

The new whole state system: Reinventing the chinese state to promote innovation

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journals.sagepub.com/home/epn**Lin Zhang***Department of Communication, University of New Hampshire, Durham,
NH, USA**Tu Lan** Department of Geography, University of New Hampshire, Durham, NH,
USA**Abstract**

This article joins interdisciplinary efforts to problematize dichotomous thinking (i.e. state vs. market, East vs. West, and new vs. old) in existing discourses concerning state capitalism. Focusing on the New Whole State System in relation to tech companies owned by Tsinghua University, we analyze the *actually existing* state capitalism in China as a spatiotemporally specific and conjuncturally situated assemblage of discourses, policies, and practices. We show that under both the Old Whole State System (1950s–1970s) and New Whole State System (mid-2000s onward) eras, the Chinese state, reacting to foreign economic and geopolitical pressures, attempted to graft a centralized innovation system onto preexisting decentralized governance structures, concentrating resources to promote selected strategic industries. Unlike the Old Whole State System, the New Whole State System relies on new policy tools characterized by state-led financialization and state–private fusion. The evolution of New Whole State System as an assemblage reveals that, contrary to the dominant geo-imaginary, the Chinese state is not monolithic, unchanging, and culturally essentialist. Rather, it is actively engaged in global debates about, and in contested experiments with expanding the state’s role in the economy in response to global, conjunctural crises of overproduction and financialization. By foregrounding this non-Western country/region’s internal debate about its own development trajectory, its uneven success in overcoming uneven development, and its interaction with the rest of the world, we propose an alternative perspective that contributes both theoretically and methodologically to the epistemologically Euro-American centric literature of state capitalism.

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Introduction

Since 2018, the US–China trade war has exerted profound impacts on the global economy. The US government has viewed China’s model of “state capitalism” as polar opposite to its “liberal-democratic and free-market economy” and a menace to the current US-led world order. Geographical imaginaries of “us versus them” have fueled popular beliefs that, unlike their Western counterparts, Chinese companies, regardless of ownership, are not “truly autonomous from the government” (Milhaupt and Zheng, 2015: 668). These narratives reverberated in Europe in the European Commission’s 2016 judgment that all Chinese state-owned enterprises (SOEs) operating in energy sectors be treated as a single entity of “China, Inc.” (Zhang, 2021a: 119–121). Nor will the US allow, in Secretary of Commerce Gina Raimondo’s words, “autocracies like China” to set rules for global trade in technology, but will work with its European allies to “slow down China’s rate of innovation” (Marcias and Tausche, 2021).

Three sets of dichotomies underly Anglophone narratives of state capitalism, most prominently in media, think tanks, and political circles, pitting China against the West: market versus state, or “more market automatically means less state, and vice versa” (Peck, 2021: 23); Western liberalism versus Eastern authoritarianism, or geo-categorization of national economies as “(Western) democratic free-market capitalism” opposing “its deviant ‘other’, (Eastern) authoritarian state capitalism” (Alami and Dixon, 2020b: 1); and new versus old, or China’s state capitalism model, fetishized as something completely new, demanding radical countermeasures from the liberal block (Alami and Dixon, 2020a; Sperber, 2019). In their misleading pictures of the global capitalist system and economic history, these dichotomous, methodologically nationalist imaginaries, we argue, not only misunderstand China but overlook the varied continuum of “state-market hybrids” emerging globally, and the spatiotemporal specificities of contemporary state capitalism as a conjunctural shift remaking geopolitics (Alami and Dixon, 2020a).

National histories of capitalism in Europe and North America clearly show that the state has always proactively created, regulated, and participated in the market (Block, 2011; Chang, 2002; Stiglitz and Lin, 2013; Vogel, 2018). Rather than “an anomaly or a deviance from liberal, market-based capitalism... [s]tate capitalism is an immanent potentiality, an impulse which is contained in the form of the capitalist state and built into its DNA” (Alami and Dixon, 2021: 14). What demands our attention, however, is the nature and process of state capitalism’s “joint and concurrent expansion” in recent years, especially with emerging economies like China playing increasingly significant roles in reshaping global capitalism (Alami and Dixon, 2021: 7–8). Such studies require methodological and theoretical innovations to augment existing literature on state capitalism. Our study proposes to avoid existing dichotomies in the “new state capitalism” by tracing the unfolding of state-capital hybrids in different nations in relation to/as situated in the highly unequal, interconnected global capitalist economy, what geographers call “uneven and combined development” (Alami and Dixon, 2021; Dunford and Liu, 2017; Peck, 2021).

Joining the interdisciplinary quest for a more nuanced and rigorous understanding of contemporary state capitalism (Alami and Dixon, 2021; Nölke et al., 2021; Peck, 2021; ten Brink, 2019), we study tech companies owned by Tsinghua University in relation to the New Whole State System (NWSS, *xin juguo tizhi*) to analyze *actually existing* state capitalism in China as a spatiotemporally specific and conjuncturally situated assemblage of discourses, policies, and practices. “New state capitalism” theorists problematize Euro-American-centric

geo-imaginaries of state capitalism and identify China as the most important target of these Anglophone narratives (cf. Nölke et al., 2021). However, more work needs to be done to trace, document, and analyze Chinese discourses and practices vis-à-vis the state's changing role in contemporary China—especially China's innovation systems—as a response to conjunctural challenges and rising geo-imaginaries. So far, Chinese perspectives and praxis remain poorly understood in the “relational social ontology” of emerging approaches to the new state capitalism (Alami and Dixon, 2021: 15).

Admittedly, the Communist Party of China (CPC)'s ideological insistence on “socialism with Chinese characteristics” and taboo against associating the contemporary Chinese economy with “state capitalism” contributed to dichotomous thinking and the West's lack of engagement with the Chinese experience (Qiushi, 2018).¹ However, avoiding state capitalism terminology does not mean that Chinese scholars, media, and policy-makers are oblivious to the “problematic” of state function in the uneven global capitalist system (Alami and Dixon, 2021). Like their Western counterparts, they actively debate the Chinese state's role in the market over the past two decades (Lin and Zhang, 2016; Wen, 2013).

The NWSS (*xin juguo tizhi*) emerging in this context, both constituted and responded to the global ascendance of state capitalism. The term appeared in 2006 when Chinese academics and policy makers started rethinking China's export-oriented development over the previous two decades, and reinventing its socialist legacy to achieve technological innovation and independence. While these domestically oriented motivations gradually gained popularity, the 2008 global financial crisis, the US trade war, and technological containment gave the NWSS undisputed political legitimacy. This constant interaction between local needs due to uneven global development and international pressures and trends is central to the joint, concurrent expansion of state capitalism in our time. The contested evolution of NWSS as an assemblage reveals that, contrary to the dominant geo-imaginary, the Chinese state is not monolithic, unchanging, and culturally essentialist. Its expansion in the Chinese economy since the mid-2000s is a negotiated historical process, fraught with tensions, that addresses existing domestic problems and expedites responses to foreign pressures and geopolitical shifts. In terms of shifting global geoeconomics and politics, however, state capitalism's unevenness and concurrency in China is under-explored in extant literature on the new state capitalism.

