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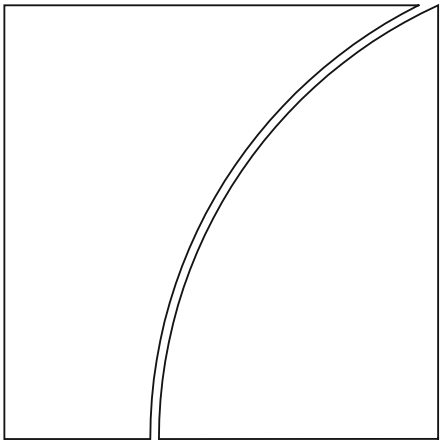

Gatekeeping the gatekeepers: when big techs and fintechs own banks – benefits, risks and policy options

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Contents

Gatekeeping the gatekeepers: when big techs and fintechs own banks – benefits, risks and policy options[1]

Executive summary

Over the past decade, big techs and fintechs began to provide a range of financial services to consumers, initially outside the confines of the highly regulated banking industry. These services started with payments, but expanded to encompass consumer lending, insurance and wealth management. In their provision of financial services, some big techs and fintechs compete directly with banks, while others work in partnership with them through various arrangements, to fulfil their customers' banking needs. From the perspective of big techs and fintechs, the main benefit of providing bank-like financial services without a banking licence is the limited regulatory oversight, which allows them to focus on enhancing their technology, improving product offerings and enriching the customer experience.

More recently, several big techs and fintechs have obtained a banking licence in various jurisdictions. Despite the regulatory scrutiny that accompanies a banking licence, a number of big techs and fintechs see the value proposition that it confers. Asia, and in particular China, is home to the largest number of big techs that operate with a banking licence. Numerous fintechs have also been granted bank charters in the United Kingdom and to a lesser extent in the European Union (EU) and the United States. Access to low-cost deposits that complement their product offerings, the cost savings associated with eliminating the need for partner banks, the perceived trust and legitimacy that a banking licence bestows and the possibility that investors may reward such firms through higher market valuations more than offset the costs associated with operating as a bank.

These developments have been facilitated by an enabling regulatory environment. Despite historical concerns regarding the ownership of banks by non-financial companies (NFCs), several banking authorities – particularly those with objectives that encompass financial inclusion and/or competition – have allowed technology firms to own banks. This shift in approach reflects their view that technological innovations in the provision of financial services may help to improve consumer outcomes. Several Asian jurisdictions have introduced digital bank licences, while others (UK) have streamlined their licensing process or expressed an openness to consider tech firms to obtain a banking licence (EU and US).

This paper assesses the benefits and risks of extending banking licences to big techs and fintechs. The findings are based on publicly available information on applicable licensing requirements in seven jurisdictions covering Asia, Europe and North America. A key focus of the paper is to compare the merits of bank ownership by tech firms in relation to ownership by commercial or industrial NFCs. To help differentiate their risk characteristics, this paper classifies tech firms into three distinct groups: (i) standalone fintechs whose financial activities are conducted solely or primarily through their banking entity; (ii) large diversified fintechs which engage in a broader range of (mainly) financial services through various channels, including the parent entity level, their subsidiary bank and other non-bank subsidiaries, joint ventures and affiliates; and (iii) big techs with core non-financial businesses in social media, internet search, software, online retail and telecoms, who also offer financial services as a secondary business line.

The perceived benefits of allowing tech firms to operate with a banking licence are compelling, but require scrutiny. Unburdened by legacy infrastructure, tech firms often offer superior technology and user-friendly apps that may allow them to reach more consumers and perform various

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aspects of the banking business (onboarding, deposit-taking, lending, payments) more efficiently than incumbents, including commercial or industrial NFCs that may own banks. Collectively, their technology-centric approach in the delivery of financial services is expected to advance some authorities' broader goals of fostering financial inclusion, promoting competition and delivering better outcomes for society. Nevertheless, as part of the authorisation process – and subsequently through ongoing supervision – authorities need to examine the ability and willingness of tech firms to deliver on their stated objectives.

