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Cultivating China's fintech ecosystem: the visible hand of the state

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ABSTRACT

We investigate the role of open system intermediaries (OSIs), including incubators, accelerators and science parks, in the effort of the Chinese state to harness the innovative potential of fintech ventures. We conducted 50 semi-structured interviews and documented how the Chinese state uses OSIs to support strategically important financial services firms in nurturing cohorts of fintech ventures. This consequently gives rise to a tech-for-fin ecosystem, where innovative fintech ventures are moulded into becoming technology providers for financial services incumbents, while those wishing to fundamentally disrupt the established financial order are excluded from the various support mechanisms provided through OSIs.

KEYWORDS

fintech; fin–tech–state triangle; open system intermediaries; entrepreneurial ecosystem; incubator; accelerator; science park

JEL G20, G24, L26, O30

HISTORY Received 12 November 2021; in revised form 28 September 2023

1. INTRODUCTION

China's fintech[1] ecosystem has experienced an explosive growth since 2013, enabled by a substantial unmet demand for retail and small and medium-sized enterprise (SME) lending, the growth of China's middle-class consumerism, the rise of e-commerce, a high degree of digital connectivity, as well as permissive regulation and public policy supportive of fintech (Chen, 2016; Chen & Hassink, 2022). The initial rapid growth in the number of fintech ventures has come to a screeching halt in 2017 when it became apparent that the majority of China's peer-to-peer lending platforms were in effect digitised Ponzi schemes, resulting in widespread bankruptcies and loss of investor funds (Gruin & Knaack, 2020). China's fintech has been described as world leading (Classens et al., 2018) and peripheral (Findexable, 2019) at the same time. China hosts the world's largest market for online lending and is a leading source of fintech innovation (Classens et al., 2018). Its fintech landscape is, however, heavily concentrated among national big tech champions and offers a more constrained institutional environment than many other countries (Findexable, 2019).

As a direct consequence of China's *internet finance* fiasco, the Chinese state swiftly changed its role from being a tolerant observer to taking a much more proactive approach (Classens et al., 2018). Chinese government's primary objectives – economic development and the Chinese Communist Party's (CCP) control – have become instrumental in crafting a vision for China's financial system. Chinese government has recognised the importance of fintech for reforming China's archaic financial system dominated by large state-owned commercial banks (SOCBs) and how it can help to deliver economic growth through financial inclusion (Chen, 2016; Gruin & Knaack, 2020). '[A]lthough China's banks have a massive 228,348 branch network, their footprint still does not cover 225 millions of China's adult population, leaving some individuals and SMEs completely unbanked … 14% of China's SMEs have access to loans' (Kapronasia & Ant Financial, 2020, p. 11). Concurrently, the Chinese state has identified the potential of fintech innovations to extend its control over financial and economic data, thus enabling it to employ *algorithmic governance* (Gruin, 2019) as part of its social management toolkit. This is operationalised by using data and analytical tools

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developed by innovative e-commerce firms and fintech ventures to evaluate individual citizens at a scale, pace and in detail never seen before. Perhaps the most notable initiative of this type is the *social credit scoring* system in China, which measures trustworthiness of individual citizens using financial and non-financial big data (Creemers, 2017; Gruin, 2019).

To achieve its objectives of transforming China's financial system, the Chinese state requires both the innovative drive of fintech start-ups and scale-ups (fintech ventures) as well as the buy-in of financial services incumbents. Innovative potential of fintech ventures could be harnessed through strategic coupling with financial services incumbents (Hornuf et al., 2021), however this would necessitate willingness on both sides. Leading financial services incumbents, whether state or privately owned, are overseen and controlled by the government through shadow management structures, called *party committees*, to ensure that they are developing in line with the CCP's objectives (Gruin, 2019). While we understand how the grip of the Chinese state on SOCBs and privately owned strategically important financial services firms would ensure their compliance (Gruin, 2019), it is not yet well understood, how a large number of small fintech ventures, including those located overseas, could be effectively orchestrated, to serve the objectives of the Chinese state. We take the work on strategic coupling between financial services incumbents, technology start-ups and the state (Hendrikse et al., 2020) as our point of departure to address the following research question. What is the role of open system intermediaries (OSIs) in the effort of the Chinese state to harness the innovative potential of fintech ventures for its own economic and political objectives?

We ground our analysis in an evolutionary economic geography framework developed by Hendrikse et al. (2020), which combines the concepts of strategic coupling (Coe et al., 2004; Yeung, 2016), window of locational opportunity (Boschma, 1997), and entrepreneurial ecosystems (Autio et al., 2018) to theorise the interplay between financial services incumbents, fintech ventures and the state. In order to contribute to this endeavour, we focus on the role of OSIs, including incubators, accelerators and science parks. We investigate the practices of two OSIs – the Zhongguancun Software Park (ZPark) in Beijing and the Ping An Cloud Accelerator (PACA) in Shenzhen. This allows us to examine the workings of OSIs not only for different types of lead sponsors, stages of development of cohort companies, but also across cities with very different institutional environments. Our empirical evidence is based on close dialogue (Clark, 1998) with financial and business services professionals working in banks, law, accounting, management consulting and technology firms. We conducted 50 semi-structured interviews across Shenzhen, Shanghai, Hangzhou and Beijing in 2019. The specificities of local and national context are likely to influence how tensions and conflicts are addressed, and may constrain the choices available to individual actors (Clark, 2007).

Our findings indicate that the Chinese state and financial services incumbents use OSIs to employ ecosystem governance techniques, facilitate provision of direct and indirect support, and provide boundary spanning activities to promote strategic coupling with fintech ventures. In doing so they have to navigate tensions faced by these key actors as well as potential conflicts among them. OSIs draw on the power of the state and are supported by financial services incumbents to develop a tech-for-fin ecosystem. Participating fintech ventures are effectively moulded into technology providers and alliance partners for financial services incumbents, while those wishing to fundamentally disrupt the established financial order are excluded from various forms of direct and indirect support provided by OSIs.

The remainder of this paper is organised as follows. Section 2 explains the theoretical framework employed and reviews relevant literature. Section 3 details our research design and interview material. Section 4 presents our findings. Section 5 relates them to relevant literature and draws conclusions.

2. STRATEGIC COUPLING WITHIN A FINTECH ECOSYSTEM

Recent developments in information and communication technology (ICT) have afforded a window of locational opportunity (Boschma, 1997) for financial centres to reinvent themselves through sectoral coalescence (Neffke et al., 2011, 2018) between financial services and ICT. Financial centres can seize this opportunity through strategic coupling (Coe et al., 2004), a path-breaking trajectory, which leads to change in their position in the international division of labour (Yeung, 2016) and facilitates their integration into global financial networks (Coe et al., 2014). Figure 1 illustrates the role of OSIs, including business incubators, accelerators and science parks (Dutt et al., 2016), in facilitating strategic coupling, and positions them within the fin–tech–state triangle (Hendrikse et al., 2020). If successful, strategic coupling can lead to desirable outcomes including high-growth entrepreneurship, innovation, regulatory and public policy changes (Hendrikse et al., 2020; Stam, 2015). These outcomes are, however, conditional on the ability of the key actors within fintech ecosystems to manage informational flows, provide direct and indirect support to start-ups and scale-ups, and negotiate tensions and conflicts that arise.