Based on policy analysis, archival research,² and interviews conducted between 2015 and 2021 with Tsinghua enterprise employees and entrepreneurs funded and/or incubated by Tsinghua enterprises, this article contributes to existing research by analyzing *actually existing* state capitalism in China as an evolving and contested assemblage of ideas, policies, and practices. We highlight historical continuities/ruptures of the post-2008 expansion of state capitalism and interactions between global trends and local circumstances shaping the specific trajectories of state-capital hybrids. We focus on Tsinghua enterprises because they are central to the high-tech sector, especially the semiconductor industry, a key industry promoted by NWSS. Tsinghua University's science and engineering programs are well known, and their graduates are prominent in China's political and innovation systems. Fully- or majority-owned by the University, Tsinghua enterprises became *de facto* “national champions” in China's semiconductor industry after the 2010s, epitomizing NWSS's successes and its problems.

In what follows, we draw on existing research to trace the genealogy of NWSS as a local response to global economic and geopolitical shifts in technological innovation realms. Then, we analyze how five distinct policy features of the NWSS unfolded in Tsinghua enterprises—mixed-ownership reform (MOF), Government Guidance Funds (GGF), local government financing vehicles (LGFV), transnational investments, and (re)consolidation of party–state leadership—to evaluate NWSS's impact on national innovation capacity. The conclusion discusses the global implications of China's experiences.

Comprising long-term planning and short-term experimental strategies straddling economic and extra-economic rationales, the rise of NWSS paralleled unprecedented state-led financialization of China's technology sector and fusion of state and private capital. Amid constant refashioning, the multiple state-capital hybrids it created span geographical scales and national borders, simultaneously generating success and new financial risks and moral hazards. China's particular response to global overproduction and financialization, we argue, contributes to ongoing conceptualizations of the new state capitalism, and offers important caveats about the use of financial tools to restructure unbalanced economies and direct excess liquidity to promote indigenous innovation (i.e. innovation depending on domestic research capacity).

Evolution of the whole state system

Originated in Chinese media and academia in the 1980s, the term WSS disparaged China's state-led competition for Olympic medals, and later appeared in critique of the many pitfalls of the planned economy (cf. Lu, 1989). Not until the mid-2000s, following approval of 16 central-state-led Megaprojects in science and technology, was WSS favorably associated with technological innovation. In 2006–2007, a series of articles appeared in *China Industrial News*, a semi-official newspaper run by the former Ministry of Mechanical Industries (CIN, 2007; Wang, 2006). The authors, mostly entrepreneurs and scholars, reframed WSS in calls on central leadership to promote indigenous innovation. They criticized China's reliance on joint ventures and foreign technology transfer for innovation and emphasized the importance of using financial tools to incentivize enterprise. Following the global financial crisis, Liu Yandong, a Tsinghua alumnus and Politburo member at that time, and Wan Gang, the Minister of Science and Technology, endorsed the positive association of NWSS with innovation in a series of meetings related to the Megaprojects in 2008 and 2009. Both associated WSS with China's nuclear and satellite programs in the 1960s, while connecting it to contemporary state-led efforts that used financial tools and industrial policies to advance strategic technologies. As they contended in a November 2009 meeting with sci-tech community leaders, the state should “explore and perfect the NWSS under the conditions of market economy” (*People's Daily*, 2009).

Tracing the genealogy of the concept raises an important question: why did the party-state endow this old term with new meanings at that post-2008 conjuncture? We show that the emerging NWSS assemblage should be understood as part of China's response to shared global challenges postrecession. To forge solutions to local expressions of global problems, the party-state excavated ideas and experiences from its socialist past to mobilize resources and justify flexing state muscle. As in the late 1950s when the Old WSS (OWSS) came into being, NWSS emerged at a time when external geopolitical conditions exacerbated a serious party-state crisis.

The Old Whole State System (1950s–1970s)

During the imperial period, the central state assumed paternalistic responsibility for the Chinese nation, while various local officials retained a large degree of autonomy (Wen et al., 2016; Zheng and Huang, 2018: 88–120). Centralized minimalism—the “strong tendencies toward minimalist governance both to guard against parcellation of centralized imperial power and to maintain governance at a minimal cost to the state” (Huang, 2019: 357)—defined central-local relations in China for two millennia. Yet, embedded friction between central state plans for long-term national benefit and provincial/prefectural/county officials' short-term local goals destabilized the centralized-minimalist system and required constant readjustment (Huang, 2019). Central-local relations in China swung “pendulum-like” between centralization and decentralization, always reflecting the central state's changing priorities (Zheng and Huang, 2018).

To some extent, the OWSS was a fix for centralized-minimalist governance under Qing and Nationalist regimes, neither of which effectively industrialized China's economy in the face of fierce foreign inroads on domestic resources. Founded amidst anti-imperial and civil wars, the revolutionary People's Republic built legitimacy, as Lin (2006) succinctly summarized, upon simultaneous socialist, nationalist, and developmental missions. To achieve its goals, the CPC transformed traditional governance. Following the Soviet-Leninist example, the central state consolidated control over local officials; for the first time in Chinese history, national political power penetrated to villages via multilevel party organization. Still, central-local subcontracting practices were preserved as a corrective against rigid Soviet bureaucratization.

Emerging from this hybrid governance structure, the OWSS was a local response to China's difficult Cold War position. After the Sino-Soviet Split in the 1960s, China faced military threats and economic sanctions from both the United States and Soviet Union. Under these unprecedented circumstances, the People's Republic of China (PRC) adopted the OWSS to prioritize industrial defense over balanced development of the national economy (Lin and Zhang, 2016; Lu and He, 2021). As a socialist innovation system, OWSS helped the central state mobilize mass participation in the economy and extract resources from all sectors to spearhead breakthroughs in the strategic defense industry. This dual system—centralized innovation led by the Central Special Committee (*zhongyang zhuanwei*) on top, and decentralized governance at the bottom—persisted even during the tumultuous Cultural Revolution (1966–1976) (Lu and He, 2021).

Transitional period (1980s–early 2000s)

But in the 1980s–1990s, the OWSS was gradually dismantled and its policies stigmatized in another domestic response to the changing international environment (Lu and He, 2021). The party-state's decision to shift priority away from national security and socialist egalitarianism and toward economic development paralleled the Communist bloc's dissolution and rise of the US-led neoliberal order. As China moved closer to the United States, and the Soviet Union slowly collapsed, need for the OWSS was greatly reduced. In its place, the centralized minimalist system swung back toward decentralization. Local governments, SOEs, universities, and research institutes became subcontracting agents tasked with actualizing the state's multi-pronged developmental, nationalist, and socialist goals (Oi, 1992; Walder, 1995; Zhou, 2014). Under the post-Mao "socialist market economy", the central state reintroduced market forces as tools to incentivize administrative subcontractors to stimulate economic growth and generate profits (Lim, 2019). Evaluations of local officials were based on GDP growth in their jurisdictions (Zhou, 2018).