The inherent risks, however, differ markedly across tech firms, with big techs posing the greatest challenges. To ascertain the underlying risks of bank ownership, we map five key risk factors across the three groups of tech firms specified in this paper. The first four factors – conflicts of interest, concentration of power/anticompetitive behaviour, contagion and systemic risk, and impediments to consolidated supervision – are specific concerns that are typically cited when commercial or industrial NFCs seek to own banks, and thus can also be applied to tech firms that own or are seeking a banking licence. The fifth factor, the ability of the parent or shareholders to support the bank in times of need, is a key element of the licensing process in all authorities. In aggregate, the risk profile of big techs, particularly across the first four factors, pose the highest risks among tech firms, followed by large, diversified fintechs.

Authorities impose a range of financial and non-financial requirements as a precondition for tech firms to operate a licensed bank. Three critical provisions include the imposition of a financial holding company (FHC) structure to house tech firms' various financial activities to facilitate consolidated oversight (China and Hong Kong SAR); the application of higher risk-based capital requirements on digital banks, due their untested business models (Singapore) or the imposition of higher leverage capital ratios to tech-owned banks in relation to traditional bank startups (US); and bank ownership limits on NFCs, including more severe caps for any company that violates anti-monopoly rules (Korea). To assess the parent's ability to support the bank, China requires the tech-owned parent of the FHC to be profitable for at least two consecutive years, while the US requires the parent (if it is an NFC) to pledge assets or to secure a line of credit to demonstrate its source of strength. Key non-financial provisions include prior technology experience of bank sponsors; limitations on overlapping boards and shared officers between the bank and (the tech) parent to minimise conflicts of interest; prohibition of predatory tactics used to gain market share; and a provision to develop an exit plan in case the bank fails.

In devising licensing requirements, authorities should consider the inherent risks posed by tech firms. Among the three groups, the risk characteristics of big techs and large diversified fintechs pose the biggest supervisory concerns, with the former likely to require more onerous requirements than the latter. While standalone fintechs present lower overall risks, they have less flexibility – in relation to other tech firms – to provide financial support to their banking entity if needed, which should be considered during the authorisation process. In this context, various aspects of the licensing regime can be tailored for and adapted to tech firms' unique risk profiles to mitigate the underlying risks, but supervision and enforcement may pose formidable challenges.

The question of whether to allow tech firms to operate with a banking licence has the potential to permanently alter the landscape of national banking systems. Prudential authorities, as gatekeepers of the banking system, must decide whether to allow entry to these new gatekeepers of the digital economy and, if so, what requirements to impose on them. At one end of the spectrum is prohibiting or creating formidable barriers, while at the other is developing an enabling regulatory environment to facilitate their entry. The space between these theoretical extremes provides scope for prudential authorities to consider policy trade-offs that are appropriate for their jurisdiction-specific circumstances.

Section 1 – Introduction

1. **Over the past 10 years, the rapid growth of the digital economy, together with technological innovations, has led big techs and fintechs to enter the financial services sphere.** Consumers have rapidly embraced online platforms for e-commerce, while the proliferation of mobile phones has allowed a broader range of consumers to access financial services from remote locations. Technology firms were primed to take advantage of these developments, through their access to and analysis of consumer data, combined with deployment of cutting-edge technology and user-friendly apps. This has allowed them to provide a broad range of financial services – including payments, lending, insurance and wealth management – to underserved segments of society (BIS (2019), Deloitte (2020), Croxson et al 2022)). In their delivery of financial services, some big techs and fintechs partner with banks, while others compete directly against them.

2. **While technology firms ("tech firms") initially offered financial services without the need for or interest in a banking licence, several big techs and fintechs have recently obtained a bank charter.** Despite the heightened regulatory oversight that goes hand in hand with a banking licence,[2] some big techs and fintechs have opted to acquire a banking licence for multiple reasons. The perceived advantages include, but are not limited to, the following: (i) to gain access to low-cost funding and the broader safety net (eg lender of last resort facilities); (ii) to limit the need to partner with banks; (iii) to gain the credibility and trust that a banking licence offers; and (iv) to reap potential financial rewards, through higher market valuations, that equity investors may assign to tech firms that own a bank.

