uncertainties as to whether we can complete such actions in a timely manner, or at all.<sup>61</sup>

The cautionary tone about the remaining possibility of administrative officials mandating contractual adjustments is redolent of the status quo ex ante. Indeed, as attorneys at King & Wood Mallesons point out, the new Foreign Investment Law and its accompanying implementing regulations from the State Council “made a conscious choice by remaining silent on the topic” of the VIE structure. They further argue that “Maintaining the status quo is apparently the most pragmatic approach for the time being.”<sup>62</sup>

The key question therefore is when the state will deem that the VIE arrangement has outlived its usefulness. The answer need not be absolute; it may in fact be relative, as this article has endeavored to convey. The state may continue to send mixed signals, and it may do so in the form of carrots as well as sticks. The CSCRC has, for instance introduced Chinese depository receipts that enable enterprises listed on foreign stock exchanges and involved in such sectors as cloud computing, big data, artificial intelligence, semi-conductors, biotech and high-end manufacturing to be traded on the stock exchanges in Shanghai and Shenzhen such that Chinese investors may buy a stake in them.<sup>63</sup> Regulatory reforms can also make VIE arrangements less attractive or less lucrative without disbanding their use entirely. For example, the State Administration for Market Regulation’s November 2020 Draft Antitrust Guidelines on the Platform Economy explicitly indicate that transactions involving VIE structures are subject to merger control review.<sup>64</sup> Finally, the possibility of explicit prohibition likewise remains. In December 2021, China’s cybersecurity authorities compelled the ride-sharing giant Didi to delist from the New York Stock Exchange due to concerns about exposing the company’s data to

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<sup>61</sup> United States Securities and Exchange Commission, “Form 20-F: Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2019: Youdao, Inc.” (31 December 2019) at 25, <<https://www.sec.gov/Archives/edgar/data/1781753/000119312520124283/d876108d20f.htm>> (accessed 1 September 2020).

<sup>62</sup> Xu and Yao 2020.

<sup>63</sup> Lu and Ye 2018, 532.

<sup>64</sup> Bai 2021.

foreign powers a mere six months after Didi's IPO, which prompted speculation that the drafting of regulations to ban the VIE were underway.<sup>65</sup>

The geopolitics of the post-pandemic world appears unlikely to leave the choice entirely up to Chinese regulators. As indicated in the passage from Youdao's annual report, foreign investors likewise assume risk when putting their money into a Chinese VIE arrangement. With strained relations, greater scrutiny, and more intense technological competition between the United States and China, regulators outside of China will be less receptive to the VIE's intricacies. In December 2020, President Donald Trump signed the *Holding Foreign Companies Accountable Act* into law. Its sponsors in Congress openly and directly targeted China with the requirement that firms be delisted from US stock exchanges if the US Public Company Accounting Oversight Board (PCAOB) is not granted access to review their audits.<sup>66</sup> For its part, the CSRC has expressed that it "resolutely opposes this kind of method that will politicize the oversight of securities."<sup>67</sup> But with such leverage in place, PCAOB inspectors were able to travel to Hong Kong and investigate public accounting firms headquartered in mainland China and Hong in late 2022.<sup>68</sup> Make no mistake: Stock exchanges are right alongside tariffs, enhanced review of Chinese investments in US companies, and export controls as dimensions of economic friction between the United States and China.

Nevertheless, the Chinese state's tolerance of an overt workaround vis-à-vis its foreign investment regime offers insights for the future. Forces that came to a head in 2020 play into a gradual phasing out of the VIE's prevalence. History suggests that the VIE arrangement is subject to a power dynamic that can modulate quickly but that is amenable to moving slowly. Uncertainty is a leverage point for state power. It hardly seems the time for China or any state to forsake flexibility moving forward. The most recent development in the VIE story offers a case in point.

Amid depressed economic numbers from a strict zero-covid policy, Chinese policymakers emerged from the pandemic hungry for more foreign investment. On 17 February 2023, CSRC issued *Provisional Measures for the Management of Domestic Enterprises Issuing Securities and*

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<sup>65</sup> Shiyin Chen and Coco Liu, "Didi's Brief US Foray is Ending. What Happens Next?" [2021] *Bloomberg* (3 December 2021) <https://www.bloomberg.com/news/articles/2021-12-03/everything-we-know-about-didi-s-plan-to-delist-from-the-nyse> (accessed 15 December 2021).

<sup>66</sup> Reuters Staff, "Trump Signs Bill That Could Kick Chinese Firms Off U.S. Stock Exchanges" [2020] *Reuters* (18 December 2020), <<https://www.reuters.com/article/us-usa-china-stocks-idUSKBN28S2ZJ>> (accessed 26 May 2020) ;Naureen Chowdhury, Sarah Babbage, Benjamin Bain and Michael Smallberg, "How China Stars Like Alibaba May Be Forced From US" [2020] *Bloomberg* (23 May 2020) <<https://www.bloomberg.com/news/articles/2021-03-30/why-u-s-threatens-to-delist-china-stars-like-alibaba-quicktake>> (accessed 26 May 2020 ).

<sup>67</sup> This quotation is the author's translation of the original Chinese: 我们坚决反对这种将证券监管政治化的做法。 See China Securities Regulatory Commission "中国证监会有关部门负责人就美国国会参议院通过《外国公司问责法案》事宜答记者问 (The Head of the relevant department of the CSRC answered a reporter's question on the passage of the foreign companies accountability act by the US Senate)" [2020] (24 May 2020) [http://www.csrc.gov.cn/pub/newsite/zjhxwfb/xwdd/202005/t20200524\\_376839.html](http://www.csrc.gov.cn/pub/newsite/zjhxwfb/xwdd/202005/t20200524_376839.html) (accessed 26 May 2020).

<sup>68</sup> See the 15 December 2022 press release from the PCAOB at <https://pcaobus.org/news-events/news-releases/news-release-detail/pcaob-secures-complete-access-to-inspect-investigate-chinese-firms-for-first-time-in-history>.

*Listing Stock Overseas.*<sup>69</sup> Without explicitly naming the VIE arrangement, the measures explicitly govern “domestic enterprises with indirect overseas listings” (*jingnei qiye jianjie jingwai shangshi*), which Article 2 defines as “an enterprise whose primary operational activities are in China with an enterprise name registered overseas that issues overseas listings based on the stock, assets, income or other similar rights and interests of a domestic enterprise.”<sup>70</sup> Article 4 makes clear than the regulatory oversight of such listings “implement the policies and strategic decisions from the guiding direction of the Party and the State.”<sup>71</sup> Critically, the measures set forth detailed application/registration requirements for “indirect overseas listings,”<sup>72</sup> and the relevant department of China’s State Council can prohibit any listing on national security grounds.<sup>73</sup>

In these regards, the measures have brought the VIE story full circle. While the measures ostensibly provide clarity about the VIE arrangement, they continue the strategic ambiguity regulators have deployed all along. VIE arrangements are still tolerated in the face of a pressing policy need, but they are subject to the discretion of China’s extensive bureaucracy on national security grounds left undefined. Note also the measures are explicitly provisional. As China’s economic and geopolitical situation changes, so too may the tactical approach to “indirect overseas listings.”

When it comes to Chinese companies using VIE arrangements to attract foreign capital, a convergence of shifting dynamics in China and the world remain poised to impact the desirability and ease of doing so. If the past is any indication, the shift will be more subtle. VIE arrangements seem unlikely to disappear completely, but the stage is set for pushing companies away from their use on a larger scale. Leaning into the meso-layer between permissibility and proscription confers the advantage of modulating power over time, even as Xi Jinping looks to consolidate control. On the one hand, trafficking in uncertainty facilitates well targeted pragmatism. On the other, it promotes the panopticon effect that authoritarian regimes thrive on. In these regards, the inherent tensions in the VIE arrangement reflect quintessential elements of Chinese governance.

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<sup>69</sup> 《境内企业境外发行证券和上市管理试行办法》

<sup>70</sup> Author’s translation of original Chinese: 境内企业间接境外发行上市，是指主要经营活动在境内的企业，以在境外注册的企业的名义，基于境内企业的股权、资产、收益或其他类似权益境外发行上市

<sup>71</sup> Author’s translation of original Chinese: 应当贯彻党和国家路线方针政策、决策部署

<sup>72</sup> See Articles 13-21

<sup>73</sup> Article 8

## Essay 2

### **Antitrust With Autocratic Characteristics: The Delegatory Dimensions of China's Big Tech Crackdown**

The regulatory scrutiny Chinese internet platforms have received illustrates that antitrust can function as both a limitation of firms' social power and a delegation of economic responsibility. This perspective comes from transporting the Brandeisian emphasis on antitrust as a tool for limiting power in democracies to an autocratic context in which various articulations of the Dictator's Dilemma for maintaining regime power are the most common theoretical starting point. It likewise builds upon Chinese governance motifs of delineating primary/secondary drivers of the economy, outsourcing state directives to nominally private tech companies, and principal-agent relationships in the pursuit of economic development. A close reading of primary sources around the antitrust crackdown on internet platforms in late 2020 and early 2021 provides evidence that Chinese regulators have indeed used antitrust to remind corporate entities that the state views them as its de-facto agents for implementing the state's economic vision. The paper therefore contextualizes key developments in China's political economy while pointing to antitrust as a regulatory tool that addresses a more diverse set of political objectives.

## A. INTRODUCTION

In late 2020 and the first quarter of 2021, Chinese regulators put the country's big tech companies on notice. The promulgation of the State Council Anti-Monopoly Committee's Anti-Monopoly Guidelines for the Platform Economy was a prelude to the State Administration for Market Regulation's record-setting USD 2.8 billion antitrust fine on Alibaba; both developments closely followed the China Security Regulatory Commission's abrupt halting of Ant Financial's would-be record setting IPO on the Shanghai Stock Exchange after CEO Jack Ma's critical public comments about regulatory risk aversion. With these actions, autocratic China has joined democratic jurisdictions like the United States and the European Union in emphasizing the importance of antitrust to the digital economy.

An exclusively economic perspective on the matter is straightforward if underwhelming: Issues like market efficiency and the abuse of a dominant market position are a technical matter of efficiency and consumer welfare. First order economic principles— among them market-based competition— do not map into unique policy packages<sup>1</sup> but rather are operationalized through a set of policy actions; experience (China's included) demonstrates that there are multiple ways of packing these principles into institutional arrangements.<sup>2</sup> But it is difficult to ignore the political intuition behind headlines like “Why Beijing is Bringing Big Tech to Heel: China Appreciates Monopolies It Can Control”<sup>3</sup> and “Tycoons on a Tight Leash: China's Rulers Want More Control of Big Tech.”<sup>4</sup> While regulatory energy may indeed be converging on the market concerns that big tech poses, the situation invites a deeper assessment of the *political* first principles that antitrust operationalizes.

The primacy and durability of the party-state are the foundational principles of Chinese autocracy. Acting upon these principles has made China an especially prominent case of the recurring balancing act between market and state. Within this context, scholarship on policy experimentation<sup>5</sup> and implementation<sup>6</sup> emphasizes principal-agent problems arising from institutional arrangements that fragment authority<sup>7</sup> while promoting the regime's adaptive resilience.<sup>8</sup> Linking such governance motifs to the question of antitrust can enhance perspectives on how politics and economics intertwine as competition policy seeks to manage corporate

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<sup>1</sup> Rodrick 2007, 15.

<sup>2</sup> Rodrick 2007, 29.

<sup>3</sup> Freedman, Josh, “Why Beijing Is Bringing Big Tech to Heel: China Appreciates Monopolies it Can Control,” *Foreign Affairs*, 4 February 2021, available at <https://www.foreignaffairs.com/articles/china/2021-02-04/why-beijing-bringing-big-tech-heel>

<sup>4</sup> The Economist, “Tycoons on a Tight Leash: China's Rulers Want More Control of Big Tech,” 10 April 2021, available at <https://www.economist.com/business/2021/04/08/chinas-rulers-want-more-control-of-big-tech>

<sup>5</sup> Heilmann 2018; Tsai and Dean 2014; Teets and Hasmath 2020.

<sup>6</sup> Edin 2003; Ahlers and Schubert 2015; Van der Kamp 2020; Göbel 2011; O'Brien and Li 1999; Mei and Pearson 2014.

<sup>7</sup> Liberthal and Oskenberg 1988; Mertha 2009.

<sup>8</sup> Nathan 2003.

power, especially when considered alongside democratically-oriented theorizations of antitrust policy.

This paper argues that the regulatory scrutiny Chinese internet platforms have received illustrates how antitrust can function as a limitation of firms' social power and a delegation of economic responsibility. The foundation for this perspective comes from transporting the Brandeisian emphasis on antitrust for limiting power in democracies to an autocratic context in which various articulations of the Dictator's Dilemma for maintaining power are the most common theoretical starting point. It likewise builds upon Chinese governance motifs of delineating primary/secondary drivers of the economy, outsourcing to nominally private tech companies, and principal-agent relationships in pursuit of economic development. A close reading of primary sources around the antitrust crackdown on internet platforms in late 2020 and early 2021 provide evidence that Chinese regulators have indeed used antitrust to remind corporate entities that the state views them as its de-facto agents for implementing the state's economic vision. The paper therefore contextualizes key developments in China's political economy while pointing to antitrust as a regulatory tool for addressing a more diverse set of political objectives.

## **B. THE CURSE OF BIGNESS FOR DICTATORS FACING DILEMMAS**

As a political phenomenon, antitrust<sup>9</sup> has its roots in the American Progressive Era.<sup>10</sup> Historian Tony Freyer notes that while antitrust “embodied an American ideal that big business should be held accountable to power outside itself,” other liberal democracies and authoritarian states alike rejected the ideal prior to World War II on the assumption that “anticompetitive collaboration through cartels among business, government, and producers was necessary to preserve social order at home and competitive advantage abroad.”<sup>11</sup> His cross-national study of the industrialized world concludes that this situation changed only after Roosevelt's New Deal liberalism reconstituted antitrust to have the bureaucratic and symbolic autonomy necessary to impose accountability across a divergent range of capitalist systems.<sup>12</sup>

Freyer's American ideal of corporate accountability is redolent of what legal scholars refer to as the Brandeisian School. Named after former supreme court justice Louis Brandeis, its

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<sup>9</sup> The terms “antitrust,” “anti-monopoly,” and “competition policy” are deeply intertwined but not entirely interchangeable. As Wilks (2010, 731) defines it, competition policy “aims at creating reinforcing systems rather than specific goals;” it looks to build and sustain “a comprehensive system of legal regulation of the commercial activities of companies” as well as “a system of freedom to compete in a market economy.” It therefore addresses a broader scope of behaviors that could undermine a level playing field for market participants. Speaking of anti-monopoly emphasizes the implications of a dominant seller in the market, while antitrust refers to concerns like horizontal restraints that fix prices or limit supply between competitors, vertical restraints in which a manufacturer restricts market interactions with specific dealers or suppliers, and the use of a dominant market position to impose predatory pricing or impede market entry (Vogel 2018, 31).<sup>9</sup> This article accordingly uses “antitrust” not only because of its wider usage in the literature but also because of the term's attentiveness to practical concerns arising from the structural composition of firms.

<sup>10</sup> Wells 2001, 29-32; Wilks 2010, 732.

<sup>11</sup> Freyer 2006, 2-3.

<sup>12</sup> Freyer 2006, 394.

emphasis on power dynamics contrasts with the Chicago School's approach to antitrust focused solely on economic efficiency and consumer welfare.<sup>13</sup> Brandeis's views on corporate regulation are often linked to his phrase "A Curse of Bigness," the title of an essay he wrote in 1914 for *Harper's Weekly* that became the title for a collection of his writings published as a book in 1934.<sup>14</sup> In those writings, Brandeis asserts "We learned long ago that liberty could be preserved only by limiting in some way the freedom of action of individuals; that otherwise liberty would necessarily lead to absolutism and in the same way we have learned that unless there be regulation of competition, its excesses will lead to the destruction of competition, and monopoly will take its place."<sup>15</sup> As legal scholar Tim Wu argues, the politically and economically unifying principle for Brandeis is the idea "that concentrated power in any form is dangerous, that institutions should be built to human scale, and society should pursue human ends."<sup>16</sup>

As an approach to antitrust, the Brandeisian school is oriented around the checks and balances of power in the democratic context. Echoing Brandeis himself, former Italian Prime Minister Giuliano Amato explains that antitrust was

"desired by politicians and (in Europe) by scholars attentive to the pillars of the democratic systems, who saw it as an answer (if not indeed "the" answer) to a crucial problem for democracy: the emergence from the company or firm, as an expression of the fundamental freedom of individuals, of the opposite phenomenon of private power; a power devoid of legitimation and dangerously capable of infringing not just the economic freedom of other private individuals, but also the balance of public decisions exposed to its domineering strength."<sup>17</sup>

Amato goes a step further in pointing out "the dilemma of liberal democracy": Society must simultaneously avoid crossing both the bound at which un-legitimated power of individuals arises and the bound at which legitimate public power becomes illegitimate.<sup>18</sup> Antitrust, in Amato's view, reflects the debate over where these boundaries are drawn in a struggle between those who are more fearful of private power and those who are more fearful of the expansion of government.<sup>19</sup> In this democratic sense, antitrust is part of the dilemma over how to best *limit* power.

Authoritarian regimes do not share Amato's dilemma of liberal democracy; they instead face what various authors refer to as the Dictator's Dilemma. Those familiar with the literature on Chinese politics recognize the term from the title of Bruce Dickson's book on the Chinese

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<sup>13</sup> Crane 2018, 122-123.

<sup>14</sup> Brandeis 1934.

<sup>15</sup> Brandeis 1934, 109.

<sup>16</sup> Wu 2018, 43.

<sup>17</sup> Amato 1997, 2.

<sup>18</sup> Amato 1997, 3.

<sup>19</sup> Amato 1997, 4.



Communist Party's strategy for survival.<sup>20</sup> He presents legitimation, co-optation, and repression as tactics that collectively form the Party's survival strategy, with each posing a dilemma of its own in the form of tradeoffs; short-term gains from the pursuit of popular support may create long-term challenges, rising living standards may produce a greater desire for government accountability, and relaxed controls over society meant to encourage economic growth may create demands for greater openness.<sup>21</sup> In the more general context of political economy, Ronald Wintrobe uses the term "Dictator's Dilemma" to refer to "the problem facing any ruler, who wants to know how much support he or she has among the general population, as well as among those smaller groups with the power to depose him or her."<sup>22</sup> He subsequently argues that this dilemma is not insoluble so long as there are institutionalized mechanisms of repression, competition, and redistribution, namely programs that promote competition among bureaucratic agencies and among other powerful groups, that reward regime supporters while monitoring that support, and that fund such reward/monitoring programs through taxation and systematic repression of the opposition.<sup>23</sup> Focusing on repression in the context of contentious politics, Ronald Francisco conceptualizes the Dictator's Dilemma as a question of "How much repression is sufficient to deter protest without causing backlash and high-level mobilization."<sup>24</sup> Finally, the rise of the information age has prompted scholars to explore the Dictator's Dilemma as a tradeoff between the potential for economic gain from a more open internet on the one hand and the challenges to regime stability that may emerge from that openness on the other.<sup>25</sup>

Though considering the power tradeoffs that authoritarian regimes face in slightly different contexts, these articulations of the Dictator's Dilemma are at the heart of the strategic questions autocratic regimes face regarding co-optation and repression. They collectively promote the idea that shrewdly exercising power and deliberately granting it to non-state entities are necessary for regime stability. Extending the perspective to large commercial entities that have accumulated considerable economic power, the curse of bigness for dictators comes in the form of potential rivals to the monopoly on political power. At its core, the Brandeisian perspective is especially attuned to the threat that unaccountable corporations pose to governance. While its primary concern is over the role that accumulations of corporate power play in trading democratic liberties for commercial despotism, its problematization of power is still meaningful for autocrats wary of transferring social and economic controls.