OSIs have been shown to facilitate the development of entrepreneurial ecosystems through provision of direct and indirect support to start-ups and scale-ups. This can be done through multiple channels including venture validation, business capability development and market infrastructure development (Dutt et al., 2016; Goswami et al., 2018). OSIs can also facilitate information flows within a fintech ecosystem (Dutt et al., 2016; Goswami et al., 2018). Much of the information required to facilitate strategic coupling within fintech ecosystems is opaque, commercially sensitive and requires carefully managed boundary spanning activities to facilitate its flows (Knight

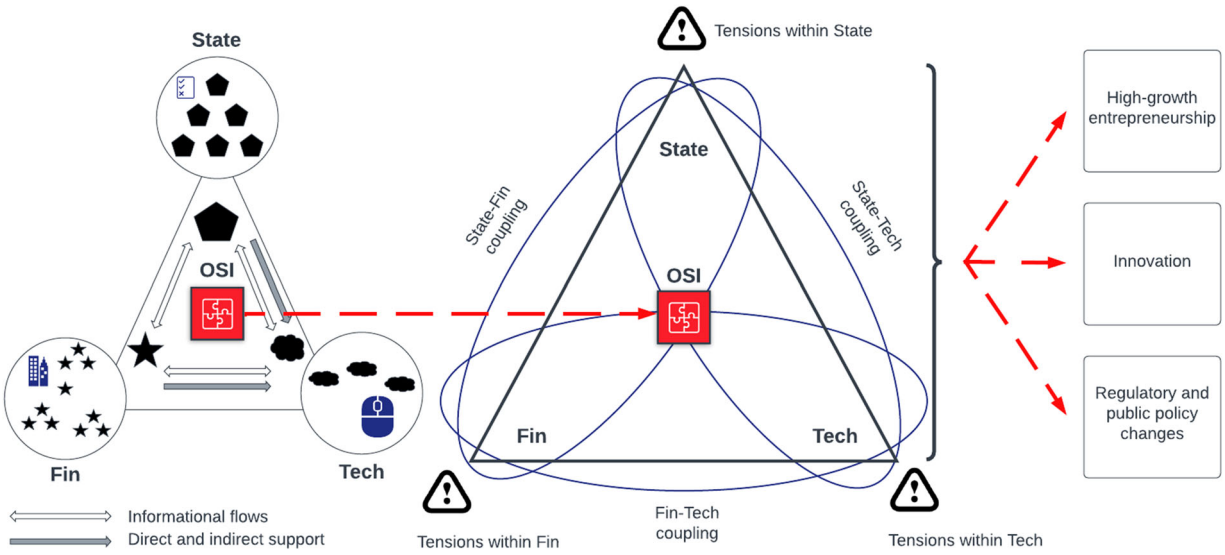

Figure 1. Strategic coupling within fintech ecosystems.
Source: Authors' drawing on the concept of the fin–tech–state triangle introduced by Hendrikse et al. (2020).

& Wójcik, 2017). Boundary spanners can facilitate knowledge-sharing by connecting teams, business units or organisations across different functional or hierarchical levels (Cross & Parker, 2004). They can also reduce information asymmetry and perception gaps (Bouquet & Birkinshaw, 2008). The extent and form of these activities depends on the organisational need for information and the perceived level of environmental uncertainty. Information-gathering to reduce uncertainty is consequently higher for organisations relying on technology involving uncertainty, such as those facing a technological shift (Aldrich & Herker, 1977; Leifer & Delbecq, 1978).

In their role as facilitators of boundary spanning activities, OSIs can also serve to moderate conflict negotiations, manage tensions (Schotter & Beamish, 2011) and consequently become an important element of the governance structure of fintech ecosystems. This is crucial in the context of fintech ecosystems, which are riddled with political tensions that may hinder strategic coupling (Hendrikse et al., 2020). Fintech ecosystems can be governed through hierarchical and relational governance mechanisms. Hierarchical governance is based on explicit authority, such as regulation and legislative powers of the state (Arner et al., 2015; Colombelli et al., 2019; Gruin, 2019). Relational governance relies on soft forms of power such as expertise, network connectivity and control of key resources (Colombelli et al., 2019).

Fintech ventures can pursue a broad range of entrepreneurial opportunities aimed at making financial services more cost-effective and accessible (Arner et al., 2015; Goldstein et al., 2019). Fintech ventures face a tension between integrating themselves into business models of financial services incumbents (effectively becoming their technology providers) or fundamentally disrupting their business models by providing innovative financial services themselves (Hendrikse et al., 2020). The nuances of the relationship between financial services incumbents and fintech ventures suggest that simply:

> setting up banks and FinTech firms as direct competitors, as 'incumbents' versus 'disruptors', overly simplifies their roles and positions in the rapidly changing financial services industry … enrolment of FinTech products and services into existing bank offerings, as complementary products, rather than FinTech firms completely replacing or substituting existing financial services.
>
> (Lai, 2020, p. 454)

Meanwhile financial services incumbents face a tension 'between shielding protected markets versus opening them to disruption' (Hendrikse et al., 2020, p. 1529). In response they have adopted a variety of strategies, ranging from setting up their own digital banks (e.g., Marcus by Goldman Sachs), acquiring fintech ventures (e.g., acquisition of Simple, Openpay and Holvi by BBVA), forming partnerships with technology companies (e.g., JPMorgan Chase and Amazon), and service diversification, such as cloud-based services (Lai, 2020; Urban et al., 2022). Financial services incumbents aim to position themselves as anchoring organisations in fintech ecosystems and employ business models based on internalising disruptive fintech ventures within their own infrastructure (Hendrikse et al., 2018). Fintech ventures collaborate with financial services incumbents to benefit from their existing infrastructure, banking licences and customer base (Hornuf et al., 2021; Klus et al., 2019). Fintech ventures also benefit from legitimisation through alliances or product-related collaborations with reputable financial services incumbents (Svensson et al., 2019), as well as from the labour pool and accumulated know-how developed by ICT and financial services incumbents in their region (Cojoianu et al., 2021). This can lead to an effective lock-in of fintech ventures with the infrastructure of incumbent banks and a development of a symbiotic relationship (Lai, 2020).

The state can play a role of an active facilitator of strategic coupling by providing incentives and nudges for

financial services incumbents and fintech ventures to cooperate. The state, however, faces a tension between 'being an active coupler versus the spectre of misguided industrial policy' (Hendrikse et al., 2020, p. 1529). The Chinese state has identified fintech as a viable way of modernising China's financial system, facilitating economic development, and enhancing its control over economic and financial data in a pursuit of algorithmic governance (Gruin, 2019). To fully appreciate the role of the Chinese state, it is necessary to unpack the interests and agendas of state actors at different scales. Local and provincial governments are generally most directly involved in setting up and supporting OSIs and their most immediate motivation is facilitating regional economic development (Fu & Lim, 2022). China's unorthodox approach to policymaking as 'experimentation under hierarchy' (Heilmann, 2008, p. 2) means that the central government sets the boundaries to local and provincial governments, within which they can act as policy entrepreneurs. Successful policy experiments, trialled at provincial or municipal level, can then gain the patronage of central government and be scaled up to a national level (Heilmann, 2008). Crucially, the Chinese state both directly and indirectly intervenes with the process of strategic coupling of China's lead firms, be it state- or privately owned enterprises (Fu & Lim, 2022; Töpfer, 2018), in a pursuit of its local and national objectives.