3. **Although tech firms that operate licensed bank(s) are now a worldwide phenomenon, they are prevalent in jurisdictions that have supervisory mandates that include financial inclusion and/or competition.** The Asia-Pacific region (probably) contains the largest number of tech firms that have been granted a banking licence, with China housing the most big techs that operate a bank. This may be because many Asian authorities have secondary financial inclusion mandates (Kirakul et al (2021)) and generally view technological innovations in financial services as a means to not only reach un(der)served consumers, but also to spark broader economic growth prospects (Deloitte (2020)). In the United Kingdom, where the Prudential Regulation Authority of the Bank of England (UK-PRA) has a secondary competition mandate, the licensing process was streamlined to facilitate competition in retail banking, resulting in a significant number of fintech bank startups. While the European Union (EU) and the United States banking agencies have authorised a smaller number of fintech banks, they have signalled a willingness to consider fintech bank applicants.

4. **Big techs and fintechs are the latest in a line of non-financial companies (NFCs) that have sought a banking licence, which many prudential authorities have historically viewed with scepticism.** In some jurisdictions, banking authorities have traditionally prohibited or significantly curtailed the ability of certain NFCs – such as big corporates and industrial firms – to own banks. They have discouraged such affiliations based on four main concerns: (i) they may expand the scope for potential conflicts of interest; (ii) they could erode competition and lead to a concentration of power; (iii) they may accentuate systemic risk and contagion; and (iv) they could inhibit the conduct of effective consolidated supervision.

5. **Despite broader concerns, several prudential authorities have now opened the door to a new class of NFCs, such as tech firms, to own banks.** A key issue is whether the traditional concerns regarding the affiliation between banks and big corporates and industrial firms remain relevant within the realm of tech firms' ownership of banks. An added consideration is whether the risk characteristics within the universe of tech firms differ and, if so, whether these differences are considered in the bank licensing criteria of prudential authorities. More generally, if tech firms are granted a banking licence, what prudential safeguards might be useful to reap the perceived benefits and to address the underlying risks?

[2] A fundamental feature of a banking licence is the ability to accept deposits from the public.

6. **This paper examines the pros and cons of the extension of banking licences to tech firms[3] and reviews selected jurisdictions' applicable authorisation criteria.** The findings are based on publicly available information of applicable licensing regimes in (mainland) China, the EU, Hong Kong SAR, Korea, Singapore, the UK and the US. Section 2 evaluates the perceived benefits and inherent risks of tech-owned bank owners that are benchmarked against commercial-industrial NFCs' ownership of banks. To ascertain their inherent risk characteristics and to help inform policy deliberations, this section disaggregates tech firms that provide financial services into three distinct groups: standalone fintechs, large diversified fintechs and big techs. Section 3 provides an overview of various tech firms that have approved or pending bank licences in seven jurisdictions, in addition to taking a deep dive into key licensing requirements in those respective jurisdictions. Section 4 provides policy options for the three groups of tech firms across five key risk dimensions, while Section 5 concludes.

Section 2 – Benefits and risks of tech-owned banks

7. **In several jurisdictions, banking authorities have embraced technological innovations in the provision of financial services as a key tool to promote financial inclusion and to foster competition, with the aim of improving consumer outcomes.** In the light of these priorities, they have set aside their historical reservations regarding the affiliation between banks and NFCs and allowed (or are considering allowing) new classes of NFCs such as fintechs and big techs to obtain a banking licence. While tech firms emphasise the promise of technology to help achieve multiple public policy objectives, it may be useful to weigh the pros and cons of their entry into the banking system to help inform policy decisions.

8. **For the purposes of this paper, the following definitions apply, including the classification of tech firms into three groups.** Fintechs are tech firms whose core business focuses on using technology to deliver financial services either solely or primarily online. Fintechs that own or seek to own a bank are separated into two subgroups: standalone fintechs which engage in financial services either solely or primarily through their banking entity; and larger, diversified fintechs that, in addition to their depository institution, provide a broader range of (mainly) financial services through the parent entity level or via non-bank subsidiaries, joint ventures and affiliates. The third category is big techs, which the Financial Stability Board (FSB) defines as large technology companies with extensive customer networks and includes firms with core businesses in social media, internet search, software, online retail and telecoms (FSB (2020)). For big techs, financial services are a secondary rather than a core business line.

Benefits

9. **The potential benefits of tech firms' ownership of banks compare favourably with commercial/industrial NFCs across five criteria[4] (Table 1).** Across nearly every dimension, tech firms fare much better than industrial-commercial NFCs in their potential to deliver on the policy objectives of promoting inclusion and fostering competition.[5] The widespread ownership of mobile devices, in

[3] The challenges associated with supervising tech-owned banks and banking models that rely primarily on technology in the provision of financial services are beyond the scope of this paper.