For instance, the emergence of big tech platforms in today's networked economy has reinvigorated Brandeisian perspectives on the power companies wield over the transmission, gatekeeping, and scoring of information and data in a manner reminiscent of concerns over

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<sup>20</sup> Dickson 2016.

<sup>21</sup> Dickson 2016, 3.

<sup>22</sup> Wintrobe 1998, 335.

<sup>23</sup> Wintrobe 1998, 336.

<sup>24</sup> Francisco 2005, 58-59.

<sup>25</sup> See Boas 2000 and Saleh 2012 for discussions of this idea's applicability to Cuba and its limitations in Egypt, respectively.

railroad and oil companies when Brandeis articulated his views at the turn of the 20<sup>th</sup> century.<sup>26</sup> The implications of such dynamics are noteworthy for an autocrat as well, albeit with different political applications and outcomes in mind. Big tech companies can facilitate economic growth supporting the regime’s performance legitimacy and technological capabilities for a more sophisticated surveillance state, but these firms must be on board with the state agenda lest they become a threat to its execution. Rather than navigating the democratic tension between the fear of government expansion on the one hand and the rise of un-legitimated private power on the other, the autocrat must discern how to channel the rise of private entities to reinforce its hold on social, economic, and political power for which there is no technical limit.

In this regard, the *delegation* of power is a key question for the operation of antitrust in authoritarian contexts. Though the state may prefer to retain direct control over the full range of functions that private industry may perform, it not always practical or optimal to do so. The state can, however, grant corporate players the room to operate with the understanding that they serve broader state aspirations. The situation is somewhat reminiscent of principal-agent dynamics in which conflict may emerge between a party and the entity authorized to act on its behalf. The critical difference, however, is that profit-seeking firms are unlikely to conceptualize themselves as state agents. Antitrust offers a lever for the autocrat to reiterate its expectations to unwieldy firms occupying dominant positions in important markets. It likewise enables the market fragmentation necessary to avoid power consolidation in entities that could rival the leviathan’s reach while facilitating information gathering on corporate activity. In this regard, the technical language of antitrust can serve both functions under the banner of economic development and consumer welfare.

### C. ANTITRUST IN THE CONTEXT OF CHINESE POWER DYNAMICS

When originally promulgated in 2008, much of the attention around China’s Anti-Monopoly Law (*Fan Longduan Fa*, 反垄断法)<sup>27</sup> centered on its use as a means of protecting the Chinese market from domination by non-Chinese companies.<sup>28</sup> Prior to the fine leveled against Alibaba in 2021, the US semiconductor giant Qualcomm held the record for largest antitrust penalty of USD 975 million after a 2015 National Development and Reform Commission investigation into the licensing of its standard essential patent portfolio to Chinese firms.<sup>29</sup> Amid increased techno nationalism and competition with the United States, concerns over the use of antitrust as a protectionist shield remain relevant; the appetite among Chinese policymakers for empowering foreign firms in the interest of economic growth appears to have petered out. But the increasingly

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<sup>26</sup> Rahman, K. Sabeel, “The New Octopus,” *Logic Magazine*, 1 April 2018, available at <https://logicmag.io/scale/the-new-octopus/>.

<sup>27</sup> In Chinese, the term “long duan” (垄断) most directly translates as “monopoly,” but it is the regulatory term used in reference to firm structure and market behavior falling under the broader concept of “antitrust” in English (see Footnote 11 in the second section).

<sup>28</sup> For instance, see Ng 2018, 124-128 for a discussion of the Chinese perspective over fears of foreign domination in critical technology markets.

<sup>29</sup> For a detailed treatment of the Qualcomm case, see Li 2016. See also Ng 2018, 264-265.

high-profile use of antitrust tools against domestic companies likewise calls for a more precise political contextualization.

In much the same way that the Brandeisian school does not preclude the existence of large firms,<sup>30</sup> the Chinese Communist Party is by no means averse to massive corporations when properly constituted. Consistent with the notion of a state-led market economy under Socialism with Chinese Characteristics, state-owned enterprises account for 91 of the 124 Chinese members in the latest Fortune Global 500.<sup>31</sup> Given the principle of state ownership in key strategic sectors, state-owned enterprises tend to operate in naturally monopolistic sectors like steel and energy. Big can apparently be beautiful,<sup>32</sup> particularly when the state is a controlling shareholder.

State management of an economy that leans heavily on market forces is a first principle of governance that students of Chinese political economy can recite in their sleep but that continues to capture their imagination because of the dynamic balancing act it entails. Under Xi Jinping, the Party is describing that balancing act with the terminology of “The Two Unwaverings (*liangge haobu dongyao* 两个毫不动摇).” The slogan references the report of the 19<sup>th</sup> Party Congress pointing out that “It is necessary to persevere and perfect the basic economic and allocative systems in Chinese socialism, unwavering in the consolidation and development of the public ownership economy and unwavering in the encouragement, support and leadership of the private sector’s development.”<sup>33</sup> But as a 2018 article in party magazine *Seeking Truth* (《求实》) explains:<sup>34</sup>

The new generation’s persistence in the guiding principle of the Two Unwaverings needs to have the thought of Xi Jinping’s Socialism With Chinese Characteristics for a New Generation as its guide, persisting in a basic economic structure with public ownership as the main component while at the same time promoting the private sector’s development; that is, there needs to be a clear distinction between primary and secondary, and there cannot be the emergence of

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<sup>30</sup> The central concern is instead power and its contestation; the Curse of Bigness does not refer to size in the literal sense, but rather the challenges that scale pose to the ideals of democracy, liberty, and equality. See for instance Khan 2018.

<sup>31</sup> Kennedy, Scott, “The Biggest But Not the Strongest: China’s Place in the Fortune Global 500,” Central for Strategic and International Studies, 18 August 2020, available at <https://www.csis.org/blogs/trustee-china-hand/biggest-not-strongest-chinas-place-fortune-global-500>.

<sup>32</sup> For a spirited defense of the role of a “size neutral” approach to job creation and technological innovation over prioritization of small business in the US context, see Michael Lind and Robert Atkinson’s *Big is Beautiful: Debunking the Myth of Small Business* (MIT Press, 2018).

<sup>33</sup> Author’s translation of original Chinese: 必须坚持和完善我国社会主义基本经济制度和分配制度, 毫不动摇巩固和发展公有制经济, 毫不动摇鼓励、支持、引导非公有制经济发展

<sup>34</sup> “坚持“两个毫不动摇”是基于我国国情的现实选择[Persisting in “The Two Unwaverings is Based on the Actual Choices of China’s National Characteristics],” *求是* [*Seeking Truth*], 13 November 2018, available at [http://www.qstheory.cn/dukan/hqw/2018-11/13/c\\_1123706043.htm](http://www.qstheory.cn/dukan/hqw/2018-11/13/c_1123706043.htm).

opposition between the two or the commencement of a zero-sum game in which one wipes out the other.<sup>35</sup>

Such delineation of the primary and secondary roles in China's economy notwithstanding, the most recent iterations of economic planning prioritize innovation while delegating most of the challenges that come with it to the private sector. For example, Chapter Five of the 14<sup>th</sup> Five-Year Plan announced in March 2021 is titled "Increasing Enterprises' Technological Innovation Capabilities." Its opening calls for "perfecting the system of market guidance for technological innovation; strengthening enterprises' position of primacy in innovation; promoting all kinds of innovative factors toward enterprise accumulation; and forming a technological innovation system with enterprises as the driver, the market as the guide, and a deep degree of fusion amongst industry, academia, research, and application."<sup>36</sup>

The most high-profile innovators in the Chinese economy—the likes of Alibaba, Baidu, Tencent, Meituan, and Pindoudou—are private companies whose business activities involve the very networking effects that promote natural monopolies. The Chinese state has already outsourced both economic and political functions to such entities. When it comes to internet censorship, the state has relied extensively on internet service and content providers as indispensable intermediaries whose relative bargaining power varies from firm to firm.<sup>37</sup> During the rollout of the Social Credit System, moreover, eight companies had the opportunity to devise a credit scoring system; while Ant Financials' Sesame Credit and Tencent partner China Rapid Finance were considered the most likely contenders, the People's Bank of China in 2018 issued a three-year license to Baihang Credit Scoring, in which the eight private companies under consideration are now each 8% shareholders.<sup>38</sup> And in the area of e-commerce, Liu and Weingast argue that e-commerce markets and online trading platforms create private law through rule experimentation and as such represent the partial outsourcing of private law provision to solve the authoritarian's legal dilemma of creating a judiciary that supplies (but only supplies) private law.<sup>39</sup>

These examples echo the familiar challenge in Chinese politics of managing a diversified array of actors to concretize relatively abstract elements of state agenda and ideology. As a matter of control, that pursuit is very much connected to the integration of state into private business through both formal and informal channels. Dickson identifies co-optation as a general

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<sup>35</sup> Author's translation of original Chinese: 新时代坚持“两个毫不动摇”方针，要以习近平新时代中国特色社会主义思想为指导，坚持以公有制为主体的基本经济制度，同时促进非公有制经济发展，既要分清主次，又不能将两者对立起来或进行此消彼长的零和博弈

<sup>36</sup> Author's translation of original Chinese: 完善技术创新市场导向机制，强化企业创新主体地位，促进各类创新要素向企业集聚，形成以企业为主体、市场为导向、产学研用深度融合的技术创新体系

<sup>37</sup> Han 2018, Chapter 3

<sup>38</sup> Devereaux and Peng 2020, 370 and 373

<sup>39</sup> Liu and Weingast 2020

strategy for regime survival<sup>40</sup> but also specifically discusses co-optation in terms of the state's management of the capitalist class.<sup>41</sup>

Bureaucrats at the provisional and municipal levels have likewise played an equally important role in operationalizing aspirations of the central government in Beijing. As Ang puts it “an adaptive, bottom-up search *within* the state for localized solutions” enabled China to escape the poverty trap.<sup>42</sup> Indeed, the idea of policy experimentation has promoted multiple studies on the subject,<sup>43</sup> often responding in some way to Helimann's concept of “expansion under hierarchy.”<sup>44</sup> But the flip side of this story oriented around decentralization is policy implementation, which the literature has explicitly cast in terms of principal-agent problems arising from information asymmetries and local cadres responding to (if not gaming) the evaluation system for promotion within the bureaucracy.<sup>45</sup> In this regard, the proclivity for delegation and the principal-agent dynamics that come with it are a well-explored component of China's reform and development.

Legal scholar Angela Zhang emphasizes these very dynamics in arguing that “the complexity of China's bureaucratic structure, policy process, and incentives of government agencies leads to a far more heterogenous enforcement outcome than the existing literature predicts.”<sup>46</sup> She accordingly advocates a “bottom-up” approach that emphasizes a “supply perspective” stressing the motivations and constraints of Chinese regulators.<sup>47</sup> Such a perspective supports the conclusion that in China “antitrust law deals with what are at root not economic phenomena, but rather *political* phenomena.”<sup>48</sup>

However, China watchers are also aware that politics under Xi Jinping are moving in a more centralized direction. Even though his administration has signaled little tolerance for deviation from central-level directives, the policy experimentation made famous over the last several decades is still taking place, albeit in a more circumspect manner subject to more direct approval from the center.<sup>49</sup> As a parallel trend, experimentation among China's major private innovators may proceed in a more scrupulously monitored fashion now that they have grown to a point of creating China's own curse of bigness. As it pertains to antitrust, the bureaucratic restructuring that created the State Administration of Market Regulation (“SAMR”) appears to be consistent

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<sup>40</sup> Dickson 2016

<sup>41</sup> Dickson 2003, Chapter 4

<sup>42</sup> Ang 2016, 17 (emphasis in original)

<sup>43</sup> Tsai and Dean 2014; Teets and Hasmath 2020

<sup>44</sup> Heilmann 2008, 10

<sup>45</sup> See for example Edin 2003, Göbel 2011, Ahlers and Schuber 2015, and Gao 2015

<sup>46</sup> Zhang 2014, 674

<sup>47</sup> Zhang 2021b, 23. Note that her approach is “inspired by” the formulation of fragmented authoritarianism from Libenthal and Oskenberg (1988).

<sup>48</sup> Zhang 2014, 705 (emphasis in original)

<sup>49</sup> For a fuller discussion, see Teets and Hasmath 2020, 54-57

with ongoing trends of consolidation, having fused the antitrust responsibilities previously spread across three different agencies<sup>50</sup> under one roof. Recently SAMR's attention has indeed turned to areas in which private firms have hitherto been delegated considerable responsibility in realizing Beijing's calls for innovation: the platform economy.

#### **D. ALIBABA AND BEYOND: USING ANTITRUST TO REMIND AND RECALIBRATE**

It is tempting to see the intensified scrutiny over Chinese internet platforms largely in terms of a rebuke to one of China's most high-profile tech entrepreneurs for flying too close to the sun. A mere two days before its scheduled IPO in November 2020, Chinese regulators forced Ant Group to halt the floating of its stock.<sup>51</sup> According to The Shanghai Stock Exchange's published decision on the matter, Ant Group's corporate leadership met with relevant authorities for scheduled supervisory discussions and reported major events like changes in fintech's regulatory environment that "could lead to [Ant] not being in accordance with the conditions for issuing/listing stock or disclosure requirements."<sup>52</sup> But Western media reports suggested the decision was linked to Jack Ma's general outspokenness and public criticism of Chinese regulators stifling innovation through their risk aversion and bureaucratic red tape at an October 2020 summit in Shanghai; such analysis appears under headlines like "Derailing of Jack Ma's Ant IPO Shows Xi Jinping's in Charge" and "Beijing Just Yanked Ant Group's IPO to Show Jack Ma Who's Really in Charge."<sup>53</sup> As Ma disappeared from public view, SAMR launched an antitrust investigation into the e-commerce arm of his corporate empire, Alibaba, just the next month. In April 2021, SAMR acted on that investigation in the form of a USD 2.8 billion fine, the largest antitrust penalty in modern Chinese history.<sup>54</sup> Western headlines subsequently read "Jack Ma Taunted China. Then Came His Fall"<sup>55</sup> and "The Vanishing Billionaire: How Jack Ma

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<sup>50</sup> Specifically, the National Development and Reform Commission, the State Administration of Industry and Commerce, and the Ministry of Commerce.

<sup>51</sup> The Economist, "Ant Agonises: Regulators Spoil Ant's Party Less than 48 Hours Before it Starts Trading," 3 November 2020, Available at <https://www.economist.com/finance-and-economics/2020/11/03/regulators-spoil-ants-party-less-than-48-hours-before-it-starts-trading>

<sup>52</sup> Author's translation of original Chinese: "近日，发生你公司实际控制人及董事长、总经理被有关部门联合进行监管约谈，你公司也报告所处的金融科技监管环境发生变化等重大事项。该重大事项可能导致你公司不符合发行上市条件或者信息披露要求。" See 《关于暂缓蚂蚁科技集团股份有限公司科创板上市的决定》 (Decision Regarding the STAR Market Listing of Ant Financial Group, Ltd.), available at [http://www.sse.com.cn/home/apprelated/news/c/c\\_20201103\\_5253315.shtml](http://www.sse.com.cn/home/apprelated/news/c/c_20201103_5253315.shtml).

<sup>53</sup> Pham, Sherisse, "Beijing Yanked Ant Group's IPO to Show Jack Ma Who's Really in Charge," CNN, 4 November 2020, Available at <https://www.cnn.com/2020/11/04/tech/ant-ipo-beijing-china-intl-hnk/index.html>; Curran, Edna, "Derailing of Jack Ma's Ant IPO Shows Xi Jinping's in Charge," *Bloomberg* 4 November 2020.

<sup>54</sup> Zhong, Raymond, "China Fines Alibaba \$2.8 Billion in Landmark Antitrust Case, New York Times, 9 April 2021, available at <https://www.nytimes.com/2021/04/09/technology/china-alibaba-monopoly-fine.html?referringSource=articleShare>.

Fell Foul of Xi Jinping.”<sup>56</sup> Such assertions point to antitrust as a control mechanism, but analysis need not stop with clichés about all Chinese companies ultimately being in the Chinese Communist Party’s back pocket or under its thumb. In a delegatory context, control is one critical consideration alongside the appropriate demarcation of responsibilities and expectations as the status quo shifts.

Chinese leadership has called for a “tolerant but cautious” (包容审慎, *baorong shenshen*) regulatory approach when it comes to the technologies of the future. Most explicitly, Premier Li Keqiang asserted the need for “tolerant but cautious” supervision of new technologies and business practices in a 11 September 2018 speech while conducting a spot check of SAMR.<sup>57</sup> There he explained that “so-called ‘tolerance’ is adopting a forgiving attitude toward those new business models for which more is yet to be known than is known already, and it just needs to not touch up against the boundaries of safety.”<sup>58</sup> He likewise explained that “so called ‘caution’ has two layers of meaning: one is not immediately ‘administrating to death’ when a new business model has just appeared and still looks impermissible, but rather giving it an ‘observation period’; the second is strictly following the bottom line of safety, resolutely striking in accordance with the law against destroying others for financial gain, swindling, passing off fake and low quality commodities, and infringing intellectual property, regardless of whether it is a traditional or new business model.”<sup>59</sup>

The State Council subsequently applied the idea of “tolerant but cautious” supervision to the platform economy in 2019 with the issuance of the Office of the State Council’s Guiding Opinions for the Standardized and Healthy Development of the Platform Economy.<sup>60</sup> SAMR’s administrator for the supervision and management of internet transactions, Wei Li, characterized a tolerant but cautious attitude as a necessity for the platform economy as a driver of new commercial models.<sup>61</sup> But in language reminiscent of Premier Li, he also emphasized that

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<sup>55</sup> Prasad, Eswar, “Jack Ma Taunted China. Then Came His Fall,” *New York Times*, 28 April 2021, available at <https://www.nytimes.com/2021/04/28/opinion/jack-ma-china-ant.html?referringSource=articleShare>.

<sup>56</sup> McMorrow, Ryan and Sun Yu, “The Vanishing Billionaire: How Jack Ma Fell Foul of Xi Jinping,” *Financial Times*, 15 April 2021, available at <https://www.ft.com/content/1fe0559f-de6d-490e-b312-abba0181da1f>

<sup>57</sup> 李克强详解为何对新业态“包容审慎”监管? [Li Keqiang Explains in Detail How to Implement “Tolerant But Cautious Supervision Toward New Business Models,]” Government of China, 12 September 2018, available at [http://www.gov.cn/xinwen/2018-09/12/content\\_5321209.htm?\\_zbs\\_baidu\\_bk](http://www.gov.cn/xinwen/2018-09/12/content_5321209.htm?_zbs_baidu_bk)

<sup>58</sup> Author’s translation of original Chinese: 所谓“包容”, 就是对那些未知大于已知的新业态采取包容态度, 只要它不触碰安全底线。

<sup>59</sup> Author’s translation of original Chinese: 所谓“审慎”有两层含义: 一是当新业态刚出现还看不准的时候, 不要一上来就“管死”, 而要给它一个“观察期”; 二是严守安全底线, 对谋财害命、坑蒙拐骗、假冒伪劣、侵犯知识产权等行为, 不管是传统业态还是新业态都要采取严厉监管措施, 坚决依法打击。

<sup>60</sup> 《国务院办公厅关于促进平台经济规范健康发展的指导意见》, available at [http://www.gov.cn/zhengce/content/2019-08/08/content\\_5419761.htm](http://www.gov.cn/zhengce/content/2019-08/08/content_5419761.htm)

<sup>61</sup> “优化发展环境包容审慎监管——多部门解读《关于促进平台经济规范健康发展的指导意见》” [“Optimize the Development Environment and Tolerant but Cautious Supervision/Management— Several Agencies Explain the Opinions for Standardized and Healthy Development of the Platform Economy”], 8 August 2019, available at [http://www.gov.cn/zhengce/2019-08/08/content\\_5419903.htm](http://www.gov.cn/zhengce/2019-08/08/content_5419903.htm).