> One of the key objectives of the 2015 Guiding Proposal was to achieve industry consolidation within the rapidly burgeoning online lending industry. … This consolidation also took on greater political significance, as the large tech firms could be regulated in a more balanced manner, and were both amenable to and dependent on close coordination with the government.
>
> (Gruin, 2019, p. 94)

The People's Bank of China (PBOC) has initially issued 10 licences for leading technology companies to operate online banks on trial basis in 2013, followed by 90 licences for online payments and 37 for mobile phone payments in 2014 (Shim & Shin, 2016). At the same time, the PBOC restricted online banks from taking deposits, thus shielding SOCBs and ensuring that they remain an essential part of the lending process (Gruin & Knaack, 2020). Concurrently, the CCP operates party committees, which in effect work as shadow management structures in strategically important privately owned companies. 'More than 35 tech enterprises, including key e-commerce firms JD.com, Baidu, Alibaba, Tencent and Sina have established party committees in order to ensure that they are developing in accordance with CCP developmental objectives' (Gruin & Knaack, 2020, p. 382).

Empirical evidence on the effectiveness of OSIs in facilitating strategic coupling and consequently aiding high-growth entrepreneurship and innovation is limited and mixed. Evidence from Finland shows that policies targeted at capacity boosting in incubated firms can accelerate new firm growth and offer value for money (Autio & Rannikko, 2016). In contrast, Wang et al. (2017) do not find any causal effects of grants from China's Innofund programme on future venture funding, patenting or firm survival. Given the weak effectiveness of the traditional incubator model for fintech ventures, DBS rebranded its former incubator DBS Hotspot as DBS Xchange, which now operates as a 'matchmaking' service between fintech ventures and investors (Lai, 2020). Brussels based B-Hive, formerly Eggsplore, initially also held a great promise of bringing together financial services incumbents and innovative fintech ventures to seize the window of locational opportunity presented by the fintech revolution and help reverse the decline of Brussels as a financial centre. Despite seemingly having all the necessary ingredients to succeed, B-Hive struggles with numerous political frictions, which have made it difficult for strategic coupling between Brussel's local resources and the needs of financial services incumbents operating in global financial networks, to fully materialise (Hendrikse et al., 2018, 2020).

3. RESEARCH DESIGN

There are many initiatives in China to build fintech ecosystems led by technology companies, financial services incumbents, real estate companies and the state. These initiatives are oftentimes organised through OSIs, which can be sponsored by private companies, various branches of the government, as well as academic institutions and non-governmental organisations. To illustrate the scale of this phenomenon in China, we have searched the Tianyancha database, a go-to resource for obtaining information on public and private companies in mainland China, for 'incubators' and 'accelerators' using a keyword search in Mandarin. We then excluded companies with registered capital of less than 500,000 RMB and less than one employee and those located in Hong Kong and Taiwan, as these areas are not covered comprehensively by this database. This yielded a sample of 5257 incubators and accelerators, presented in Figure 2.

In our analysis we focus on two specific cases, namely ZPark and PACA. ZPark is located in the Haidian district in Beijing and was established by the Beijing municipal government in 2000. ZPark is funded by the Haidan district government, the Beijing municipal government, and the Ministry of Science and Technology (IP_38, IP_39). ZPark aims to attract promising software companies from within China and internationally. More than 300 publicly listed companies have been incubated in ZPark, including China's national champions Baidu and Lenovo (Tan, 2006). ZPark has set up a regulatory sandbox with the support from local and central government, financial regulators and the local financial office to facilitate the development of a fintech ecosystem in Beijing. More than 700 fintech ventures have been attracted, with a total value exceeding US$6 billion (Qiaochu, 2020).

PACA was established in 2018 as a joint venture between Ping An Group and SparkLabs Group, and is supported by the Futian district government. Ping An

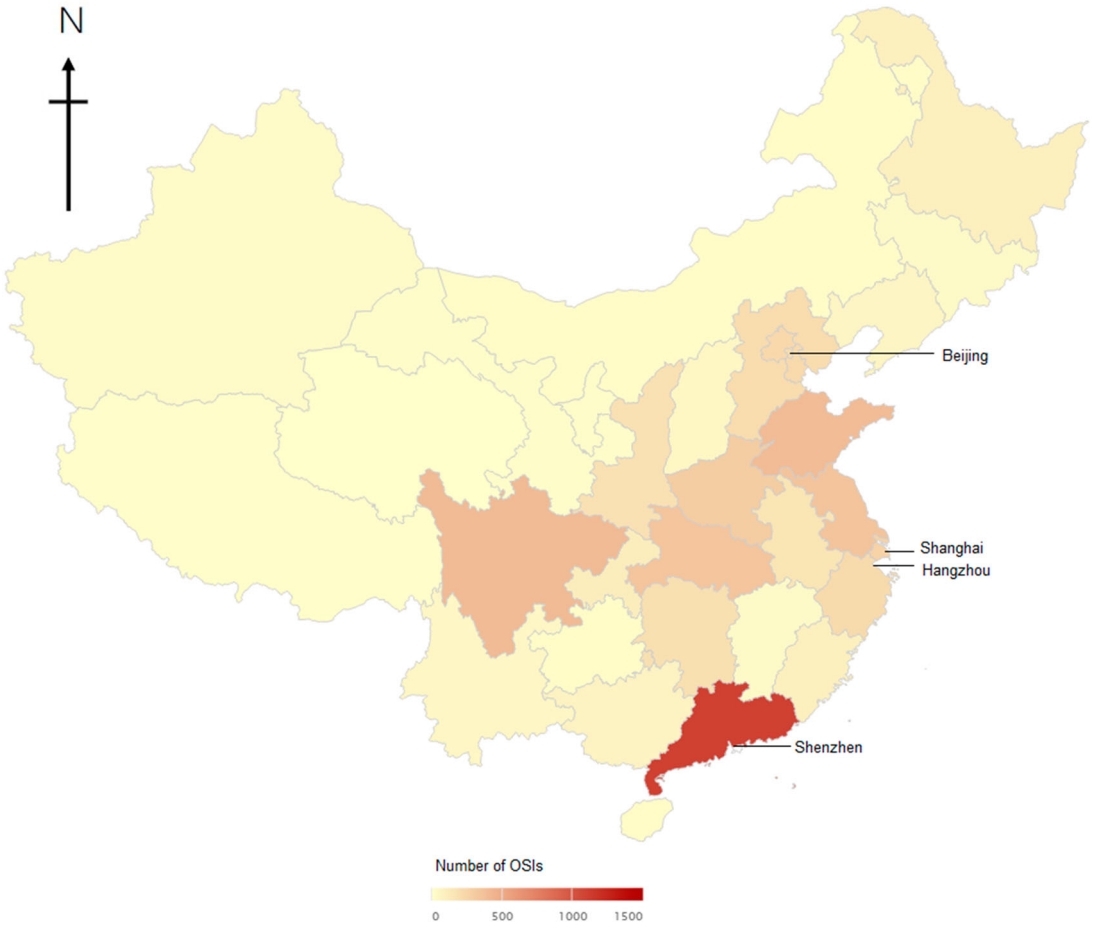

Figure 2. Spatial distribution of open system intermediaries in mainland China.
Source: Tianyancha database.

Group is the lead sponsor and principal funder. PACA is one of over 1100 OSIs in Guangdong province, but its design distinguishes it from other accelerators, which are often led by real estate, technology companies or municipal and local governments. The design of PACA reflects the agenda of its sponsors, including the objective to facilitate a development of fintech ecosystem within Futian district in Shenzhen (local government), assimilate external technology and innovation (Ping An Group), and match fintech ventures with investors (SparkLabs). Ping An Group is China's leading insurance company holding data on 880 million individuals and 84 million companies, and employing over 100,000 technology staff. SparkLabs is a global network of investors with presence in Silicon Valley, Taiping, Seoul, Shenzhen and Seoul among other locations (IP_8).