Whereas the new system successfully motivated subcontractors to grow the economy, it was less successful in promoting technological innovation/independence and safeguarding equity (Naughton, 2017; Zhou et al., 2016). Thus, Tsinghua enterprises' lack of capability/incentive to allocate resources for innovation created a shortage of "patient capital" (Zhou et al., 2016). They were pressured to generate quick profits and distracted by "easy money" opportunities under the economy's rapid financialization (also see Fuller, 2019).

In the late 1980s, the central government began to address problems in the subcontracting system via targeted national campaigns and long-term Five-Year Plans (Heilmann et al., 2013; Heilmann and Melton, 2013). Beginning with the 863 Program (1986), targeted programs allocated additional funds to public research institutes and elite universities to promote indigenous innovation, but general marketization trends and budget cuts continued. By 1995, educational investment had dropped to 2.3% of GDP, an all-time low in PRC history (Yang et al., 2014: 2140). That year, under President Jiang Zemin, the goal of "Revitalizing the Nation through Science and Education (*kejiao xingguo*)" was written into the Ninth Five-Year Plan as the central state tried

to mobilize administrative subcontractors, including local governments and SOEs, to promote technological innovation (Heilmann and Melton, 2013).

The New Whole State System (mid 2000s–present)

Following its predecessors, the Hu–Wen administration (2002–2012) further addressed subcontracting system limitations (Naughton and Tsai, 2015). Although China had invested in integrated circuit (IC) design and fabrication since the 1970s, results remained bleak (Zhou et al., 2016: 7–9). Despite opposition from pro-free-market economists, but with support from entrepreneurs, scientists, and engineers, Premier Wen Jiabao approved the Medium- and Long-Term Plan for the Development of Science and Technology in 2005, and integrated it into the Eleventh Five-Year Plan (Chen and Naughton, 2016: 2146–2147; Heilmann et al., 2013: 911–912). The Plan’s 16 Megaprojects to enhance China’s indigenous innovation capacities, budgeted at 600 billion Yuan, targeted industries and technologies monopolized by the West, like semiconductor manufacturing, which the United States and its allies would not export to China.

If concerns about the Megaprojects lingered after 2005, the 2008 global financial crisis resolved them. Premier Wen held a series of meetings in the fall with scientists, engineers, and entrepreneurs. They convinced him that the crisis offered China a rare opportunity to catch up with developed countries. To do so, a more centralized, state-led innovation model was urgently needed (Chen and Naughton, 2016: 2148). Liu Yandong’s official endorsement of the NWSS in 2008 marked this transitional moment. The collapse of external demand for low-value goods made it imperative for China to capture more value in global production networks (GPN).

Hence, the NWSS emerged as an assemblage of discourses and policy experiments to fix the subcontracting system and respond to the Great Recession. When Liu’s and Wan’s meetings took place, the State Council expanded the 16 Megaprojects into 20 Strategic Emerging Industries (SEI) with more funding and more ambitious goals (Chen and Naughton, 2016: 2147; Orlik, 2020: 9). In his announcement, Premier Wen reiterated that the government should only fund a small portion of the enterprise: the rest should come from financial markets (Chen and Naughton, 2016: 2148). This state-led, market-driven financialization shift took place in the mid-to-late 2000s, and paralleled China’s transition from capital scarcity to capital abundance (Wang, 2015). After more than two decades of double-digit growth, the country had accumulated profuse excess liquidity seeking investment opportunities (Wen, 2013: 189). This financialization trend accelerated after the 2008 crisis as a result of both domestic and international dynamics. On the one hand, to support its 4 trillion Yuan stimulus package, the central state made a radical credit expansion and loosened the financial constraints on local governments (Wang, 2015; Wu, 2021). On the other, the quantitative easing policy, adopted by major developed countries, inflated energy and raw materials costs and decreased the profitability of export-oriented, low-value-added manufacturing in China and other emerging economies (Wen et al., 2016).

Taking office in 2012, the Xi–Li administration inherited the SEIs and their funding scheme and ramped up the techno-nationalist turn with new campaigns like “Made in China 2025”, “Internet Plus”, and “Mass Entrepreneurship and Innovation”. The Third Plenum of the Eighteenth Central Committee in 2013 was perhaps the defining moment in NWSS evolution. The meeting presented a blueprint for China’s economic restructuring, strengthening both party–state leadership and market forces, and officially endorsing four of the five key features of NWSS identified in this article (CCCPC, 2013).

The Third Plenum reintroduced “mixed-ownership reform” (MOR) and encouraged “cross-shareholding of state, collective, and non-public capital”. MOR aimed to use state capital to upgrade private industrial firms, improve SOE efficiency and guide private capital into SEIs (Chen and Rithmire, 2020). It also greatly expanded the GGF—a 1990s initiative to direct

government funds to “key and emerging areas of economic and social development” (Pan et al., 2021: 8). After 2013, increasing numbers of GGFs were created to invest in SEIs. Guided by the government and managed by professional investment companies, these new GGFs would serve as the patient capital missing before 2008. Like venture capital, they would invest mainly in early and mid-stage high-tech enterprises. Among the largest GGFs, the National Integrated Circuit Industry Investment Fund (aka the Big Fund, *dajijin*) was created in 2014 to invest in the semiconductor industry. Phase-1 (2014) and phase-2 (2019) of the Big Fund have already injected 212.9 billion Yuan into that industry (Tianyancha, 2020).

The Third Plenum also sanctioned LGFV. In the 1980s–1990s, as the central government cut budgets and subcontracted central directives to local governments, local trusts and investment companies were set up to raise private funds from domestic and overseas investors to upgrade infrastructure (Shih, 2010: 26). Many companies overborrowed. By the late 1990s, the central government closed them down. However, in 2009, the central government relaxed control of the LGFVs to help local governments implement its stimulus plan. Since then, they have helped local governments fund indigenous innovation (Chen, 2018).

Finally, the meeting re-emphasized “international economic cooperation” and encouraged Chinese companies to “bring in (foreign capital and technology) and go out (to access foreign markets and assets)” (CCCPC, 2013). China’s central government encouraged domestic companies to “go out” since the mid-1990s, but the outward surge of foreign direct investment (FDI) did not occur until the mid-2000s (Zhu and Pickles, 2014). One of the biggest global overseas investors by 2013, China’s “go out” policy evolved into its Belt and Road Initiative.

Under Xi–Li, the expanded NWSS and the party–state’s role in the national economy have zig-zagged amid domestic and external contestation and pressure. This contestation was captured by the widely publicized 2016 debate over industrial policy between two renowned economists (Justin) Lin Yifu and Zhang Weiyang (Lin and Zhang, 2016). While Lin supported an industrial policy based on his New Structural Economics, Zhang strongly opposed state intervention in the market, citing Hayek and Mises. That both scholars won numerous supporters in policymaking circles and beyond underscores the controversies surrounding NWSS at the time. Hindsight shows that the debate occurred at a crucial moment of transition and further legitimized NWSS.