“[T]olerant but cautious does not equate to no supervision; it is necessary to severely strike in accordance with the law against the appearance of counterfeit and low quality goods, the infringement of intellectual property, and severe encroachment on consumer rights and interests. Therefore, ‘tolerant but cautious’ and supervision according to the law needs to be tied together, making for a healthy and orderly development of the internet platform economy.”<sup>62</sup> Notably, Section II of the guidelines is titled “Ideas and Methods for the Supervision of Innovation and Implementation of Tolerant but Cautious Supervision;” its third item specifically invokes order within fair market competition, calling on SAMR to among other things investigate and deal with abuses of market position that constrict transactions. In this context, discourse resulting from antitrust concerns directed beyond Alibaba in late 2020 and early 2021 reasserts state authority while also lending clarity to the role envisaged for firms in an area of the economy about which—to use Premier Li’s words— more was yet to be known than was already known in years prior.<sup>63</sup>

On 7 February 2021, the State Council Anti-Monopoly Committee promulgated its Anti-Monopoly Guidelines for the Platform Economy.<sup>64</sup> A press conference<sup>65</sup> and policy explanation<sup>66</sup> from SAMR’s antimonopoly bureau contextualize the guidelines in terms of the problems they seek to address:<sup>67</sup>

... Reflections of and reports on suspected monopoly issues pertaining to the platform economy like operators requiring vendors into “two choose one”

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<sup>62</sup> Author’s translation of original Chinese: 但是包容审慎不等于不监管，对于出现假冒伪劣、侵犯知识产权、严重侵害消费者权益的，要依法从严打击。所以，包容审慎和依法监管要结合起来，让互联网平台经济健康发展有序发展。”

<sup>63</sup> Zhang (2021a) argues that the about face in regulation of the platform economy is indeed attributable to information asymmetries, with regulators initially hesitant to constrain firms given both calls from the central government for increased innovation and inherent uncertainty about technological advancement; in this line of reasoning, once the center became aware of the new problems platforms posed, it motivated the campaign-style mobilization familiar in Chinese politics.

<sup>64</sup> 《国务院反垄断委员会关于平台经济领域的反垄断指南》，available at [http://gkml.samr.gov.cn/nsjg/fldj/202102/t20210207\\_325967.html](http://gkml.samr.gov.cn/nsjg/fldj/202102/t20210207_325967.html).

<sup>65</sup> 国务院反垄断委员会办公室负责同志就《国务院反垄断委员会关于平台经济领域的反垄断指南》答记者问 [Responsible Comrades from the Office of the State Council’s Anti-Monopoly Committee Answer Journalist Questions on the State Council Antimonopoly Committee’s Guidelines for the Platform Economy Domain], China State Administration for Market Regulation, 7 February 2021, available at [http://gkml.samr.gov.cn/nsjg/xwxs/202102/t20210207\\_325971.html#](http://gkml.samr.gov.cn/nsjg/xwxs/202102/t20210207_325971.html#).

<sup>66</sup> 促进平台经济规范有序创新健康发展——《国务院反垄断委员会关于平台经济领域的反垄断指南》解读 [Spurring the Platform Economy’s Standardization With Orderly Innovation and Healthy Development—An Explanation of the State Council Anti-Monopoly Committee’s Antimonopoly Guidelines for the Platform Economy Domain], China State Administration for Market Regulation, 7 February 2021, available at [http://gkml.samr.gov.cn/nsjg/xwxs/202102/t20210207\\_325970.html](http://gkml.samr.gov.cn/nsjg/xwxs/202102/t20210207_325970.html).

<sup>67</sup> The only difference in wording is the precise date for the December meeting of the Central Economic Work Conference.



arrangements, commercial deceit through big data, and implementing the concentration of undertakings without declaration according to the law are increasing by the day. These behaviors harm fair market competition and consumers' lawful rights and interests; they are not beneficial to comprehensively simulating society's innovative and creative vigor, promoting innovative development in the platform economy, or building an economic society developing new advantages and new kinetic energy. President Xi Jinping has emphasized the use of good law and perfected governance to guarantee healthy development of new business patterns and models. A meeting held by the Politburo on 11 December 2020 required the strengthening of anti-monopoly and the prevention of the disorderly expansion of capital. A 16 December meeting of the Central Economic Work Conference made strengthening anti-monopoly and preventing the disorderly expansion of capital one of the eight critical economic work tasks for 2021, requiring sound regulation of data, perfection of legal standards for discerning aspects like the determination of monopoly platform enterprises, the strengthening of regulatory structures, increased supervisory capabilities, and persistent opposition of monopolistic behavior.<sup>68</sup>

State media reports particularly emphasize concerns over the “disorderly expansion of capital” (资本无序扩张, *ziben wuxu kuozhang*) and its relation to antitrust in the platform economy. For example, the *Economic Daily* ran a report on 27 December 2020<sup>69</sup> explaining that “the process of disorderly capital expansion could, through exerting influence on social media and the whole of society, gradually transform everyone's attitude regarding the phenomenon of monopoly”<sup>70</sup> while indicating “the main reason the Central Economic Work Conference made the strengthening of anti-monopoly and the prevention of the disorderly expansion of capital one of the critical tasks for the first time is that doing so targets the problem of domestic capital excessively focusing on monetizing data volume and not attaching importance to original and foundational innovation in recent years.”<sup>71</sup>

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<sup>68</sup> Author's translation of original Chinese (taken from the Policy Explanation indicating more precise dates): 关于平台经济领域经营者要求商家“二选一”、大数据杀熟、未依法申报实施经营者集中等涉嫌垄断问题的反映和举报日益增加。这些行为损害了市场公平竞争和消费者合法权益，不利于充分激发全社会创新创业活力、促进平台经济创新发展、构筑经济社会发展新优势和新动能。习近平总书记强调，以良法善治保障新业态新模式健康发展。2020年12月11日召开的中央政治局会议要求强化反垄断和防止资本无序扩张。12月16日召开的中央经济工作会议将强化反垄断和防止资本无序扩张作为2021年经济工作中的八项重点任务之一，要求健全数字规则，完善平台企业垄断认定等方面的法律规范，加强规制，提升监管能力，坚决反对垄断行为。

<sup>69</sup> “解释中央经济工作会议精神：防止资本无序扩张 [Explaining the Spirit of the Central Economic Work Conference: Preventing the Disorderly Expansion of Capital],” *经济日报* [*Economic Daily*], 27 December 2020, available at [http://www.gov.cn/xinwen/2020-12/27/content\\_5573663.htm](http://www.gov.cn/xinwen/2020-12/27/content_5573663.htm).

<sup>70</sup> Author's translation of original Chinese: 资本无序扩张过程中，可能会通过对社会媒体和整个社会施加影响，逐渐改变大家对于垄断现象的态度

<sup>71</sup> Author's translation of original Chinese: 中央经济工作会议首次将“强化反垄断和防止资本无序扩张”列为重点任务只一，主要是针对近年来国内资本过多聚焦于流量变现而不注重原创性和基础性创新的问题

*The People's Daily* similarly published an editorial on 10 April 2021<sup>72</sup> responding to SAMR's fine on Alibaba (a mere day after the fact). As an explicit reminder that the platform economy is in fact a phenomenon to be managed, the editorial explains:

This punishment is a concrete measure for supervisory bureaus strengthening anti-monopoly and preventing the disorderly expansion of capital and is an effective standard for platform enterprises' behavior in contravention of laws and regulations. It does not at all suggest a refutation of the important function of the platform economy in the overall development of society, and it does not at all suggest a change whatsoever in the attitude of national support for development of the platform economy. It instead means there is a need for equal emphasis on persistent development and standardization, an assurance of rule-based development for the platform economy, the establishment of a sound governance system for the platform economy, and the promotion of the platform economy's regularized, healthy, and sustained development.<sup>73</sup>

In highlighting economic concerns, this rhetoric asserts a governance philosophy. SAMR's published decision on Alibaba's fine noted that the company accounted for 61.83%, 61.70%, 63.58%, 69.96%, and 76.21% of domestic internet sale transactions in the years between 2015 and 2019.<sup>74</sup> However, the policy narrative around platform operators' potential to abuse market concentration emphasizes a messy diversion of resources that could frustrate broader state ambitions. In the terminology of the "tolerant but cautions" regulatory paradigm, the time has come to recalibrate firms' delegated autonomy so that they can faithfully execute the economic responsibilities to the economy envisaged for them. Instead of a Brandeisian concern over a lack of accountability for powerful firms, the Chinese state's narrative around the platform economy speaks to concern over misdirected applications of private commercial power.

In this context, antitrust is part of an effort to remind and recalibrate. A 15 March 2021 meeting of the Central Economic Committee on the standardization and healthy development of the platform economy chaired by Xi Jinping signaled as much per reporting from state-news outlet *Xinhua*.<sup>75</sup>

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<sup>72</sup> “推动平台经济规范健康持续发展 [Promotion of the Platform Economy's Regularized, Healthy, and Sustained Development],” 人民日报[People's Daily], 10 April 2021, available at <http://opinion.people.com.cn/n1/2021/0410/c1003-32074529.html>

<sup>73</sup> Author's translation of original Chinese: 此次处罚，是监管部门强化反垄断和防止资本无序扩张的具体举措，是对平台企业违法违规行为的有效规范，并不意味着否定平台经济在经济社会发展全局中的重要作用，并不意味着国家支持平台经济发展的态度有所改变，而是要坚持发展和规范并重，把握平台经济发展规律，建立健全平台经济治理体系，推动平台经济规范健康持续发展。

<sup>74</sup> See page 10 of the State Administration of Market Regulation' Administrative Penalty Decision for Alibaba (《国家市场监督管理总局行政处罚决定书》，国市监处(2021)28号), available at [http://www.samr.gov.cn/xw/zj/202104/t20210410\\_327702.htmls](http://www.samr.gov.cn/xw/zj/202104/t20210410_327702.htmls)

<sup>75</sup> “习近平主持召开中央财经委员会第九次会议强调推动平台经济规范健康持续发展把碳达峰碳中和纳入生态文明建设整体布局 [Xi Jinping Presides Over Ninth Meeting of the Central Finance and Economics Committee Emphasizing the Healthy, Normalized, and Sustainable Development of the Platform Economy and Channeling

The meeting emphasized the need to persevere in the proper political direction, setting forth from the construction of high-level strategies for building new advantages in national competitiveness...establishing a complete system of governance for the platform economy, making the rules clear, clearly distinguishing boundaries, strengthening supervision, normalizing order...promoting fair competition, combating monopoly, and preventing the disorderly expansion of capital. It is necessary to strengthen standardization and supervision, protecting the public interest and social stability and shaping the joint forces of governance... It is necessary to persevere in the Two Unwaverings, promoting the healthy development of private enterprises in the platform economy.<sup>76</sup>

Observable implications of antitrust in this regulatory context emerged on 13 April 2021, three days after SAMR levied its fine on Alibaba when SAMR, the Office of the Central Cyberspace Affairs Committee, and the State Taxation Administration jointly hosted an administrative guidance meeting (*xingzheng zhidao hui* 行政指导会) for 34 internet platform companies.<sup>77</sup> Per the official press release,<sup>78</sup> the meeting “analyzed the prominent occurring problems and required the full unleashing of the Alibaba case’s admonitory function.”<sup>79</sup> Equally notable to this explicit assertion of Alibaba’s plight as a warning to other firms is the assertion that “The meeting emphasized that the boundary lines of policy cannot be surpassed, and the red lines of the law cannot be touched”<sup>80</sup> while again invoking the Two Unwaverings.<sup>81</sup> Critically, the meeting required each of the firms in attendance to “go to society with a public Undertaking of Legal Compliance in Business Operations and accept societal supervision.”<sup>82</sup> Such Undertakings of Legal Compliance in Business Operations (*Yifa Hegui Jingying Chengnuo* 依法

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Peak Carbon Emissions and Zero Emission Timeframes Into the Ecological and Civilized Construction of the Overall Layout],” 15 March 2001, available at [http://www.xinhuanet.com/politics/2021-03/15/c\\_1127214324.htm](http://www.xinhuanet.com/politics/2021-03/15/c_1127214324.htm).

<sup>76</sup> Author’s translation of original Chinese: 会议强调, 要坚持正确政治方向, 从构筑国家竞争新优势的战略高度出.....建立健全平台经济治理体系, 明确规则, 划清底线, 加强监管, 规范秩序.....促进公平竞争, 反对垄断, 防止资本无序扩张。要加强规范和监管, 维护公众利益和社会稳定, 形成治理合力.....要坚持“两个毫不动摇”, 促进平台经济领域民营企业健康发展。

<sup>77</sup> 市场监管总局、中央网信办、税务局联合召开互联网平台企业行政指导会 [SAMR, the Office of the Central Cyberspace Affairs Committee, and the State Taxation Administration Jointly Host An Administrative Guidance Meeting for Internet Platforms],” China State Administration of Market Regulation, 13 April 2021, available at [http://www.samr.gov.cn/xw/zj/202104/t20210413\\_327785.html](http://www.samr.gov.cn/xw/zj/202104/t20210413_327785.html).

<sup>78</sup> Ibid

<sup>79</sup> Author’s translation of original Chinese: 分析存在的突出问题、要求充分发挥阿里案警示作用

<sup>80</sup> Author’s translation of original Chinese: 会议强调政策底线不可逾越, 法律红线不可触碰

<sup>81</sup> See the previous section’s discussion of the Two Unwaverings .

<sup>82</sup> Author’s translation of original Chinese: 会议要求.....向社会公开《依法合规经营承诺》、接受社会监督

合规经营承诺) consisted of a written declaration for each firm published in a series of batches on 14 April,<sup>83</sup> 15 April,<sup>84</sup> and 16 April.<sup>85</sup>

As a culmination of efforts directed at the powerful tech companies responsible for Chinese platforms, the meeting and the public pledges it produced illustrate the political side of antitrust as a delegatory matter. The optics of some of China's most recognizable firms affirming their commitment to comply with state dictates in public documents demonstrate a control mechanism at work. The fact that such a display was deemed necessary suggests the political stakes involved. But the episode reflects more than just a power wielding leviathan reasserting its dominance. Though not a classical principal-agent problem in the sense that private firms conceptualize themselves as profit-seeking organizations rather than state agents, supervision—a critical element in overcoming information asymmetries and divergent interests in the principle-agent dynamic—is nevertheless an articulated purpose of the pledges. Moreover, the exercise of putting commitments into writing is a means of specifying responsibilities and by extension roles.

In this regard, the actual content of the pledges is noteworthy. Curiously enough, only one pledge explicitly alludes to the disorderly expansion of capital emphasized in state media and policy documents. But of the 34 company pledges, 22 mention forced exclusivity (or “two choose one”, *er xuan yi* 二选一), 20 mention the abuse of a dominant market position (*lanyong shichang zhipai diwei* 滥用市场支配地位), and 22 mention monopolistic agreements (*longduan xieyi* 垄断协议). If the issue simply revolved around the economics of monopolistic behavior, the firms' pledges would conceivably have a narrower focus around the language of antitrust. However, the pledges' content spans a broader range of regulatory areas. In line with the broader rhetoric on the types of malfeasance that a tolerant but cautious regulatory approach should aggressively attack, 28 company pledges mentioned the protection or proper use of personal information (*geren xinxi* 个人信息), 26 mention intellectual property protection (*zhishi channquan baohu* 知识产权保护), 15 mention guaranteeing food safety (*shipin anquan baozhang* 食品安全保障), 23 mention illegal advertising (*weifa guanggao* 违法广告), and 9 mention low-quality/counterfeit merchandise (*weilie shangpin* 伪劣商品).

The company pledges in this sense reflect antitrust as an entry point for more rigorous and overarching management of firm behavior. The situation is consistent with Zhang's findings about multiple bureaucratic agencies' use of antitrust to further specific policy objectives and

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<sup>83</sup> 互联网平台企业向社会公开《依法合规经营承诺》（第一批）[Internet Platform Enterprises Approach Society to Make Public Undertakings of Legal Compliance in Business Undertakings (1<sup>st</sup> Batch)], China State Administration for Market Regulation, 14 April 2021, available at [http://www.samr.gov.cn/xw/zj/202104/t20210413\\_327811.html](http://www.samr.gov.cn/xw/zj/202104/t20210413_327811.html)

<sup>84</sup> 互联网平台企业向社会公开《依法合规经营承诺》（第二批）[Internet Platform Enterprises Approach Society to Make Public Undertakings of Legal Compliance in Business Undertakings (2<sup>nd</sup> Batch)], China State Administration for Market Regulation, 15 April 2021, available at [http://www.samr.gov.cn/xw/zj/202104/t20210414\\_327847.html](http://www.samr.gov.cn/xw/zj/202104/t20210414_327847.html)

<sup>85</sup> 互联网平台企业向社会公开《依法合规经营承诺》（第三批）[Internet Platform Enterprises Approach Society to Make Public Undertakings of Legal Compliance in Business Undertakings (3<sup>rd</sup> Batch)], China State Administration for Market Regulation, 16 April 2021, available at [http://www.samr.gov.cn/xw/zj/202104/t20210415\\_327862.html](http://www.samr.gov.cn/xw/zj/202104/t20210415_327862.html)

consolidate power prior to the reorganization that created SAMR<sup>86</sup> and her prediction that SAMR will likely continue the practice vis-s-vis its wider mandate.<sup>87</sup> In addition to establishing an emergent bureaucracy's authority over multiple policy areas, extending beyond antitrust also advances a multi-faceted vision of what firms should and should not do in the process of reclaiming/reasserting state dominance. While there is an element of constraining large firms, there is also a call for them to do their part in contributing to an orderly economy.

In sum, antitrust developments around the platform economy in late 2020 and early 2021 illustrate a delegatory dynamic precisely because they run deeper than any one firm or even one regulatory area. As a direct manifestation of the tolerant but cautious regulatory approach espoused in state rhetoric, antitrust has emerged not only as a form of control but also as the rearticulation of a resounding if sometimes nebulous vision of the responsibility private firms have in promoting economic development. With both elements present, antitrust reflects the process of delegating the power to push business and technology forward in the 21<sup>st</sup> century.

## **E. CONCLUSION: USING CHINA TO EXPAND UNDERSTANDING OF ANTITRUST AS A POLITICAL TOOL**

Problematizing antitrust in authoritarian contexts in terms of the state delegating economic responsibility to firms clarifies recent developments in China. Familiar themes in Chinese governance resonate with conceptual insights derived when considering Brandeisian concerns about power dynamics in the context of an autocrat's concerns over regime survival. In line with the state-articulated approach of tolerant but cautious regulation for new technologies and business models, greater scrutiny of China's big tech firms through antitrust policy reemphasizes the contours of permissibility in an ever-salient balance between centralization and decentralization of authority. While control is a chief consideration, so too is the delineation of how firms can go about their business while serving the function that state ideology envisions for them.

While considering antitrust as a delegatory matter may be especially well tailored for China given its economic sophistication and the tendency toward delegation that scholars have observed in its governance model, the perspective is a useful step toward understanding antitrust as a regulatory tool that addresses a range of political objectives. In assessing how economies with authoritarian political regimes end up with antitrust institutions that are similar on paper to those found in democracies, a key is realizing that antitrust institutions inherently work to check firms' power. The motivations behind that check of firms' power can greatly impact the discourse around the regulatory features and operationalization of antitrust. For example, should the antitrust moment for big tech be about freedom of speech or realizing a top-down plan?