We selected ZPark and PACA as cases because our fieldwork campaign as well as additional background research indicated that they are two of China's flagship OSIs at the forefront of fintech revolution. As such, they are well positioned to serve as examples of cutting-edge practices of Chinese OSIs. We have specifically asked our interviewees about how ZPark and PACA compare with other OSIs and found out that other OSIs typically only perform a subset of the functions of ZPark and PACA. For example, many OSIs offer office space and networking opportunities among cohort companies, but they may not facilitate opportunities to collaborate with financial services incumbents or offer regulatory sandboxes and additional subsidies (IP_8, IP_38, IP_39).

In order to provide empirical evidence on the practices of Chinese state and financial services incumbents employed through OSIs towards fintech ventures, and how this shapes China's fintech ecosystem, we have engaged in close dialogue (Clark, 1998) with our interview partners. We conducted 50 semi-structured interviews across Shenzhen, Shanghai, Hangzhou and Beijing in 2019. Rather than just relying on information obtained directly from OSIs, we draw insights from a variety of stakeholders, including professionals working in banking, venture capital, private equity, accounting, law, management consulting, technology companies, government agencies, accelerators and think-tanks.

In compliance with the European Research Council (ERC) and the University of Oxford ethical guidelines, study participants were informed about the purpose, methods and intended uses of this research. Any information on the identity of the study participants was anonymised and coded by ascribing an alpha-numeric code to each participant and only providing generic non-identifying information about their role. All interview participants

Table 1. Interviews by location and sector.

City	Sector	Interviews	Interview partner code
Shenzhen	Accounting, audit and business consulting	3	IP_1, IP_12, IP_14
Shenzhen	Credit rating agencies	1	IP_15
Shenzhen	Financial services	5	IP_5, IP_6, IP_10, IP_11, IP_16
Shenzhen	Government agency	1	IP_49
Shenzhen	Industry association	2	IP_9, IP_50
Shenzhen	Open system intermediaries	1	IP_8
Shenzhen	Technology/ fintech	2	IP_2, IP_4
Shenzhen	Think-tank	2	IP_3, IP_13
Shanghai	Accounting, audit and business consulting	3	IP_19, IP_20, IP_23
Shanghai	Financial services	5	IP_7, IP_18, IP_22, IP_26, IP_27
Shanghai	Government agency	1	IP_25
Shanghai	Industry association	1	IP_21
Shanghai	Legal	1	IP_17
Shanghai	Technology/ fintech	1	IP_24
Hangzhou	Technology/ fintech	4	IP_28–31
Beijing	Open system intermediaries	1	IP_38
Beijing	Accounting, audit and business consulting	2	IP_33, IP_37
Beijing	Financial services	9	IP_32, IP_35, IP_36, IP_40, IP_42, IP_43, IP_46–48
Beijing	Legal	2	IP_34, IP_44
Beijing	Technology/ fintech	3	IP_39, IP_41, IP_45

Note: Financial services include banking, insurance, investment banking, asset management, venture capital and private equity.
Source: Authors.

were asked to provide a written consent for an audio recording of their interview to be used for the ERC project 'Cities in Global Networks: Financial and Business Services & Development in the Twenty-First Century' (grant agreement number 681337). This project also received ethical approval from the Central University Research Ethics Committee (CUREC), University of Oxford, on 4 April 2016. We detail our interviews in Table 1. Our interview material is complemented with secondary sources, including reports, press releases and corporate websites.

4. EMPIRICAL EVIDENCE FROM CHINA'S FINTECH ECOSYSTEM

4.1. Agendas, tensions and strategies

Chinese cities including Beijing, Shanghai, Hangzhou and Shenzhen, but even individual districts within cities such as Futian and Qianhai in Shenzhen, are striving to become China's fintech hubs (IP_1, IP_16). Local and municipal governments work with financial services incumbents to employ a variety of strategies to attract and nurture promising fintech ventures. These efforts include provision of state support, facilitating collaboration between fintech ventures and financial services incumbents, and tailoring local institutional environment to the needs of fintech ventures (IP_8, IP_22, IP_38, IP_39). A permissive regulatory environment combined with a local culture that encourages innovation and risk taking are, however, not sufficient conditions for developing a well-functioning fintech ecosystem. This became apparent during China's internet finance fiasco (IP_4, IP_22, IP_45). Having learned its lessons, the Chinese state has moved towards actively managing the development of China's fintech ecosystem by promoting strategic coupling between fintech ventures and financial services incumbents (IP_2, IP_4, IP_8, IP_38). Despite a clear potential for a win–win outcome, this process is plagued with tensions and conflicts.

Financial services incumbents are trying to remain relevant within their rapidly changing industry. They face a tension between adopting off the shelf solutions developed by technology companies and becoming leaders of technological change themselves. This leads to a conflict due to differences in knowledge and expertise between financial services incumbents and technology firms as potential partners. The threat of conflict is further exacerbated by each party's desire to be in the driver's seat of technological change. Financial services incumbents often try to resolve this problem by working with fintech start-ups and scale-ups, which they can more easily mould to their own needs, rather than working with big technology companies, which may be less flexible in this respect (IP_4, IP_8, IP_22, IP_32, IP_38, IP_39).

> This is dilemma for Chinese insurance companies to apply FinTech … it is difficult for them to find small companies, which use very advanced technology to help them establish a system for some problem in China … it is risky for those people to use small companies, but if they use big technology

> companies, then they cannot develop their own system … the insurance companies will say to the IT companies: 'You don't know our industry!'
>
> (IP_32)

Technology companies face a tension between leveraging their information technology (IT) expertise to disrupt financial services incumbents through direct competition and becoming their technology providers. Despite the potential of technology companies to push old-fashioned banks out of their own industry, the reality of China's fintech ecosystem is that banks are firmly entrenched within it. Technology companies have, however, found their own niche to generate and use financially relevant data and intermediate financial transactions on behalf of financial services incumbents. This has created many opportunities for strategic coupling, but it has also presented numerous regulatory challenges relating to data security and confidentiality (IP_1, IP_15, IP_28, IP_30, IP_35).

> Ali or Tencent collaborate with banks, many banks, so like this bank will offer you like a limit of money like one billion per year, so through this platform you can lend individuals in total as much as one billion … the profit will be allocated between Ali and the banks.
>
> (IP_35)

> Payment is not only about payment. It is the beginning of the whole business ecosystem so once a transaction is completed … all the data … is collected on our platform and it can be used later in other business scenarios. … Combining the domestic market and international market, we reached a 1.2 billion individual customers and 100 million small and medium enterprises … that is a huge base … the most important resource is data from an internet company.
>
> (IP_28)

The Chinese state faces a tension between unleashing the disruptive power of fintech to improve financial inclusion and economic growth, on the one hand, and maintaining control of the development of China's financial sector, on the other (IP_1, IP_3). In an effort to shield SOCBs from the threat of peer-to-peer lenders and online banks, PBOC and CBRC restrict them from taking deposits and introduced capital requirements comparable with those imposed on traditional banks. This consequently helps SOCBs to remain a necessary part of the emerging fintech ecosystem, due to their privileged access to cheap financing through deposits (IP_2, IP_32, IP_44). Uniquely to Chinese context, fintechs have to gain a permission from provincial and municipal authorities, in addition to national regulatory bodies, which creates additional layer of administrative burden and potential conflicts.

