Berkeley
UNIVERSITY OF CALIFORNIA

BERKELEY ROUNDTABLE ON
THE INTERNATIONAL ECONOMY

BRIE Working Paper
2021-6

PLATFORMIZING THE ECONOMY?
BUILDING AND REGULATING CHINESE DIGITAL PLATFORMS

Scott McKnight, Martin Kenney, and Dan Breznitz

Platformizing the Economy?
Building and Regulating Chinese Digital Platforms

Scott McKnight
Post-Doctoral Fellow
Innovation Policy Lab
University of Toronto

Martin Kenney
Community and Regional Development Program
Department of Human Ecology
University of California, Davis
&
Co-Director
Berkeley Roundtable on the International Economy

Dan Breznitz
Munk Chair of Innovation Studies
Munk School of Global Affairs
University of Toronto
&
Department of Political Science
University of Toronto
&
Co-Director
Innovation Policy Lab
University of Toronto

ABSTRACT

The online platform economy in China has grown to become one of the largest in the world, with several Chinese platform firms rivaling their American counterparts in size, revenue, and market capitalization. Their rise has challenged existing businesses and forced governments to find new ways to regulate the sector without stifling economic growth and innovation. In this paper, we present a structured explanation of the changes in governance of these private firms by the Chinese government as they grew from startups to powerful and indispensable actors in China's political economy. We explore the relationship between the party-state and these platforms, as the former has pursued its core goals of economic growth, technological self-sufficiency, and maintenance of single-party rule. The interactions between the platform economy, the market power of the platform firms, and the Chinese government's goals have led to changes in the governance of the Chinese platform economy.

KEYWORDS: business power; China; governance; platform economy; public policy

Introduction

The rise of the online platform economy has brought about a tectonic shift in the way that value is created and captured (Kenney & Zysman, 2016), challenging existing businesses and forcing governments to find new ways to regulate the sector without stifling economic growth and innovation. Since the 1990s, a number of platform firms have grown from startups into some of the most powerful and valuable companies in the world, "disrupting" various sectors and rapidly expanding to provide a wide range of goods and services (e.g., Cusumano et al., 2019). In the process, these platform firms have become political powers in their own right (Rahman & Thelen, 2019), capable of challenging the state. In this paper, we analyze the changing relationship between the Chinese party-state and China's platform firms as the latter have evolved into financially powerful and technologically capable business groups that have reorganized large parts of the Chinese economy.

This paper presents a structured explanation that argues that the market power of Chinese platform firms can be understood as evolving through three phases—diffuse, concentrating, and concentrated—and must be understood in relationship to the Chinese party-state's core goals of sustaining economic growth, attaining technological self-sufficiency, and, most importantly, maintaining single-party rule. The relationship between the platforms' market power and the Chinese government's goals results in a governance approach toward the platform economy. When market power did not threaten the Chinese Communist Party's core goals, the governance approach was mutually beneficial to the platform firms and the government ("supportive" or "steering"); but when platforms' market power became too concentrated and thus threatened those goals, as has been the case since the late 2020s, the government responded with a "restraining" approach.

This paper addresses the fundamental question of how states, including "strong" and "capable" ones such as China's, govern their markets, with the transition to the now-ubiquitous platform economy serving as an important case study of these governance choices. We also ask how and why these approaches, institutions, and policy preferences shift over time. To answer these questions, this paper adopts a historical-institutional approach, analyzing how the growth of platform firms has been filtered through the "fragmented authoritarian" Chinese party-state , which led to different governance approaches. This paper also works within the Katzensteinian framework of political economy (Katzenstein, 1978), recognizing that, despite powerful economic forces at the global level, domestic interests and policy-making processes predominantly influence the policies that are ultimately chosen.

The Puzzle

In a Chinese political economy dominated by state ownership of so-called strategic industries, why did the Chinese party-state allow homegrown, non-state-owned platform companies to emerge and dominate what has become a critical, enormously profitable, socially impactful part of the Chinese economy? Why did the government *facilitate* this process by effectively blocking most foreign-based competitors? And, finally, after the platform economy achieved impressive development while also disrupting other sectors, why did the state react as it did, neither nationalizing these platform giants nor allowing their unbridled expansion to continue?

This three-part puzzle is fundamentally about *choices:* first, the government permitted these enterprising startups to fill various new markets; second, the government banned or hindered most foreign platform–based competitors, thereby creating the space for domestic companies to grow; and, third, the government allowed the continued expansion of these private homegrown firms until very recently, at which point it forcefully reined in these platform companies.

The rise of platformization and platform giants is a phenomenon with which all governments are grappling. The dilemma is particularly acute for China, given its unique political organization, size, status as a "late late developer," and broader geopolitical ambitions. On the one hand, the Chinese government seeks to facilitate the growth of homegrown platform firms that are capable of satisfying the demands of Chinese businesses and consumers as well as competing with American rivals. On the other hand, the government also seeks to ensure that these non-state-owned firms do not accrue enough power to threaten social and economic stability or rule by the Chinese Communist Party (CCP). This paper examines the evolution of this balancing act, providing a structured explanation of why and how the Chinese party-state changed its approach to governing the platform economy from the emergence of these platforms in the late 1990s to the present. This structured explanation analyzes how platform market power—whether diffuse, concentrating, or concentrated—is filtered through China's "institutionally fragmented" one-party state to generate a governance approach that is supportive, steering, or restraining China's platform firms.

This shows that a state as capable as China has a series of choices of interest to social scientists in multiple disciplines. We contend that the approaches adopted by the Chinese government were neither inevitable nor predetermined but, rather, the result of choices by the party-state as it adapted to the changing market and the sociopolitical power of platform firms.

Literature Review

The growth of the Chinese economy since the late 1970s has been nothing short of remarkable (Lewin et al., 2016; Huang, 2008; Naughton, 2007). China has inserted itself into the global economy largely by combining the country's comparative advantages with the capital and expertise of foreign transnational corporations to become an integral node in global production (Malkin, 2020). As a result, China has benefited from as well as advanced the global information and communications technology (ICT) revolution (Breznitz & Murphee, 2011; Harwit, 2008; Hughes, 2002). This rapid and sustained economic growth has sparked voluminous scholarship on the rise of the internet in China (Liu, 2012; Yang, 2011), China's digital transformation (Hong, 2017), the emergence of platforms as "infrastructure" (Platin & de Seta, 2019), the business models adopted by China's platform firms (Jia & Kenney, 2021; Greeven & Wei, 2018), the three-way relationship between the Chinese state, platform firms, and foreign capital (Jia & Winseck, 2018), and other topics.

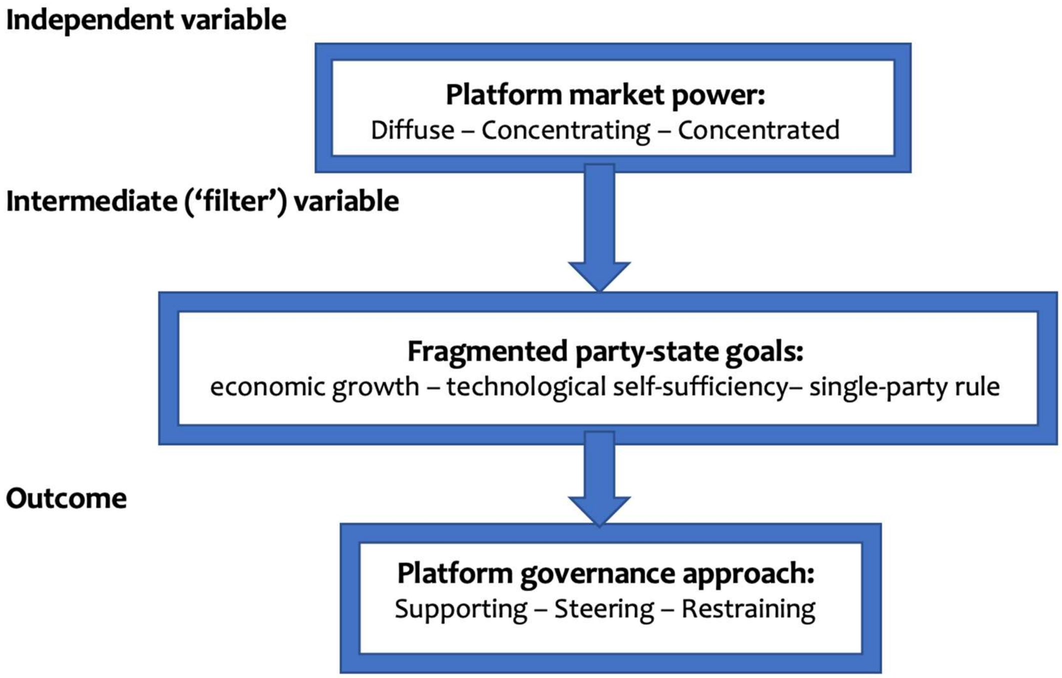
Outside China, the number of works on platforms has also grown (Stark & Pais, 2020; Frenken & Fuenfschilling, 2020; Kenney, Zysman, & Bearson, 2020; Atal, 2020), including works on the financing behind them (Kenney & Zysman, 2019; Huang, Kenney, & Patton, 2015; Ahlstrom, Bruton, & Kuang, 2007; White, Gao, & Zhang, 2005), and the role of the state in facilitating this innovation (Breznitz, 2021; Breznitz & Murphee, 2011; Mazzucato, 2013).

China now has some of the largest and most advanced online platform firms in the world, including Alibaba, Tencent, Baidu, ByteDance, JD.com, and Pinduoduo. The sudden emergence and flourishing of this sector has generated writing on these firms and their founders in Chinese as well as English (Clark, 2016; Erisman, 2015; Tse, 2015; Greeven, 2014; Liu & Avery, 2009; Leng, 2017; Li, 2016; Peng, 2016; Zhang, 2009). Other works focus on the question of governing China's online platforms (Hong & Xu, 2019; Helberger, 2018; Miao, Zhu, & Chen, 2018; Fang, 2016), as the party-state continues to grapple with other governance challenges related to China's rapidly growing and partially liberalized economy (Pearson, 2005). Current understanding of the platform economy is largely rooted in the model inspired by US-based platform giants, so lessons from that experience have limited explanatory value for China, where a distinct technologically advanced platform economy has emerged. Likewise, China's unique policy-making process greatly limits the applicability of Western-based theoretical frameworks for public policy (Zang et al., 2020; Moran, Rein, & Goodin, 2006). A central divide has emerged among scholars of China's political economy. One camp stresses that the CCP is the core institution holding this expansive system together (Brødsgaard & Zheng, 2004), with vigorous bargaining within hierarchical party structures (Hamrin & Zhao, 1995; Lampton, 1987). By contrast, the second camp focuses on the relatively recent emergence of "policy entrepreneurs," who challenge the party's hegemony over policy-making (Yang, 2019; Jakobson & Knox, 2010; Mertha, 2009). In both cases, the framework of "fragmented authoritarianism" (Lieberthal & Lampton, 1992) remains the dominant theoretical underpinning, as frequent bureaucratic bargaining results in only incremental change, rather than paradigmatic "first-order" policy change (Lampton, 1987; Lieberthal & Oksenberg, 1988; Hall, 1993).