The equity market bubble burst in the summer of 2015. Among other things, it triggered a backlash against economic policies championed by Premier Li Keqiang, especially financial liberalization. Later that year, at the Fifth Plenum of the Eighteenth Central Committee, President Xi’s speech cited NWSS as a model guiding SEI implementation: this was written into the Thirteenth Five-Year Plan (2016–2020) (Xinhua, 2016). In October 2016, Xi held the National Meeting on Party Building in SOEs. There, he expressed the party’s determination to “make SOEs stronger, better, and bigger” at a starting point for the reconsolidation of party–state leadership in SOEs (SASAC, 2021). These meetings, and ensuing implementation of “supply-side reform” under Xi’s auspices, stirred up widespread anxiety that as “the state advances, the private retreats (*guojin mintui*)”.

The US–China trade war, launched in 2018, and US sanctions against Chinese tech companies silenced most pro-market, anti-state voices in China. NWSS gained unprecedented legitimacy and indigenous innovation heightened urgency. In 2019, the number of articles in our database search mentioning NWSS increased from 71 to 250 (Figure 1). NWSS was featured in President Xi’s report to the Fourth Plenum of the Nineteenth Central Committee, the Fourteenth Five-Year Plan (2021–2025), and Long-Range Objectives to the Year 2035 (CCCPC, 2019).

Since late 2019, the muscular expansion of state power has been evident in new antitrust investigations and regulations, notably targeting relatively unregulated internet industries and afterschool education. Although their rationale and effectiveness are questioned by scholars inside and outside China, they are considered long overdue, at least in the internet industry (Naughton, 2021; Zhang,

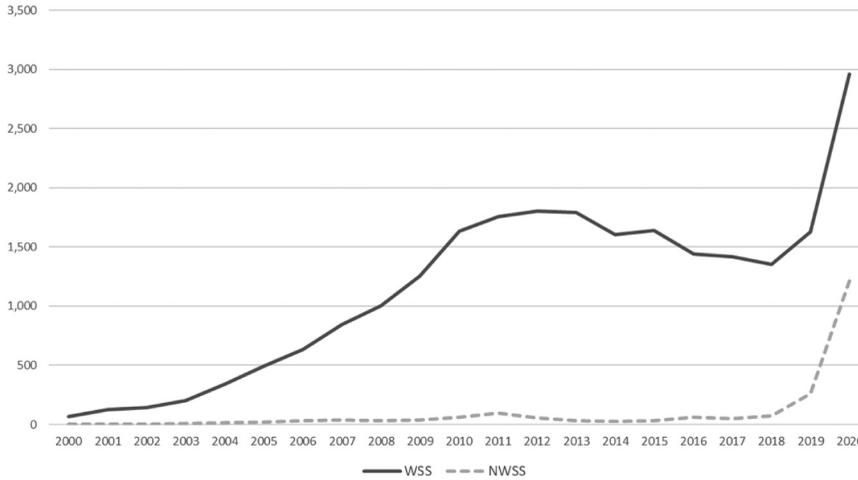


Figure 1. Number of publications in Major Chinese newspapers and academic journals mentioning “WSS” and “NWSS” alongside “technology” (*jishu*) or “science and technology” (*keji*).

Note: The “science and technology” mentioned by articles before 2006 mostly referred to sports science.

Source: Author’s own compilation of data from CNKI.

2021b). Rather than reflecting a drastic shift, these moves continue the recentralization trend dating back to the mid-2000s and are consistent with NWSS’s principle of using state power to create and mobilize market forces to advance strategic technologies. For example, new regulations targeting Big Tech prompted internet giants like Alibaba and Tencent to invest in strategic sectors like semiconductors and electric vehicles. The central state has also let the market play a bigger role in SEIs, as we will show with the case of Unigroup’s (a Tsinghua enterprise) bankruptcy. The Biden administration’s continued hardline stance towards China, especially its expanded sanctions against Chinese tech companies, has fueled nationalist sentiments and enhanced popular support for NWSS.

Yet, despite its prominence and legitimacy, NWSS’s scope and meaning remain contested in the early 2020s. Policy experiments under its auspices have had mixed outcomes and new circumstances prompt constant revision. Echoing Anglophone geo-imaginaries of economic and political antagonism and Western liberal democracy’s unquestionable superiority, some Chinese scholars emphasize NWSS’s genesis in Chinese socialist experience as an “institutional advantage” of PRC’s political system (*zhidu youshi*) and advocate for its widespread implementation in many other economic sectors (Liu et al., 2021). In a less ideological approach, others suggest that NWSS is only applicable to certain strategic industries. They argue that WSS was not unique to China, but widely adopted by developed economies historically, including the United States (Lu and He, 2021). One consensus is that, unlike OWSS, where top-down administrative orders prioritized the defense industry under a planned economy, NWSS must work with bottom-up market forces and financially incentivize enterprises to become primary innovators (Chinese Academy of Governance, 2020; Lu and He, 2021; Xie and Hu, 2021). The NWSS must ensure national security, but also create firms capable of succeeding in global markets.

So far, we have examined NWSS as a locally situated, state-capital hybrid responding to specific global economic and geopolitical challenges resulting from subcontracting and decentralization problems. NWSS’s constructed and contested nature revealed the heterogeneity of state capitalism to be a product of combined and uneven global development and the Chinese state’s zigzag path of

expansion since the mid-2000s. In what follows, we deepen our exploration of the NWSS assemblage by substantiating its historical evolution at the institutional level via the case of Tsinghua enterprises.

We analyze the five policy initiatives that actualize NWSS ideas: MOR, GGF, LGFV, the “go out” policy, and reconsolidation of CPC power in state and parastate firms. Together they shape emerging institutions in China’s state-led financialization of innovation and constitute fusion between state and non-state capital. We do not mean that these are NWSS’s only policy components, nor do we think they are completely new. The five features stand out, we argue, because they embody persistent tensions within NWSS between the previous subcontracting system and renewed central–state leadership, and between China’s own development plan and foreign geopolitical pressures (Table 1). By investigating how constant interaction between global pressures and China’s institutional path dependence have shaped the unfolding of policy initiatives and trajectory of specific firms, we further debunk dichotomous thinking and deconstruct the geo-imaginaries currently dominating Anglophone discussion of state capitalism.