> For example, just like the mention for the internet online banking licence … you have to get a recommendation from the local government. How to get a recommendation from the local government? There is no rule. You know, it always depends on local government, if they want to recommend you. … If the PBOC or the CBRC allow these technology companies to get into the financial industry, they can be very competitive, because they have all the data. … If they give them a full licence, all the big state-owned banks could go bankrupt.
>
> (IP_44)

China's institutional environment varies significantly across provinces and cities. Local and municipal governments across China often have vastly different attitudes towards fintech. This affects the limits to business model innovation and socially acceptable levels of risk-taking by entrepreneurs (IP_28). For example, 'Shenzhen has a special status [and] a different regulatory ecosystem from the rest of China' (IP_8). The businesses and individuals in the Greater Bay Area, a megalopolis consisting of nine cities, including Shenzhen, and two special administrative regions, Hong Kong and Macau, enjoy significantly more economic freedom than the rest of China. In contrast, the institutional environment in Beijing is tailored towards supporting state-owned enterprises (SOEs) and is much more restrictive for privately owned companies (IP_28, IP_3).

> Cities like Hangzhou and Shenzhen will embrace innovation, embrace technology … Beijing might not be that kind of city because in terms of policy attitude, it's not that tolerant of innovations. … Shanghai might not be that kind of city as well because Shanghai, it actually aims to serve big corporations.
>
> (IP_28)

> There are cities, who fear innovation because they are concerned about the pressure from central government. If I do something wrong, I lose my job and I lose my businesses. In Shenzhen, under this policy of Greater Bay Area, businesses are not afraid of bad innovation. They come to Shenzhen with this umbrella, they can do things, they cannot do in other cities.
>
> (IP_3)

4.2. Incubating China's fintech start-ups

4.2.1. Ecosystem governance

ZPark has been set up as an initiative of Chinese state to promote technological and financial development (IP_38). ZPark's publicly available selection criteria state that it welcomes companies with a strong focus on software development and digital services, which need to represent at least 60% of a firm's revenue. Companies with a maximum income of 2 million RMB and registration capital of maximum 3 million RMB, which have been established in the last 24 months, can apply to join ZPark (ZPark, 2020b). Beyond these basic criteria, and in contrast to fintech hubs in Shenzhen and Hangzhou, ZPark prioritises subsidiaries of SOEs and joint ventures between SOEs and private technology companies.

> This situation is different from those in Hangzhou or Shenzhen, so this is more driven by those traditional big financial institutions, which are located in the Financial Street … rather than just high-tech companies like Tencent or Alibaba. … many giant state-owned financial institutions including the big four asset management companies and insurance companies … state owned companies, they prefer to have their subsidiaries close to them.
>
> (IP_38)

ZPark cooperates with branches of government ranging from Xicheng district municipal government to central government to enable hierarchical governance mechanisms including setting up regulatory sandboxes and issuing licences to high-tech companies. It also employs relational governance mechanisms, such as facilitating access to government subsidies, tax cuts, and an attractive networking and learning environment on its campus. Our discussions with ZPark staff, cohort companies and other actors from China's fintech ecosystem suggest that ZPark aims to create an environment conducive primarily to the development of fintech subsidiaries and joint ventures of SOEs. Concurrently, companies that could be too disruptive to the business models of financial services incumbents, including SOEs and SOCBs, are generally excluded. This applies among others to firms focusing on cryptocurrencies or financial disintermediation (IP_38, IP_39).

4.2.2. Facilitating direct and indirect support

Eligible companies can locate within ZPark's campus and get subsidies ranging from 500,000to 5 million RMB for office rent and operational costs (IP_38). '[At] the initial stage, they can help them to reduce the start-up cost or research cost … especially for their rent' (IP_38). There are over 20 types of subsidies that resident companies can apply for (Ministry of Science and Technology (MOST), 2017). ZPark also helps its resident companies attract talent by offering tax advantages, as well as facilitating access to government grants including resident allowance and tax benefits for employees (IP_39). 'The government can provide some bonus, if the company employs some foreign research employees … some foreign talent' (IP_38).

Furthermore, ZPark facilitates access to financial and business services, which are specifically tailored to the needs of high-technology companies.

> ZPark offers free 'one stop service' consultation for resident companies on investment, facility construction, and operations. ZPark also provides a list of preferred service providers on company registration, tax filing and custom procedures.
>
> (ZPark, 2020a)

> They can help them solve some accounting problem, law problem … they can communicate with the company to the government to help them to apply this IP [intellectual property]. … If the company get the certificate to prove it's a high-tech innovative company, the tax rate will reduce from 25% to 15%.
>
> (IP_38)

Rather than simply providing an equal level of support to all member firms, ZPark operates a system of incentive-based policies to encourage international collaboration and excellence. 'Government provides some funds, if the company can cooperate with some world class, world famous university or other world-famous institution to provide some funds to help them establish' (IP_38).

4.2.3. Boundary spanning activities

In addition to providing various forms of support, ZPark facilitates both formal and informal boundary spanning activities among its resident technology companies, financial services incumbents and the state. This is instrumental in ensuring that policymakers, regulators and other government officials are aware of the needs and challenges faced by innovative technology companies. This in turn allows the state to mitigate frictions faced by these companies and remove barriers to their development.

> Chinese policy now is very focused on financial development … the Beijing government have decided to put this park here in Xicheng District … the main purpose of the institution is to conduct the policy from the government to the companies … to encourage the companies to develop in high technology … and to help the companies to solve some problem, when they need the support from the government and this institution will provide their help to connect between the company and the government.
>
> (IP_38)

Aibao Technology is a fintech start-up that has been incubated in the ZPark and is now playing a crucial role in the modernisation of China's insurance industry. Aibao Technology was established in 2017 as a joint venture of the People's Insurance Company of China (PICC), domestic privately owned technology companies 58.com and bitauto.com, and a US-based software company Solera. Aibao focuses primarily on developing technological solutions for PICC and China's leading insurance companies (IP_39).

> PICC takes one third of the insurance market of the country so at a strategic level, the Aibao company is putting an emphasis on cooperation with PICC … the top ten insurance companies have taken about 70% of the whole insurance market, so the Aibao company puts their focus on these top 10 or top 20 insurance companies.
>
> (IP_39)

Joint ventures promote formal boundary spanning activities and encourage information and knowledge flows among joint venture partners. PICC in this instance benefits from the technological know-how of its joint venture partners and in return offers its own expertise in

China's insurance industry. ZPark and the networking environment it creates, however, take boundary spanning activities one step further, by adding an important informal dimension. Aibao Technology has networking and potential knowledge exchange opportunities with all other resident companies, many of which may be working on similar applications or utilising similar technologies, through the virtue of its residency on ZPark's campus. This means that all its joint venture partners gain exposure to the informationally rich environment of ZPark's campus and its resident firms, creating complementary informational flows to those among joint venture partners (IP_38, IP_39).

4.3. Accelerating China's fintech revolution

4.3.1. Ecosystem governance

PACA's board selects cohort companies annually and includes representatives from Ping An business units, Futian government and a venture capital representative from SparkLabs. PACA recruits globally and targets leading technology companies with mature solutions, existing customer base and a clear strategic business plan.