The Argument

In this paper, we argue that China's platform market power (diffuse, concentrating, or concentrated) is filtered through the party-state's core goals of economic growth, technological self-sufficiency, and maintenance of single-party rule. The relationship between the market power of these platform firms and the broader goals of the Chinese government leads to a particular governance approach, which began as what we call supportive and then became steering before being restraining (Figure 1). As long as market power does not threaten the CCP's core goals, the governance approach is one that benefits both the platform firms and government ("supportive" and "steering"), depending on the degree of platform market power ("diffuse" or "concentrated"). However, when these platform firms accumulated a sufficient concentration of power so as to threaten any of these three goals, the government takes a "restraining" approach, as has been the case since the late 2010s to now.

Figure 1: A structured explanation of China's platform governance



The "Filter" Variable

Since the 1990s, the Chinese government has remained consistent about what it seeks to achieve through digitization and the platform economy: to harness the ICT revolution to generate economic growth, to reduce the country's dependence on foreign technology, and to maintain the CCP's power above all. This incredible consistency in objectives enables us to theorize and attempt to explain platform governance in China. These overarching objectives also allow us to assign secondary importance to the many mergers and dissolutions of government agencies (Miao, Zhu, & Chen, 2018), changes in official pronouncements as well as several transitions of power at the highest rungs of the party-state. The focus, then, is on how platform market power corresponds to or conflicts with the core party-state goals.

The experimental and piecemeal reforms first launched in the late 1970s by Deng Xiaoping under the broad label of "Reform and Opening Up" progressively eroded and reshaped Chinese state capacity, resulting in conditions of "fragmented authoritarianism" (Lieberthal & Lampton, 1992). This enduring framework for understanding China's political economy argues that bargaining at various levels of the party-state often results in incremental policy change. Likewise, this fragmented institutional landscape, coupled with the norm of "collective leadership," which prevailed from the mid-1990s until the early 2010s, with the rise of Xi Jinping to power (Gilholm, 2017), tended to eschew radical policy change. Likewise, this multitude of reforms since the late 1970s also generated an institutional context that Breznitz and Murphee (2011) call "structured uncertainty," a condition in which policy experimentation is encouraged, though never to the point of threatening the CCP's single-party rule. The widely shared economic benefits of China's rapid economic growth formed the basis for a broad post-Deng consensus on further market-oriented experimentation, similar to what public policy scholar Sabatier (1993) called "policy core beliefs." These tangible benefits also gradually shifted the source of legitimacy underpinning the CCP's political monopoly to focus on materially improving the lives of the masses and defending China's territorial integrity (Fravel, 2008; Carlson, 2005; Hachigan, 2001).

The combination of legal changes, the active recruitment of private-sector actors into the party's ranks, and the general willingness to experiment with policies created a broad framework that not only led to explosive growth in China's private sector but also opened the way for vast numbers of Chinese consumers and businesses to take part in the platform economy.[1] On the government side, China's institutional configuration remains divided and susceptible to change, so a large number of government agencies are involved in internet regulation, with unclear lines of control between them in a contentious institutional arrangement. Thus platforms' market power has often been "filtered" through the institutionally fragmented Chinese party-state in the creation of a platform governance approach.

The Dependent Variable: Platform Governance Approach

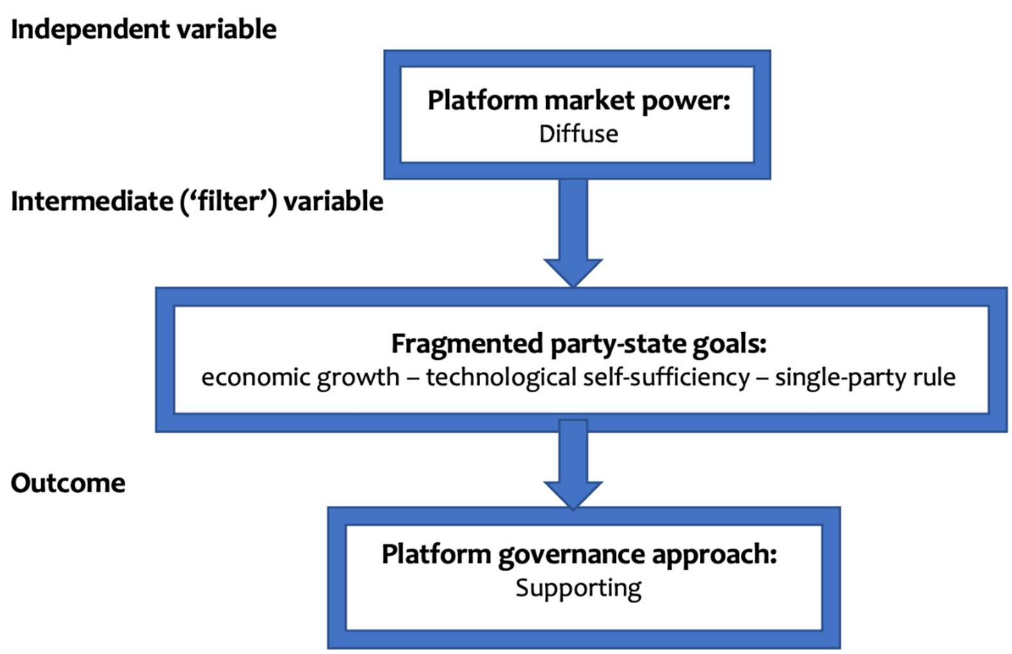
We consider three possible types of governance approaches: supportive, steering, and restraining. A "governance approach" is more expansive than a mere set of policies and more akin to North's (1990) notion of institutions as "the rules of the game," devised by the state to structure incentives while also reducing uncertainty for actors in a given sector. Figures 2, 3, and 4 chart the evolution of these approaches and their causes.

From the late 1990s to mid-2000s, in the embryonic growth phase of China's platform economy (Figure 2), the Chinese government adopted a supportive approach as it sought to foster the growth of high-technology firms that were capable of serving China's rapidly growing

[1] The government's attitudinal change toward market-oriented reforms was captured in the ninth five-year plan (1995-2000) as well as in the 1998 amendment to China's 1982 constitution, the latter of which defined capitalism not as antithetical to socialism but as a complement to it. According to Amendment 1 of the Chinese constitution, "The State permits the private sector of the economy to exist and develop within the limits prescribed by law. The private sector of the economy is a complement to the socialist public economy." Retrieved from http://english.people.com.cn/constitution/constitution.html.

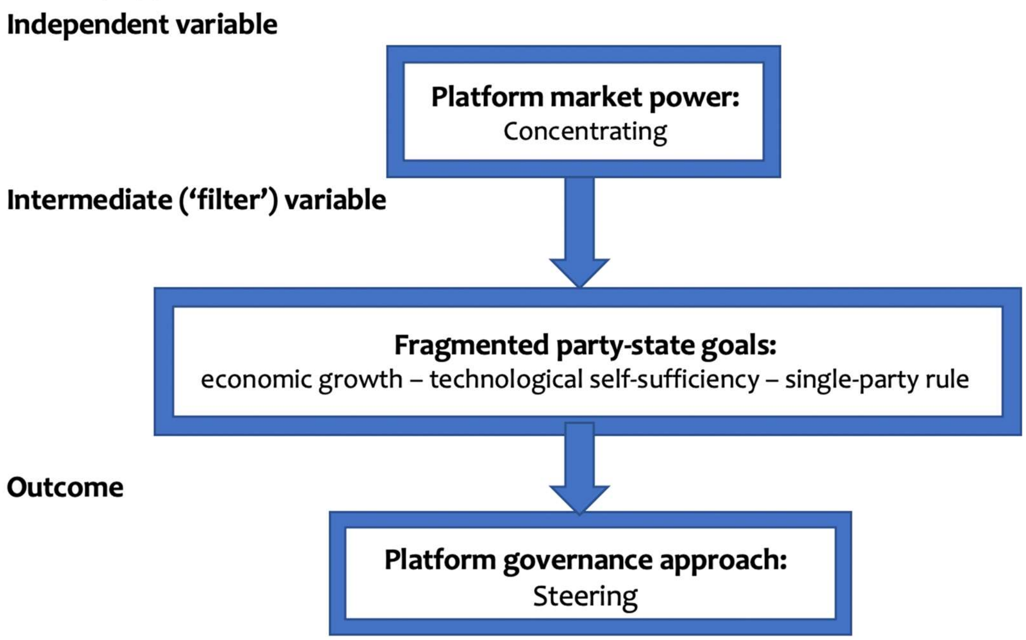
market and competing against US platform firms. The government invested heavily in critical ICT infrastructure throughout the 1990s and the 2000s (Yu, 2017a; Breznitz & Murphee, 2011; Harwit, 2008). The government also specifically allowed quasi-legal workaround structures so that Chinese startups could first access venture capital and later list on public exchanges, which also meant allowing foreign investors to acquire stakes in these startups. In another form of support, the government used censorship policies that effectively limited foreign competition. For their part, Chinese platform firms, such as Alibaba, Tencent, Baidu, and Sina, thrived in this fiercely competitive market by satisfying a growing range of demands by Chinese consumers and businesses.