A case study of Tsinghua enterprises

Compared to other SOEs, Tsinghua enterprises stand out for their central, evolving roles in both the old and the new WSS. A key player in the OWSS in the 1950s–1970s, Tsinghua was a cradle for China’s “red engineers” (Andreas, 2009). Its researchers and labs helped develop the nuclear and space programs. As OWSS was gradually subsumed by the market-driven subcontracting system in the 1980s–1990s, Tsinghua enterprises became profit-driven university subcontractors. However, export-oriented marketization and profit incentives sidetracked technological innovation. After

Table 1. From OWSS to NWSS.

| | OWSS (1950s–1970s) | Transitional period (1980s–early 2000s) | NWSS (mid 2000s–present) |
|---------------------------|---|---|--|
| Main Goal | Concentrate resources to run key projects | Generate profits and promote innovation | Concentrate resources to develop key industries |
| Governance Structure | More centralized | More decentralized | Intermediate level of centralization |
| Geopolitical Conditions | Cold War and Sino-Soviet Split | The US–China collaboration and “Chimerica” | US–China trade and technology war |
| New Policy Tools | Central Special Committee, State Planning Commission, party branches, and mass mobilization campaigns | University spin-offs, shareholder reform, stock market, and local government land finance | Mixed-ownership reform (MOR), Government Guidance Funds (GGF), local government financing vehicles (LGFV), “go out” policy, and reconsolidation of the party’s power |
| Level of Financialization | Low | Medium | High |
| Notable Examples | Nuclear and space programs | Tsinghua enterprise businesses in the real estate sector | Tsinghua enterprise businesses in the semiconductor industry |

OWSS: Old Whole New State System; NWSS: New Whole State System.

the mid-2000s, as central state priorities shifted to technological independence, Tsinghua enterprises re-emerged as key SOEs promoting indigenous innovation and providing experimental sites for NWSS. In examining Tsinghua enterprises' recent expansion in the semiconductor industry, we gain important insights and perspectives on the reconfiguration of China's innovation system and NWSS's overall performance after 2008.

From egalitarian workshops to profit-driven subcontractors, then to NWSS agents

Tsinghua's prestige stems from its scientific and engineering expertise and from the university's influential alumni network, which includes President Xi and several past and current members of the Politburo. Tsinghua is one of the best universities in China. Founded in 1911 with Boxer Indemnity funds returned by the US, Tsinghua prepared students for studying in American universities (Hsu, 2017: 47). In 1952, the CPC restructured Tsinghua as a polytechnical industrial university and training ground for "red engineers" (Andreas, 2009: 42). Building on earlier nationalist and developmental traditions, CPC's egalitarian vision transformed Tsinghua into a pioneering experimental site for socialist industrialization. The earliest of Tsinghua's 61 enterprises were mostly small factories and workshops born out of decentralization during the Great Leap Forward (GLF) (1958–1960). The university aimed to dismantle Soviet-style divisions between universities, research institutions, and factories, and integrate teaching, research, and production on one site (Andreas, 2009: 53). Following recentralization after the failure of the GLF, some factories, "including an experimental nuclear reactor and factories that produced advanced machine tools, industrial equipment, and computers," were retained and incorporated into the OWSS as training sites for scientists and engineers (Andreas, 2009: 55).

As the central state emerged from social disorder and financial hardship in the 1980s, opening-up reforms downplayed socialist class politics and aimed to reintegrate China into global capitalism through gradualist market reforms. This changed the state's relationship with public universities. In 1985, the Central Committee resolved on a "structural reform of the education system" (CCCPC, 1985), which reduced state funding for higher education and encouraged universities to seek new revenue to support teaching and research. The new subcontracting regimen gave Tsinghua enterprises more autonomy. They became active in the nascent market economy. Just as provincial governments subcontracted tax revenue quotas to lower-level governments (Oi, 1992; Walder, 1995), universities assigned revenue quotas to their enterprises, making them second-order subcontractors. Inspired by Silicon Valley's model of public-private partnership and entrepreneurship, China encouraged the commercialization of lab research and construction of "high-tech zones" to facilitate technology transfer (Heilmann et al., 2013). Budget pressure and new commercial opportunities pushed many university departments and professors to found spinoff companies. Between 1986 and 1994, Tsinghua enterprises bloomed from nine to 164 subsidiaries, making it China's most entrepreneurial university (Zhang, 2014: 4).

At that time, technological accumulation from the state-socialist era and lack of international competition—resulting from China's nascent role in GPN—made some Tsinghua enterprises highly competitive in domestic markets (Wu and Zhou, 2012: 816). Their expansion accelerated in the 1990s with deepening marketization, following Deng Xiaoping's famous "Southern Tour" in 1992 and adoption of GDP-driven promotion tournaments for local officials and SOE management. The State Council endorsed Tsinghua's spin-offs in 1991 and 1993 as a model to "expedite the reform and development of higher education" (Xue, 2006: 20).

As the size and number of Tsinghua enterprises ballooned, the fuzzy boundary between public universities and profit-driven enterprises increasingly concerned state regulators. In the early years, not only did faculty and staff take positions in companies while maintaining their university posts, shares in these enterprises were vaguely defined. Ill-defined relationships between the university

and its enterprises led to disputes, mismanagement, loss of state assets, and corruption. The central state responded by promulgating a series of reforms (*xiaoqi gaige*) with Tsinghua as an early experimental site. It aimed to formalize shareholding in university enterprises and prevent faculty and university administrators from becoming directly involved in everyday business activities (State Council, 2001).

Guided by the State Council, Tsinghua consolidated its 164 enterprises into several limited liability corporations in the early 1990s (Xin Qinghua, 1995). The three biggest corporations—Tsinghua Unisplendour (later Unigroup), Tsinghua Tongfang, and TusPark (later TusHoldings)—were founded via mergers of smaller Tsinghua enterprises. In 1994, Tsinghua Enterprise Corporation (TEC) was established to manage Tsinghua's assets and the equity in Tsinghua enterprises (Xin Qinghua, 1995). Not until 2003, after intense pressure from the central state, were internal obstacles overcome and academic departments and university employees deprived of control over the companies. All shares were consolidated in Tsinghua Holdings, which replaced TEC. Yet, even after establishing the holding company, we found that the boundary between the university and Tsinghua enterprises remains fuzzy.

Despite its protracted path, shareholder reform spearheaded by central state efforts to restructure its financial sector unleashed rapid financialization in Tsinghua enterprises after the mid-1990s (Wang, 2015). One strategy leveraged Tsinghua's brand and elite alumni network to go public, sometimes via a backdoor listing through the acquisition of a failing publicly traded company. Another turned quick profits in the real estate sector. TusPark was established in 1994 as the Tsinghua Science Park Development Center by a group of professors and administrators to construct, develop, and manage high-tech zones, a product of Beijing's government-led "land enclosure fever" (*quandire*) in the 1990s (Ling, 2011). Despite its mission of developing science parks and high-tech experimental zones to promote technological innovation, local government and university "land finance" logic prioritized GDP/revenue growth and redirected resources towards real estate speculation (Heilmann et al., 2013; Pan et al., 2017; Shih, 2010).

After years of underinvestment in R&D, Tsinghua enterprises lost market share following China's entry into the World Trade Organization (WTO) in 2001, and multinational corporations (MNC) made fierce inroads into the Chinese market (Wu and Zhou, 2012: 820). To mitigate its traditional business losses, Tsinghua enterprises became more involved in real estate (Guo and Ouyang, 2005: 40). By the mid-2000s, many TusPark tenants were MNCs and established domestic companies outside the high-tech sector that, unlike small tech startups, could afford rents in the coveted Western Zhongguancun area (Guo and Ouyang, 2005: 43). Tsinghua enterprises could reap handsome profits from real estate: investing in indigenous innovation made little economic sense.