> They have to have a strong product ready with clients, not just an idea, not just a trial or prototype. … We do an internal screening with the product teams and the CTOs [chief technology officers] for each of these relevant departments … would need at least one strong lead, for a company to be able to consider them as a serious applicant. … The focus is on building an ecosystem … looking at companies from anywhere in the world, which could be integrated to our solutions … they could become a Ping An tech solution, a Ping An cloud solution and also we could do a new product together.
>
> (IP_8)

PACA employs relational governance mechanisms that rely on its ability to help promising fintech ventures to develop their technological know-how into valuable applications within financial services, and connect them with potential clients and investors. The potential for strategic coupling between fintech ventures and Ping An Group is one of the key selection criteria employed by PACA. Fintech ventures with expertise in technological areas of primary interest to Ping An Group and willingness to collaborate with its business units are given access to resources and industry contacts to help them develop and scale up. Ventures that are not deemed suitable business partners for Ping An Group, are generally rejected by PACA. This allows PACA to nurture an ecosystem of fintech ventures suitable for strategic coupling with Ping An Group and stifle the development of those that are either of no interest or likely to disrupt its activities (IP_1, IP_3, IP_8).

4.3.2. Direct and indirect support

PACA provides its cohort companies with access to Ping An's financial cloud infrastructure, subsidised office space, a Ping An Bank account, as well as assistance with company registration process in China, mentoring, and applying for government subsidies. It also helps its cohort companies to optimise their business models as they prepare themselves to pitch to potential investors (IP_8). Connecting fintech ventures with potential investors is a crucial lifeline, given that the access to investment capital is recognised as one of the key challenges faced by fintech ventures (IP_10). Cohort companies receive assistance with adapting to China's technological environment and developing an industry solution for the Chinese market. Ping An's business development team can help to facilitate sales and distribution to clients. About 60% of companies that graduated from the PACA have been successful in securing VC financing (IP_8).

> We are closely linked with the government here. Through us they [foreign fintech companies] have a one stop registration … they can just use our space any time … if you are a tech company, you are always worried about the funding … traditional [insurance] background gives a huge support for doing the technology part … you are always kind of like a cash cow, you can always fund your technology business … they can get access through us to the government subsidies and funds and different like beneficial policies for them.
>
> (IP_8)

4.3.3. Boundary spanning activities

Ping An Group is using PACA to formalise its boundary spanning activities in response to the high level of environmental uncertainty associated with fast paced technological change in financial services. PACA serves not only to select, but crucially to bring fintech ventures closer to Ping An by establishing formal communication channels with cohort companies and temporarily bringing their directors and key employees to PACA's offices, located in proximity to Ping An's headquarters.

> We have a minimum time requirement. They don't have to be here in person. Most of the discussions and meetings can be done through online calls or WeChat calls … these start-ups typically they have few offices in the world already … China is one of their directions, but not the only, so the CEO is coming and going, maybe coming for two weeks to China. There are face to face meetings as well, but they don't have to sit here for five months.
>
> (IP_8)

Every cohort company is overseen by an account manager provided by PACA, who has weekly meetings with their assigned cohort companies. PACA account managers are tasked with identifying the objectives of both cohort companies and Ping An business units. Account managers then connect key decision makers on both sides and work towards establishing key performance indicators (KPIs) appropriate to the venture's strategy and developmental stage. These KPIs, together with business leads facilitated by PACA, are monitored during weekly meetings among cohort companies and their account managers.

The end goal is typically to develop new technological solutions and services, which have the potential to disrupt Ping An's competitors.

> For each company, there is an account manager assigned to it … we have 17 companies in the third cohort … I cover 5 out of the 17 … I'm actually going for meetings. I'm going to represent the company. They also join the meetings, most of the time they need translation. Let's say, if a start-up typically sends an email to a large corporate like Ping An or any others, that is almost all the time ignored, because it is not in the KPI, right? Why would they do anything with an external start-up? But through us, there is a motivation, an internal team.
>
> (IP_8)

Anlantech is an example of a successful cohort company that graduated from the PACA, and formed partnerships with Ping An Property and Casualty Insurance and Ping An Technology. Anlantech provides artificial intelligence (AI) and big data analytics solutions that help specialty insurers in maritime, cyber security and sports insurance improve risk management, pricing accuracy, claim automation, as well as reduce the timeline of bringing new insurance products to the market from months to days. The company has worked on joint projects with Ping An Property and Casualty Insurance. The initial validation of Anlantech's application of AI and big data analytics in collaboration with Ping An Property and Casualty Insurance led to additional business leads with external clients, including Samsung Fire and Marine Insurance, Cathay Financial Holdings, and Dai-Ichi Life. All these collaborations have effectively served to validate the viability of Anlantech's business model and have facilitated development through knowledge sharing. Ping An's influence and reputation in the insurance industry has helped Anlantech to successfully raise financing to support its operations in China and establish a permanent presence in Shenzhen (IP_8).

5. DISCUSSION AND CONCLUSIONS

This study contributes to our understanding of strategic coupling in and across geographical contexts and does so by empirically studying the role of OSIs in an effort of the Chinese state to harness the innovative potential of fintech ventures for its own economic and political objectives. We show that Chinese state uses OSIs to support both state- and privately owned strategically important financial services firms in nurturing cohorts of fintech ventures and facilitate their integration into incumbent business models. This gives rise to a tech-for-fin ecosystem, where innovative fintech ventures are moulded into becoming technology providers for financial services incumbents. This process is driven by the interests and objectives of the Chinese state and its previous negative experience with a chaotic rise of fintech, which led to China's internet finance fiasco (Classens et al., 2018). Rather than allowing many fintech ventures, which the Chinese state would have little control over, to provide financial services, they have instead decided to support a consolidation of fintech around large state- and privately owned financial services incumbents. A small number of large firms can be much more easily controlled than a large numbers of small ones by the Chinese state through *party committees*, which act as shadow management structures, to ensure that they are developing in line with the CCP's economic and political objectives (Gruin, 2019). Technological transformation of financial services incumbents enables Chinese state to gain ever tighter grip on financial and economic data, extending its *algorithmic governance* capabilities, which are now firmly a part of its social management toolkit. Unfortunately, financial services incumbents, particularly leading SOCBs, do not have the best track record on innovation. Consequently, for this strategy to succeed, the Chinese state relies on the participation of innovative fintech ventures with the technological know-how to transform financial services incumbents. To achieve this goal, it is necessary for the Chinese state to understand and address internal tensions faced by fintech ventures, provide incentives for them to participate and manage potential conflicts with financial services incumbents (Hendrikse et al., 2020). To address these issues, Chinese state turned to OSIs.

The sponsorship of OSIs and the desire to steer economic development, including that of fintech ecosystems, is not unique to Chinese context. Numerous examples can be found of public policy affecting the development of fintech ecosystems ranging from the UK (Sohns & Wójcik, 2020), through Belgium (Hendrikse et al., 2018, 2020) to Singapore (Lai, 2020), and India (Goswami et al., 2018). What binds these different contexts is the desire to boost economic development by promoting collaboration between incumbents, on one hand, and innovative start-ups and scale-ups, on the other. Belgium provides an excellent example of the state nudging financial services incumbents and fintech ventures to collaborate (Hendrikse et al., 2020). Known roles of OSIs relate particularly to providing support mechanisms for start-ups and scale-ups (Dutt et al., 2016; Goswami et al., 2018) and facilitating collaboration between financial services incumbents and fintech ventures (Hendrikse et al., 2020).