Figure 2: Supportive approach (late 1990s to mid-2000s)



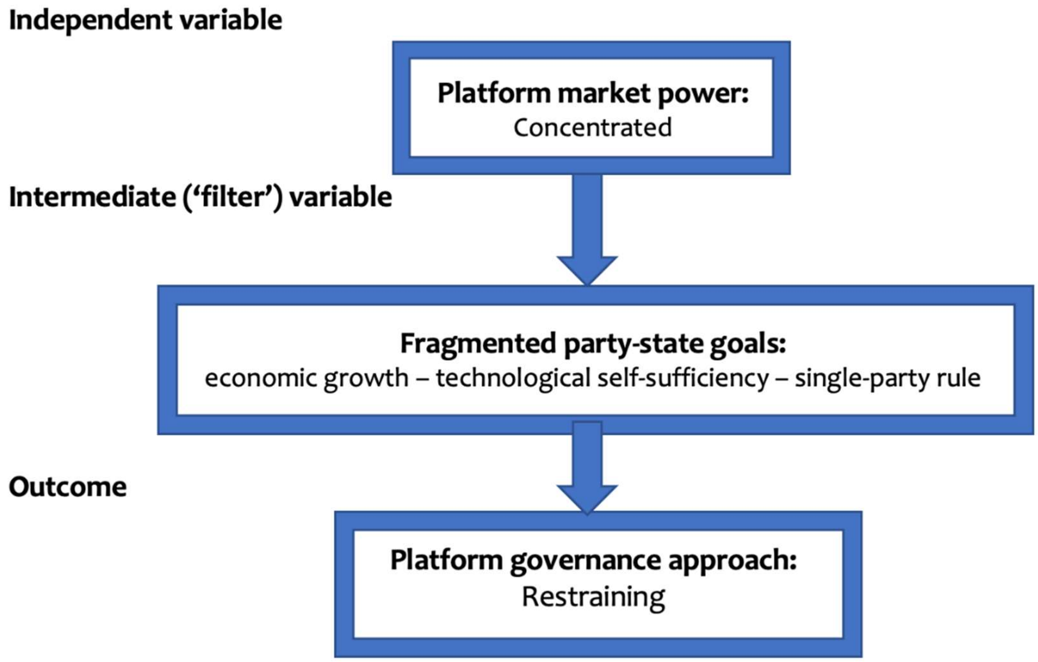
In the second period, from the late 2000s to the late 2010s (Figure 3), the government adopted an approach of steering these technologically capable and financially strong platform giants, whose relatively high levels of development now obviated the need for US platform firms. The government also teamed up with its homegrown giants to closely monitor online content, especially on social media and microblogging. Likewise, seeking to revive economic growth in the wake of the 2008-2009 global financial crisis, the Chinese government envisioned these platform firms as serving the overarching party-state goal of technological self-sufficiency under labels such as "indigenous innovation," "mastery of core technologies," and "made in China". As such, the government did not prevent these Chinese firms from expanding beyond their original business into areas such as finance, entertainment, and logistics.

Figure 3: Steering approach (late 2000s to mid-2010s)



The continuous and rapid growth of the platform companies, with their growing economic and perceived political power, led to the adoption of the most recent "restraining" approach (Figure 4). By the late 2010s, the Chinese government had increasingly come to see the platform giants, with their huge financial resources, massive amounts of consumer data, and dominance in a growing range of business activities, as threatening to various sectors, including state-owned banks, the small business sector (which fueled most of the economic growth), and, by extension, the CCP's ultimate control. The multidirectional expansion and multifaceted dominance of these platform giants prompted the Chinese government to adopt a restraining approach. This shift culminated in the abrupt cancellation of Ant Financial's initial public offering (IPO) in late 2020 as well as more institutional and sector-wide moves such as strengthening the anti-monopoly agency, imposing enormous fines on the giants, and launching anti-monopoly investigations of the platforms' business practices.

Figure 4: Restraining approach (late 2010s to present)



The nature of this structured argument prioritizes strong internal validity over uncertain external validity (Gerring, 2007). The reason for this emphasis on internal validity is that any meaningful generalization to other countries is inherently limited, because of the size, scale, and development level of China's platform economy, as well as the particularities of the country's one-party state. However, as all governments are now rethinking their own platform economy governance approaches, the modest aim of this paper is to provide some helpful insights for other countries based on China's experience.

Methods

This structured explanation was built inductively from an analysis of policies adopted by the Chinese party-state about its platform economy since the late 1990s. Changes in governance approaches present the challenge of identifying their potential causes. Meanwhile, China as a single-country case has important continuity over time in both its regime and its policy goals, which ensures "unit homogeneity" that facilitates comparison using Mill's "method of difference" (Meckstroth, 1975; Mill, 1834). Furthermore, we subject China's platform economy to a "structured, focused comparison," in which a systematic cross-period comparison is "focused" on only certain aspects that concern this research topic (George, 1979).

The core argument of this paper emerged from a comprehensive study of the Chinese- and English-language literature on China's platform economy, newspaper articles, company reports, and government statements, as well as related works on comparative political economy and public policy. We justify subjecting China to an intensive "thick descriptive" (Geertz, 1973, 3-30) study on several empirical grounds. First, China has the world's highest number of internet users. Second, the country is home to many of the world's most valuable and technologically advanced platform companies outside the United States (Table 4). Third, China is governed by a state that is "capable" of regulating these firms in myriad ways if it so chooses.

The Supportive Governance Approach, Late 1990s to the Mid-2000s

Platform Market Power: Diffuse

From the late 1990s to the mid-2000s, the market power of online platforms in China was diffuse, the result of easy market entry, a large number of startups with relatively limited resources, and ferocious competition. Throughout this period, China's platform economy was small but rapidly expanding.

Three demand-side factors led to a sharp increase in the number of internet-based startups. First, Chinese per capita income was rising at an impressive rate. Second, from the mid-1990s to the mid-2010s, revenue of small and medium-size enterprises (SMEs) in China averaged combined growth of over 7% per year, eventually contributing about 70% of China's gross domestic product (GDP) by 2015 (*China Statistical Yearbook*, 2016). Third, China joined the World Trade Organization (WTO), deepening its integration into the global economy. These three factors ballooned the number of internet users in China, from less than 1.2 million in mid-1998 to 26.5 million in mid-2001 and over 802 million in 2018. This voracious growth in demand by these "early adopter" internet users increased the demand for various platform-facilitated goods and services, greatly motivating Chinese entrepreneurs to form internet-based startups so as to take advantage of these market opportunities (e.g., Tse, 2015, 45-46). In areas such as online search, instant messaging and e-commerce, various Chinese entrepreneurs built upon the designs of Western platforms, altering their look and feel to suit the particularities of the Chinese market. This was also when many of the current titans, such as Alibaba, Baidu, and Tencent, were formed (Table 1).

Table 1: Basic information on selected Chinese venture capital-financed internet startups

Firm	Year founded	Original focus	Major sources of venture capital funding	Stock exchange and IPO date
Sohu	1996	Online search	US	Nasdaq, April 2000
Sina	1998	Microblogging	US	Nasdaq, April 2014
Alibaba	1998	E-commerce	US and Japan	Hong Kong and New York, Sept. 2014
Tencent	1998	Messaging	South Africa and US	Hong Kong, June 2004
Baidu	2000	Online search	US	Nasdaq, August 2000
Youku	2005	Online entertainment	US	New York, December 2010
ByteDance	2012	Videosharing	US and China	Private

On the supply side, the Chinese government invested heavily in critical ICT-related infrastructure. As a result of these investments, in 2008, China's tele-density, or telephone lines per capita, was more than 28% of the population, compared with 0.38% in 1978 (MIIT, 2009). Competition among startups was fierce, but state-owned enterprises (SOEs) had little involvement in these emerging platform-based activities and, instead, maintained their traditional dominance of so-called pillar industries, such as banking, energy, and telecommunications.

Overall, this period was characterized by rapid growth in demand, changing conditions in the availability of technology, and a market defined by cutthroat competition—all characteristics of widely diffuse market power.

Outcome: The Supportive Governance Approach

Diffuse market power in the platform economy and a party-state simultaneously pursuing ICT-led economic growth and technological self-sufficiency led the government to adopt a supportive approach in much of the first decade of the twenty-first century. Building on the market-oriented consensus that prevailed at the state level, the government recognized that the ICT revolution, of which these promising startups were important parts, represented a novel way to continue the country's two decades of economic growth and to enable the country to "leapfrog" to a higher stage of technological development (Hughes & Wacker, 2003). For example, in 1998, the government reported that the ICT sector contributed 10.5% of GDP growth and estimated that it would contribute 40.1% by 2010 (*Dianzi yü xinxihua*, 2000). At the same time, the government also began to re-evaluate Deng's wisdom of "trading market for technology" that had informed China's approach to technological upgrading in the 1980s and 1990s (Bell & Feng, 2007; Kennedy, 2006).

The surge in homegrown internet-based startups thus appealed to the Chinese government as they were digitally based, had high value added, were homegrown, and proved capable of defending the Chinese market against US-based firms, as China had done with computer hardware (Fan, 2006). Support for China's emerging platform firms was also politically appealing because it did not require any confrontation with vested interests. Earlier, the administration of Jiang Zemin (1992-2002) had adopted what it called a "two-track strategy," which combined China's state-dominated industrial legacy with support for the budding digital economy (Kroeber, 2007).

This supportive governance approach comprised three elements. First, the government allowed foreign investors to provide venture capital (VC) financing for Chinese startups; second, Chinese startups were permitted to list on foreign exchanges; and, third, the government's content requirements and monitoring kept most of the largest American platform firms out of China (Table 3).

The first and second aspects were mutually reinforcing: the Chinese government *chose* to allow Chinese startups to secure VC funding from foreigners (Table 1) and to launch IPOs on Hong Kong or US stock exchanges soon thereafter, while also permitting the use of quasi-legal structures enabling foreigners to acquire substantial stakes in these firms. These measures convincingly signaled the government's encouragement for these startups to access foreign investment and expertise (Kenney & Zysman, 2019; Huang, Kenney, & Patton, 2015; Ahlstrom, Bruton, & Kuang, 2007; White, Gao, & Zhang, 2005). Likewise, the public listing of these firms did not represent a radical policy break, given the key industrial reforms launched beginning in the mid-1990s under Premier Zhu Rongji (Lin, 2003; Holz, 2001; Steinfeld, 1998).

Second, and linked to this policy of allowing foreign public listing, the Chinese government permitted the formation of special legal structures known as variable-interest entities and wholly foreign-owned enterprises (Wei, 2012; Pearson, 1997, 11-12). This granted foreigners the ability to acquire stakes in an extranational entity that had a network of contracts to be enforced in Chinese courts with the startups. In other words, the foreign investors did not actually “own” the Chinese operating company. Further, these entities also allowed Chinese internet firms to enjoy various tax, regulatory, and legal benefits, along with access to foreign capital. Many China-based internet search engines and e-commerce platforms, including Baidu, Sohu, Alibaba, 51job.com, eLong.com, and KongZhong.com, adopted the VIE structure and successfully listed on New York or Hong Kong exchanges. These structures and the government’s perceived commitment to them helped make China the largest national market for VC outside the US (Fuller, 2010).

What interests us here is that these quasi-legal vehicles were possible only because the Chinese government tolerated them. Following the same logic, this also meant that the government could close the loophole at any time. This approach, partly explained by what Suttmeier et al. (2006, 37) saw as “technological weaknesses, institutional fragmentation and competing interests,” allowed China’s homegrown platform firms to grow stronger, build their capacities, and provide Chinese consumers with the convenience of online commerce, entertainment, and other services, while also benefiting the party-state and the economy more generally.

The final element of this approach was the Chinese party-state’s tight monitoring of online content. Although censorship has been a permanent feature of the Chinese government’s long-held sovereignty-centric view of the internet, it also served as a protectionist industrial policy for China's "infant" platform startups (Jiang, 2010). The emergence of internet-based commerce satisfied several key government objectives, including boosting productivity, facilitating trade, and promoting economic growth by strengthening domestic high-tech firms, but it also vastly increased the flow of information and eroded the party-state's control over information, creating what Dai called a "love-hate relationship" between the internet and the Chinese state (Dai, 2002, 154).