Antitrust policy need not be confined to either-or analysis rooted in market efficiency on the one hand and the consequences of firms' power on the other. Indeed, co-mingling the two in a both-and proposition is a foundation for deeper findings. To the extent we frame antitrust in terms of power dynamics, we tend toward ideas about limiting power. However, the case of China invites us to push beyond such inclinations. As a political matter, antitrust policy— even

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<sup>86</sup> Zhang 2014, 693-694

<sup>87</sup> Zhang 2021b, 51-52

when couched in rhetoric of abusing a dominant market position or imperiling consumer welfare— can be as much about delegating power as it is about limiting it.

## Essay 3

### **File It Under Industrial Policy? How Chinese 5G SEP Filings Advance and Frustrate Techno-Nationalist Ambitions**

The use of quantitative targets and subsidies has incentivized a surge in filings at the Chinese patent office, but the firms critical to realizing state ambitions for global leadership in emerging technologies must also compete in international markets. This article investigates how firms reconcile contradictory incentives from patent policy in their home market on the one hand and the globalization of technology markets on the other; it argues that this effort mitigates but does not eliminate concerns about outcomes that Chinese patent policy promotes overall. The interplay between domestic and international forces is central to standard essential patents (SEPs), or patented technologies that holders declare necessary to meet technical standards for device interoperability that are set internationally. Chinese firms are major declarers of SEPs for 5G technologies, but filing practices that previous research identifies as responses to Chinese patent policy can disadvantage firms aiming to have their proprietary technology included in international standards and licensed globally. Patent data for their 5G SEP declarations show a partial but incomplete response to this dilemma: While filing patterns reflect the schedule of international standard setting instead of a year-end surge to meet state targets, evidence remains for a year-end drop in patent quality and limited patent filings abroad. These findings illustrate the tensions that China's evolving patent policy must navigate in transitioning from an emphasis on quantity to an emphasis on quality.

## A. INTRODUCTION: PATENTS TO PROMOTE OR PATENTS THAT PRETEND?

A quick search of “5G Patents” or “who is winning the 5G race” on Google prominently features Huawei and ZTE in the results. The accompanying charts and reports put these Chinese companies among Qualcomm, Nokia, Ericson, Samsung, LG, and Sharp as the top holders of global 5G technology patents, with Huawei ranking number one on the list. Two of China’s most prominent firms being patent powerhouses is paradoxical given persistent critiques of China’s intellectual property regime. This paradox invites analysis of the extent to which competition in international markets paper over problematic policy at home.

Politically, 5G technologies are at the center of techno-nationalism, a “new strain of mercantilist thinking than links technological innovation and capabilities directly to a nation’s national security, economic prosperity, and social stability.”<sup>1</sup> Under this paradigm, 5G capabilities dictate the ability to control global communications. The very question of “who is winning the 5G race” reflects this spirit. Simultaneously, the multi-national companies leading its development and the ideal of unlimited connectivity entail a truly global market for 5G technologies. Because interoperability is at the heart of 5G, the key patents involved tend to be standard essential patents (SEPs), i.e., patented technologies that holders declare necessary to meeting the technical standards for interoperability set internationally. SEPs are in this sense a prime case of the interplay between domestic innovation policy and the international economy.

In China’s case, that interplay is a tension. None other than Xi Jinping himself has acknowledged the problems with Chinese intellectual property. The Communist Party magazine *Qiushi* (“Seeking Truth”) published a January 2021 speech of his devoted entirely to the strengthening of intellectual property to promote innovative capacity.<sup>2</sup> In it he explained, “At present, China is transitioning from a major importer of intellectual property to a major creator of intellectual property, with intellectual property work now transitioning from the pursuit of quantity to increasing quality.”<sup>3</sup> These remarks echo research that has documented China’s patent explosion and resulting concerns over the prevalence of junk patents resulting from state subsidized patent applications. Yet they also speak to intellectual property being part of an industrial policy committed to innovation in strategic technologies. A mere two months prior to President Xi’s speech, the vice chairman and secretary general of China’s Telecommunication Standardization Association proudly declared “In the 5G generation, China’s international discourse power is obviously on the rise: On July 3 of [2020], the international telecom standardization organization 3GPP announced a freeze on the 5G R16 standard within which Chinese enterprises and research institutions have had a deep level of participation, and in the area of making important contributions to key technology fields like smart systems, large-scale

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<sup>1</sup> Alex Capri, “Techno-Nationalism: What Is It and How Will It Change Global Commerce,” *Forbes*, 20 December 2019, <https://www.forbes.com/sites/alexcapri/2019/12/20/techno-nationalism-what-is-it-and-how-will-it-change-global-commerce/?sh=7d78c580710f>.

<sup>2</sup> Xi Jinping, “Comprehensive Strengthening the Work of Intellectual Property Protection, Stimulating Innovative Vigor, Promoting the Establishment of a New Development Setup [全面加强知识产权保护工作激发创新活力推动构建新发展格局],” *Seeking Truth Magazine* [《求是》杂志], 31 January 2021, , [http://www.gov.cn/xinwen/2021-01/31/content\\_5583920.htm](http://www.gov.cn/xinwen/2021-01/31/content_5583920.htm).

<sup>3</sup> Author’s translation of original Chinese: 当前，我国正在从知识产权引进大国向知识产权创造大国转变，知识产权工作正在从追求数量向提高质量转变。



antennae, and new forms of internet frameworks, Chinese enterprises hold the most standard essential patents in the world.”<sup>4</sup> The discourse power to which the vice chairman refers is ultimately predicated upon the sort of high-quality intellectual property that President Xi has called for China to turn to with greater vigor. Any ambitions Chinese leaders would like to realize globally must in this sense begin at home.

Examining the extent to which Chinese 5G SEP filings reflect broader concerns around Chinese patenting is an opportunity for more nuanced assessments of how problematic policy incentives are for realizing state ambitions. While the regulation of intellectual property is inherently territorial, it governs technologies that firms wish to monetize in jurisdictions across the globe. This article argues that Chinese firms’ efforts to compete globally mitigates but does not eliminate concerns arising from the incentive structure in Chinese patent policy. It begins by contextualizing intellectual property as a component of China’s industrial policy and reviewing the responses to it documented in prior research: a year-end filing surge and limited scope of filings abroad. It then approaches competitive pressures around SEPs at the global level as mechanisms capable of driving patenting behavior away from typical patterns at the Chinese patent office. Patent data for SEP declarations from eight major Chinese companies at the European Telecommunications Standards Institute show that only some of those mechanisms are at work: While filing patterns for 5G SEPs reflect the schedule of international standard setting instead of a year-end surge, quality concerns around year end filings and less robust filing abroad remain. These findings provide insights into the tensions that emerging policy shifts must navigate to promote truly competitive technologies.

## B. CONTEXT: INTELLECTUAL PROPERTY AS INDUSTRIAL POLICY

The phrase “to promote the development of the socialist market economy” is a common feature of Chinese laws, regulations, and policy documents. The adjectives reflect political emphasis on state-owned enterprises operating alongside private entrepreneurs; the nouns and verbs evoke five-year plans, performance metrics, and priority sectors; and the phrase’s preambulatory position affirms the role of institutions as industrial policy tools. It is within this very context that intellectual property is itself a component of Chinese industrial policy.

Note that the quote from Xi Jinping’s 2021 speech on intellectual property cited in the introduction uses the term “intellectual property work” (*zhishi chanquan gongzuo*). This terminology reflects the treatment of intellectual property in China’s brand of state capitalism.<sup>5</sup> As Zhang points out, there is an important distinction between the idea of “patent protection”

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<sup>4</sup> Mei Yaxin [梅雅鑫], “China Telecommunications Standardization Committee’s Yang Zemin: Cooperation on Innovation, Continuously Expanding Discourse Power [中国通信标准化协会杨泽民: 创新合作, 不断扩大国际话语权],” Sohu News [搜狐新闻], 27 November 2020, [https://www.sohu.com/a/434917429\\_128075](https://www.sohu.com/a/434917429_128075). Author’s translation of original Chinese: 5G 时代, 我国国际标准话语权显著提升, 今年 7 月 3 日, 国际通信标准组织 3GPP 宣布 5G R16 版标准冻结, 其中有我国企业和研究机构的深度参与, 并在灵活系统设计、大规模天线和新型网络架构等关键技术领域做出重要贡献, 我国企业拥有的 5G 标准必要专利数居全球第一。

<sup>5</sup> The term “state capitalism” here refers to the combination of direct control of strategic sectors, party control over personnel, a market foundation for large swaths of the economy, extensive industrial policy formulation on the part of the government, and continued state control over finance. See Naughton and Tsai 2015.

that many observers of Chinese patent policy gravitate toward and the notion of “patent work” that interests Chinese patent policy practitioners themselves.<sup>6</sup> For example, contributions from Dimitrov<sup>7</sup> and Mertha<sup>8</sup> deal with the politics of enforcement, specifically with regards to the issue of piracy in China. But to Chinese policymakers, “patent work” (*zhuanli gongzuo*) focuses more on “how patent protection can boost their foreign trade and promote local economic development.”<sup>9</sup> While this paradigm does view intellectual property as promoting science and the useful arts,<sup>10</sup> it does so through the lens of development metrics and strategic state planning geared toward promoting specific sectors of the economy.

For example, the State Council issued its 14<sup>th</sup> National Five-Year Plan on the Protection and Application of Intellectual Property on 9 October 2021. It calls for increases in a series of quantitative metrics for 2025 that includes the number of “high quality” invention patents per 10,000 citizens, the number of granted invention patents overseas, the monetary amount of pledged financing for registered intellectual property, and the percentage share of patent intensive industries in GDP.<sup>11</sup> This promulgation came on the heels of the National Intellectual Property Administration issuing its Outline for Building a Strong Intellectual Property State (2021-2035) on 23 September. Its third section describes “the construction of an intellectual property system that is oriented toward socialism’s modernization.”<sup>12</sup> Among other things, this vision entails “coordinated development strategy revolving around the country’s localities, formulation/realization of localities’ intellectual property strategy, deepened construction of strong IP provinces/cities, and the promotion of coordinated intellectual property development among localities.”<sup>13</sup>

Broader articulations of development policy also illustrate the conceptual linkage between state planning and intellectual property. Made in China 2025<sup>14</sup>— the State Council’s 2016 call for breakthroughs in 5G technology, operating systems and software, robotics, and aerospace equipment<sup>15</sup>— specially calls for “strengthening the application of intellectual property rights”

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<sup>6</sup> Zhang 2019, 55.

<sup>7</sup> Dimitrov 2009.

<sup>8</sup> Mertha 2018.

<sup>9</sup> Zhang 2019, 55.

<sup>10</sup> This language references the so-called “IP Clause” in Article 1, Section 8, Clause 8 of the US Constitution.

<sup>11</sup> See the table titled “Chief IP Development Metrics in the Period of the 14<sup>th</sup> Five Year Plan [“十四五”时期知识产权发展主要指标]”.

<sup>12</sup> Author’s translation of original Chinese: 建设面向社会主义现代化的只是产权制度.

<sup>13</sup> Author’s translation of original Chinese: 围绕国家区域协调发展战略, 制定实施区域只是产权战略, 深化知识产权强省强市建设, 促进区域只是产权协调发展

<sup>14</sup> 《中国制造 2025》, available at [http://www.gov.cn/zhengce/content/2015-05/19/content\\_9784.htm](http://www.gov.cn/zhengce/content/2015-05/19/content_9784.htm).

<sup>15</sup> See Made in China 2025, Section 3.6.

among its “strategic tasks and points of emphasis”.<sup>16</sup> This vision entails “enhanced creation of a stock of intellectual property in emphasized fields of key/core technologies and the establishment of patent portfolios and strategic layouts that are driven by industrialization.”<sup>17</sup> Subsequently in 2020, the National Development and Reform Commission released its Guiding Opinions on Cultivating Investment in Strategic Emerging Industries and Cultivating the Expansion of New Growth Points and Growth Poles.<sup>18</sup> The very first area it defines as a focal/critical point for investment is 5G.<sup>19</sup> It not only calls for “cultivating and forging a base in 10 globally influential strategic industries and 100 groups that are globally competitive in new and strategic industries”<sup>20</sup> but also the “comprehensive application of policies for such areas as public financing, real estate, finance, science/technology, talent, and intellectual property.”<sup>21</sup>

Patent policy and industrial policy intertwine in this context. The resulting incentive structure is a familiar story for students of Chinese political economy. On the bureaucratic side of the ledger, performance evaluations for officials at the patent office, state-owned enterprises, university/research institutes, party officials, and local cadres have incorporated patent applications and patent grants as metrics.<sup>22</sup> To meet national targets for the number of annual patents and ensure more positive evaluations, both the central and provincial/local governments issued a series of policies including patent subsidies.<sup>23</sup> Subsidies for patent filing actually date back to 1999 when the government in Shanghai launched them for the first time; by 2007, 29 of China’s 30 provinces had launched patent subsidy programs.<sup>24</sup> While the specifics of programs have varied from locality to locality, they have generally consisted of the partial or full reimbursement of filing fees with some instances of rewards for patent grants.<sup>25</sup>

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<sup>16</sup> See Made in China 2025, Section 3.1.

<sup>17</sup> Author’s translation of original Chinese: 加强制造业重点领域关键核心技术知识产权储备，构建产业化导向的专利组合和战略布局。

<sup>18</sup> 《关于扩大战略性新兴产业投资培育壮大新增长点增长极的指导意见》，available at [https://www.ndrc.gov.cn/xxgk/zcfb/tz/202009/t20200925\\_1239582.html?code=&state=123](https://www.ndrc.gov.cn/xxgk/zcfb/tz/202009/t20200925_1239582.html?code=&state=123).

<sup>19</sup> See Section 2, Paragraph 1: Focal and Emphasized Areas for Industrial Investment Areas [聚焦重点产业投资领域], Accelerate the Improvement in and Enhanced Effectiveness of Information Technology [加快新一代].

<sup>20</sup> Author’s translation of original Chinese in Section 3, Paragraph 9: 培育和打造 10 个具有全球影响力的战略性新兴产业基地、100 个具备国际竞争力的战略性新兴产业集群。

<sup>21</sup> Author’s translation of original Chinese in Section 3, Paragraph 9: 综合运用财政、土地、金融、科技、人才、知识产权等政策

<sup>22</sup> Zhang 2019, 51; Dan Prud’homme, “Dulling the Cutting Edge: How Patent-Related Policies and Practices Hamper Innovation in China,” European Chamber (August 2012), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2190293](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2190293) pg. 66.

<sup>23</sup> Song, Li and Xu 2016, 182

<sup>24</sup> Li 2012, 240.

<sup>25</sup> See Song, Li and Zu 2016, 196-202 for a list of examples. See also Li 2012, 240.

Patent applications have exploded in this metric-based, subsidy-fed environment. However, operationalizing industrial policy with patents has produced a distinct incentive structure. Wallace details how the state proclivity for numeric performance evaluations encourages local leaders to “joke the stats” in response to the political sensitivity and political timing of the economic data in question.<sup>26</sup> Similar concerns emerge in the realm of patents, where junking the stats is the major issue. In adducing evidence of strategic patenting driven by various subsidies, Dang and Motohashi found that the increase in the number of patents granted was larger than the increase in patent applications, with the grant ratio higher under subsidies than the econometrically simulated number of grants without subsidies.<sup>27</sup>

Indeed, research demonstrates that such strategic filing is geared toward the gaming of year-end deadlines. In examining all patents filed at the Chinese patent office between 1994 and 2007, Sun et. al find consistent year end surges in the number of patent applications but clear end of year troughs in the number of forward citations— an indicator of patent quality— for Chinese inventors.<sup>28</sup> They point out that because individual inventors are unlikely to be the direct subjects of government goals for patenting, the “Christmas rush” in patent filings may suggest that “local governments, in order to meet their annual patenting goals, might provide incentives or pressure small private enterprises to file patent applications.”<sup>29</sup> Similarly, Lei, Sun, and Wright point out that Chinese firms under political pressure may split their patents into multiple applications to meet various quotas and increase the subsidies they receive at year’s end; though their dataset unfortunately did not include the number of patent claims, they nevertheless found possible support for this proposition by investigating co-inventors.<sup>30</sup>

But the issues go beyond gaming the calendar within China’s border. Putnam, Luu, and Ngo estimate that in 2018 the total number of patent applications in China was inflated by more than 500 percent above the level that inputs like R&D expenditures and labor hours would predict.<sup>31</sup> When focusing on the telecommunication sector, their study indicates that the average number of foreign countries Chinese inventors seek protection in has actually fallen in line with subsidies for filing outside China being generally limited to two or three countries.<sup>32</sup> These findings speak to concerns over the quality of patents and monetization of intellectual property, both of which are foci in China’s most recent industrial policy.

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<sup>26</sup> Wallace 2016, 25-26.

<sup>27</sup> Dang and Motohashi 2015, 145 and 151.

<sup>28</sup> Sun et. al 2021pp.1070-1071.

<sup>29</sup> Sun et. al 2021, pg. 1070.

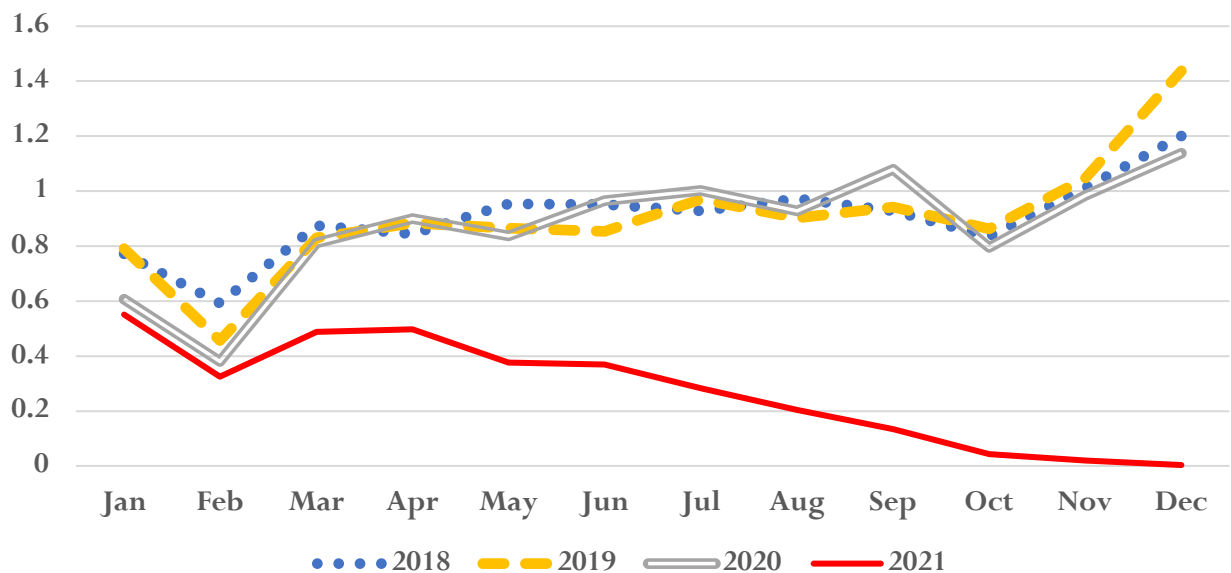
<sup>30</sup> Zhen Lei, Zhen Sun and Brian Wright, “Are Chinese Patent Applications Politically Driven? Evidence from China’s Domestic Patent Applications.” OECD Working Paper (2013), <https://www.oecd.org/site/stipatents/4-3-Lei-Sun-Wright.pdf> pp. 18-22.