Since the 1960s, Tsinghua enterprises have transformed from socialist OWSS training sites and agents to semi-autonomous market subcontractors for the central state. Paralleling OWSS's decline and gradual replacement by the market-driven subcontracting system, Tsinghua enterprises' post-Mao reform, as with many other high-tech SOEs, produced mixed outcomes. In the central state's original design, Tsinghua enterprises should generate profits, facilitate higher education, and promote innovation. In reality, they generally succeeded in the first, partially accomplished the second, but did little to further the third goal. NWSS emerged in the late 2000s amid technological dependency, financialization, and rampant rent-seeking, as the central state experimented with new financial tools and market-driven mechanisms to incentivize subcontractors like Tsinghua enterprises to promote indigenous innovation and become more competitive in global markets. Political tools that were common under OWSS—CPC leadership in enterprises and anti-corruption campaigns—have been reinvented to curb problems plaguing the subcontracting model. The intention is to achieve a better balance between centralization and decentralization. Grouped as follows, these new and old tools make the NWSS a bricolage of long-term planning, short-term initiative, and occasional last-minute turnarounds.

Mixed-ownership reform

MOR introduced private capital into SOEs to improve their efficiency. Tsinghua enterprises pioneered this practice. Both Unigroup and TusPark were partially privatized post-2008. In 2009, Zhao Weiguo was appointed general manager of Unigroup (Pan, 2015). A Tsinghua alumnus, Zhao amassed enormous personal wealth through real estate development in the early 2000s. Through MOR, Zhao's private company became Unigroup's second largest shareholder, with 35% of its total shares (Tianyancha, 2020). In 2012, Wang Jiwu, another Tsinghua alumnus, became CEO of TusHoldings. Wang was also a successful property developer who made a fortune in the 2000s' housing bubble. In 2013, Wang's personal company acquired 30% of TusHoldings' shares, second only to Tsinghua Holdings (Tianyancha, 2020). Via MOR, Tsinghua University intended to withdraw from daily management of Tsinghua enterprises and let private parties optimize state assets.

To some extent, private capital helped Tsinghua enterprises advance indigenous innovation. Trained at Tsinghua as an electronic engineer, Zhao made the semiconductor industry Unigroup's focus after 2011 (Hu et al., 2014). Using loans and Zhao's personal capital, Unigroup bought Spreadtrum Communications and RDA Microelectronics in 2013, both founded by Tsinghua alumni and listed on NASDAQ (Tianyancha, 2020). Soon after, the two companies merged as UNISOC, now a leading global communication IC designer (Tianyancha, 2020). Other successful examples include Unigroup's Yangtze Memory Technology Corp (YMTC) and TusHoldings-held GigaDevice Semiconductors. These Tsinghua enterprises gained R&D capacity via acquisition of and investment in capable companies.

Yet, MOR's partial privatization of university-owned companies attracted criticism. Between 2009 and 2010, smaller shareholders reported to state regulators that Unigroup sold state shares to Zhao at lower-than-market prices (Tan and Yue, 2016). The two CEOs' real estate background also raised eyebrows. Both Unigroup and TusHoldings had ridden the post-2008 housing bubble via more aggressive expansion into business real estate (Zhang, 2014). While occasionally boosting indigenous innovation, Tsinghua enterprise's real estate projects also perpetuated rent-seeking and local government land financing practices.

Closely related to MOR is the continuation of university enterprise reform. Establishing Tsinghua Holdings in 2003 clearly defined Tsinghua enterprises' shareholding structure, but it did not fully address potential moral hazards. Nor did it strip away Tsinghua's control of its for-profit businesses. After partial privatization in the late 2000s, Tsinghua's administration still maintained strong influence over its enterprises. These connections, critics pointed out, undermined business performance (Quan, 2019). Thus, in 2018, the State Council (2018) renewed its call to limit connections between Tsinghua University and its enterprises, urging the sale of shares to SASAC or other SOEs. Yet in 2018 and 2019, when Tsinghua tried to sell shares in Unigroup and TusHoldings to prefectural LGFVs in Shenzhen and Hefei, the central SASAC thwarted the deal (Quan, 2019). These moves provoked much speculation. Perhaps selling shares to local LGFVs would have damaged Tsinghua enterprises' prominence in high-tech industries. Perhaps Zhao and Wang would have become the largest shareholders, practically privatizing both enterprises. While these speculations cannot be substantiated, they signaled continued tensions between Tsinghua's interests and those of the central state.

Government guidance funds

Tsinghua enterprises play a triple role in the Big Funds, one of the GGFs designed to be "patient capital" for developing the semiconductor industry. Unigroup has invested 100 million Yuan in each development phase (Tianyancha, 2020), and is also a *de facto* manager of the Big Funds.

YMTC's vice president, Ding Wenwu, serves as CEO of both Big Fund Phases (Tianyancha, 2020). Tsinghua enterprises are also the largest recipient of Big Fund investments. Phase-1 invested 14 billion Yuan and held 49% of YMTC shares, while Phase-2 invested 189 million Yuan and held 15% of UNISOC shares (Tianyancha, 2020). Tsinghua's academic reputation and powerful alumni network were central to earning trust from state-backed investors.

GGFs have made several promising beginnings. With investment from the Big Fund, Unigroup's UNISOC, and YMTC and TusHoldings' GigaDevice have become contenders in their own niche markets. The founder of an IC design startup, funded by a Tsinghua firm and the Big Funds, evaluated the impact of GGFs (8 October 2018 in Beijing):

The business environment in China's semiconductor industry has completely changed in the last four years or so. In the past, people like me seldom risked our career in giving up their job to start a company in China, because very few investment firms would invest in such a high-risk and capital-intensive industry. Capital was more interested in making quick money in real estate or internet companies. Only thanks to government funds like GGFs, startups like ours can survive and maybe thrive.

However, GGFs have attracted few private investors (Pan et al., 2021). In both Big Fund phases, private firms accounted for less than 1% of total shares (Tianyancha, 2020). For private capital, SEIs like the semiconductor industry are still too risky even with generous government support. This has become a critical problem. GGF alone is insufficient for semiconductor manufacturing, which often requires substantial long-term fixed investment. Several of Unigroup's early and mid-stage IC companies had to turn to international creditors to sustain operation before turning a sustainable profit. For a while, Unigroup's parastate background and alleged endorsement from President Xi generated high credit ratings (Shen and Wilkins, 2020). However, Unigroup became less prudent in managing financial risks in these short-term corporate bonds. In November 2020, Unigroup shocked the market by announcing that it might default on a \$197-million dollar bond. Despite initial speculation that these debts might be settled by state banks, the state refused to bailout Unigroup. The company went bankrupt in July 2021. After two rounds of fierce bidding wars, a consortium of two venture capital firms—one central-state-owned and one privately owned by Tsinghua alumni—triumphed over other contenders to take over Unigroup (Zhang, 2021c). Unigroup's fall evinces inherent tensions between centralization and subcontracting within NWSS, and between the state's extra-economic responsibilities and market's profit-maximization logic. Learning from such failures, the Big Fund has started to sell off shares in many semiconductor companies and, by so doing, push them towards more market accountability (Xinhua 2021).