For example, by the late 2000s, some 176 million Chinese internet users—or about 46% of the total—were going online primarily for social networking purposes (East-West Connect.com, cited in Wei, 2012, 937; Hille, 2010). These platforms thus represented spaces for voicing political dissent and potentially organizing collective action outside the party-state's direct control. To counter this loss of control over the flow of information, the government formed and restructured a large number of agencies to monitor what it deemed harmful content on the internet. For example, censorship rulings by the National Radio and Television Administration called the State Administration of Radio, Film and Television [SARFT] from 1998 to 2013), the ministerial-level government agency mandated to fine or shut down websites, proved to be a permanent source of tension between the Chinese government and foreign platforms.[2] These conflicts had the medium-term effect of severely limiting the penetration of powerful foreign internet firms (Table 3) and thus constituted another element of this supportive governance approach.

This also reflected an underlying policy consensus by the administrations of both Jiang Zemin (1992-2002) and Hu Jintao (2002-2012) regarding this "new" ICT economy. This policy,

[2] Under either name, an ideological regulatory organ, directly under the supervision of CCP's Propaganda Department and the State Council (Miao et al., 2018, 4).

though open to foreign investment in Chinese internet-based startups, was nevertheless distrustful of—and eventually unwilling to allow—any significant participation by foreign firms in China's emerging platform economy, which in effect was a continuation of the government's long-standing approach to bar foreign firms from China's "strategic" industries. Chinese internet companies never had free rein over the information posted on their platforms, and companies that did not comply with content restrictions faced abrupt and severe punishment.[3]

Over the course of the 2000s, the ICT leg of this aforementioned dual strategy increasingly came to be seen as strategic, foreshadowing the government's updating of its supportive approach in subsequent years, the period to which we now turn.

The Steering Governance Approach, Late 2000s to Mid-2010s

Platform Market Power: Concentrating

In the brief period from the late 2000s to the early 2010s, power in China's platform economy was becoming concentrated, as three firms—Baidu, Alibaba, and Tencent (BAT)—featured a large and growing number of users, vast financial resources, and involvement in a rapidly growing number of businesses. The 2000s were what Jiang (2008), a Chinese internet scholar, called the "aggressive decade" of China's internet development and its commercialization.

First, the number of internet users reached new heights with the rapid and widespread adoption of the smartphone. By 2011, China had some 420 million users, twice the number of

[3] In one prominent example, SARFT temporarily shut down the popular streaming services Tudou.com and 56.com for failing to comply with its registration requirements; "Chinese video site 56.com goes down," *Wired,* July 7, 2008, https://www.wired.com/2008/07/chinese-video-s/, accessed February 15, 2021.

US internet users and easily the world's largest online population (CNNIC, 2010). Similarly, the growth trends were clear: whereas one-third of China's 300 million internet users were mobile based in 2008, in 2013, nearly 500 million of the 650 million internet users in China accessed the internet using smartphones, a number and proportion that continued to grow (McCarthy, 2018). This explosion in smartphone-based interconnectivity further incentivized these firms to become online platform companies and to develop a wide range of apps to tap into this rapidly expanding market. This meant that two of the seven largest platform firms in the world—Alibaba and Tencent—were Chinese. Likewise, the companies that operated the six most-visited websites in China—Alibaba, Baidu, Sina, and Tencent—were also all VC-financed private firms listed on stock markets outside mainland China (Table 1).

A second important factor that created this concentrated market power was that the quasi-protectionist policies of the previous governance approach had driven out and blocked access to the websites of the largest American online platform firms (Leskin, 2019) (Table 3). In key areas, such as online search, instant messaging, social media, blogging and streaming video, China's platforms faced virtually no *foreign* competition.

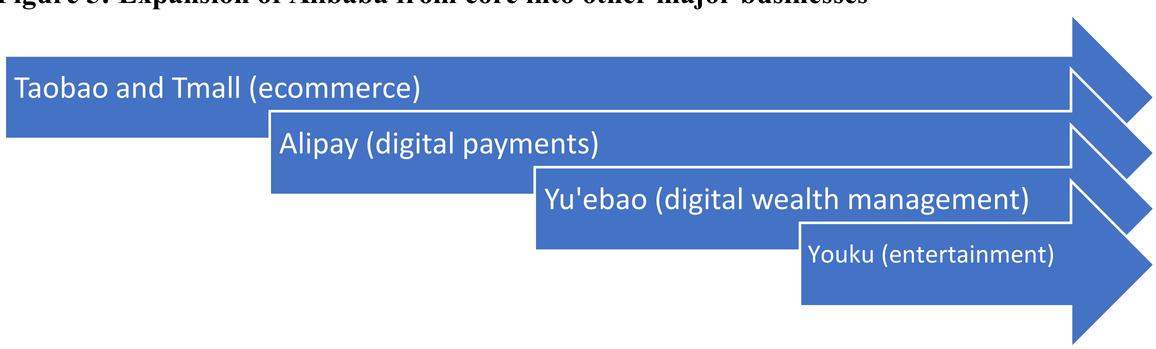
A third factor was the undeniable and impressive growth in the BAT's technical capabilities. In the late 2000s and the early 2010s, China had several platform giants that had captured a critical mass of users. This growth in capacity, users, and financial resources opened the potential for expansion beyond their respective core competencies.

Although under the domination of a handful of firms, China's platform economy was now vast in terms of the number of internet users and the diversity of services it offered: communications and messaging (Tencent), search (Baidu), online payments (Alibaba and Tencent), blogging (Sina), e-commerce and distribution (Alibaba and JD.com), streaming video

(Youku and Tudou, which merged in 2012), data storage (Alibaba and Tencent), ride hailing (Didi), travel (Trip.com), on-demand delivery (Meituan-Dianping), and home-sharing (Tujia), and others. With this constellation of platform-based firms, China's platform economy in several important ways resembled the US platform ecosystem (Hermes et al., 2020), though it differed from its American counterpart in that the Chinese adopted what Jia and Kenney (2021) call the "platform business group" (PBG) model, exchanging equity with other firms and selling off divisions to the stock market to raise capital but without relinquishing operational control.

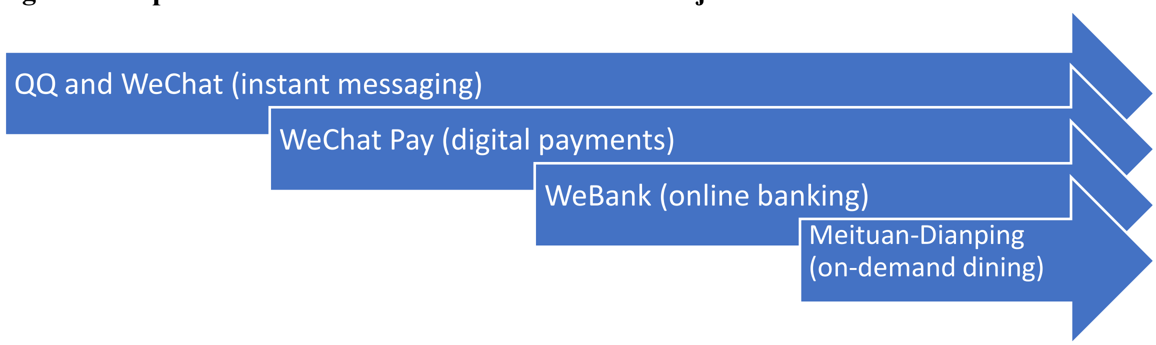
After dominating their respective sectors and becoming immensely profitable as a result (Table 4), cash-rich and technologically capable platform firms such as Alibaba, Tencent, and, to a lesser extent, Baidu eagerly entered other sectors, ranging from health care to gaming, providing services and goods that SOEs, such as telecoms and banks, did not offer. Among the BAT firms, Alibaba and Tencent in particular expanded into various sectors, with their PBGs competing and exemplifying Baumol's (2004) argument of oligopolistic competition as a key source of innovation. Perhaps the most important area of expansion was financial services, starting with Alibaba, which offered escrow services (under the name Alipay) for sales across its Taobao and Tmall online shopping platforms, which rapidly expanded into a wide variety of financial services (Greeven et al., 2010) (Figure 5).

Figure 5: Expansion of Alibaba from core into other major businesses



The ubiquity of smartphones created the critical infrastructure and facilitated the growth of what became superapps, such as WeChat (Tencent) and Alipay (Alibaba). These superapps enabled their parent companies to commercialize massive user bases and popularize new apps and businesses with startling speed. For example, although it took twelve years for Tencent's instant messaging software QQ to reach 100 million users, it took only eighteen months for WeChat and just twelve months for WeChat Pay to hit that same milestone (Figure 6) (Harwit, 2017; Plantin & de Seta, 2019). Similarly, whereas Alibaba's e-commerce platform, Taobao, needed eight years to achieve 100 million users, the online payment app Alipay took five years and Alibaba's live broadcasting platform just six months to obtain their first 100 million users.

Figure 6: Expansion of Tencent from core into other major businesses



In the late 2000s and the early 2010s, platform market power in China was *concentrating*, especially but not exclusively under the BAT firms. By contrast, several early leaders in China's internet, such as Sina and Sohu, declined in importance or ceased to exist.

Outcome: The Steering Governance Approach

Through most of the 2010s, the government attempted to find ways to balance the continued growth of these far-reaching platform firms with the government's continued concerns over social stability and national security. The approach that resulted was neither outright nationalization of the firms nor the "capturing" of the state by these giants bu rather the steering of these giants by the Chinese government to serve broader state goals, including advancing China's indigenous innovation agenda, building or modernizing the country's telecommunication and financial infrastructure, investing in other startups, and enabling tighter control over information.

This steering approach was viable for several reasons. China's platform economy featured three salient traits: first, its dominant firms were robustly financed, homegrown, and capable of serving the myriad demands of the Chinese market; second, the globe-spanning US-based platform firms were confined to particular niches in the Chinese market or banned outright (Table 3); and third, the structure of China's platform economy was oligopolistic or what we call *concentrating* market power, with a handful of mammoth firms effectively holding oligopolistic control over the rapidly growing platform economy while also expanding into a range of platform-based and sometimes offline businesses as well (Table 2). This oligopolistic market structure fit well with the party-state's meta-preference for "controlled competition" (Pearson, 2005, 298). Despite the leadership transition from Hu Jintao to Xi Jinping in late 2012, the elite policy consensus remained largely unchanged—that is, single-party rule legitimized through the unwavering defense of Chinese sovereignty and continuation of economic growth. The contradictions between fostering internet-based economic growth while also monitoring the content shared over those platforms became increasingly acute for the party-state over the course of the 2010s.