<sup>31</sup> Jonathan Putnam, Hieu Luu and Ngoc Ngo, “Does China Really Dominate Global Innovation? The Impact of China’s Subsidized Patent Application System,” Hudson Institute Policy Memo (March 2021), [https://s3.amazonaws.com/media.hudson.org/Putnam%20Luu%20Ngo\\_Impact%20of%20China's%20Subsidized%20Patent%20Application%20System.pdf](https://s3.amazonaws.com/media.hudson.org/Putnam%20Luu%20Ngo_Impact%20of%20China's%20Subsidized%20Patent%20Application%20System.pdf), pg. 2.

<sup>32</sup> Ibid, pg. 3

As one might expect, filings at the Chinese patent office dropped considerably following Xi Jinping’s 2021 speech. Responding to that that speech, the National Intellectual Property Administration called for an end to subsidized patent applications in June 2021 and the full elimination of patent subsidies by 2025 in its Notice on Going a Step Further in the Rigorous Standardization of Patent Application Behavior.<sup>33</sup> But as Figure 1 shows, the phenomenon of year-end patent filing surges was still very real in the three years before Xi’s call to move from quantity to quality. This transition invites a more nuanced assessment of the foundation that intellectual property as industrial policy has put in place.

**Figure 1:**  
**Total Patent Filings (In Millions) at China’s Patent Office by Month, 2018-2021**



*Source: Month by month searches for application date on the China National Intellectual Property Administration’s patent database (<http://pss-system.cnipa.gov.cn/sipopublicsearch/portal/uiIndex.shtml>)*

Qualitatively, public comments from Huawei’s Vice Director General and Chief Legal Officer Song Liuping sum up these observations and the concerns behind them. During a 2017 lecture he declared:

“In the last several years I have put forth a question to the intellectual property managers at large domestic enterprises: What are the three primary objectives of applying for a patent that you each would list for your enterprise? The answer I received was: The first objective is to earn the qualification of applying for high technologies, the second objective is to receive patent subsidies, and the third objective is to complete the task leadership assigned... Overall, the objective of a large number of patent applications in

<sup>33</sup> 《国家知识产权局关于进一步严格规范专利申请行为的通知》, available at [http://www.gov.cn/zhengce/zhengceku/2021-01/27/content\\_5583088.htm](http://www.gov.cn/zhengce/zhengceku/2021-01/27/content_5583088.htm). The discussion section goes into more detail on this point.

our country is not to obtain economic income through the market. It is almost even more in order to obtain the government's financial support or support from national policies. On the basis of this mistaken purpose for filing patent applications, they go astray, and these objectives for obtaining intellectual property rights cannot equip the ability to earn economic benefits from the market, even more so the global market, and their quality is absolutely worrisome.”<sup>34</sup>

### C. MECHANISMS AND HYPOTHESES: DISCERNING THE PULL OF GLOBALIZED IP STRATEGY

Observations around year-end filing surges conflate the full range of patentable technologies. Lumping in this manner illustrates general responses to China's policy link between intellectual property and industrial planning, but these behavioral patterns run counter to the competitive dynamics that firms face for 5G SEPs. As discussed in the introduction, not only do 5G technologies trade in a globalized market, but international organizations determine the technical standards upon which that global market is built. In this globally-facing arena, each of the adjectives involved—“declared”, “standard”, and “essential”—point to competitive pressures that should push firms away from the broader patent filing patterns discussed in the previous section.

First, the schedule for meetings of international standard setting organizations is key to aligning the content of patent filings with newly released technical standards. As members of an international standard setting organization, the very companies who are would-be filers participate in the process of selecting which technologies are most worthy of incorporation into technical standards. The situation thus involves both information channels and a window of opportunity to act upon them. As an informational matter, Mattli and Buthe argue that the institutional complementarities between a state's domestic framework for standard setting and the international standard setting process favor some firms over others; a fragmented system of product standardization makes it more difficult to aggregate technical preferences and project consensus standards with a single voice internationally while more hierarchical domestic arrangements facilitate streamlined flows of information that make the successful advocacy of particular technologies more likely.<sup>35</sup> Within China's overtly hierarchical autocracy, the institutional design for standard-setting reflects a desire to ensure that standard setting decisions ultimately rest with the state.<sup>36</sup> A state-directed push to fill the leadership positions in international standard setting organizations with Chinese nationals has likewise generated

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<sup>34</sup> Author's translation of original Chinese: 我前些年向国内大企业知识产权主管提出一个问题: 各自列出自身企业申请专利最主要的三个目的是什么? 得到的回答是: 第一个目的是为了获得申请高新技术资质, 第二个目的是为了获得专利资助, 第三个目的是完成领导交办任务……基于这样错误的目的来申请专利, 其方向就会走偏, 以这些目的获得的知识产权是不可能具备从市场上获得经济利益的能力, 更不可能从全球市场中获得经济利益的能力, 其质量就十分令人堪忧。See <https://www.zhichanli.com/p/790434873>.

<sup>35</sup> Mattli and Buthe 2011, 159-160.

<sup>36</sup> Sokol and Zheng 2018, 311.

considerable momentum.<sup>37</sup> But parlaying these structural advantages into monetizable intellectual property entails a race to the patent office. In a study of the W-CDMA/LTE standard that preceded 5G, Kang and Bekkers demonstrate an increased intensity in essential patent filing just before and during a standardization meeting in a phenomenon they call “just-in-time inventions.”<sup>38</sup> Their data indicate that meeting participants showed a peak in filing the seven days before a standardization meeting, while non-participants showed a smaller but still significant peak during the standardization meeting itself.<sup>39</sup>

In this context, Chinese companies looking to enhance their 5G SEP portfolio internationally do not have the luxury of waiting to collect subsidies from a year-end filing surge at home. While domestic timelines are still relevant, the real point of emphasis is more likely the calendars of the organizations driving 5G development internationally: the 3<sup>rd</sup> Generation Partnership Project (3GPP) and its regional partners.<sup>40</sup> Procedurally, 3GPP develops the technical specifications that the regional standard setting bodies it partners with subsequently adopt as standards.<sup>41</sup> Under the logic of just-in-time inventions, the filings for Chinese companies’ declared 5G SEPs would presumably coincide more with the 3GPP plenary meetings held quarterly at which the major technical specifications that form the basis for 5G standards are finalized.<sup>42</sup>

Second, determining essentially relates directly to a patent’s scope. Critically, a patent holder merely declares its patent as standard essential; licensing markets and litigation are the de facto determinants of whether it is. This situation reflects the fact that international standard setting organizations require participating members to declare patents which may be standard essential, but they do not evaluate whether those patents are in fact essential to the standards their holders claim them to be. One approach to helping would-be licensees judge actual essentiality is the use of machine learning to quantify the match between language in the patent document and the language in relevant technical standards.<sup>43</sup> Such analysis underscores how important the link between the claims in a patent and the relevant technical standards are for an SEP holder. Deliberate construction of a patent’s claims is therefore key to successfully claiming licensing fees based on standard essentiality.

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<sup>37</sup> Cissy Zhou, “Standard-Bearer: China Races US and Europe to Set Tech Rules,” *Nikkei Asia*, 21 December 2021, <https://asia.nikkei.com/Spotlight/Asia-Insight/Standard-bearer-China-races-U.S.-and-Europe-to-set-tech-rules>.

<sup>38</sup> Kang and Bekkers 2015.

<sup>39</sup> Kang and Bekkers 2015, 1953-1954.

<sup>40</sup> According to 3GPP’s website, “With LTE and 5G Work, 3GPP has become the focal point for the vast majority of mobile systems beyond 3G.” See <https://www.3gpp.org/about-3gpp>.

<sup>41</sup> See Lorenzo Casaccia, “Understanding 3GPP— Starting With the Basics,” *OnQ Blog* (2 August 2017), <https://www.qualcomm.com/news/onq/2017/08/02/understanding-3gpp-starting-basics>.

<sup>42</sup> More specifically, these quarterly meetings direct the planning and development of the major sets of specifications for a technology generation known as releases. For a brief technical overview of the specific releases related to 5G, see Michaela Goss, “An Overview of 3GPP 5G Releases and What Each One Means,” *Tech Target* (February 2021), <https://www.techtarget.com/searchnetworking/feature/An-overview-of-3GPP-5G-releases-and-what-each-one-means>.

<sup>43</sup> As an example, the leading industry database IPLytics is using this approach.

The question of patent scope is ultimately a qualitative one, but there are still quantitative considerations regarding the claims in an SEP. Filing subsidiaries can incentivize filers to break a patent up into multiple filings, each with a smaller number of claims.<sup>44</sup> While doing so may allow the filer to collect more subsidy funds, it may undermine the quest to establish essentially. A patent scope that is either too broad or too narrow makes standard essentiality objectively less likely. Simply splitting up claims into multiple patents could ignore this case-by-case balancing act. This intuition suggests that there should be little to no correlation between the number of claims in a Chinese 5G SEP filing and the point in time the filing was made.

Finally, self-declaration entails that the global market will detect poor quality through valuation of licensing fees. The self-declaration of a patent as standard essential at an international standard setting organization obliges the patent holder to license the underlying technology at a rate that is fair, reasonable, and non-discriminatory (or “FRAND”). But FRAND is a nebulous concept. In practice, negotiations between the patent holder and aspiring licensees ultimately determine what FRAND rates are. Lower quality technology depresses the licensing fee that a patent—SEP or otherwise—can command. This outcome is undesirable for a state eager to see its firms collect the lucrative rents that come from having their proprietary technology embedded in global technology standards. From a firm’s perspective, pushing through lower quality filings at the end of the year could devalue their broader SEP portfolio. Moreover, filing in a broader range of markets not only affords the opportunity to monetize an SEP in more markets; it also signals higher quality to the extent that it involves subjecting the application to greater scrutiny from an expanded set of examiners.

Common proxies for patent quality are forward citations (i.e., being cited in other patent documents) and triadic filings at the US Patent and Trademark Office, the European Patent Office, and the Japan Patent Office. As discussed in the previous section, Sun et. al observe that forward citations tend to drop for end of the year filings, only exacerbating broader concerns over the quality of Chinese patents.<sup>45</sup> But the intuition of declared SEP portfolios combined with the timing considerations of a more internationally based filing calendar suggests that observations of forward citations would be more consistent across months of the year.

When it comes to filings abroad, adding China and South Korea to the triad of the United States, the European Union, and Japan covers the five largest patent offices by volume in the world—the “IP 5”—as well as jurisdictions that are home to essentially all the top declaring 5G patent companies in the world.<sup>46</sup> With both quality and market share in mind, intuition supports the possibility that Chinese firms file their declared 5G SEPs in combinations involving more comprehensive sets of these key jurisdictions. While such observations of forward citations and filings abroad cannot fully address the issue of Chinese patent quality, they can help parse out whether 5G SEPs reflect general observations of patent filing that make it an issue.

Each of the considerations above treat competitive pressures as mechanisms that drive filing outcomes; they enable evaluations of whether 5G SEPs deviate from more general filing

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<sup>44</sup> Zhen Lei, Zhen Sun and Brian Wright, “Are Chinese Patent Applications Politically Driven? Evidence from China’s Domestic Patent Applications.” OECD Working Paper (2013), <https://www.oecd.org/site/stipatents/4-3-Lei-Sun-Wright.pdf> pg. 18.

<sup>45</sup> Sun et. al 2021, 1070.

<sup>46</sup> IPlytics GmbH, “Who is Leading the 5G Patent Race? A Patent Landscape Analysis on Declared SEPs and Standards Contributions,” *IAM* (17 February 2021), <https://www.iam-media.com/who-leading-the-5g-patent-race-patent-landscape-analysis-declared-seps-and-standards-contributions>.



practices at odds with the dynamics of global competition in the field. Table 1 summarizes this approach. The extent to which filing practices reflect the hypotheses in Table 1 is at the heart of how Chinese firms navigate the tension between domestic incentives and global forces, which is critical to evaluating the impact of China’s policy environment.

**Table 1: Testing 5G SEPs as a Unique Subset of Chinese Patent Filings**

<b>International Mechanism</b>	<b>Hypothesized Response</b>	<b>Testable Implication</b>
Meetings of international standard setting organizations adopt the technical standards that patent holders declare their patents essential to.	<b>H1:</b> Firms engage in “just in time” filing around the setting of technical standards prioritizes the calendar of international standard setting organizations.	<b>T1:</b> Chinese firms’ SEP filings coincide more with 3GPP plenary meetings held on a quarterly basis than the year end surge observed when all technologies are aggregated.
Splitting up patent filings along purely numerical lines undermines patent scopes that better establish standard essentiality in the international market.	<b>H2:</b> Firms refrain from piecemeal filings around the same technology at year’s end just to boost filing numbers and obtain more subsidy payments.	<b>T2:</b> The number of patent claims does not correlate with month of the year in which the filing occurred.
Global markets detect poor quality through licensing negotiations; pushing through low quality patents ultimately depresses the overall value of firms’ SEP portfolios.	<b>H3:</b> Firms file patents of comparable technical relevance throughout the year at the Chinese patent office with diversified filings abroad.	<b>T3:</b> The number of forward citations does not correlate with the months of the year in which the filing occurred at the Chinese patent office.  <b>T4:</b> Filings abroad include greater coverage of the world’s five largest patent offices (the “IP 5”).

#### **D. EMPIRICS: MITIGATION WITHOUT ELIMINATION**

Patent data on filing dates, claims, forward citations, and filings in jurisdictions outside China enable an assessment of the testable implications outlined in the previous section. Google Patents indexes all these data for patent families (i.e., the set of patent documents filed around the world for a specific technology). Pursuant to the declaration commitment for patents believed to be standard essential, international standard setting organizations’ websites typically include an IPR (intellectual property rights) section with databases that list declared SEPs. In the case of 5G technology, 3GPP determines technical specifications that its regional partners translate into

standards.<sup>47</sup> The European Telecommunications Standards Institute (ETSI) is perhaps the most prominent of these standard setting organizations, as it led the formation of the partnership that created 3GPP to develop technological specifications for third generation cellular networks in 1998.<sup>48</sup> Leveraging these resources enabled the construction of a data set in three main steps:

- 1) using ETSI's IPR database<sup>49</sup> to identify declared standard essential patents with companies and the Chinese patent office as search filters;
- 2) cross-listing the results in the first step against 3GPP's listings of 5G technical specifications to identify patents declared for 5G standards; and
- 3) scraping Google Patents for the relevant data corresponding to the resulting patent publication numbers.

The search in Step 1 above used all the relevant company names in the “Declaring Company” pulldown for eight Chinese companies whom industry observers identify as being among the top 5G patent declaring companies in the world:<sup>50</sup> Huawei, ZTE, Oppo, CATT Datang, Xiaomi, Vivo, Lenovo, and Shanghai Langbo. To optimize the inclusivity of 5G specifications over time, Step 2 above combined all the 5G technical specification and technical report numbers listed in 3GPP major releases dating to the inception of 5G in 2016 and then dropped all duplicates.<sup>51</sup> The resulting data set analyzed in this section contains 15,592 observations.

When it comes to the timing of patent filings, the data do indeed support the proposition that declared 5G SEPs have not historically followed the pattern of a pronounced year end surge but rather revolve around the international schedule for setting technical specifications. Due to the iterative nature of building new generations of telecommunication technology, the dataset includes patents that date back to 2000, though 54 percent of the observations come from 2016 and afterwards.<sup>52</sup> Figure 2 illustrates that August is the month in which filings spike most dramatically over the entire dataset, with smaller but still notable upticks in March and November. But when zooming in on the years of peak 5G development, Figure 3 demonstrates generally consistent quarterly spikes. The 3GPP website indicates “New versions of many 3GPP specifications are made available shortly after the 3GPP TSG plenary meetings which take place four times a year (March, June, September and December).”<sup>53</sup> The data are far more reflective of

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<sup>47</sup> See the previous section's discussion.

<sup>48</sup> Lorenzo Casaccia, “Understanding 3GPP— Starting With the Basics,” *OnQ Blog* (2 August 2017), <https://www.qualcomm.com/news/onq/2017/08/02/understanding-3gpp-starting-basics>

<sup>49</sup> <https://ipr.etsi.org>

<sup>50</sup> IPlytics GmbH, “Who is Leading the 5G Patent Race? A Patent Landscape Analysis on Declared SEPs and Standards Contributions,” *IAM* (17 February 2021), <https://www.iam-media.com/who-leading-the-5g-patent-race-patent-landscape-analysis-declared-seps-and-standards-contributions>.

<sup>51</sup> The sources for these technical specification listings are:

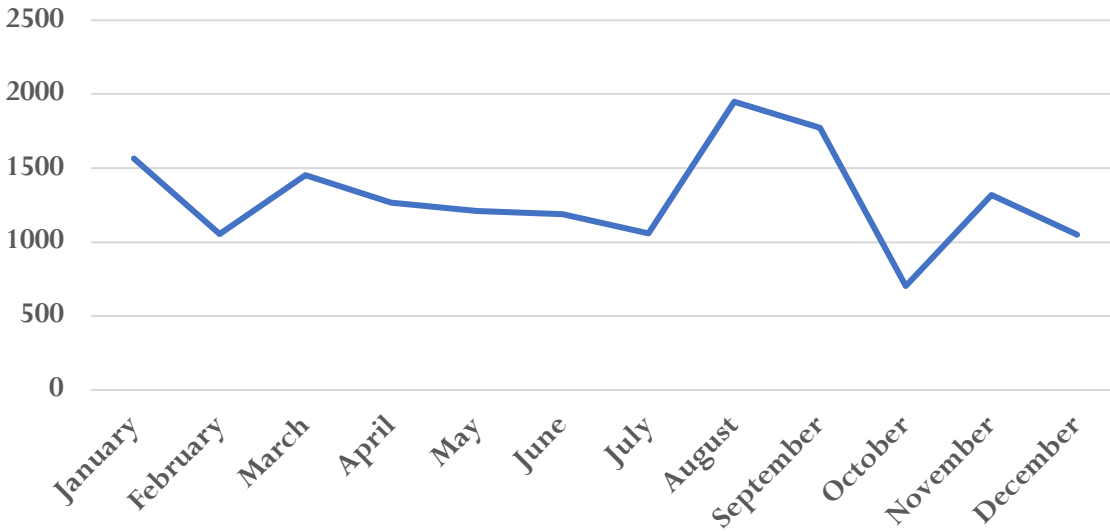
- 1) <https://www.3gpp.org/dynareport/SpecList.htm?release=Rel-15&tech=4&ts=1&tr=1> (Release 15)
- 2) <https://www.3gpp.org/dynareport/SpecList.htm?release=Rel-16&tech=4&ts=1&tr=1> (Release 16)
- 3) <https://www.3gpp.org/dynareport/SpecList.htm?release=Rel-17&tech=4&ts=1&tr=1> (Release 17)
- 4) <https://www.3gpp.org/dynareport/SpecList.htm?release=Rel-18&tech=4&ts=1&tr=1> (Release 18)

<sup>52</sup> Going slightly farther back, 86% of the observations are from 2010 and afterwards.