[4] This is not an all-inclusive list and there may be other perceived benefits, such as access to new sources of capital, economies of scope and scale that may provide additional justification for NFCs to own banks.

[5] Commercial-industrial NFCs that own banks are likely to use them to fund their own or affiliated companies' borrowing activities or to grant credit access to their customers in order to facilitate purchase of commercial-industrial group products. These activities are unlikely to expand credit access to underserved customers. However, their impact on competition is more difficult to generalise and may depend on firm-specific circumstances. Large commercial-industrial NFCs may be able to leverage their market dominance and customer base to cross-subsidise their banking activities (from their non-financial businesses) to erode competition in the banking sector. On the other hand, smaller commercial-industrial firms may not have sufficient market power to influence the competitive landscape in the banking sector.

conjunction with their deployment of superior technology and user-friendly interfaces, may enable tech firms to reach a broader range of un(der)served consumers and to perform various aspects of the banking business efficiently and at a cheaper cost. These banking activities range from digital onboarding of customers to opening savings accounts and offering high-volume, low-value financial transactions in a way that incumbents (including industrial-commercial NFCs that own banks) may not find feasible (Deloitte (2020)). Moreover, tech firms' ability to mine consumers' digital data allow them to not only assess prospective borrowers' creditworthiness (Frost et al (2020)), but it can also provide insights in pricing financial services and in tailoring products to meet consumer needs. These collective attributes are expected to lead to a more inclusive and competitive banking landscape.[6] Notwithstanding these potential benefits, an open question is the role of big techs' impact on competition (see "risks" section under big techs for further discussion).

NFCs and bank ownership – potential benefits Table 1

	Superior technology	User-friendly customer interface	Superior data facilitate better pricing, products and risk assessment	Potential to expand financial services to un(der)banked customers	Fosters competition
Standalone fintechs	✓	✓	✓	✓	✓
Larger, diversified fintechs	✓	✓	✓	✓	✓
Big techs	✓	✓	✓	✓	?
Commercial & industrial NFCs	✗	✗	✗	✗	?

Source: OECD (2020); FSI analysis.

Risks

10. **While the perceived benefits are clear, they need to be weighed against the underlying risks.** Each of the four conventional supervisory concerns that are typically cited in connection with large commercial and industrial NFCs' affiliation with banks are explained below.[7] We then assess the extent to which these risks are relevant in the context of tech firms that seek a banking licence.

- ***Conflicts of interest***: Conflicts of interest arise when a bank engages in any transaction with bank insiders and bank-affiliated parties that are offered on terms and conditions that are more favourable than what would be offered to third parties.[8] For example, a bank might be compelled to make a loan under preferential terms directly to its corporate owner or to commercial entities controlled by its corporate owner. These potential conflicts of interest – which can encompass a

[6] While tech firms may emphasise their use of technology to reach un(der)banked consumers at a lower cost, their ability and willingness to do so needs to be carefully scrutinised as part of the licensing process and, over time, through ongoing supervision.

[7] See Blair (2004), Wilmarth (2020) and Acharya and Rajan (2020) for further discussion on prudential concerns related to the affiliation of banks and non-financial companies.

[8] Bank insiders and bank affiliated parties include, but are not limited to, their corporate owners, principal shareholders, board of directors, executive officers and any affiliated company (eg companies owned by their corporate owners).

variety of transactions[9] – pose a range of prudential risks to banks. These include excessive intragroup exposures, heightened credit risks and poor profitability, which, collectively, may undermine the bank's financial resilience.

- ***Concentration of power and anticompetitive behaviour***: An often-cited concern is that when large commercial-industrial NFCs have an in-house bank, they can use their size, customer base and market power to erode competition in the banking sector, by subsidising their banking activities (from their non-financial businesses) to gain market share. In addition, commercial-industrial NFCs that own banks derive certain benefits that are not extended to other NFCs, such as the use of low-cost deposits to subsidise their commercial activities.
- ***Contagion and systemic risk***: Affiliations between large corporates and banks may provide the former with implicit government support in the event of a systemic crisis. This, in turn, increases the risks of contagion and spillovers between the financial system and the real economy and vice versa.[10] This may be a particular concern if the bank's business model is heavily reliant on its corporate parent's (non-financial) business activities and customer base.
- ***Complex organisational structure impedes consolidated supervision***: Large commercial or industrial NFCs that own banks may operate with multiple subsidiaries, joint ventures and affiliates that may be involved in various financial and non-financial activities. These complex organisational structures may impede the ability to conduct effective consolidated supervision of the financial entities within the corporate group.[11] They may also pose challenges for supervisors to ascertain the risks posed to the depository institution from the corporate owners' non-financial businesses.