Local government financing vehicles

Since 2013, LGFVs have been major platforms where local governments could raise funds for industrial upgrading. However, little experience with technological innovation and considerable local government debt made it difficult for most LGFVs to break from land finance (Pan et al., 2017; Shih, 2010). Tsinghua enterprises' solid academic reputation and experience in technology services presented LGFVs with an ideal partnership for advancing indigenous innovation capacity according to the central state's new priority. Nevertheless, outcomes of such ventures varied depending on the local government's path dependency and geographic location (Chen, 2018).

In some cases, Tsinghua enterprise-LGFV partnerships created concrete projects for enhancing indigenous innovation. In Wuhan, capital of Hubei Province, local universities are strong and city government has aggressively sought industrial upgrading since 2008. Unigroup and Wuhan's

LGFV built sizable real estate holdings and founded YMTC's main campus. YMTC's rise in the Solid State Drive market partly depended on this LGFV's patient financial support. But elsewhere, Tsinghua's business strategies differ little from the 1990s: building science parks and incubators and profiting from selling or leasing properties. In Yichang, another Hubei prefecture with a weak local economy and small talent pool, TusPark-Yichang was a large residential complex filled with empty incubators. Elsewhere, a Tsinghua enterprise employee explained how different fortunes of local governments reflect continued tension between central and local initiatives:

Local states like the Beijing municipal government have fared very well in meeting the central state's goal for economic restructuring to prioritize indigenous innovation. They could count on universities like Tsinghua and Peking to provide talents and resources. But for local governments in inland provinces, this task is more difficult. Since some of them have borrowed too much (in terms of leverage ratio), long-term investments (in the high-tech sector) cannot generate enough quick profits to pay back the loans. That's why many of them continue to rely on making "quick money" in land finance.

The "go out" policy

As an important agent of NWSS, Tsinghua enterprises have leveraged its transnational alumni network and parastate background in substantial efforts to expand internationally. But escalating geopolitical tensions between the US and China made parastate status a liability. In 2015, Unigroup planned to acquire shares in US-based Western Digital and Micron, but the American companies turned down the offers because they would not have been approved by the US Committee on Foreign Investments (CFIUS) due to national security concerns (Baker and Roumeliotis, 2015). That same year, Unigroup's acquisition of shares in MediaTek and TSMC was rejected by the Taiwanese companies over geopolitical concerns (Sun, 2015). Why Unigroup made such politically unrealistic offers is unknown, but a Tsinghua employee offered a possible explanation: "it is rumored that Zhao (Weiguo) used such deals to increase his company's publicity, which at that time was little known in the highly competitive semiconductor industry" (9 April 2021 via Zoom).

Nevertheless, Tsinghua enterprises benefitted from these international efforts. In 2014, partially to compete with Qualcomm, Intel acquired 13% of UNISOC for US\$1.5 billion, making the Chinese company its main partner and communication chipset supplier (Tianyancha, 2020). After its failed acquisition attempt in 2016, Unigroup and Western Digital launched a joint venture in IC design, Unis WDC (Tianyancha, 2020). Many overseas incubators and collaborative relationships established with foreign universities and research institutions helped TusHoldings screen and cultivate startups founded by overseas returnees.

Mixed results from the "go out" strategy betray a major dilemma: geopolitical tensions. NWSS's central goal is to upgrade Chinese companies in GPN and make China technologically independent. Compared with South Korean and Taiwanese companies that upgraded their semiconductor industries in the 1990s and 2000s, Tsinghua enterprises faced more barriers due to China's geopolitical position vis-a-vis the United States (Yeung, 2017). Tsinghua's aggressive overtures inevitably fueled regulators' suspicions in the United States and among its allies. As a result, New H3C Semiconductor Technologies, a Unigroup subsidiary specializing in cloud computing, was added to the US Department of Commerce's Entity List in November 2021, blocking its access to American technologies.

(Re)consolidation of party-state's leadership

While many scholars have noted the party-state's (re)consolidation of business leadership since 2016 (Economy, 2018; Pearson et al., 2020), few acknowledged the conditions that made central

state intervention imperative, which we have presented. Tsinghua enterprises exemplify why re-regulation emerged. Despite high-profile subsidiaries like YMTC, Tsinghua enterprises' overall performance was mediocre. Since their rapid expansion was based on aggressive acquisitions and restructuring existing companies, how much Tsinghua enterprises improved the R&D capacity of China's semiconductor industry cannot be determined. For acquisitions mostly funded by the Big Fund and short-term corporate bonds, long-term sustainability remains questionable. Dubious privatization processes and problematic dealings with local governments also incur public criticism. In this context, reintegrating the party–state in Tsinghua enterprises should be viewed as another NWSS toolkit for managing new (and old) risks, responding to public criticisms, and making the businesses more sensitive to state interests.

A year after President Xi's meeting on party building, the Central Commission for Discipline Inspection (CCDI) sent inspectors to Tsinghua University. They identified weak party leadership, reckless expansion, and potential corruption in affiliate transactions as crucial problems in Tsinghua enterprises (CCDI, 2017). Tsinghua Holdings restructured its management in 2018. Unigroup's Zhao and TusHolding's Wang both stepped down from Tsinghua Holdings' board of directors, and were replaced by Unigroup's secretary of the general party branch (*dangzongzhi*) and TusHolding's secretary of the party committee (*dangwei*). In 2020, Unigroup's general party branch upgraded to the party committee, significantly enhancing the power of party leadership in the company.³

New party leadership likely impacted Tsinghua enterprises' business decisions. In 2019, TusHoldings announced that it would invest 3–5 billion Yuan in Xiong'an New Area (*People's Daily*, 2019), a new city southwest of Beijing that President Xi proclaimed a “millennium strategy” (*qiannian daji*) advancing the party's developmental-social-national ideal (Xinhua, 2019). During Unigroup's restructuring, Tsinghua Holdings sent its party-secretary-cum-board chairman to oversee the restructuring process. However, potential tensions between central state priorities and SOE interests persist, as one Tsinghua enterprise employee indicated:

The regulations require management to be fully responsible for the company's performance. The regulations also require management to listen to the party committee. Ideally, if the management and party committee consist of the same people, this may work fine. But what if they are not the same people? If the company loses money, who is going to take the ultimate responsibility? The party committee or management? (Figure 2)

NWSS evolution over the past decade must be understood as a tug-of-war between centralization and decentralization of the state governance structure as it responds to spatiotemporally specific challenges within China and globally. The central state wants to mobilize market forces, incentivizing Tsinghua enterprises and local governments to promote indigenous innovation through innovative financialized programs like MOR, GGFI, LGFV, and the “go out” policies. With these tools, state-led financialization and state-capital hybrids have become the backbone of China's innovation system. Additionally, the central state intends to reconsolidate power in Tsinghua enterprises to curb problems associated with the decentralized subcontracting system in the 1980s–1990s—rent-seeking, financial speculation, and personal profiteering. To do so, the central state has tried to strengthen party leadership and increase supervision over the enterprises. Hence, the zigzag trajectory of reform and policy initiatives since the mid-2000s was produced in search of the optimal point at which enterprises are effectively motivated, but closely disciplined by the central state to affect China's technological independence. Weakened demand for low-value manufactured goods in Euro-American markets since the Great Recession and intensified geopolitical conflicts since the US–China trade war fueled China's urgent desire for indigenous innovation and confidence in NWSS.