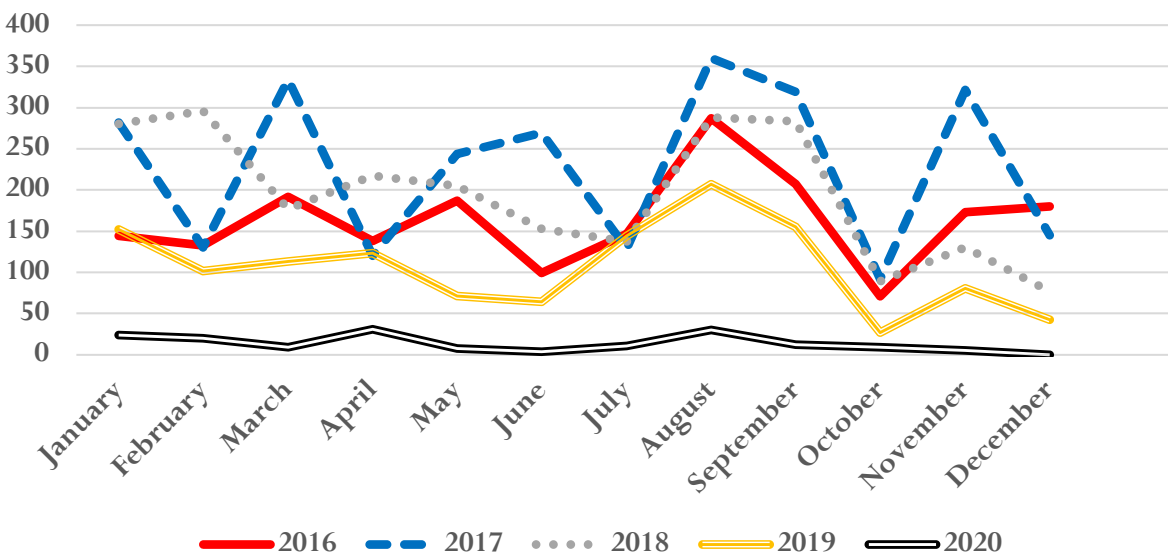
<sup>53</sup> 3GPP FAQs page, <https://www.3gpp.org/about-3gpp/3gpp-faqs>.

this quarterly cycle reminiscent of research on just-in-time filing than they are of the yearly “Santa-Clause” surge that research has demonstrated for Chinese patent filing overall.

**Figure 2:**  
**Chinese Companies’ Domestic 5G SEP Filings Count by Month (2000-2020)**



**Figure 3:**  
**Chinese Companies’ Domestic 5G SEP Filings Count by Month During Peak 5G Development**



The results around claims as a proxy for patent scope and forward citations as a proxy for quality are more mixed. Ordinary least squares regressions can probe the basic correlative relationships under investigation. Figure 4 shows 95% confidence intervals for the point estimates for regressions of claims and citations, respectively, on filing month, filing year, and a battery of other control variables<sup>54</sup> (the full regression tables are in Appendix 1 and Appendix 2). The point estimates of the coefficients indicate the predicted change in the number of claims or citations per later filing month while controlling for filing year. Consistent with the intuition advanced in the previous section, the correlative relationship between the month of filing and the number of claims is statistically insignificant; there is no evidence for the filing month being predictive of claims. However, there is a statistically significant relationship between the number of forward citations and filing month. For example, the regression analysis predicts that on average a declared 5G SEP filed in December has one fewer citation than a declared 5G SEP filed in May.

**Figure 4:**  
**No Evidence for Claim Splitting but Forward Citations Decrease as the Year Progresses**  
**(95% Confidence Intervals for OLS Regression Coefficients)**



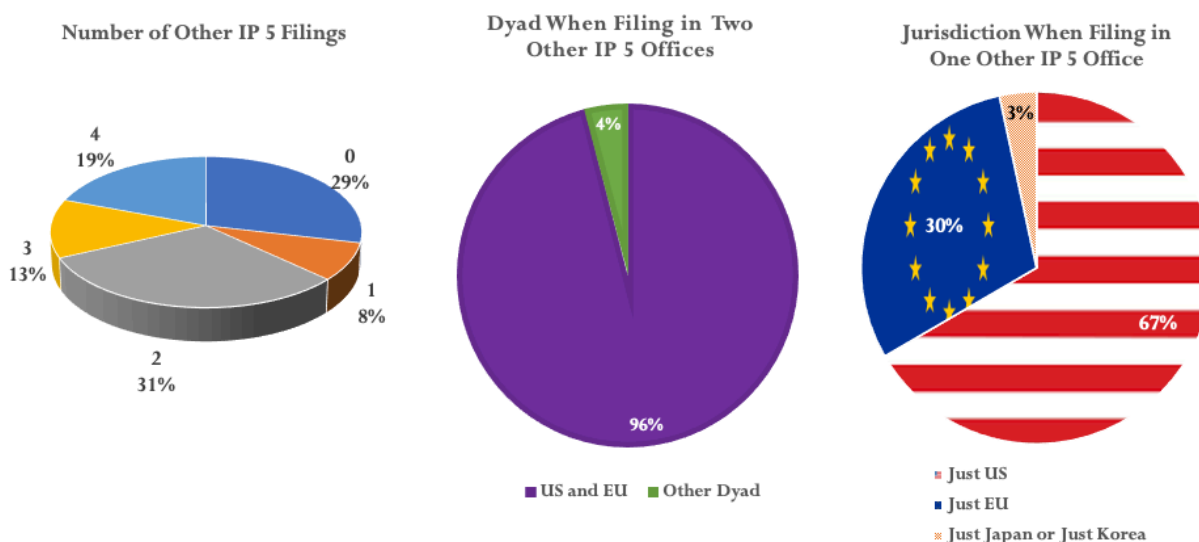
When it comes to broader coverage of filings in jurisdictions outside China, the data do not support the proposition that Chinese 5G SEPs buck the overall tendency to limit filings to China and two other jurisdictions at most. Reflecting the international nature of the technology markets involved, 79 percent of the observations correspond to a filing under the Patent Cooperation Treaty (PCT). The PCT facilitates simultaneous filings in multiple jurisdictions and as such is

<sup>54</sup> For the regression with claims as the dependent variable, the controls include grant status in China, filing under the Patent Cooperation Treaty, filings in other IP 5 jurisdictions, original and current assignee, and transfer of patent ownership. For the regression with citations as the dependent variable, the controls include the number of claims, grant status in China, filing under the Patent Cooperation Treaty, filings/grant status in other IP 5 jurisdictions, original and current assignee, and transfer of patent ownership.

considered a sort of international patent filing.<sup>55</sup> Led by none other than Huawei, Chinese companies overtook their US counterparts to account for the largest share of PCT filings in the world in 2019.<sup>56</sup> But the filings for declared 5G SEPs under the PCT mostly covers China with a bit of the United States and European Union folded in.

Figure 5 summarizes the major patterns in PCT filings vis-à-vis the so-called IP 5 offices who represent the highest volume of patent filings in the world: the China National Intellectual Property Administration,<sup>57</sup> the US Patent and Trademark Office, the European Patent Office, the Japan Patent Office, and the Korean Intellectual Property Office. While the PCT system is purposely global-facing, 29 percent of the declared 5G SEPS in the dataset were filed in China only. The largest proportion— 31 percent— were filed in China and two other IP 5 jurisdictions. But 96 percent of that subset consisted of dyadic filings in the United States and the European Union. For observations with a filing in only one other IP 5 jurisdiction, 97 percent were filed in either the United States or the European Union. These observations are indeed consistent with previous research on the relatively limited scope of Chinese patent filing internationally.

**Figure 5:  
The Preponderance of Single and Dyadic Filings Among IP 5 Jurisdictions in PCT Filings**



<sup>55</sup> World Intellectual Property Organization, “Protecting Your Inventions Abroad: Frequently Asked Questions About the Patent Cooperation Treaty,” <https://www.wipo.int/pct/en/faqs/faqs.html>.

<sup>56</sup> World Intellectual Property Organization, “China Becomes Top Filer of International Patents in 2019 Amid Robust Growth for WIPO’s IP Services, Treaties and Finances,” 7 April 2020, [https://www.wipo.int/pressroom/en/articles/2020/article\\_0005.html](https://www.wipo.int/pressroom/en/articles/2020/article_0005.html).

<sup>57</sup> Prior to the bureaucratic restructuring that created China’s State Administration of Market Regulation and put intellectual property under its purview, The China National Intellectual Property Administration was known as the State Intellectual Property Office of China.

Overall, the data provide mixed results with regards to whether China’s declared 5G SEPs deviate from more general patterns and concerns. On the one hand, filings quite clearly are more attuned to the quarterly schedule of 3GPP plenary meetings than a year-end push, and it does not appear that patent documents are being split up into multiple filings with fewer claims at a particular point in the year. On the other hand, forward citations appear to dip as the year progresses, and patent families are relatively limited with regards to geographic reach. This mixed picture— summarized in Table 2— suggests an enthusiasm for playing the international game without a break from the pull of Chinese policy incentives.

**Table 2: Assessments of Testable Implications for Off the Line Patterns in 5G SEPs**

Testable Implication (see Table 1)	Empirical Support
<b>T1:</b> Chinese firms’ SEP filings coincide more with 3GPP plenary meetings held on a quarterly basis than the year end surge observed when all technologies are aggregated.	√
<b>T2:</b> The number of patent claims does not correlate with month of the year in which the filing occurred.	√
<b>T3:</b> The number of forward citations does not correlate with the months of the year in which the filing occurred.	X
<b>T4:</b> Filings abroad include greater coverage of the world’s five largest patent offices.	X

## E. DISCUSSION: GATEKEEPING AND POLICY ADJUSTMENT IN THE GLOBAL ECONOMY

The previous section’s mixed findings on Chinese firms’ 5G SEP filings are a useful frame for the discussion of patent policy changes now underway in China following Xi Jinping’s public mandate to pivot from patent quantity to patent quality.<sup>58</sup> The State Council’s 14<sup>th</sup> Five-Year Plan for the Protection and Usage of Intellectual Property<sup>59</sup> announced on 28 October 2021

<sup>58</sup> Xi Jinping, “Comprehensive Strengthening the Work of Intellectual Property Protection, Stimulating Innovative Vigor, Promoting the Establishment of a New Development Setup [全面加强知识产权保护工作激发创新活力推动构建新发展格局],” 31 January 2021, *Seeking Truth Magazine* [《求是》杂志], [http://www.gov.cn/xinwen/2021-01/31/content\\_5583920.htm](http://www.gov.cn/xinwen/2021-01/31/content_5583920.htm).

<sup>59</sup> 《国务院关于印发“十四五”国家知识产权保护和运用规划》，available at [http://www.gov.cn/zhengce/content/2021-10/28/content\\_5647274.htm](http://www.gov.cn/zhengce/content/2021-10/28/content_5647274.htm).

articulates a goal of increasing from 6.3 to 12 “high quality invention patents” per 10,000 citizens between 2020 and 2025.<sup>60</sup> It further defines “high quality” invention patents as meeting any one of the following five criteria:<sup>61</sup>

1. Being in a strategic emerging industry;
2. Having an overseas patent family;
3. Having a term of validity exceeding 10 years;
4. Having a comparatively high sum of pledged capital; and
5. Receiving national science/technology prizes or national patent prizes.

Without even having to get into the details of a particular patent document, declared 5G SEPs meet the first condition definitionally<sup>62</sup> and overwhelmingly meet the second condition empirically; meeting any of the other three conditions is far from implausible given the first two. The irony of a quantitative metric to operationalize qualitative concerns notwithstanding, declared 5G SEPs are in position to be key to the transition Xi Jinping envisions. The policy shift now underway speaks to domestic actions that complement— or at very least do not undermine— each of the international mechanisms from Table 1.

Ideally, patent examination is a matter of scientific merit, not politics. When it comes to SEPs, however, prior research indicates that applications from foreign firms are less likely to receive a patent grant when examiners at the Chinese patent office know they are declared essential to ETSI/3GPP standards.<sup>63</sup> As Rassenfosse et. al point out, while it makes geostrategic sense to examine SEP applications more carefully, “greater scrutiny should also apply to applications by Chinese firms.”<sup>64</sup> This assertion underscores the patent office’s role as a gatekeeper and speaks to the notion that technological leadership on the world stage ultimately begins at home.

To the extent that the time it takes examiners to grant a patent reflects the scrutiny they subject the initial application to, the data indicate a shorter wait time for a patent grant when Chinese companies file the application for their declared 5G SEPs later in the year. Even though their cyclical filing surges parallel the plenary meetings 3GPP holds each quarter, there is a statistically and substantively significant result when the days from initial application to patent grant is regressed on calendar month of filing, calendar year of filing, and a battery of controls for the 9,474 observations (or 61% of the dataset) with a granted patent from China’s patent

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<sup>60</sup> 14<sup>th</sup> Five-Year Plan on IP Protection and Usage, Section 2.3

<sup>61</sup> See the table titled “Chief IP Development Metrics in the Period of the 14<sup>th</sup> Five Year Plan [“十四五” 时期知识产权发展主要指标]” and accompanying first note in Section 2.3 of the 14<sup>th</sup> Five-Year Plan on IP Protection and Usage.

<sup>62</sup> See the first section’s discussion of the National Development and Reform Commission’s 2020 Guiding Opinions on Cultivating Investment in Strategic Emerging Industries and Cultivating the Expansion of New Growth Points and Growth Poles.

<sup>63</sup> Gaetan de Rassenfosse, Emilio Raiteri, and Rudi Bekkers, “Discrimination in the Patent System: Evidence From Standard-Essential Patents,” Paper for the 2017 Conference on IP Statistics for Decision Makers, [https://www.oecd.org/site/stipatents/IPSDM17\\_6.4\\_bekkers-et-al.pdf](https://www.oecd.org/site/stipatents/IPSDM17_6.4_bekkers-et-al.pdf), pp.19-20.

<sup>64</sup> Ibid, pg. 20

office:<sup>65</sup> The coefficient on filing month is -3.79 with a p-value of .003. The base interpretation of this coefficient is that the wait time for granted 5G SEPs from Chinese firms decreased about four days on average each month over the course of a given year. This finding implies, for example, that a successful December filing on average received a patent grant about 42 days — close to a month and a half— more quickly than a granted patent whose application was made in January. This simple regression analysis cannot demonstrate a causal relationship or definitively prove that year-end filings are being pushed through with less scrutiny. Nevertheless, the fact that declared 5G SEPs from Chinese firms have tended toward quicker approval when their application falls within the year-end period during which the patent office is historically busiest is a less than flattering reflection of the patent office, especially when read in conjunction with the previous section’s findings of an inverse relationship between the number of forward citations and the calendar month of the filing.

To be sure, the time it takes examiners to ultimately approve a patent could have to do with bureaucratic capacity and other factors outside the adjudication of a patent’s technical merits. The State Council’s 14<sup>th</sup> Five-Year Plan for the Protection and Usage of Intellectual Property calls for the patent application period to be condensed to within 15 months,<sup>66</sup> and the National Intellectual Property Administration reports that in 2021 “the examination period for invention patents was condensed from 20 months to 18.5 months, among which the examination period for high quality invention patents was condensed to 13.8 months.”<sup>67</sup> In contrast, the average number of days from initial filing to patent grant was 1635.664— about 54 months— for the relevant observations in this article’s dataset.<sup>68</sup> Chinese leadership may therefore find a modicum of progress in the fact that the regression in the preceding paragraph predicts a yearly decrease of 28.46 days ( $p = 2e^{-16}$ ) in the time to a patent grant. But there is likely an optimal balance between speed and precision. The influence of highly competitive international markets on SEP filings positions them to be a major beneficiary of the more consistent gatekeeping logistics that a patent policy de-emphasizing quantity may enable.

As such, incentivizing participation in the global intellectual property market remains critical. As discussed in previous sections, this issue touches upon concerns of quality as well as market coverage. The data bear out the significance of filing more broadly across the world’s largest

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<sup>65</sup> Controls include filing under the Patent Cooperation Treaty, filings in other IP 5 jurisdictions, original and current assignee, and transfer of patent ownership. For the regression with citations as the dependent variable, the controls include the number of claims, grant status in China, filing under the Patent Cooperation Treaty, filings/grant status in other IP 5 jurisdictions, original and current assignee, and transfer of patent ownership. See Appendix 3 for the full regression table.

<sup>66</sup> See “Special Column 6: Work for the Construction of a First-Class Mechanism for Patent and Trademark Examinations [专栏 6 一流专利商标审查复购建设工程]” in Section 3.8 of the 14<sup>th</sup> Five-Year Plan on IP Protection and Usage.

<sup>67</sup> “The National Intellectual Property Administration’s Notice On the Deepening of Reform in Field the Intellectual of Intellectual Property Rights for the Streamlining of Administration/Delegation of Authority and Management Services and Optimizing the Innovation and Commercial Environment [国家知识产权局关于深化知识产权领域“放管服”改革优化创新环境和营商环境的通知],” [http://www.gov.cn/zhengce/zhengceku/2021-05/12/content\\_5605973.htm](http://www.gov.cn/zhengce/zhengceku/2021-05/12/content_5605973.htm), Section 1.1.

<sup>68</sup> The minimum number of days was 339 (about 11 months), and the maximum number of days was 4,733 (about 13 years).



patent offices. Among the observations with a patent grant in China, a regression of forward citations on the number of additional IP 5 jurisdictions that also awarded a patent and a battery of controls<sup>69</sup> yields a result that is statistically and substantively significant: The predicted increase in forward citations for each additional IP 5 patent grant outside China is 2.44 ( $p = 2e^{-16}$ ). This finding implies a predicted increase of about 9 forward citations for a patent that is granted in the United States, Europe, Japan, and South Korea in addition to China. But as discussed in the previous section, cases of firms putting themselves in this position are quite rare.

The situation is relevant to both the major changes underway in Chinese patent policy and the geopolitical environment Chinese firms face moving forward. In conjunction with Xi Jinping's January 2021 speech on intellectual property, the National Intellectual Property Administration promulgated its *Notice on Going a Step Further in the Rigorous Standardization of Patent Application Behavior*.<sup>70</sup> While it does abrogate the subsidization of patent filings as of June 2021, the actual mechanics of this policy shift are a bit more nuanced. Subsidies— including those for patents filed under the Patent Cooperation Treaty— are to be limited to patent grants, with the amount not to exceed 50% of officially designated fees; in concert with China's 14<sup>th</sup> Five Year Plan, local authorities are obliged to gradually phase out subsidies for patents such that they are eliminated entirely by 2025.<sup>71</sup> Sensible though it may be, this approach assumes that old habits will fade quickly. China's political culture of development metrics and the increasingly hands-on role of the state in the economy under Xi Jinping undermine such an assumption.

The experience of Chinese 5G SEPs demonstrate that integration in international markets can act as a counterbalance to such concerns. In addition to the findings above, consider the experiences of Huawei and ZTE in the U.S. market. Due to their ties to the Chinese state and national security concerns, the U.S. government has effectively banned the sale of their equipment in the United States. Nevertheless, Huawei received the fifth most patents from the United States Patent and Trademark Office while ZTE received the 207<sup>th</sup> most.<sup>72</sup> Data from the Iplytics Platform— the database for a leading market intelligence firm for SEP analytics— suggest that, at least on paper and in aggregate terms, Huawei and ZTE are qualitatively comparable to major competitors not subject to constraints in the U.S. market when it comes to SEP portfolios. For declared SEPs in the United States that have a PCT filing number, Figure 6 compares the average scores of Huawei and ZTE to those of Nokia, Ericsson, and Qualcomm for metrics that may factor into license valuation (Appendix 5 provides an overview of these metrics). On these metrics at least, Huawei and ZTE are on par with their U.S. and European competitors.