What is, however, unique in the Chinese context is the use of OSIs by the state as an element of an intricate system of state control over the financial system and society more broadly. The Chinese state uses party committees to steer large state- as well as privately owned enterprises (Gruin, 2019) and is actively involved in the strategic coupling of SOEs (Töpfer, 2018). This approach is, however, unsuitable for numerous innovative fintech ventures, whose expertise is badly needed to make China's fintech ecosystem tick. Hence, it became necessary for the Chinese state to find alternative ways of orchestrating the innovative efforts of fintech ventures. As we show, Chinese state has tackled this challenge by employing relational governance through OSIs and hierarchical governance through regulation of financial services. The Chinese state introduced sweeping regulations following

China's internet finance fiasco, designed to steer fintech ventures away from credit intermediation, and instead redirect their innovative potential towards information intermediation (Classens et al., 2018). To complement these efforts, the Chinese state uses OSIs to develop pathways for fintech ventures to become technology providers for financial services incumbents. It is here that our study contributes to the existing literature on strategic coupling in and across geographical contexts (Hendrikse et al., 2020; Töpfer, 2018), as well as that on OSIs (Dutt et al., 2016; Goswami et al., 2018), by providing a nuanced theorisation and empirical validation of the effort of Chinese state to harness the innovative potential of fintech ventures for its own economic and political objectives. The relevance of our findings is not limited to fintech, given that the mechanisms discussed here may be applicable to other sectors of the economy, as well as other geographical contexts. Emerging work on strategic coupling of SOEs indicates that significant state involvement in strategic decisions of companies can be observed across industries (Töpfer, 2018).

Empirical evidence presented in this paper supports the notion that Chinese state uses OSIs as its extended hand to employ relational governance of China's fintech ecosystem and steers its development towards the fulfilment of its own economic and political objectives. Relational governance relies on soft forms of power such as expertise, network connectivity and control of key resources (Colombelli et al., 2019). Chinese state uses relational governance in tandem with hierarchical governance based on explicit authority including regulation and legislate powers (Arner et al., 2015; Colombelli et al., 2019). OSIs are instrumental for the Chinese state's relational governance of China's ecosystem, given that they serve as gatekeepers for fintech ventures' access to resources and business networks, which enable their technological know-how to be employed in the provision of financial services. OSIs provide various forms of direct and indirect support to their cohort companies including venture validation, business capability development, and market infrastructure development (Dutt et al., 2016; Goswami et al., 2018). OSIs also play an important role in facilitating boundary spanning activities (Knight & Wójcik, 2017) within fintech ecosystems. OSIs can create a social environment, within which financial services incumbents can share information on the various weaknesses and issues within their businesses, and where fintech ventures can share their technological know-how. OSIs also offer a communication channel between innovative fintech ventures and the state, which allows them to request regulatory and public policy changes, which are necessary to enable innovation within financial services.

Our study is subject to several limitations. First, the scope of this paper is limited to China's fintech ecosystem. Second, it draws empirically on a limited number of semi-structured interviews conducted across four Chinese cities in 2019. Third, we primarily focus on the practices of two flagship OSIs at the forefront of fintech revolution in China. Other lesser developed OSIs may only use a much narrower set of practices and may be much less effective at all fulfilling the functions and roles of ZPark and PACA. That being said, the tensions, conflicts, and practices that we observe in these contexts are likely to reflect those present in China's fintech ecosystem at large.

These limitations point to several opportunities for future research. First, it would be interesting to replicate a similar study across different contexts, industries, and geographies both to enrich our understanding of mechanisms employed by OSIs to facilitate strategic coupling, and to allow for comparison across different environments. Second, it would be useful to identify and explore alternative mechanisms that OSIs can use to facilitate strategic coupling. Third, a statistical analysis across a large sample of OSIs is needed to examine the prevalence of their support for fintech ventures, which fit well into the business models of financial services incumbents.

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NOTE

1. Fintech has been defined as 'technology enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services'(-Financial Stability Board, 2017, p. 7).

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REFERENCES

Aldrich, H., & Herker, D. (1977). Boundary spanning roles and organization structure. *Academy of Management Review*, *2*(2), 217–230. https://doi.org/10.2307/257905

Arner, D., Barberis, J., & Buckley, R. (2015). The evolution of Fintech: A new post-crisis paradigm? *Georgetown Journal of*

International Law, *47*, 1271–1319. https://doi.org/10.2139/ssrn.2676553

Autio, E., Nambisan, S., Thomas, L. D. W., & Wright, M. (2018). Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1), 72–95. https://doi.org/10.1002/sej.1266

Autio, E., & Rannikko, H. (2016). Retaining winners: Can policy boost high-growth entrepreneurship? *Research Policy*, *45*(1), 42–55. https://doi.org/10.1016/j.respol.2015.06.002

Boschma, R. A. (1997). New industries and windows of locational opportunity: A long-term analysis of Belgium. *Erdkunde*, *51*(1), 12–22. https://doi.org/10.3112/erdkunde.1997.01.02

Bouquet, C., & Birkinshaw, J. M. (2008). Managing power in the multinational corporation: How low-power actors gain influence. *Journal of Management*, *34*(3), 477–508. https://doi.org/10.1177/0149206308316062

Chen, L. (2016). From fintech to finlife: The case of fintech development in China. *China Economic Journal*, *9*(3), 225–239. https://doi.org/10.1080/17538963.2016.1215057

Chen, Y., & Hassink, R. (2022). The geography of the emergence of online peer-to-peer lending platforms in China: An evolutionary economic geography perspective. *International Journal of Urban Sciences*, *26*(2), 351–371. https://doi.org/10.1080/12265934.2021.1879664

Clark, G. L. (1998). Stylized facts and close dialogue: Methodology in economic geography. *Annals of the Association of American Geographers*, *88*(1), 73–87. https://doi.org/10.1111/1467-8306.00085

Clark, G. L. (2007). Beyond close dialogue: economic geography as if it matters. In A. Tickell, E. Sheppard, J. Peck, & T. Barnes (Eds.), *Politics and Practice in Economic Geography* (pp. 87–198). Sage.

Classens, S., Frost, J., Turner, G., & Feng, Z. (2018). Fintech credit markets around the world: Size, drivers and policy issues. *BIS Quarterly Review*, *September*, 29–49.

Coe, N. M., Hess, M., Yeung, H. W. C., Dicken, P., & Henderson, J. (2004). 'Globalizing' regional development: A global production networks perspective. *Transactions of the Institute of British Geographers*, *29*(4), 468–484. https://doi.org/10.1111/j.0020-2754.2004.00142.x

Coe, N. M., Lai, K. P. Y., & Wójcik, D. (2014). Integrating finance into global production networks. *Regional Studies*, *48*(5), 761–777. https://doi.org/10.1080/00343404.2014.886772

Cojoianu, T. F., Clark, G. L., Hoepner, A. G. F., Pažitka, V., & Wójcik, D. (2021). Fin vs. tech: Are trust and knowledge creation key ingredients in Fintech start-up emergence and financing? *Small Business Economics*, *57*(4), 1715–1731. https://doi.org/10.1007/s11187-020-00367-3

Colombelli, A., Paolucci, E., & Ughetto, E. (2019). Hierarchical and relational governance and the life cycle of entrepreneurial ecosystems. *Small Business Economics*, *52*(2), 505–521. https://doi.org/10.1007/s11187-017-9957-4

Creemers, R. (2017). Cyber China: Upgrading propaganda, public opinion work and social management for the twenty-first century. *Journal of Contemporary China*, *26*(103), 85–100. https://doi.org/10.1080/10670564.2016.1206281

Cross, R., & Parker, A. (2004). *The hidden power of social networks: Understanding how work really gets done in organisations*. Harvard Business School Press.