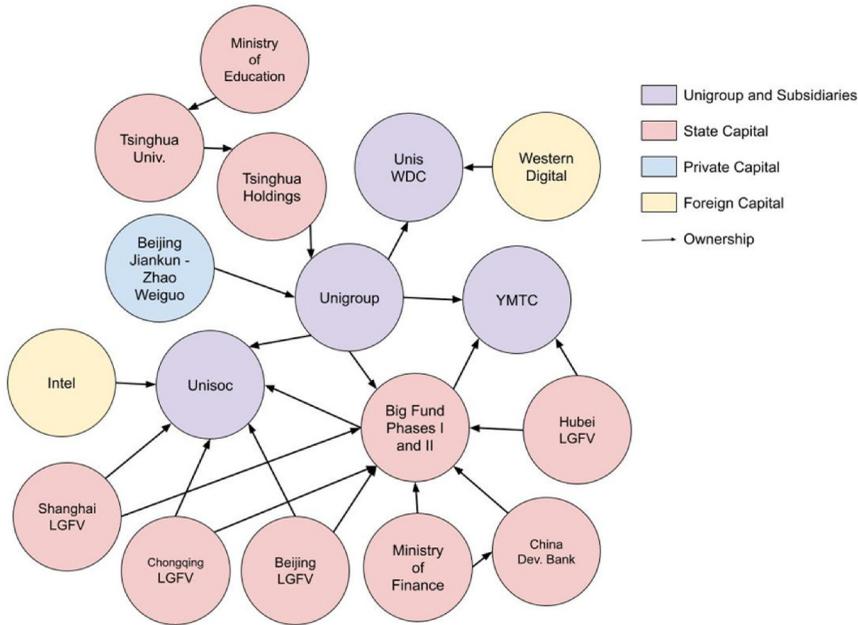


Figure 2. Simplified business network around Unigroup by November 2021.
Source: Tianyancha.

Conclusion

This article analyzes NWSS as an evolving and contested assemblage of ideas, policies, and practices in relation to the experiences of Tsinghua enterprises. Joining the recent literature in geography and cognate disciplines (Alami and Dixon, 2021; Nölke et al., 2021; Peck, 2021; ten Brink, 2019), it problematizes dichotomies underlying the dominant geo-categorization of state capitalism (e.g. state vs. market, East vs. West, and old vs. new), and brings Chinese debates and practices of state capitalism into dialogue with debates in the Euro-American world. In both the OWSS and NWSS eras, the Chinese state, reacting to economic and geopolitical pressures from foreign countries, attempted to graft a centralized innovation system onto previously existing decentralized governance structures, concentrating resources to promote a select number of strategic industries. Unlike OWSS, NWSS relies on new policy tools characterized by state-led financialization and state-private fusion.

Seeing state capitalism as locally constructed and historically contingent, we combine discursive, policy, and firm-level industry analyses, and treat China as an active agent engaged in global debates about, and in contested experiments with expanding the state's role in the economy. By foregrounding a non-Western country/region's perceptions of its own global interactions, struggles to overcome uneven development and path dependency, we propose an alternative approach that contributes both theoretically and methodologically to the epistemologically Euro-American-centric literature of state capitalism.

From a comparative perspective, many policy tools in China's NWSS are not unique to China. Historically, early industrialized countries and East Asia's developmental states used similar tools, including university spin-offs (e.g. MIT and Stanford), local government-funded high-tech zones (e.g. Research Triangle Park and Hsinchu Science Park), and state-led venture capital (e.g.

DARPA and In-Q-Tel) to promote indigenous innovation. These tools inspired China's effort to construct NWSS (Lu and He, 2021; Zhou et al., 2016). Since China's aspiration for indigenous innovation was driven, in part, by national security, its innovation strategy resembles that of the United States more than strategies of East Asian developmental states like South Korea (Weiss and Thurbon, 2021: 480). Indeed, some scholars cited similarities between the two countries and explicitly suggested that, in constructing NWSS, the Chinese government should learn from the United States (Lu and He, 2021).

Yet, the conditions shaping China's NWSS, if not unique, would be hard to replicate. China's historical experiences with the OWSS and its one-party system endow the central state with ample power and legitimacy to defy domestic resistance and concentrate resources on promoting technological independence. The sheer size of China's economy, territory, and population allows the state to experiment with multiple policy tools simultaneously. Not every government could or would promote indigenous innovation in a similar manner.

The evolution of NWSS over the past decade suggests rethinking the expansion of state capitalism in China not as a product of culturally determined characteristics (e.g. Eastern authoritarianism) nor of idiosyncratic leadership style (e.g. Xi Jinping), but rather as a part of the concurrent worldwide expansion of forms of state capitalism at this particular moment. That is, NWSS resulted from interactions between locally situated problems of the post-reform subcontracting system and specific challenges faced by emerging economies like China in consequence of the protracted global economic crisis. The challenges include not only technological dependency and declining growth rates resulting from the overproduction and under consumption of tangible goods, but also overflows of financial capital and growing financial risks caused by credit expansion of the Chinese state and the postcrisis quantitative easing of major developed economies (Wang, 2015; Wen et al., 2016; Wu, 2021). The long crisis beginning in 2008 was never really resolved, but has deepened since 2018 due to the trade war and the global COVID-19 pandemic.

NWSS has helped the Chinese state direct excess liquidity into indigenous innovation and customizes financial tools to incentivize upgrading domestic technology. So far, however, expanding state-led financialization and the rise of new state-capital hybrids have not effectively resolved discrepancies between the central state's long-term priorities and local governments and SOEs' short-term interests. Massive investments of state capital have generated new financial risks and moral hazards.

Amplification of state power also intensified geopolitical confrontations between China and the United States, creating new barriers for enhancing China's industrial capacity. The Cold War legacy means that China has not enjoyed the favorable geopolitical environment of "Asian tigers" (Yeung, 2017). Neither does China have similar cultural and racial links with the United States, the world's current superpower, such as the United States had with Britain when it was emerging. With intensifying US sanctions, China's pursuit of technological independence is more urgent and challenging than in most other countries.

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Notes

1. Instead, the Communist Party insists that it has passed the stage of state capitalism. In 1957 before nationalization of private firms was completed, Chairman Mao (1977: 88) officially declared China to be a “new type of state capitalism” which he believed would soon transition into socialism.
2. *People's Daily* archive, CNKI, Xinqinghua, and policy documents.
3. According to the CPC's organizational regulations, corporations with over 100 party members must set up a party committee (*dangwei*), and those with 50–100 members must have a general party branch (*dang-zongzhi*) (CCCPC, 2020). In SOEs, the former has the power to make most important decisions before involving the board of directors, including acquiring assets and hiring senior managers. The latter has no such power and plays an auxiliary role in the company. This rule was not strictly enforced in Tsinghua enterprises until 2016.

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