11. **An assessment of how the three groups of tech firms compare against the baseline risks of commercial-industrial NFCs that may own banks are summarised in Table 2.**[12] The first four columns depict prudential concerns that are specific to the affiliation between banks and NFCs.[13] The fifth column considers whether prospective bank owners have the capacity to provide financial support to the bank in times of need, which is a key consideration in the licensing process for all bank applicants.[14] The classification of "low", "moderate" and "high" risk are based on the authors' judgment of the inherent risks associated with tech firms across the specified risk dimensions. Within a group of tech firms, there may be variations in risk dispersion that cannot be captured through this generalised methodology.

[9] Beyond lending, other conflicts of interest include purchasing assets of bank insiders and affiliated parties at inflated prices; providing financing under favourable terms to customers of the corporate parent to facilitate customers' purchase of the corporate parent's products or services; or being compelled to accept various ancillary/shared services provided by its corporate parent (or companies owned by the corporate parent) and charged fees that are above market prices.

[10] See Wilmarth (2020) for a discussion of historical problems at commercial-financial conglomerates in various jurisdictions.

[11] The licensing criteria of banks, as outlined in the *Core principles for effective banking supervision*, includes an assessment of whether the proposed legal, managerial, operational and ownership structures of the bank and the wider group hinder the conduct of effective supervision on a solo and consolidated basis. See BCBS (2012), Principle 5, for further details.

[12] The baseline risks of commercial-industrial NFCs – which are assumed to be large diversified conglomerates for this table – are rated as "high" across the four specified risk dimensions. Paragraph 10 of this paper provides the underlying rationale for this risk assessment and are concerns cited by some academics (Wilmarth 2020). The fifth assessment criterion – the ability of the parent to support the bank – is not assessed due to variations in the financial capacity of large commercial-industrial NFCs.

[13] This is not an all-inclusive list, and authorities consider other factors in their decision-making process, including the character and integrity of proposed owners, the viability of their business models and the expertise of the board and management team.

[14] A fundamental principle for many regulatory authorities is that all bank owners should be ready to provide sufficient capital to their banks during times of need and have sufficient financial capacity to obtain additional resources to support their banks.

NFCs and bank ownership – potential risks

Table 2

	Conflicts of interest	Concentration of power and anticompetitive behaviour	Contagion and systemic risk	Complex organisational structure impedes consolidated supervision	Ability of parent (or main shareholders) to support the bank
Standalone fintechs	Low risk	Low risk	Low risk	Low risk	High risk
Larger, diversified fintechs	Moderate risk	Low to moderate risk	Moderate risk	Moderate risk	Moderate to high risk
Big techs	High risk	High risk	High risk	High risk	Low risk
Commercial and industrial firms	High risk	High risk	High risk	High risk	

Source: FSI analysis.

12. **Standalone fintechs pose lower overall risks than diversified fintechs and big techs.** Given their small size and lack of a sizeable consumer base or a captive ecosystem, they are unlikely to pose systemic risks, thwart competition or accumulate excessive power. While conflicts of interest can always exist between a bank and its owner(s), their lack of a complex organisational structure reduces the scope for conflicts of interest and should not hamper supervisors' ability to conduct consolidated supervision. Lastly, the ability of standalone fintechs to inject additional capital into their depository entity – if needed – is unpredictable, accentuating the inherent risk assigned to this criterion.

13. **The risk characteristics of diversified fintechs fall in between those of standalone fintechs and big techs.** Their organisational structures are more complex than standalone fintechs, due to the existence of various lines of business and operating entities across (mainly) financial services. This elevates the inherent risks related to potential conflicts of interest and supervisors ability to perform effective consolidated supervision. Similarly, the potential for spillovers between the activities of the diversified fintech parent and its bank are greater if the viability of the latter is heavily reliant on the activities and infrastructure of the former.[15] This consideration accentuates the "contagion and systemic risk" criterion in relation to standalone fintechs and elevates the risk attached to the parent's ability to support the bank in times of stress (Gruenberg (2020)). On the other hand, while larger, diversified fintechs vary in size and complexity, they pose low to moderate risks in regards to competition and concentration of power.