Table 2: Business platform groups of Baidu, Alibaba, and Tencent

	Baidu	**Alibaba**	**Tencent**
Market demand	Information	Commodities	Social communication
Growth strategy	From complementary product development to diversification by investment	From complementary product development to diversification by acquisition and investment	From complementary product development to diversification by acquisition and investment

Interdependence in business ecosystem	Core and outer layers are mutually dependent	Core and outer layers are mutually dependent	Core and outer layers are mutually dependent
Sources of revenue (2020)	Search/internet advertising: 68%; video (iQiyi), online streaming (JOYY), and other: 32%	Chinese commerce: 64%; Chinese wholesale: 3%; international wholesale: 2%; international retail: 5%; logistics, entertainment, and other: 17%; cloud computing: 9%	Value-added services, such as gaming: 53%; fintech and business services: 27%; online advertising: 18%; other: 2%

Sources: Greeven and Wei (2018, 120, 122, and 124); Jia and Kenney (2021).

The Chinese state had long been aware of two key dangers posed by the internet: first, the potential for grievances related to single-party rule to be posted or shared through the platforms; second, the possibility that the platforms could serve as sites for collective action outside the state's grasp (King et al., 2013). These concerns were exacerbated as government-destabilizing protests broke out in the late 2000s and early 2010s in several formerly Soviet states as well as in the Middle East and North Africa during the "Arab Spring". Riots and terrorist attacks in the 2000s in Xinjiang, a nominally autonomous region in China's northwest, revived long-standing fears of ethnic and separatist unrest (Bovingdon, 2019, 501-507). The Chinese government responded by tightening control over the flow of information, including blocking several foreign news sites and banning several popular Western platforms (Table 3), such as YouTube (mid-2008), Facebook (July 2009), and Google (mid-2010) while re-emphasizing party ideology in online content (Wauters, 2009; Hille, 2009; Schiller & Sandvig, 2010; Yang, 2014).

Table 3: Selected list of foreign websites blocked in China (2009 to 2019)

Website	Category	Date Blocked
YouTube	Streaming	Mid-2008
Blogspot	Blog	May 2009
Twitter	Social	June 2009
Facebook	Social	July 2009
Vimeo	Sharing	October 2009
Google	Search	2010
Netflix	Entertainment	Unknown

Yahoo! Japan	Search	June 2012
Instagram	Social	September 2014
Gmail	email	December 2014
Tumblr	Social	May 2016
Crunchyroll	Entertainment	2016
Pinterest	Image sharing	March 2017
Rakuten	Shopping	June 2012
Flickr	Sharing	October 2014
WhatsApp	Messaging	September 2017
Discord	Messaging	July 2018
Twitch	Streaming	September 2018
Bing	Search	January 2019
Webtoon	Comics	2019
Imgur	Image sharing	March 2019
Wikipedia	Encyclopedia	April 2019

Source: Leskin, 2019.

At the same time, the government upgraded the Great Firewall and the Golden Shield, the two major instruments first deployed to regulate the content on the internet in China in the 1990s (Yu, 2017a, 54). The banning or blocking of foreign-based platforms greatly aided the homegrown counterparts, making up another part of this steering approach. For example, following Google's withdrawal from China and the closing of Google.cn, Baidu's revenues increased fivefold, and the platform accounted for more than three-quarters of Chinese online search (*Wallstreet China*, 2016; Barber & Hille, 2009). But not all these restrictions benefited Chinese platform firms. For example, profits from Sina's widely popular microblogging service Weibo suffered after the Chinese government required users to register their real identities, a requirement that made it more difficult to monetize the Weibo platform and negatively affected Sina's share price (Hille, 2012a, 2012b).

The other defining element of this steering approach was the government's creation of space for China's homegrown platform giants to continue to expand and profit from China's explosive online growth. In 2012-2015, which covers the period under examination, Baidu's revenues grew by 44%, Tencent's by 33%, and Alibaba's by 30%. The rapid increase in users was equally impressive: in late 2016, Baidu averaged 660 million monthly active users, Alibaba 493 million, and Tencent's two key products, WeChat and QQ mobile, were used by 846 million and 647 million people, respectively (Woetzel et al., 2017, 7).

This growth was accompanied by meteoric expansion in the Chinese VC industry in this short period. In 2011-2013, China's domestic VC sector totaled some $12 billion, but in 2014-2016 it was $77 billion, an increase in its share of the global total from about 6% to nearly 20% (Woetzel et al., 2017, 2; Huang et al., 2015). Internally, the platform giants generated subsidiaries and spinoff companies, some of which became sizable in terms of revenue and user base. The iconic example is Ant Financial, which was based in the Alipay online escrow service and grew from 40 million users in 2011 to a staggering 270 million monthly users in 2015 (Sina, 2015). Alipay expanded its scale and scope to offer apps such as Alipay Wallet and Yu'ebao, each of which now boasts some 100 million users. Furthermore, Yu'ebao (which means "leftover treasure") became the largest money market fund in China, and its meteoric growth in users and funds can be attributed to offering higher rates of return than deposits at state-owned banks. In the process, it has effectively reorganized China's state-dominated financial system (Lucas, 2017; Guo, 2013).

A third aspect of this steering approach was encouraging China's new platform giants to expand outside the country as part of the so-called "Internet Plus" policy that the government had launched in 2013 (Yu, 2017b). Although Chinese outbound FDI increased annually in the mid-2010s, the platform giants achieved only limited market penetration outside China. In 2015, for example, Tencent earned $1.3 billion from non-Chinese users, but this represented a mere 8% of its total revenue that year. Similarly, Alibaba earned $1.1 billion or 9% of its total revenue from foreign users. Baidu, which became the smallest of the BAT firms, made a mere $109 million, or 1.1% of its total revenue for 2015, from overseas operations (Greeven & Wei, 2018, 134). These numbers remained flat, showing that the Chinese government's push to "go out" had very limited success in the case of its platform companies (Jia et al., 2018; Child & Rodrigues, 2005). This has changed somewhat recently as Tiktok, the short video app, and, even, more recently, Shein, the online fast fashion firms have a significant global market presence.

Overall, tensions between the three central goals of the party-state—to achieve economic growth and technological self-sufficiency, on the one hand, while preventing threats to one-party rule from developing on these platforms on the other—reached an apex. For example, WeChat, with its 1.2 billion monthly active users—nearly all of them in China—emerged as a key opinion maker and shaper, as well as a source of news, entertainment, and banking. With this data trove from chat and financial transactions, such superapps thus also become indispensable surveillance tools for the government, effectively censoring and tracking Chinese nationals inside and outside China (Knockel et al., 2020; Yang, 2020).

Under the steering governance approach, the government was concerned about the monitoring of content—through both government agencies and self-monitoring by the platforms—while allowing these platform giants to continue to accrue market power and disrupt other sectors.

The Restraining Approach, Since the Late 2010s

Platform Market Power: Concentrated

In the late 2010s, platform market power was concentrated, with a user base larger and more mobile-oriented than the combined user base of the US and the EU. These platform giants also had abundant access to capital and user data, as well as diversified portfolios that included a range of businesses and revenue streams. Alibaba and Tencent were *primus inter pares* among China's internet-based firms, as both had staggering market capitalization—the former had US$230 billion and the latter $220 billion—in 2017.[4] Similarly, Tencent and Alibaba earned US$11.02 billion and $10.3 billion respectively in profits in 2018, making them the only two companies among China's top ten most profitable (Table 4) that were not state owned. During this period, several newcomers, including Douyin (social media) and Pinduoduo (e-commerce), gained rapid popularity. These new entrants notwithstanding, market power in China's platform economy became more concentrated under the BATs in the mid- and late 2010s.

Table 4: China's ten most profitable firms, 2018

Company	Core business	Profits ($US billion)
Industrial Commercial Bank of China (ICBC)	Finance	$44.02
China Construction Bank	Finance	$37.27
Agricultural Bank of China	Finance	$29.69
Bank of China	Finance	$26.52
China Mobile	Telecom	$17.58
Ping An Insurance (Group) Co.	Insurance	$13.71
Tencent Holdings	Information technology	$11.02
Bank of Communications	Finance	$10.80
China Merchants Bank	Finance	$10.79
Alibaba Group	Retail	$10.32

Source: *China Daily* (2018).

In another example of concentrated market power, the BATs effectively monopolized the rapidly emerging VC sector in China. In 2016, the three companies supplied 42% of the VC investment in China, an increase from 10% just three years earlier; one in five Chinese startups during this period were formed by BAT alumni or one of the three BAT firms (Woetzel et al., 2017, 12).

[4] Baidu was in a distant but still large third place at $58 billion, with the lion's share of its revenue still coming from online search advertisement.

Helped by these technologically advanced platform companies as well as the ubiquitous adoption of smartphones by the Chinese public, the ceaseless and multidirectional expansion of China's platform giants inevitably reorganized large sectors of society and the economy. The use of both online retail and phone-based payment systems grew and expanded into a larger variety of markets, bringing offline retail under the influence of the platforms as well.

China emerged as the world's undisputed leader in mobile payments. As early as 2016, mobile payment transactions by Chinese consumers totaled $790 billion, eleven times that of the United States in the same year (Woetzel et al., 2017, 1). This also meant that payments of all kinds were made through the platforms, instead of via bank-controlled systems, raising the question of whether China's state-dominated financial system was "being taken over by tech" (Xie, 2018; Arnold, 2017). Finally, the volume of data collected by the platforms soon constituted a vast store of knowledge about Chinese consumers outside the state's grasp (Wei, 2021). This ability to disrupt control over larger swathes of Chinese commerce, including the tightly regulated state-owned financial system, as well as the vast data about Chinese citizens outside the party-state's control drove the government to break from its previously supportive or steering policies.

Outcome: The Restraining Governance Approach

In the late 2010s, the party-state had the political strength to reassert greater control over the platform economy, a subject promoted by Xi Jinping as soon as he rose to power.[5] Three

[5] Almost immediately upon taking power, Xi said that China's internet regulation "has obvious problems, including multiple authorities, overlapping powers, mismatch of authority and responsibility, as well as inefficiency"

elements characterized this restraining approach. First, the government reined in these platforms' private financial services. Second, the government strengthened an otherwise anemic anti-monopoly agency, including opening antitrust investigations on the platform giants. Third, the government expanded its control over information. In all three cases, the platforms—especially superapps such as Alipay and WeChat Pay—were seen as threatening to a wide range of actors and interests, including state-owned banks and small business, through the far-reaching market power of these platforms and information disseminated on the platforms.

First, Alipay and WeChat Pay processed and possessed large and still growing funds. In the late 2010s, Ant Financial had grown to become a sprawling financial network, channeling hundreds of billions of dollars in financial transactions between Chinese consumers and businesses. The trigger that drove Chinese regulators to intervene was in October 2020, when Jack Ma, the founder of Alibaba and Alipay, publicly criticized China's state-owned banks and broader financial system.[6] Chinese regulators retaliated by suspending Ant Financial's initial public offering (IPO) on the Hong Kong and Shanghai exchanges in November 2020, where it was expected to raise US$37 billion and become the world's largest IPO (Yang & Wei, 2020).[7] Ma's public criticism should be understood as representing the proximate, rather than distal,

(*People's Daily,* 2013). As a result, his administration set up the Central Leading Group for Internet Security and Informatization in 2014, under the National Internet Office.