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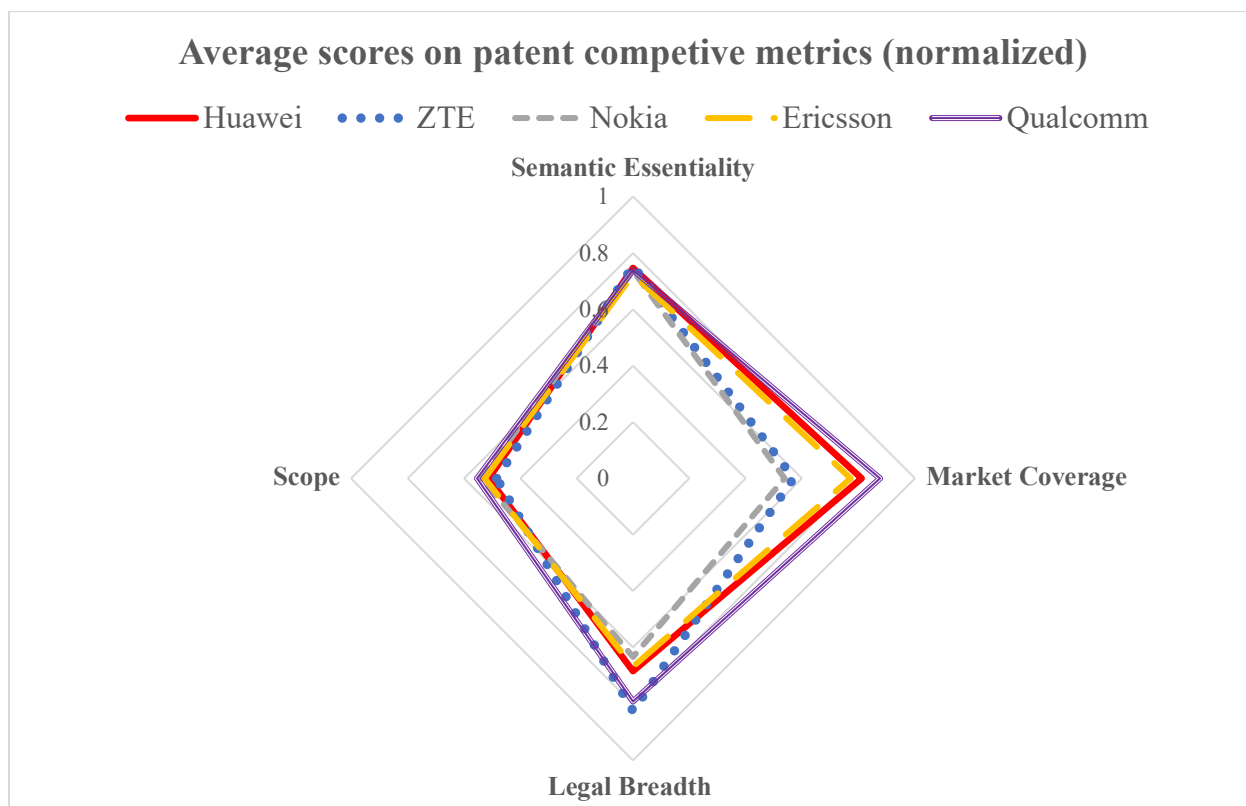
<sup>69</sup> See Appendix 4 for the full regression table. Controls include filing month, filing year, number of claims, original and current assignee, and transfer of patent ownership.

<sup>70</sup> 《国家知识产权局关于进一步严格规范专利申请行为的通知》, available at [http://www.gov.cn/zhengce/zhengceku/2021-01/27/content\\_5583088.htm](http://www.gov.cn/zhengce/zhengceku/2021-01/27/content_5583088.htm).

<sup>71</sup> See Section 4, Paragraph 2 of the National Intellectual Property Administration's Notice on Going a Step Further in the Rigorous Standardization of Patent Application Behavior.

<sup>72</sup> Intellectual Property Owners Association, "Top 300 Organizations Granted Patents in 2021," 6 January 2022, <https://ipo.org/wp-content/uploads/2022/01/2021-Patent-300@-IPO-Top-Patent-Owners-List-FINAL.pdf>, pg. 2 and pg.4.

**Figure 6: Aggregate Peer Competitiveness With SEPs in the U.S. Market**



*Source: Author calculations using data from the IPlytics Platform for SEPs declared in the United States with a PCT counterpart. Note that the calculated averages for Market Coverage, Legal Breadth, and Scope are normalized to be between zero and one for a better presentational match with the semantic essentiality score.*

It is indeed possible that competition on the international stage will be a tide that lifts the boat of Chinese patents. The mounting decoupling pressures in geopolitics may inhibit this possibility. Notably, information technology is an increasingly sensitive sector from the standpoint of national security. US and European trade policy toward China has prompted more in-ward looking rhetoric from Chinese leadership when it comes to technological development. Still, it is difficult to be a global technology leader in isolation. By virtue of the arena in which they compete, firms that deal heavily in SEPs are poised to help lead the way in the push for greater quality, especially absent the monetary incentive of a government subsidy. But just as the results in the previous section were mixed regarding SEPs as an anomalous subset, geopolitics may continue to promote mixed results when it comes to SEPs contributing to policy ambitions.

## **F. CONCLUSION: ADVANCING AN IDEAL WHILE FRUSTRATING ITS SPIRIT**

This article has approached Chinese patent policy from the perspective of an especially high-profile and internationally facing patent type: patents that Chinese IT firms have declared as

essential to 5G standards. Preceding from the notion that competitive dynamics around such 5G SEPs pose unique strategic concerns to firms, it drew on patent data to probe whether Chinese firms' 5G SEP filings deviate from observed distortions in Chinese patents more generally that arise from intellectual property being a component of industrial policy in the Chinese context. The results were mixed: Filing patterns mirrored the calendar of international standard setting instead of a year-end surge born of filing subsidies while concerns over patent quality and market coverage remain. These findings point to more acute competition in international markets attenuating but not eliminating concerns arising from policy that has traditionally emphasized patent quantity over patent quality. In this vein, SEPs may be on the leading edge of the state directive to emphasize patent quality launched in 2021, but the interweaving of national security and technological competition complicates the positive role that international markets could play in that process.

To what extent, then, do Chinese firms' 5G SEP filings frustrate or advance techno nationalist ambitions? While Chinese policy documents are unabashed in calling for global leadership, a February 2022 report on 5G competitiveness from the US Patent and Trademark Office concludes that "an examination of indicators that may collectively speak to patent portfolio competitiveness did not reveal a consistent leader" and accordingly asserts that "caution is recommended when reviewing media claims of 5G dominance."<sup>73</sup> From this perspective, the question revolves around what Chinese patent policy promotes. On the one hand, there is value in casting a wide net. Because international standard setting organizations require patent holders to declare patents that they believe *may* be standard essential, there is a strong incentive to over-declare patents as standard essential.<sup>74</sup> Chinese firms are by no means the only ones susceptible to this incentive, though policy geared toward bolstering output complements it. With the US Patent and Trademark Office's admonition duly noted, Huawei in particular has gained an important foothold through sheer numbers. On the other hand, sheer numbers ultimately are just a foothold. While Chinese 5G SEPs may out of competitive necessity be among the best intellectual property Chinese firms have to offer, it is difficult to conceive of achieving true leadership—however defined—without fully shaking concerns over the quality and market coverage associated with Chinese intellectual property more generally.

From another perspective, however, the question is in a sense teleological. Fully understanding it requires going beyond the common adage that China is developing intellectual property because it is beginning to have assets worth protecting. The Chinese policy context embraces intellectual property as a means of bolstering innovation; it is the current step toward the ultimate outcome of a rich, strong, and powerful nation under Communist Party stewardship. The Leninist roots of the party and Xi Jinping's own rhetoric speak to moving in phases. In explaining the elimination of patent subsidies, the head of China's National Intellectual Property Administration said:

"China's intellectual property institutions got off to a relatively late start and the working foundation was on the whole quite weak. During the period of building and developing

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<sup>73</sup> United States Patent and Trademark Office, "Patenting Activity by Companies Developing 5G," February 2022, <https://www.uspto.gov/sites/default/files/documents/USPTO-5G-PatentActivityReport-Feb2022.pdf>, pg. 9 and pg. 1.

<sup>74</sup> Robin Stitzing, Pekka Saakilahti, Jimmy Royer and Marc Van Audenrode, "Over-Declaration of Standard Essential Patents and the Determinants of Essentiality," 4 September 2018, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2951617](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2951617), pp. 12-13.

China's intellectual property institutions, the various levels of local governments combined the realities of each locality, coming on to the stage with policy incentives of patent and trademark subsidies to increase societal awareness of intellectual property and promote the rapid development of the intellectual property field. Objectively speaking, it had the use of pushing China into rapidly becoming a great power in intellectual property.”<sup>75</sup>

Viewed in this light, the 5G SEP drive lays a foundation to build upon. Gaining a foothold in newly emergent and truly international technologies of the future is no doubt valuable, but so too is generating enthusiasm for intellectual property as the precursor to a higher plane of development. The ways that Chinese firms and the Chinese state will build upon this foundation by addressing its weaknesses remains to be seen, but reconciling tensions between the domestic and global arenas will be integral to this process. The findings in this article point to 5G SEPs as an example. They have advanced techno-nationalist ambitions in partially moving away from distortive behaviors while frustrating techno-nationalist ambitions with lingering quality concerns and untapped segments of the global IP market. In this regard, they have advanced the ideal of a globally dominant and technically sophisticated China even if they have frustrated its spirit along the way.

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<sup>75</sup> Quoted in Cheng Shuwen [程姝雯], “Head of the National IP Administration Responds to Southern Metropolis Daily: Canceling Subsidies in Patents’ Application Phase is a Necessity for High Quality Development [国家知产局答南都：取消专利申请阶段资助是高质量的需要],” *Southern Metropolis Daily* [南方都市报] (8 May 2021), <https://baijiahao.baidu.com/s?id=1699170536313183716&wfr=spider&for=pc>. Author’s translation of original Chinese:

我们国家知识产权制度起步较晚，工作基础总体较为薄弱，在我国知识产权制度建立和发展的初期，各级地方政府结合各地实际，出台了专利、商标资助奖励政策，为提升全社会知识产权意识，推进知识产权事业快速发展，客观上起到了推动我国迅速成为知识产权大国的作用。

## REFERENCES

- Ahlers, Anna and Gunter Schubert. 2015. "Effective Policy Implementation in China's Local State." *Modern China* 41(4): 372-405.
- Amato, Giuliano. 1997. *Antitrust and the Bounds of Power: The Dilemma of Liberal Democracy in the History of the Market*. Oxford: Hart.
- Ang, Yuen Yuen. 2016. *How China Escaped the Poverty Trap*. Ithica, NY: Cornell University Press.
- Bai, Yong. 2021. "Asia-Pacific Antitrust Review 2021— China: Overview" *Global Competition Review*, April 21, 2021. Available at <https://globalcompetitionreview.com/review/the-asia-pacific-antitrust-review/2021/article/china-overview>.
- Boas, Taylor. 2000. "The Dictator's Dilemma? The Internet and US Policy Toward Cuba." *Washington Quarterly* 23(3): 57-61.
- Brandeis, Louis. 1934. *The Curse of Bigness: Miscellaneous Papers of Louis D. Brandeis* (Edited by Osmond K. Fraenkel). New York: The Viking Press.
- Brown, Ian Emerson. 2017. "China's Leaked CSRC Report Five Years Later: Baseline for VIE Trajectory?" *Houston Journal of International Law*, 39(1): 197-236.
- Chang, Hongliang. 2013. "VIE Shangshi Moshi Yanjiu: Yi Xin Dongfang wei An Li [Research on the VIE Mode of Public Listing: The Case of New Oriental]". *Shangye Pinglun* [Business Review], 2013(8): 50-52.
- Crane, Daniel. 2018. "Antitrust's Unconventional Politics." *Virginia Law Review*:104: 118-135.
- Dang, Jianwei and Kazuyuki Motohashi, Kazuyuki. 2015. "Patent Statistics: A Good Indicator for Innovation in China? Patent Subsidy Program Impacts on Patent Quality," *China Economic Review* 35: 137-155.
- Devereaux, Abigail and Linan Peng. 2020. "Give Us a Little Social Credit: To Design or to Discover Personal Ratings in the Era of Big Data." *Journal of Institutional Economics* 16: 369-387.
- Dickson, Bruce. 2016. *The Dictator's Dilemma: The Chinese Communist Party's Strategy for Survival*. Oxford: Oxford University Press.
- Dimitrov, Martin. 2009. *Piracy and the State: The Politics of Intellectual Property Rights in China*. Cambridge: Cambridge University Press.
- The Economist. 2017. "A Legal Vulnerability at the Heart of China's Big Internet Firms." *The Economist Schumpeter Column*, September 16, 2017. Available at

<https://www.economist.com/news/business/21728984-variable-interest-entities-are-their-weakest-link-legal-vulnerability-heart-chinas>.

Edin, Maria. 2003. "State Capacity and Local Agent Control in China: CCP Cadre Management from a Township Perspective." *China Quarterly* 173: 35-52.

Francisco, Ronald. 2005. "The Dictator's Dilemma." In Christian Davenport, Hank Johnston, and Carol Mueller (Eds.), *Repression and Mobilization*, 58-81. Minneapolis, MN: University of Minnesota Press.

Freyer, Tony. 2006. *Antitrust and Global Capitalism*. Cambridge: Cambridge University Press.  
Gallagher, Mary. 2005. *Contagious Capitalism: Globalization and the Politics of Labor in China*. Princeton: Princeton University Press.

Gao, Jie. 2015. "Pernicious Manipulation of Performance Measure in China's Cadre Evaluation System." *China Quarterly* 223: 618-637.

Gillis, Paul. 2012. "MOFCOM, Wal-Mart, and the VIE." *China Accounting Blog*, August 20, 2012. Available at <http://www.chinaaccountingblog.com/weblog/mofcom-wal-mart-and-the-vie.html>.

Göbel, Christian. 2011. "Uneven Implementation in Rural China." *China Journal* 65: 53-76.

Han, Rongbin. 2018. *Contesting Cyberspace in China: Online Expression and Authoritarian Resilience*. New York: Columbia University Press.

Heilmann, Sebastian. 2008. "Policy Experimentation in China's Economic Rise." *Studies in Comparative International Development* 43(1): 1-26.

Holland, Alisha. 2016. Forbearance. *American Political Science Review*, 110(2): 232-246.

Hsueh, Rosalyn. 2011. *China's Regulatory State: A New Strategy for Globalization*. Ithaca: Cornell University Press.

Hutchens, Walter. 2003. Private Securities Litigation in the People's Republic of China: Material Disclosure about China's Legal System? *University of Pennsylvania Journal of International Economic Law*, 24(3): 599-689.

Kang, Byeongwoo and Bekkers, Rudi. 2015. "Just-In-Time Inventions and the Development of Standards," *Research Policy* 44: 1948-1961.

Khan, Lina. 2018. "The New Brandeis Movement: America's Antimonopoly Debate." *Journal of European Competition Law and Practice* 9(3): 131-132.

Lardy, Nicholas. 2019. *The State Strikes Back: The End of Economic Reform in China*. Washington, DC: Petersen Institute for International Economics.

Li, Guo. 2014. "Chinese Style VIEs: Continuing to Sneak Under Smog?" *Cornell International Law Journal*, 47:571.

Li, Xibao. 2012. "Behind the Recent Surge of Chinese Patenting: An Institutional View," *Research Policy* 41 (2012): 236-249.

Li, Yan Bing. 2016. "Antitrust Correction for Qualcomm's SEPs Package Licensing and Its Flexibility in China." *IIC- International Review of Intellectual Property and Competition Law* 5(47): 336-351.

Liberthal, Kenneth and Michel Oskenberg. 1988. *Policy Making in China: Leaders Structures, and Processes*. Princeton, NJ: Princeton University Press.

Liu, Lizhi and Barry Weingast. 2020. "Law Chinese Style: Solving the Authoritarian's Legal Dilemma Through the Private Provision of Law." Working Paper, available at [https://www.lizhiliu.com/uploads/6/0/9/8/60987819/liu\\_weingast\\_lcs\\_aug2020\\_online.pdf](https://www.lizhiliu.com/uploads/6/0/9/8/60987819/liu_weingast_lcs_aug2020_online.pdf).

Lu and Ye. 2018. "Chinese Depository Receipts: What They Are, How They Work and Why This Represents a Golden Opportunity." 33 *Butterworths Journal of International Banking and Financial Law* 33(8): 529-532.

Ma, Jingyuan. 2020. *Competition Law in China: A Law and Economics Perspective*. Singapore: Springer.

Man, Thomas. 2015. "Policy Above Law: VIE and Foreign Investment Regulation in China." *PKU Transnational Law Review*, 3(1): 215-222.

Mattli, Walter Buthe, Tim. 2011. *The New Global Rulers: The Privatization of Regulation in the World Economy*. Princeton: Princeton University Press.

Mei, Ciqi and Margaret Pearson. 2014. "Killing a Chicken to Scare the Monkeys? Deterrence Failure and Local Defiance in China." *China Journal* 72: 75-97.

Mertha, Andrew. 2009. "Fragmented Authoritarianism 2.0: Political Pluralization in the Chinese Policy Process." *The China Quarterly* 200: 995-1012.

Mertha, Andrew. 2018 *The Politics of Piracy: Intellectual Property in Contemporary China*. Ithaca: Cornell University Press.

Nathan, Andrew. 2003. "China's Changing of the Guard: Authoritarian Resilience." *Journal of Democracy* 14(1): 6-17.

Naughton, Barry and Tsai, Kellee Tsai. 2015. "Introduction: State Capitalism and the Chinese Economic Miracle," in *State Capitalism, Institutional Adaptation, and the Chinese Miracle*, eds. Barry Naughton and Kellee Tsai (New York, NY: Cambridge University Press, 2015).

Ning, Suan, Yin, Hazel and Han Wu. 2012. "MOFCOM Approved Wal-Mart's Acquisition of Controlling Stake in Yihaodian but Said NO to VIE Structure." *China Law Insight*, August 20, 2012. Available at [https://www.chinalawinsight.com/2012/08/articles/corporate/antitrust-competition/mofcom-approved-walmarts-acquisition-of-controlling-stake-in-yihaodian-but-said-no-to-vie-structure/?utm\\_source=feedburner&utm\\_medium=feed&utm\\_campaign=Feed%3A+ChinaLawInsight+%28China+Law+Insight%29](https://www.chinalawinsight.com/2012/08/articles/corporate/antitrust-competition/mofcom-approved-walmarts-acquisition-of-controlling-stake-in-yihaodian-but-said-no-to-vie-structure/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+ChinaLawInsight+%28China+Law+Insight%29).

Ng, Wendy. 2018. *The Political Economy of Competition Law in China*. Cambridge: Cambridge University Press.

O'Brien, Kevin and Lianjiang Li. 1999. "Selective Policy Implementation in Rural China." *Comparative Politics* 31(2): 167-86.

Peerenboom, Randall. 2002. *China's Long March Toward the Rule of Law*. Cambridge: Cambridge University Press.

Roberts, Margaret. 2018. *Censored: Distraction and Diversion Inside China's Great Firewall*. Princeton, NJ: Princeton University Press.

Rodrick, Dani. 2007. *One Economics Many Recipes*. Princeton, NJ: Princeton University Press.

Saleh, Nivien. 2012. "Egypt's Digital Activism and the Dictator's Dilemma: An Evaluation." *Telecommunications Policy* 36: 476-483.

Schindelheim, David. 2012. "Variable Interest Entity Structures in the People's Republic of China: Is Uncertainty for Foreign Investors Part of China's Economic Development Plan." *Cardozo Journal of International and Comparative Law*, 21: 195-234.

Shen, Wei. 2012 "Will the Door Open Wider in the Aftermath of Alibaba? – Placing (or Misplacing) Foreign Investment in a Chinese Public Law Frame." *Hong Kong Journal of International Law*, 42(2): 275-307.

Shi, Serena. 2014. "Dragon's House of Cards: Perils of Investing in Variable Interest Entities Domiciled in the People's Republic of China and Listed in the United States." *Fordham International Law Journal*, 37:1265-1307.

Sokol, D. Daniel and Zheng, Wentong. 2018. "FRAND (and Industrial Policy) in China," in *The Cambridge Handbook of Technical Standardization Law: Competition, Antitrust, and Patents*, ed. Jorge L. Contreras (New York: Cambridge University Press, 2018).