14. **The risk profile of big techs poses the highest risks among tech firms and raises significant policy implications.** Big techs have a captive ecosystem that allows them to utilise, through superior analytics, consumer and business data that are collected on their platforms as they expand into the provision of financial services.[16] In an increasingly digitalised economy, the concentration of data in big techs – combined with their extraordinary market power and ability to leverage network effects – helps to tilt the playing field in their favour. In particular, they derive competitive advantages from key features of their business model – **d**ata analytics, **n**etwork externalities and interwoven **a**ctivities (the "DNA feedback loop"). This DNA feedback loop can result in a virtuous cycle as increases in the user base of big tech platforms lead to network effects creating more users on the platform, which in turn generates more data. Data, the most valuable currency in the digital economy, is the raw material that feeds into data analytics,

[15] Square Inc. a diversified fintech company that focuses primarily on payments, was approved in 2020 for deposit insurance coverage (a precondition to obtain a banking licence) in the United States by the Federal Deposit Insurance Corporation (FDIC). FDIC Board member Martin Gruenberg voted against Square Inc.'s application, concluding '..in an economic downturn both (the parent and bank) would likely experience stress at the same time, which would impair the ability of the parent to serve as a source of strength when it is needed most'. See Gruenberg 2020 for further details.

[16] For a comprehensive discussion on big techs entry into banking, see International Banking Federation and Oliver Wyman (2020).

which enhances existing services and draws additional users (BIS (2019)). Yet the same forces can allow them to quickly dominate a financial system (Carstens et al (2021); Croxson et al (2022)).

15. **Big techs' unique DNA-based ecosystem model and ample liquidity pose a significant threat to competition.** Their competitive advantages[17] may include: prioritising their banking products and services within their captive ecosystem ("self-preferencing"); offering bespoke banking products at a subsidised cost or using predatory tactics to either gain market share in their banking business or to acquire additional consumer data to benefit their non-financial businesses; tying or linking the availability of a banking product or service with their core non-financial businesses where it has market power; and benefiting from asymmetrical data-sharing requirements with financial institutions.[18] These unique big tech attributes may simultaneously benefit consumers in the near term, while eroding competition over time (de la Mano and Padilla (2018); Restoy (2021)).

16. **All other prudential risk factors – beyond big techs' ability to support the bank[19] – are equally elevated.** Big techs' ability to grow at astonishing speed (Crisanto et al (2021a); Carstens et al (2021)), combined with the potential spillover effects between their various non-financial activities and the financial system (Restoy (2021)) elevate the inherent risks attached to contagion and systemic risk dimensions.[20] In this context, if the big tech-owned bank's business model hinges on generating business from its parent's non-financial activities[21] while relying heavily on its parent for technical and operational support, there may be significant challenges to extricate its activities from that of the big tech parent, if needed. Lastly, their scale of non-financial activities and complex organisational structure increase the scope for conflicts of interest (between the bank and the non-bank entities within the big tech group). This may impede the ability to perform robust consolidated supervision, including a prudential assessment of the risks posed by big techs' non-financial businesses on their banking entity.

Section 3 – The landscape for tech-owned banks and licensing regimes

Banking landscape for tech-owned banks

17. **Big techs that operate with a banking licence are overwhelmingly concentrated in Asia, led by China** (Table 3). This may be driven, in part, by relevant authorities' greater willingness to experiment with non-traditional bank owners[22] and their tech-centric business models, given that a number of Asian jurisdictions have broader objectives of fostering innovation, competition and financial inclusion. Several Asian authorities (China, Hong Kong, Korea, Malaysia, Singapore) have introduced digital bank licences, which have now become the main gateway for tech firms' entry into banking in the region.

18. **Within Europe, the vast majority of tech firms that own banks are either diversified fintechs or standalone fintechs.** In the EU, authorities generally operate under the principle of "same activity,

[17] See Smith and Geradin (2021) for further discussion on big techs' impact on competition.