[6] Among Jack Ma's various criticisms in the October 2020 speech were that "[China] shouldn't use the way to manage a train station to regulate an airport" and "[w]e cannot regulate the future using methods from yesterday." At the time of the public criticism, Alibaba owned one-third of Ant Financial (Wei & Yang, 2020).

[7] Ma largely disappeared from public view in the wake of the incident, and the company's market capitalization dropped from a high of $859 billion on the eve of the IPO to less than $600 billion after the IPO was cancelled (Chen et al., 2021a).

cause for cancelling the IPO (Ling, 2021). Given the quantity of data and funds outside the state's regulatory purview as well as the Xi administration's acute concern over systemic financial risks, the government promptly moved to increase oversight of these financial platforms, which had become core financial institutions largely outside state control, and not subject to the same requirements as China's state-owned banks (Deng and Trivedi, 2015; Luo & Chen, 2018; Patterson et al., 2020; Chen et al., 2021a, 2021b).

The government followed up by announcing new draft regulations for online microlending, which is the biggest source of revenue for Ant Financial. Cancellation of the IPO cleared the way for a major restructuring of the Alibaba empire, which leads us to the second aspect of this restraining approach: the use of new antitrust rules targeting platform firms. In late 2010, amid a wave of regulatory changes, the government bolstered the antitrust bureau of the State Administration for Market Regulation (SAMR) with added staff and more stringent laws. Along with Xi Jinping's own call to "strengthen antitrust powers", the agency could stand out amid China's fragmented bureaucracy (Cheng, 2021). The government then made the massive decision to convert Ant Financial into a financial holding company overseen by China's central bank as part of antitrust actions against the internet giants (Yang, 2021; Zhong, 2020a).

Similarly, in early 2021, regulators launched investigations into Alibaba's sales platform as well as the WeChat Pay platform, including several anti-competitive practices that had been the cause of complaints from competitors and regulators alike for several years (Zhong 2020b).[8] Alibaba was fined the record sum of US$2.8 billion, or about 4% of the company's domestic annual sales, and led the company to post its first loss since its IPO in 2014 (Zhai & Wei, 2021;

[8] Alibaba's practice of "choose one out of two" (*er xuan yi*), in which Alibaba effectively punished merchants who sold on rival platforms, such as JD.com, had become notorious and a source of complaint for many years.

Yang & Yang, 2021b). Tencent, with its soaring profits from payments and gaming, also came under increased scrutiny from the SAMR (Yang, 2021). Baidu was also among the dozen internet firms fined $77,000 each for failing to report past investment deals, according to SAMR (Yang & Yang, 2021a).

This sudden and sweeping move to ‘restrain’ the platform giants should be understood as the government’s response to the continued multidirectional expansion of Tencent and Alibaba, as well as the dominance of their offspring in financial services in particular, and their inevitable collision with the interests of state-owned enterprises (Zhang, 2019). The concentrated market power of China’s platform giants became even more pronounced during the Covid-19 pandemic, as these platforms became some of the only viable outlets for Chinese consumers, as traditional retail and entertainment strained under travel and shelter-in-place restrictions. These measures signal that the government has reconsidered its support of the platform giants as well as its determination to bring them under close regulatory control (Li & Zhu, 2021; Yang, 2021; Yang & Yang, 2021a). These concerns are related to another long-standing government worry: the amount of data held by companies such as Tencent and Alibaba, which enabled them to detect macro buying patterns throughout the economy. The government began to publicly voice its concern that the platform giants could misuse that data (Wei, 2021). The concern over controlling data was a key motivation for Chinese regulators to halt Didi, China’s ride-hailing giant, from signing up new users, despite the company having just days before conducted the second-biggest American IPO for a Chinese company (Bloomberg News, 2021).

The third major element of this approach built on earlier censorship approaches, demonstrating the contradictory nature of China’s restraining approach. The Xi administration’s increased emphasis on ideology (Yang, 2014) also led to the blocking of various foreign-based platforms, including prominent sites for shopping (Rakuten), search (Bing), streaming (Twitch), and messaging (WhatsApp, Discord) (Table 3). So, despite the government's attempt to restrain the power of China's homegrown platform giants, this approach also had the paradoxical effect of further empowering *some* homegrown platforms, as the government continues to prize technology self-sufficiency despite its attendant problems of data control, market competition and disruption of certain politically powerful incumbents.

The recent shift to this restraining approach clearly indicates that Chinese authorities now acknowledge that the size and resources of some platform firms constitute threats to the core objectives of the party-state, as the latter has systematically and profoundly reorganized China's economy and are now critical infrastructure on which Chinese consumers and businesses depend. What finally prompted Chinese regulators to intervene in the late 2010s, however, was likely the redirection of funds and vast troves of data from state to private (and potentially foreign) control to the point that the party-state, fearing the national security implications as well as the deleterious impacts on state-owned banks, SOEs, and private SMEs, concluded that it could no longer remain idle and reactive.

Conclusion

This paper presents a structured explanation for the evolution of China's governance approaches to its platform economy, focusing on how the growth of platform market power was filtered through China's uniquely fragmented institutional setup and the core goal of the party-state: promoting economic growth and technological innovation in service of sustaining single-party rule by the CCP. This paper compares three broad periods and approaches, starting in the late 1990s, when the core interests of the party-state and technologically capable homegrown digital platform firms were aligned. By the late 2010s, however, this dynamic had changed, with platform firms possessing vast data and financial resources, which prompted the government to reassert control. Although initially this effort targeted Alibaba, it rapidly expanded to other platform giants, including the decision in April 2021 by the regulator SAMR to warn the 34 largest platform firms not to force businesses to choose one platform firm over another. Enforcement of this approach has spread to provincial antitrust authorities, which are conducting local investigations (Yin et al., 2021). Recent developments signal a new phase in the relationship between the Chinese state and Chinese platforms. This paper offers insight into the changing relationship, in which a strong state is responding to the changing centrality of platform firms in the economy, and how the state first fostered the growth of platform firms but was forced to reassert its authority when this growth threatened key goals of the party-state. In China, as elsewhere, the platform economy has rewired the flow of ideas, information, and money and, as a result, has forced government to react.

For those studying the development of Chinese state-business relations, we outline how the state has responded to the increasing importance of the platform economy. Although the research focus in this paper is on internal validity, certain elements of the Chinese case raise interesting questions. In a country with "fragmented authoritarianism" yet also significant state capacity and highly concentrated political power, what forms does state capacity take, especially in relation to non-state-owned platform giants? How does a one-party state with a relatively capable bureaucracy react as a small number of firms penetrate several sectors? In China, the balance between commercial interests and political imperatives is never clearly defined, resulting in a state of "structured uncertainty" with political intrusion deeply entrenched in the legal and regulatory system.

Platforms are changing power dynamics not only within countries but also between them. Our case study of China considers the evolution of platforms internally in only one country. Given the significance of the platform economy, studies of these internal dynamics in other countries are particularly important for achieving a better understanding of the challenges and opportunities for policy makers. In China, the platform firms are largely domestic; however, many other countries are largely dependent upon foreign platforms, so how will these dynamics between the state and industry develop? If, as this paper assumes, platforms become ubiquitous and infrastructural in nature, the state will likely have to act as a counterweight to ensure that all the other social actors are not forced into dependence on a few platforms that can extract and concentrate an increasing share of the overall value created.

REFERENCES

Ahlstrom, D., Bruton, G. D., & Kuang, S. Y. (2007). Venture capital in China: Past, present, and future. *Asia Pacific Journal of Management, 24*(3), 247-268.

Arnold, M. (2017). How finance is being taken over by tech. *Financial Times*. January 17. Retrieved from https://www.ft.com/content/2f6f5ba4-dc97-11e6-86ac-f253db7791c6/.

Atal, M. R. (2020). The Janus faces of Silicon Valley. *Review of International Political Economy, 28*(2), 336-350.

Barber, L., & Hille, K. (2011). Baidu plans operating system for mobiles. *Financial Times*. March 22. Retrieved from https://www.ft.com/content/e23073f6-54b0-11e0-b1ed-00144feab49a/.

Baumol, W. (2004). *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism.* Princeton: Princeton University Press.

Bell, S., & Feng, H. (2007). Made in China: IT infrastructure policy and the politics of trade opening in post-WTO China. *Review of International Political Economy, 14*(1), 49-76.

Bloomberg News. (2021). 'China's Didi crackdown is all about controlling data'. July 8. Retrieved from https://www.bloomberg.com/news/features/2021-07-08/-didi-crackdown-big-data-is-the-latest-u-s-china-battleground?sref=aK56ygxJ

Bovingdon, G. (2019). Xinjiang. In W. A. Joseph (Ed.). *Politics in China*, 3rd ed. New York: Oxford University Press. Pp. 487-516.

Breznitz, D. (2007). *Innovation and the State: Political Choice and Strategies for Growth in Israel, Taiwan, and Ireland.* New Haven, CT: Yale University Press.

Breznitz, D., & Murphee, M. (2011). *Run of the Red Queen: Government, Innovation, Globalization and Economic Growth in China.* New Haven, CT: Yale University Press.

Carlson, A. (2005). *Unifying China, Integrating with the world: Securing Chinese sovereignty in the reform era.* Palo Alto, CA: Stanford University Press.

Chen, L. Y., Luo, J., Zheng, L. & Zhang, D. (2021, February 3). Ant and China banks are reining in joint loans to consumers. *Bloomberg News.* Retrieved from https://www.bloomberg.com/news/articles/2021-02-04/ant-and-chinese-banks-are-reining-in-joint-loans-to-consumers/.

Cheng L. (2021) China's Ant Group to restructure under central bank agreement. *Reuters.* April 12. Retrieved from https://www.reuters.com/business/view-chinas-ant-group-restructure-under-central-bank-agreement-2021-04-12/.

Child, J., & Rodrigues, S.B. (2005). The internationalization of Chinese firms: A case for theoretical extension? *Management and Organization Review 1*(3): 381-410.

China Daily (2018). China's top 10 most profitable companies. July 12. Retrieved from https://www.chinadaily.com.cn/a/201807/12/WS5b468740a310796df4df5e45.html.

Clark, D. (2016). *Alibaba: The House That Jack Ma Built.* New York: Ecco.

CNNIC (2010). Statistical Report on Internet Development in China. Retrieved from http://www.cnnic.cn/uploadfiles/pdf/2010/8/24/93145.pdfS/.

Cusumano, M. A., Gawer, A., & Yoffie, D. B. (2019). *The Business of Platforms: Strategy in the Age of Digital Competition, Innovation, and Power*. New York: Harper Business.

Dai, X. (2002). Towards a digital economy with Chinese characteristics? *New Media & Society 4*(2), 141-162.