Song, Hefa, Li, Zhenxing and Xu Dawei. 2016 "The Upsurge of Domestic Patent Applications in China: Is R&D Expenditure or Patent Subsidy Policy Responsible?" in *Economic Impacts of Intellectual Property-Conditioned Government Incentives*, eds. Dan Prud'homme and Hefa Song (Singapore: Springer).



- Stern, Rachel E. and Hassid, Jonathan. 2012. "Amplifying Silence: Uncertainty and Control Parables in Contemporary China." *Comparative Political Studies*, 45(10): 1230-1254.
- Stern, Rachel E. and O'Brien, Kevin J. 2012. "Politics at the Boundary: Mixed Signals and the Chinese State." *Modern China*, 38(2): 174-198.
- Sun, Chunhui and Wang Zengyu. 2014. "VIE Moshi de Falv Fengxian yu Zhidu Huiying Tansuo: Jian Lun Touzi Alibaba de Fengxian [Exploring the Legal Risks of and Institutional Response to the VIE Model: A Concurrent Discussion of the Risks of Investing in Alibaba]". *Huabei Jinrong [North China Finance]*, 2014(8): 33-38.
- Sun, Xin. 2015. "Selective Enforcement of Land Regulations: Why Large-Scale Violators Succeed." *The China Journal*, 74(1): 66-90.
- Sun, Zhen, Lei, Zhen, Brian Wright, Mark Cohen and Taoxiong Liu,. 2021. "Government Targets, End-of-Year Patenting Rush and Innovative Performance in China," *Nature Biotechnology* 39: 1068-1076.
- Teets, Jessica and Reza Hasmath. 2020. "The Evolution of Policy Experimentation in China." *Journal of Asian Pacific Policy* 13(1): 49-59.
- Tsai, Wen-Hsuan and Nicola Dean. 2014. "Experimentation Under Hierarchy in Local Conditions: Cases of Political Reform in Guangdong and Sichuan, China." *China Quarterly* 218: 339-358.
- Van der Kamp, Denise. 2020. "Blunt Force Regulation and Bureaucratic Control." *Governance* 2020: 1-19.
- Vogel, Steven. 2018. *Marketcraft: How Governments Make Markets Work*. Oxford: Oxford University Press.
- Wallace, Jeremy. 2016. "Juking the Stats? Authoritarian Information Problems in China," *British Journal of Political Science* 46(1): 11-29.
- Walter, Carl E. and Fraser, Howie J.T. 2006. *Privatizing China: Inside China's Stock Markets (2<sup>nd</sup> Edition)*. Singapore: Wiley.
- Wang, Yuhua. 2015. *Tying the Autocrat's Hands: The Rise of the Rule of Law in China*. Cambridge: Cambridge University Press.
- Wells, Wyatt. 2001. *Antitrust and the Formation of the Postwar World*. New York: Columbia University Press.

Wilks, Stephen. 2010. "Competition Policy." In David Coen, Wyn Grant, and Graham Wilson (Eds.), *The Oxford Handbook of Business and Government*, 730-756. Oxford: Oxford University Press.

Wintrobe, Ronald. 1998. *The Political Economy of Dictatorship*. Cambridge: Cambridge University Press.

Wu, Changqi and Zhicheng Liu. 2012. "A Tiger Without Teeth? Regulation of Administrative Monopoly Under China's Anti-Monopoly Law." *Review of Industrial Regulation* 41: 133-155

Wu, Tim. 2018. *The Curse of Bigness: Antitrust in the New Gilded Age*. New York: Columbia Global Reports.

Xu, Ping and Yao, Lijuan. 2020. "Implementing Regulation for Foreign Investment Law Heralding a New Era of Foreign Investment Regime in China." *King and Wood Massellons*, January 8, 2020. Available at <https://www.chinalawinsight.com/2020/01/articles/foreign-investment/implementing-regulation-for-foreign-investment-law-heralding-a-new-era-of-foreign-investment-regime-in-china/>.

Xu, Jie. 2015. "2000 Nian Zhijin Gong 84 Jia Gongsi Yi VIE Moshi Haiwai Shang Shi, Xinlang, Alibaba, Baidu, Shengda Dengjun Zai Lie [From 2000 to the Present A Total of 84 Firms Use the VIE Model to List Abroad; Sina, Alibaba, Baidu and Shengda Are All Examples]". *Hexun*, January 1, 24. Available at <http://tech.hexun.com/2015-01-24/172704744.html>.

Ye, Cunjin. 2012. "VIE Jiegou de Hefasing Shen Tao [On the Legality of the VIE Structure]. *Tansuo yu Zhengming [Exploration and Contention]*, 2012(5): 10-13.

Ziegler, Samuel (2016). "China's Variable Interest Entity Problem: How Americans Have Illegally Invested Billions in China and How to Fix it." *The George Washington Law Review*, 84(2): 539-562.

Zhang, Angela Huyue. 2014. "Bureaucratic Politics and China's Anti-Monopoly Law." *Cornell International Law Journal* 47(3): 671-707.

Zhang, Angela Huyue. 2021a. "Agility Over Stability: China's Great Reversal in Regulating the Platform Economy." Working paper, available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3892642](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3892642).

Zhang, Angela Huyue. 2021b. *Chinese Antitrust Exceptionalism: How the Rise of China Challenges Global Regulation*. Oxford: Oxford University Press.

Zhang, Zhanqing. 2019. *Intellectual Property Rights in China*. Philadelphia: University of Pennsylvania Press.

## APPENDECIES

### Appendix 1: OLS Regression of Claims on Calendar Month and Controls

Variable	Point Estimate (Standard Error in Parentheses)
Filing Month	.03259 (.04136)
Filing Year	1.271 <sup>***</sup> (.04703)
Active in China	-.6083 <sup>*</sup> (.3317)
Filing under the Patent Cooperation Treaty	1.872 <sup>***</sup> (.2944)
Filings at the US Patent and Trademark Office	.1129 (.1903)
Filings at the European Patent Office	.8411 <sup>***</sup> (.2710)
Filings at the Japan Patent Office	.02451 (.2971)
Filings at the Korean Intellectual Property Office	1.205 <sup>***</sup> (.3343)
Huawei as Original Assignee	7.098 <sup>***</sup> (1.634)
ZTE as Original Assignee	-2.534 (2.903)
Oppo as Original Assignee	7.053 <sup>***</sup> (1.711)
Vivo as Original Assignee	3.394 (1.225)
Xiaomi as Original Assignee	-1.800 (8.160)
Lenovo as Original Assignee	-8.504 <sup>**</sup> (3.489)
Shanghai Langbo as Original Assignee	-4.247 (3.936)
CATT Datang as Original Assignee	-1.537 (1.065)
Huawei as Current Assignee	-.3552 (1.406)
ZTE as Current Assignee	8.699 <sup>***</sup> (3.029)
Oppo as Current Assignee	3.821 <sup>*</sup> (1.890)

Vivo as Current Assignee	3.193 (1.228)
Xiaomi as Current Assignee	5.408 (5.050)
Lenovo as Current Assignee	1.075*** (3.342)
Shanghai Langbo as Current Assignee	-2.561 (4.001)
CATT Datang as Current Assignee	8.465*** (1.618)
Patent Right Transferred (original assignee and current assignee differ)	1.766** (.6714)

\*\*\* p < .01   \*\* p < .05   \* p < .1

Note: With the use of dummy variables in this model, the baseline comparison is to a patent filed in China that is (1) still pending in China; (2) not filed under the Patent Cooperation Treaty; and (3) has an entity other than one of China’s top global 5G filers as both the original and current assignee.

**Appendix 2:  
OLS Regression of Forward Citations on Calendar Month and Controls**

Variable	Point Estimate (Standard Error in Parentheses)
Filing Month	-.1276*** (.02504)
Filing Year	-1.207*** (.02926)
Number of Claims	.03070*** (.004854)
Active in China	.6207*** (.2049)
Filing under the Patent Cooperation Treaty	1.592*** (.1795)
Filings at the US Patent and Trademark Office	2.248*** (.1237)
Filings at the European Patent Office	1.663*** (.1781)
Filings at the Japan Patent Office	.09761 (.2125)
Filings at the Korean Intellectual Property Office	-1.064*** (.2035)
Active in the United States	1.434*** (.2661)
Active in the European Union	1.064*** (.2833)
Active in Japan	2.191*** (.3655)
Huawei as Original Assignee	-4.614*** (.9938)
ZTE as Original Assignee	-5.018*** (1.761)
Oppo as Original Assignee	-8.586*** (1.039)
Vivo as Original Assignee	-.8795 (7.419)
Xiaomi as Original Assignee	-1.252 (4.940)
Lenovo as Original Assignee	-.07900 (2.113)
Shanghai Langbo as Original Assignee	-1.255 (2.383)
CATT Datang as Original Assignee	.5577 (.6448)
Huawei as Current Assignee	1.637*

	(.8520)
ZTE as Current Assignee	4.935*** (1.837)
Oppo as Current Assignee	4.173*** (1.146)
Vivo as Current Assignee	-.3594 (7.436)
Xiaomi as Current Assignee	-3.600 (3.057)
Lenovo as Current Assignee	-1.941 (2.027)
Shanghai Langbo as Current Assignee	-.1678 (2.422)
CATT Datang as Current Assignee	-.9906 (.9811)
Patent Right Transferred (original assignee and current assignee differ)	-.01034 (.04067)

\*\*\* p < .01 \*\* p < .05 \* p < .1

Note: With the use of dummy variables in this model, the baseline comparison is to a patent filed in China that is (1) still pending in China; (2) not filed under the Patent Cooperation Treaty; (3) is not part of a patent family with active patents in any of the other IP 5 jurisdictions; and (4) has an entity other than one of China's top global 5G filers as both the original and current assignee. Because all observations with an active patent family member in South Korea were also active in the United States such that status in these two jurisdictions is colinear, there is no dummy variable for an active patent family member in South Korea.

**Appendix 3:  
OLS Regression of Days to Patent Grant on Calendar Month and Controls**

Variable	Point Estimate (Standard Error in Parentheses)
Filing Month	-3.7943*** (1.2921)
Filing Year	-28.4602*** (1.5285)
Number of Claims	1.7784*** (0.2667)
Filing under the Patent Cooperation Treaty	-29.4782*** (9.6218)
Filings at the US Patent and Trademark Office	37.0254*** (5.1928)
Filings at the European Patent Office	16.1225** (7.5060)
Filings at the Japan Patent Office	48.0998*** (8.2826)
Filings at the Korean Intellectual Property Office	-26.4959*** (9.6554)
Huawei as Original Assignee	-164.3313*** (46.3677)
ZTE as Original Assignee	202.5511*** (72.9752)
Oppo as Original Assignee	-400.7357*** (49.1069)
Vivo as Original Assignee	-1269.1649*** (302.3078)
Xiaomi as Original Assignee	903.0888*** (226.2303)
Lenovo as Original Assignee	-126.9196 (177.3135)
Shanghai Langbo as Original Assignee	-268.4306** (125.1593)
CATT Datang as Original Assignee	230.4218*** (39.1383)
Huawei as Current Assignee	211.3226*** (38.5252)
ZTE as Current Assignee	45.6521 (79.2327)
Oppo as Current Assignee	119.1767** (52.4237)
Vivo as Current Assignee	886.9788*** (303.1971)

Xiaomi as Current Assignee	-525.7397*** (129.0086)
Lenovo as Current Assignee	273.0575 (167.1057)
Shanghai Langbo as Current Assignee	164.5105 (126.0844)
CATT Datang as Current Assignee	-457.1936*** (55.4503)
Patent Right Transferred (original assignee and current assignee differ)	59.3165*** (22.1460)

\*\*\* p < .01   \*\* p < .05   \* p < . 1

Note: The regression only includes observations with a patent grant in China. With the use of dummy variables in this model, the baseline comparison is to a patent filed in China that is (1) not filed under the Patent Cooperation Treaty; and (2) has an entity other than one of China’s top global 5G filers as both the original and current assignee.



**Appendix 4:**  
**OLS Regression of Forward Citations on Additional IP 5 Grants and Controls**  
**(For Granted Patents in China)**

Variable	Point Estimate (Standard Error in Parentheses)
Additional IP 5 Grants	2.441*** (.1038)
Filing Month	-.1405*** (.03894)
Filing Year	-1.464*** (.04576)
Number of Claims	.05216*** (.008026)
Filing under the Patent Cooperation Treaty	3.685*** (.2868)
Huawei as Original Assignee	-8.618*** (1.347)
ZTE as Original Assignee	-9.322*** (2.195)
Oppo as Original Assignee	-7.257*** (1.473)
Vivo as Original Assignee	5.214 (9.118)
Xiaomi as Original Assignee	6.994 (6.824)
Lenovo as Original Assignee	-6.262 (5.346)
Shanghai Langbo as Original Assignee	.08037 (3.773)
CATT Datang as Original Assignee	.5033 (1.183)
Huawei as Current Assignee	4.715*** (1.152)
ZTE as Current Assignee	7.047*** (2.387)
Oppo as Current Assignee	2.165 (1.546)
Vivo as Current Assignee	-6.833 (9.138)
Xiaomi as Current Assignee	-8.435** (3.877)
Lenovo as Current Assignee	3.779 (5.027)
Shanghai Langbo as Current Assignee	-1.577 (3.799)

CATT Datang as Current Assignee	-4.612*** (1.648)
Patent Right Transferred (original assignee and current assignee differ)	2.325*** (.6621)

\*\*\* p < .01   \*\* p < .05   \* p < .1

Note: The regression only includes observations with a patent grant in China. With the use of dummy variables in this model, the baseline comparison is to a patent filed in China that is (1) not filed under the Patent Cooperation Treaty; and (2) has an entity other than one of China’s top global 5G filers as both the original and current assignee.

**Appendix 5:  
Explanation of Metrics from the IPLytics Platform Used in Figure 6**

- **Semantic Essentiality Score**— A newly released feature in March 2022 that models the linguistic match between and SEP and the standard to which it is declared using machine learning algorithms.<sup>i</sup> The score reports the percent match between the text of the most relevant independent claim in an SEP and the most relevant section of the standard for which the SEP is declared when mapped semantically. The feature is in response to the need for would be licensees to assess thousands of patents for actual standard essentiality due to the incentive patent holders have to over declare their technologies as standard essential. Though standard essentiality is not purely a matter of direct semantic matches between standard and patent documents’ text, research has shown that participants in international standard setting organizations often engage in “just in time” filing of patents in the days immediately surrounding standard setting meetings.<sup>ii</sup> This dynamic incentivizes parallel drafting that makes directly shared terminology more likely. Without establishing actual standard essentiality, a patent holder cannot execute a strategy geared toward licensing revenue from each device or process that has to meet an interoperability standard.
- **Market Coverage**— A count of the number of countries the patented technology has been in weighted by the gross domestic product of each of those countries, with counts normalized by year, filing jurisdiction, and main patent classification code. A high market coverage score reflects a more global internationalization strategy and wider legal market protection.<sup>iii</sup> While the analysis here centers around the U.S. market specifically, the market coverage score is relevant because seeking to patent a technology in multiple markets may be an indicator of how confident the patent holder is that commercialization of the invention over a larger economic area is possible.<sup>iv</sup> Granted, the patents under study have PCT filings in their patent family and are thus mor likely to be internationally facing. Nevertheless, the metric is highly germane to SEPs because SEP declarations are explicitly tied to global standards.
- **Legal Breadth**— A count of the words used in the shortest independent claim of the patent, normalized by year, country of jurisdiction, and patent classification.<sup>v</sup> This

indicator proceeds from the logic that the more words a patent claim contains, the more detailed a patent claim is likely to be, with greater detail narrowing the range of legal ownership claims the patent protects. Accordingly, a high score reflects broader claims that proxy for boarder legal ownership, which in theory makes the patent more valuable. While critics note that in-house guidelines and drafting style are more determinative of the final length of claims,<sup>vi</sup> proponents of using the shortest independent claim as a metric note that the institutional features of the patent review process indicate that adding words to independent claims should reduce or restrict the scope of the patent even if those institutional features do not necessarily imply that comparing word counts will yield informative inferences about the relative scopes of two unrelated inventions.<sup>vii</sup> Some indicator of legal breadth is the licensing terms of SEPs are frequently the subject of litigation, often in multiple courts throughout the world<sup>viii</sup> due to the territorial enforcement of IP rights. Though in-house guidelines and drafting style may indeed be more determinative of the length of patent claims, it is still useful see whether those styles differ in the aggregate among primary competitors.

- **Scope**— A count of the distinct patent classification codes (to four digits) the patent examiner assigned, normalized by year, jurisdiction, and primary patent classification code.<sup>ix</sup> Higher scores seek to proxy for broader technological applicability and cross-over technologies. While at straddling technological borders may indeed make mere counts of patent classes problematic in assessing a patent’s actual broader technological applicability,<sup>x</sup> patent classes associated with large numbers of SEPs constitute the technology classes with the most likely interdependence between patenting and standard development.<sup>xi</sup> In this regard the scope metric offers a useful point of comparison between patent holders declaring SEPs.

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<sup>i</sup> See the company’s description at <https://www.iplytics.com/general/semantic-essentiality-score-determining-patent-essentiality/>.

<sup>ii</sup> See Byeongwoo Kang and Rudi Bekkers, “Just-In-Time Inventions and the Development of Standards,” *Research Policy* 44 (2015): 1948-1961, pp.1953-1954.

<sup>iii</sup> See “IPlytics Patent Valuation indicators,” available (beyond paywall) at [https://platform.iplytics.com/pdf/IPlytics\\_Indicators\\_EN.pdf](https://platform.iplytics.com/pdf/IPlytics_Indicators_EN.pdf).

<sup>iv</sup> This logic parallels the idea that a patent family with filings in multiple jurisdictions suggests that the patent holder believes that the economic/commercial benefit of filing in multiple jurisdictions outweigh the costs of doing so. On this point, see Organization for Economic Cooperation and Development, “Measuring the Technological and Economic Value of Patents,” in *Enquiries Into Intellectual Property’s Economic Impact*, 2015, <https://www.oecd.org/sti/ieconomy/KBC2-IP.Final.pdf>, pp. 92-93.

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<sup>v</sup> See “IPlytics Patent Valuation indicators,” available (beyond paywall) at [https://platform.iplytics.com/pdf/IPlytics\\_Indicators\\_EN.pdf](https://platform.iplytics.com/pdf/IPlytics_Indicators_EN.pdf).

<sup>vi</sup> Hector Axel Contreras Alvarz, “Estimating the Value of Patents: Reliability of Automated Methods,” *les Nouvelles: The Journal of The Licensing Society International*, September 2020: 206-214, pg. 209.

<sup>vii</sup> Alan Marco, Joshua Sarnoff, and Charles DeGrazia, “Patent Claims and Patent Scope,” *Research Policy* 48(9) (2019), pg. 6.

<sup>viii</sup> On this topic see generally Jorge Contreras, “The New Extraterritoriality: FRAND Royalties, Ant-Suit Injunctions and the Global Race to the Bottom in Disputes Over Standards-Essential Patents,” *Boston University Journal of Science and Technology Law* 25(2) (2019): 251-290.

<sup>ix</sup> See “IPlytics Patent Valuation indicators,” available (behind paywall) at [https://platform.iplytics.com/pdf/IPlytics\\_Indicators\\_EN.pdf](https://platform.iplytics.com/pdf/IPlytics_Indicators_EN.pdf).

<sup>x</sup> Jeffrey M. Kuhn and Neil C. Thompson, “How to Measure and Draw Causal Inferences with Patent Scope,” *International Journal of the Economics of Business* 66(1) (2019): 5-38, pg. 9.

<sup>xi</sup> Justus Baron and Tim Pohlmann, “Mapping Standards to Patents Using Declarations of Standard-Essential Patents,” *Journal of Economics and Management Strategy* 27(3): 504-534, Pg. 513.