Dutt, N., Hawn, O., Vidal, E., Chatterji, A., McGahan, A., & Mitchell, W. (2016). How open system intermediaries address institutional failures: The case of business incubators in emerging-market countries. *Academy of Management Journal*, *59*(3), 818–840. https://doi.org/10.5465/amj.2012.0463

Financial Stability Board. (2017). *Financial stability implications from FinTech*. https://www.fsb.org/wp-content/uploads/R270617.pdf

Findexable. (2019). *The Global FinTech Index 2020*. https://findexable.com/wp-content/uploads/2019/12/Findexable_Global-Fintech-Rankings-2020exSFA.pdf

Fu, W., & Lim, K. F. (2022). The constitutive role of state structures in strategic soupling: On the formation and evolution of Sino-German production networks in Jieyang, China. *Economic Geography*, *98*(1), 25–48. https://doi.org/10.1080/00130095.2021.1985995

Goldstein, I., Jiang, W., & Karolyi, A. (2019). To FinTech and beyond. *The Review of Financial Studies*, *32*(5), 1647–1660. https://doi.org/10.1093/rfs/hhz025

Goswami, K., Mitchell, J. R., & Bhagavatula, S. (2018). Accelerator expertise: Understanding the intermediary role of accelerators in the development of the Bangalore entrepreneurial ecosystem. *Strategic Entrepreneurship Journal*, *12*(1), 117–150. https://doi.org/10.1002/sej.1281

Gruin, J. (2019). Financializing authoritarian capitalism: Chinese Fintech and the institutional foundations of algorithmic governance. *Finance and Society*, *5*(2), 84–104. https://doi.org/10.2218/finsoc.v5i2.4135

Gruin, J., & Knaack, P. (2020). Not just another shadow bank: Chinese authoritarian capitalism and the 'developmental' promise of digital financial innovation. *New Political Economy*, *25*(3), 370–387. https://doi.org/10.1080/13563467.2018.1562437

Heilmann, S. (2008). Policy experimentation in China's economic rise. *Studies in Comparative International Development*, *43*(1), 1–26. https://doi.org/10.1007/s12116-007-9014-4

Hendrikse, R., Bassens, D., & Van Meeteren, M. (2018). The Appleization of finance: Charting incumbent finance's embrace of FinTech. *Finance and Society*, *4*(2), 159–180. https://doi.org/10.2218/finsoc.v4i2.2870

Hendrikse, R., Van Meeteren, M., & Bassens, D. (2020). Strategic coupling between finance, technology and the state: Cultivating a Fintech ecosystem for incumbent finance. *Environment and Planning A: Economy and Space*, *52*(8), 1516–1538. https://doi.org/10.1177/0308518X19887967

Hornuf, L., Klus, M. F., Lohwasser, T. S., & Schwienbacher, A. (2021). How do banks interact with Fintech startups? *Small Business Economics*, *57*(3), 1505–1526. https://doi.org/10.1007/s11187-020-00359-3

Kapronasia & Ant Financial. (2020). The future of FinTech cooperation. https://www.kapronasia.com/research/reports/the-future-of-fintech-cooperation-report-kapronasia-ant-financial.html

Klus, M. F., Lohwasser, T. S., Holotiuk, F., & Moormann, J. (2019). Strategic alliances between banks and Fintechs for digital innovation: Motives to collaborate and types of interaction. *The Journal of Entrepreneurial Finance*, *21*(1), 1–23. https://doi.org/10.1080/13691066.2019.1562627

Knight, E., & Wójcik, D. (2017). Geographical linkages in the financial services industry: A dialogue with organizational studies. *Regional Studies*, *51*(1), 116–127. https://doi.org/10.1080/00343404.2016.1254768

Lai, K. P. Y. (2020). Fintech: The dis/re-intermediation of finance? In J. Knox-Hayes, & D. Wójcik (Eds.), *The Routledge Handbook of Financial Geography* (pp. 440–457). Routledge.

Leifer, R., & Delbecq, A. (1978). Organizational/environmental interchange: A model of boundary spanning activity. *Academy of Management Review*, *3*(1), 40–50. https://doi.org/10.2307/257575

Ministry of Science and Technology (MOST). (2017). *Notice on the issuance of the 'Zhongguancun National Independent Innovation Demonstration Zone'*. MOST of the People's Republic of China. http://www.most.gov.cn/kjzc/gjsdkjzc/gjzzcxsfqsdzc/zgc/zgckjjr/201706/t20170629_133840.htm

Neffke, F., Hartog, M., Boschma, R. A., & Henning, M. (2018). Agents of structural change: The role of firms and entrepreneurs

in regional diversification. *Economic Geography*, *94*(1), 23–48. https://doi.org/10.1080/00130095.2017.1391691

Neffke, F., Henning, M., & Boschma, R. A. (2011). How do regions diversify over time? Industry relatedness and the development of new growth paths in regions. *Economic Geography*, *87*(3), 237–265. https://doi.org/10.1111/j.1944-8287.2011.01121.x

Qiaochu, P. (2020). Management Committee of Zhongguancun Science and Technology Park: The development of the financial technology industry has three major characteristics. *Sina Finance*. https://finance.sina.com.cn/money/bank/bank_hydt/2020-12-15/doc-iiznezxs7017369.shtml

Schotter, A., & Beamish, P. W. (2011). Performance effects of MNC headquarter–subsidiary conflict and the role of boundary spanners: The case of headquarter initiative rejection. *Journal of International Management*, *17*(3), 243–259. https://doi.org/10.1016/j.intman.2011.05.006

Shim, Y., & Shin, D. H. (2016). Analyzing China's Fintech industry from the perspective of actor–network theory. *Telecommunications Policy*, *40*(2–3), 168–181. https://doi.org/10.1016/j.telpol.2015.11.005

Sohns, F., & Wójcik, D. (2020). The impact of Brexit on London's entrepreneurial ecosystem – The case of the FinTech industry. *Environment and Planning A: Economy and Space*, *52*(8), 1539–1559. https://doi.org/10.1177/0308518X20925820

Stam, E. (2015). Entrepreneurial ecosystems and regional policy: A sympathetic critique. *European Planning Studies*, *23*(9), 1759–1769. https://doi.org/10.1080/09654313.2015.1061484

Svensson, C., Udesen, J., & Webb, J. (2019). Alliances in financial ecosystems: A source of organizational legitimacy for Fintech startups and incumbents. *Technology Innovation Management Review*, *9*(1), 20–32. https://doi.org/10.22215/timreview/1209

Tan, J. (2006). Growth of industry clusters and innovation: Lessons from Beijing Zhongguancun Science Park. *Journal of Business Venturing*, *21*(6), 827–850. https://doi.org/10.1016/j.jbusvent.2005.06.006

Töpfer, L.-M. (2018). China's integration into the global financial system: Toward a state-led conception of global financial networks. *Dialogues in Human Geography*, *8*(3), 251–271. https://doi.org/10.1177/2043820618797460

Urban, M., Pažitka, V., Ioannou, S., & Wójcik, D. (2022). The financial geography of resilience: A case study of Goldman Sachs. *Annals of the American Association of Geographers*, *112*(6), 1593–1613. https://doi.org/10.1080/24694452.2021.1994849

Wang, Y., Li, J., & Furman, J. L. (2017). Firm performance and state innovation funding: Evidence from China's Innofund program. *Research Policy*, *46*(6), 1142–1161. https://doi.org/10.1016/j.respol.2017.05.001

Yeung, H. W. C. (2016). *Strategic coupling: East Asian industrial transformation in the New global economy*. Cornell University Press.

ZPark. (2020a, March 15). *Company brief*. http://www.zpark.com.cn/en/company.aspx

ZPark. (2020b, March 15). *Enterprise entry standard*. http://www.zgcspi.com/index.php?m=article&f=view&id=217#