Dianzi yü xinxihua 电子与信息化 [*Electronics and New Media*] (2020). (May).

Erisman, P. (2015). *Alibaba's World: How a Remarkable Chinese Company Is Changing the Face of Global Business.* New York: St. Martin's Press.

Fan, P. (2006). Catching up through developing innovation capability: Evidence from China's telecom-equipment industry. *Technovation 26,* 359-368.

Fang, X. D. (2016).中国互联网治理模式的演进与长型 [On the evolution and innovation of the Chinese internet governance model]. *Frontiers 6*, 56-75.

Fravel, T. (2008). *Strong Borders, Secure Nation: Cooperation and Conflict in China's Territorial Disputes.* Princeton: Princeton University Press.

Frenken, K., & Fuenfschilling, L. (2020). The rise of online platforms and the triumph of the corporation. *Sociologica 14*(3), 101-13.

Fuller, D. B. (2010). How law, politics and transnational networks affect technology entrepreneurship: Explaining divergent venture capital investing strategies in China. *Asia Pacific Journal of Management, 27*(3), 445-459.

George, A. L. (1979). Case studies and theory development: The method of structured, focused comparison. In P. G. Lauren (Ed.), *Diplomacy: New Approaches to History, Theory, and Policy.* New York: Free Press. Pp. 43-68.

Geertz, C. (1973). *The Interpretation of Cultures.* New York: Basic Books.

Gerring, J. (2007). *Case Study Research: Principles and Practices.* Cambridge, UK: Cambridge University Press.

Gilholm, A. (2017). China's Xitocracy: How it's undermining the Deng consensus in Beijing, *Foreign Affairs* (July/August). Retrieved from https://www.foreignaffairs.com/articles/china/2017-08-11/chinas-xitocracy/.

Greeven, M. J. (2014). Alibaba group and Jack Ma. In F. L. Yu and H. D. Yan (Eds.), *Handbook in East Asia Entrepreneurship.* New York: Routledge. Pp. 380-390.

Greeven, M. J., & Wei, W. (2018). *Business Ecosystems in China: Alibaba and Competing Baidu, Tencent, Xiaomi and LeEco.* New York: Routledge.

Greeven, M. J., Yang, S., Heck, E., & Krug, B. (2010). The ecosystem of the Alibaba Group. How is Alibaba Group's strategy and implementation in China creating sustainable value for suppliers, partners and customers? The Case Centre, no. 310-125-1-2.

Guo, L. (2013). Alibaba: shaking up Chinese finance. *Financial Times.* July 1. Retrieved from https://www.ft.com/content/0cae83c4-c936-367c-9bf8-d5a082c9597e/.

Hachigan, N. (2001). China's cyber-strategy. *Foreign Affairs* (March/April). Retrieved from https://www.foreignaffairs.com/articles/asia/2001-03-01/chinas-cyber-strategy/.

Hall, P. A. (1993). Policy paradigms, social learning, and the state: The case of economic policymaking in Britain. *Comparative Politics 23*, 275-296.

Hamrin, C. L., & Zhao, S. (Eds.) (1995). *Policy Making in Deng's China: Perspectives from Insiders.* Armonk, NY: M.E. Sharpe.

Harwit, E. (2008). *China's Telecommunications Revolution.* Oxford: Oxford University Press.

Harwit, E. (2017). WeChat: Social and political development of China's dominant messaging app. *Chinese Journal of Communication 10*(3), 312-327.

Helberger, N., Pierson, J., & Poell, T. (2018), Governing online platforms: From contested to cooperative responsibility. *Information Society 34*(1), 1-14.

Hermes, S., Clemons, E., Schreieck, M., & Pfab, S. (2020). Breeding grounds of digital platforms: Exploring the sources of American platform domination, China's platform self-sufficiency, and Europe's platform gap. Paper presented at the 28th European Conference on Information Systems. Retrieved from https://www.researchgate.net/publication/341219517_Breeding_Grounds_of_Digital_Platforms_Exploring_the_Sources_of_American_Platform_Domination_China's_Platform_Self-Sufficiency_and_Europe's_Platform_Gap/.

Hille, K. (2009). China blocks Google website. *Financial Times*. June 24. Retrieved from https://www.ft.com/content/8e4ccdce-60cf-11de-aa12-00144feabdc0/.

——— (2010). Social networks steer China web evolution. *Financial Times*. November 29. Retrieved from https://www.ft.com/content/0b0ba61e-fbe3-11df-b7e9-00144feab49a/.

——— (2012a). Sina Weibo still has to turn users into revenue. *Financial Times.* February 12. Retrieved from https://www.ftchinese.com/story/001043116/en?archive/.

——— (2012b). Real name rule to add to Chinese Blogging Woes. *Financial Times.* June 10. Retrieved from https://www.ft.com/content/e995b7aa-6201-11e1-807f-00144feabdc0/.

Holz, C. (2001). Economic reforms and state sector bankruptcy in China. *China Quarterly 166*, 342–67.

Huang, X., Kenney, M., & Patton, D. (2015). Responding to uncertainty: Syndication partner choice by foreign venture capital firms in China. *Venture Capital 17*(3), 215-235.

Huang, Y. (2008). *Capitalism with Chinese characteristics: Entrepreneurship and the State.* New York: Cambridge University Press.

Hughes, C., & Wacker, G. (2003). Introduction: China's digital leap forward. In C. Hughes & G. Wacker (Eds.), *China and the Internet: Politics of the Digital Leap Forward.* London: Routledge Curzon. Pp. 1-7.

Hughes, C. R. (2002). China and the globalization of ICTs: Implications for international relations. *New Media & Society 4*(2), 205-224.

Jakobson, L., and Knox, D. (2010). New actors in China's foreign policy. SIPRI Policy Paper 26. Retrieved from https://www.sipri.org/publications/2010/sipri-policy-papers/new-foreign-policy-actors-china/.

Jia, K., & Kenney, M. (2021). Different evolutionary paths: Understanding the Chinese platform business group model, forthcoming. Retrieved from https://kenney.faculty.ucdavis.edu/wp-content/uploads/sites/332/2021/01/Different-Evolutionary-Paths-Understanding-the-Chinese-Platform-Business-Group-Model.pdf.

Jia, K., Kenney, M., & Zysman, J. (2018). Global competitors? Mapping the internationalization strategies of Chinese digital platform firms. In R. van Tulder, A. Verbeke & L. Piscitello (Eds.). *International Business in the Information and Digital Age*. Bingley, UK: Emerald Group. Pp. 187-215.

Jia, L. R., & Winseck, D. (2018). The political economy of Chinese internet companies: Financialization, concentration and capitalization. *International Communication Gazette, 80*(1), 30-59.

Jiang, M. (2010). Authoritarian informationalism: China's approach to Internet sovereignty. *SAIS Review of International Affairs 30*(2), 71-89.

Jiang Q. P. (2008). 激荡的十年：中国互联网十年发展报告 [The aggressive decade: A report on ten years of internet development in China]. *China Internet Week 20*, 28-38.

Katzenstein, P. (1978). *Between Power and Plenty: Foreign Economic Policies of Advanced Industrial States*. Madison: University of Wisconsin Press.

Kennedy, S. (2006). The political economy of standards coalitions: Explaining China's involvement in high-tech standards wars. *Asian Policy 2,* 41-62.

Kenney, M., & Zysman, J. (2019). Unicorns, Cheshire cats, and the new dilemmas of entrepreneurial finance. *Venture Capital 21*(1), 35-50.

______________________. (2016). The rise of the platform economy. *Issues in Science and Technology 32*(3), 61-69.

Kenney, M., Zysman, J., & Bearson, D. (2020). Transformation or structural change? What Polanyi can teach us about the platform economy. *Sociologica 14*(3), 227-40.

King, G., Keohane, R. O., & Verba, S. (1994). *Designing Social Inquiry.* Princeton: Princeton University Press.

King, G., Pan, J., & Roberts, M. E. (2013). How censorship in China allows government criticism but silences collective expression. *American Political Science Review 107*(2), 326-343.

Knockel, J., Parsons, C., Ruan, L., Xiong, R., Crandall, J., & Deibert, R. (2020). We chat, they watch. Citizen Lab. Retrieved from https://citizenlab.ca/2020/05/we-chat-they-watch/.

Kroeber, A. (2007). China's push to innovate in information technology. In L. Jakobson (Ed.), *Innovation with Chinese Characteristics: High-Tech Research in China.* London: Palgrave Macmillan. Pp. 37-70.

Kynge, J. (2000). Jiang calls for promotion of IT. *Financial Times*. August 21.

Lampton, D. M. (1987). Chinese politics: The bargaining treadmill. *Issues & Studies 23*, 11-41.

Leng, H. (2017). *Ma Huateng and Tencent: A Biography of China's Greatest Entrepreneurs.* New York: LID Publishing.

Leskin, P. (2019). Here are the major US tech companies blocked behind China's 'Great Firewall'. *Business Insider.* October 10. Retrieved from https://www.businessinsider.com/major-us-tech-companies-blocked-from-operating-in-china-2019-5/.

Lewin, A., Kenney, M., & Murmann, J. P. (Eds.) (2016). *China's Innovation Challenge.* Cambridge: Cambridge University Press.

Li, P., & Zhu, J. (2021). Tencent founder Pony Ma meets China's antitrust officials as scrutiny widens, sources say. *Globe and Mail*. March 24. Retrieved from https://www.theglobeandmail.com/business/international-business/asia-pacific-business/article-tencent-founder-pony-ma-meets-chinas-antitrust-officials-as-scrutiny/.

Li, Z. (2016). *The JD.com Story: An Ecommerce Phenomenon.* New York: LID Publishing.

Lieberthal, K., & Oksenberg, M. (1988). *Policy Making in China: Leaders, Structures, and Processes.* Princeton: Princeton University Press.

Lieberthal, K. G., & Lampton, D. M. (1992). Introduction: The "fragmented authoritarianism" model and its limitations. In K. G. Lieberthal and D. M. Lampton (Eds.), *Bureaucracy, Politics, and Decision Making in Post-Mao China.* Berkeley: University of California Press. Pp. 1-30.

Lin, K.-C. (2003). Corporatizing China: Reinventing state control for the market. PhD dissertation, University of California, Berkeley.

Liu, S., & Avery, M. (2009). *Alibaba: The Inside Story behind Jack Ma and the Creation of the World's Biggest Online Marketplace.* New York: HarperCollins.

Liu, Y. (2011). The rise of China and global Internet governance. *China Media Research, 8*(2), 46-55.

Lucas, L. (2017). Chinese money market fund becomes the world's biggest. *Financial Times*. April 26. Retrieved from https://www.ft.com/content/28d4e100-2a6d-11e7-bc4b-5528796fe35c/.

Luo, J., & Chen, T. (2018). China official says crackdown on murky conglomerates isn't over. Bloomberg. January 16. Retrieved from https://www.bloomberg.com/news/articles/2018-01-17/china-official-says-crackdown-on-murky-conglomerates-isn-t-over?sref=aK56ygxJ/.

Malkin, A. (2020). The Made in China challenge to US structural power: Industrial policy, intellectual property and multinational corporations. *Review of International Political Economy,* 1-33.

Mazzucato, M. (2013). *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*. London: Anthem Press.

McCarthy, N. (2018). China now boasts more than 800 million internet users and 98% of them are mobile. *Forbes*. Retrieved from https://www.forbes.com/sites/niallmccarthy/2018/08/23/china-now-boasts-more-than-800-million-internet-users-and-98-of-them-are-mobile-infographic/?sh=7b0f44217092/.

Meckstroth, T. (1975). “Most different systems” and “most similar systems”: A study in the logic of comparative inquiry. *Comparative Political Studies 8*(2), 133-77.

Mertha, A. (2009). Fragmented authoritarianism 2.0: Political pluralization of the Chinese policy process. *China Quarterly 200*, 995-1012.

Miao, W., Zhu, H. J., & Chen, Z. (2018). Who’s in charge of regulating the internet in China: The history and evolution of China’s Internet regulatory agencies. *China Media Research 14*(3), 1-7.

Mill, J. S. (1843). *A System of Logic, Ratiocinative and Inductive*. London: J.W. Parker.

Ministry of Industry and Information Technology (2009). *Statistical Communique of China on the 2008 Development of the Telecom Industry*. Retrieved from http://www.miit.gov.cn (in Chinese).

Moran, M., Rein, M., & Goodin, R. E. (2006). *The Oxford Handbook of Public Policy.* New York: Oxford University Press.

National Bureau of Statistics of China. (2016). *China Statistical Yearbook*. Retrieved from http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm.

Naughton, B. (2007). *The Chinese Economy.* Cambridge: MIT Press.

North, D. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.

Patterson, M., Fan, H., Chen, Y. L., Chan, C., Fioretti, J., Chan, V., Curran, E., Luo, J., Zhang, D., Hu, B., & Bergman, J. O. (2020). Inside the chaotic unraveling of Jack Ma’s $35 billion IPO. *Bloomberg News*. November 5. Retrieved from https://www.bloomberg.com/news/articles/2020-11-05/inside-the-chaotic-unraveling-of-jack-ma-s-35-billion-ant-ipo/.

Pearson, M. (1997). *China’s New Business Elite: The Political Consequences of Economic Reform.* Berkeley: University of California Press.

_________ (2005). The business of governing business in China: Institutions and norms of the emerging regulatory state. *World Politics 57*(2), 296-322.

Peng, Y. (2016).腾讯帝国真相 [*The Truth about the Tencent Empire*]. Tokyo: Electronics Press.

People’s Daily. (2013). Xi Jinping on perfection of Internet governance leadership system. (in Chinese).

Plantin, J. C., & de Seta, G. (2019). WeChat as infrastructure: the techno-nationalist shaping of Chinese digital platforms. *Chinese Journal of Communication 12*(3), 257-273.

Rahman, K. S., & Thelen, K. (2019). The rise of the platform business model and the transformation of twenty-first-century capitalism. *Politics & Society 47*(2), 177-204.

Sabatier, P. A. (1993). *Policy Change and Learning: An Advocacy Coalition Approach.* Boulder: Westview Press.

Schiffman, Betsy. (2008). Chinese video site 56.com goes down. *Wired.* Retrieved from https://www.wired.com/2008/07/chinese-video-s/.

Schiller, D. & Sandvig, C. (2010). Google v. China: Principled, brave, or business as usual? Huffington Post. June 5. Retrieved from http://www.huffingtonpost.com/dan-schiller/google-v-china-principled_b_524727.html.

Sina (2015). Z*hifubao qianbao yue huo yue yong hu shu 2.7 yi* [Alipay monthly active users reached 270 million].

Stark, D., & Pais, I. (2020). Algorithmic management in the platform economy. *Sociologica 14*(3), 47-72.

Steinfeld, E. (1998). *Forging Reform in China: The Fate of State-Owned Industry*. Cambridge: Cambridge University Press.

Suttmeier, R. P., Yao, X., & Tan, Z. (2006). *Standards of Power? Technology, Institutions, and Politics in the Development of China's National Standards Strategy.* Report for the National Bureau of Asian Research. Retrieved from https://www.nbr.org/publication/standards-of-power-technology-institutions-and-politics-in-the-development-of-chinas-national-standards-strategy/.

Tse, E. (2015). *China's Disruptors: How Alibaba, Xiaomi, Tencent, and Other Companies Are Changing the Rules of Business.* New York: Portfolio/Penguin.

Wallstreet China. (2016). *Shouru nian zeng 5 bei, bai du guo ji hua shi zhe yang zuo dao de* [Revenues increased fivefold, this is how Baidu internationalized].

Wang, Y. (2021). Policy articulation and paradigm transformation: The bureaucratic origin of China's industrial policy. *Review of International Political Economy, 28*(1), 1-28.

Wauters, R. (2009) China blocks access to Twitter, Facebook after riots. TechCrunch.com. July 7. Retrieved from https://techcrunch.com/2009/07/07/china-blocks-access-to-twitter-facebook-after-riots/?awesm=tcrn.ch_5JG&utm_campaign=techcrunch&utm_content=techcrunch-autopost&utm_medium=tcrn.ch-twitter&utm_source=twitter.com/.

Wei, L. (2021). Chinese regulators try to get Jack Ma's Ant Group to share consumer data. *Wall Street Journal*. January 5. Retrieved from https://www.wsj.com/articles/chinese-regulators-try-to-get-jack-mas-ant-group-to-share-consumer-data-11609878816?mod=article_inline/.

Wei, L., & Yang, J. (2020). Ant founder Jack Ma faces backlash from regulators. *Wall Street Journal.* November 3. Retrieved from https://www.wsj.com/articles/ant-founder-jack-ma-faces-backlash-from-regulators-11604442018?mod=article_inline/.

Wei, S. (2012). Deconstructing the myth of Alipay Drama—Repoliticizing foreign investment in the telecommunications sector in China. *Telecommunications Policy 36*, 930-934.

White, S., Gao, J., & Zhang, W. (2005). Financing new ventures in China: System antecedents and institutionalization. *Research Policy 34*(6), 894-913.

Woetzel, J., Seong, J., Wang, W., Manyika, J., Chui, M., & Wong, W. (2017). China's digital economy: a leading global force. Discussion Paper, McKinsey Global Institute. Retrieved from https://www.mckinsey.com/featured-insights/china/chinas-digital-economy-a-leading-global-force.

Xie, S. Y. (2018). Jack Ma's giant financial startup is shaking the Chinese banking system. *Wall Street Journal.* July 29. Retrieved from https://www.wsj.com/articles/jack-mas-giant-financial-startup-is-shaking-the-chinese-banking-system-1532885367?mod=article_inline/.

Yang, G. (2011). *The Power of the Internet in China*. New York: Columbia University Press.

——— (2014). The return of ideology and the future of Chinese internet policy. *Critical Studies in Media Communication 7*(4), 109-13.

Yang, Y. (2019). Policy articulation and paradigm transformation: the bureaucratic origin of China's industrial policy. *Review of International Political Economy*, *28*(1), 1-28.

Yang, J. (2020). WeChat becomes a powerful surveillance tool everywhere in China. *Washington Post*. December 22. Retrieved from https://www.wsj.com/articles/wechat-becomes-a-powerful-surveillance-tool-everywhere-in-china-11608633003?mod=article_inline/.

——— (2021). Jack Ma's Ant plans major revamp in response to Chinese pressure. *Wall Street Journal*. January 27. Retrieved from https://www.wsj.com/articles/jack-mas-ant-plans-major-revamp-in-response-to-chinese-pressure-11611749842?mod=article_inline/.

Yang, J., & Wei, L. (2020). China's President Xi Jinping personally scuttled Jack Ma's Ant IPO. *Wall Street Journal.* November 12. Retrieved from https://www.wsj.com/articles/china-president-xi-jinping-halted-jack-ma-ant-ipo-11605203556?mod=article_inline/.

Yang, S. (2021). Tencent stresses regulatory compliance as profits from gaming, payments surge. *Wall Street Journal*. March 24. Retrieved from https://www.wsj.com/articles/tencent-stresses-regulatory-compliance-as-profits-from-gaming-payments-surge-11616590055?page=1/.

Yang, S., & Yang, J. (2021a). China regulator fines Tencent, Baidu, others over investment deals. *Wall Street Journal.* March 12. Retrieved from https://www.wsj.com/articles/china-regulator-fines-tencent-baidu-others-over-investment-deals-11615553409?mod=article_inline/.

Yang, S., & Yang, J. (2021b). Alibaba posts first loss since going public after antitrust fine. *Wall Street Journal*. May 13.Retrieved from https://www.wsj.com/articles/alibaba-logs-higher-quarterly-sales-but-posts-loss-on-antitrust-fine-11620908316/.

Yin, H., Dodoo, N., & Lu, T. (2021). "Choosing between two competing platforms" is in the spotlight. Lexicology. April 26. Accessed June 12, 2021. https://www.lexology.com/library/detail.aspx?g=c2cf3dc6-27c4-4067-8ccd-d31b1f333d35/.

Yu, H. (2017a). *Networking China: The Digital Transformation of the Chinese Economy.* Urbana: University of Illinois Press.

——— (2017b). Pivot to Internet Plus: Molding China's digital economy for economic restructuring? *International Journal of Communications 11,* 1486-1506.

Zang, X. W., Chan, H., & Chan, H. S. (Eds.) (2020). *Handbook of Public Policy and Public Administration in China.* Cheltenham: Edward Elgar.

Zhai, K., & Wei, L. (2021). China lays plans to tame tech giant Alibaba. *Wall Street Journal.* March 11. Retrieved from https://www.wsj.com/articles/china-regulators-plan-to-tame-tech-giant-alibaba-jack-ma-11615475344?mod=article_inline/.

Zhang, G. (2009). 马云十年 [*Jack Ma's Decade*]. Beijing: China CITIC Press.

Zhang, J. (2003). Network convergence and bureaucratic turf wars. In C. Hughes & G. Wacker (Eds.). *China and the Internet: Politics of the digital leap forward*. London: Routledge Curzon. Pp. 83-101.

Zhang, L. (2020). When platform capitalism meets petty capitalism in China: Alibaba and an integrated approach to platformization. *International Journal of Communication 14*, 114-34.

Zhong, A. (2020a). China orders Ant Group to revamp its business. *New York Times*. December 27. Retrieved from https://www.nytimes.com/2020/12/27/technology/ant-group-china-regulation.html.

——— (2020b). With Alibaba's investigation, China gets tougher on tech. *New York Times.* December 23. Retrieved from https://www.nytimes.com/2020/12/23/business/alibaba-antitrust-jack-ma.html.