[18] Open banking initiatives require banks to share clients' transaction data, subject to customers' consent, with other third-party registered service providers, including big techs. The data-sharing is facilitated using a common set of requirements and specifications. There is no commensurate requirement for big techs to share relevant relevant customer data collected in their digital ecosystems with other financial services providers, though there are proposals in the UK and the EU to this effect. For further information on the EU's proposal, see European Commission (2020).

[19] Big techs are generally profitable and have large market capitalisations, enabling them to be a source of strength to their banking subsidiary in times of need.

[20] In addition, the market for outsourcing cloud services is dominated by big techs (Feyen et al 2021). This raises an additional contagion and systemic risk dimension of big techs, given their critical role as ancillary service providers to financial institutions.

[21] For example, a bank that is owned by an e-commerce firm may originate the majority of its loans to customers of their e-commerce parent, while relying on the data and risk models of the parent to price and originate the underlying loans.

[22] Another motivation may be due to some authorities' desire to bring tech firms' financial activities into the regulatory perimeter.

same risks, same supervision". Thus, while member states have given diversified fintechs and a few big techs banking or payment licences, others have partnered with existing banks or operate as payments or e-money institutions instead. The UK has a concentration of standalone fintechs with banking licences, which may result from the Prudential Regulation Authority's (PRA) secondary competition mandate. In particular, the PRA streamlined its bank licensing process in response to a report from the UK's Competition and Markets Authority that there was insufficient competition in retail banking (CMA (2016)).

19. **In the US, no big techs own banks as of this publication, and only a few diversified fintechs operate with a banking licence.** This may reflect the US's longstanding policy of restricting the affiliation between banks and NFCs. Tech firms that engage in only financial activities can apply for a traditional bank licence or an industrial loan company (ILC) charter.[23] However, the ILC charter is the only route available for tech firms that engage in non-financial activities (such as big techs). Public opposition to the ILC charter has prompted US regulators to impose a de facto moratorium on approval of all ILC applications since 2006. However, the Federal Deposit Insurance Corporation's (FDIC)[24] recent decision to grant deposit insurance coverage to two diversified fintechs that applied for ILC charters in 2020, may signal a more open stance.[25] Rakuten, an e-commerce big tech, has applied for a US banking licence and is the first major test case on whether authorities' renewed willingness to grant ILC charters will extend to big techs.

20. **Notwithstanding differences in policy approaches across regions, one of the most striking features is the multitude of financial and non-financial lines of business that certain tech firms operate.** Table 3 provides a snapshot of tech firms with approved or pending banking licences, along with their main lines of business in the seven jurisdictions covered in our study. The table reveals a broad range of businesses operated by diversified fintechs (eg payments, wealth management and various types of lending) and big techs (eg e-commerce, internet search, telecommunications, social media, messaging and food delivery). This places extraordinary pressure on supervisors to gain an understanding of the relevant tech firms' inherent risk characteristics, including how their bespoke ecosystems may interact with, and pose risks to, the depository institution and the broader financial system.

[23] The ILC charter grants similar powers as traditional banks but exempts the ILC parent company from the Federal Reserve Board's (FRB) prudential requirements that are imposed on bank holding companies. Two important carveouts include the ability of the ILC parent to engage in non-financial activities, while exempting it from the FRB's consolidated supervision framework. The ability to evade FRB's consolidated supervision provides another incentive for corporate parents that may only conduct financial activities to seek an ILC charter as opposed to a traditional bank licence. To partially offset the lack of consolidated supervisory oversight of the ILC parent, the FDIC, as the deposit insurer of ILC chartered banks, has introduced a range of prudential requirements on the ILC parent as a precondition to obtain deposit insurance. See FDIC (2021) for further information.

[24] The FDIC, one of three federal banking regulators in the US, is the sole agency with powers to grant deposit insurance to new bank entrants. Deposit insurance coverage is a precondition for all NFCs to gain approval for an ILC charter.

[25] Beyond the ILC charter, the Office of the Comptroller of the Currency – another US banking agency that charters national banks – announced a Special Purpose National Bank charter in 2018, but its legality is being disputed by state regulators. It also announced in 2020 a new "payments charter" for fintech payment firms. Wyoming has also begun issuing state-level Special Purpose Depository Institution charters to some fintechs. Because these charters are not designed for firms conducting deposit-taking activities, they are beyond the scope of this paper.

Tech firms with approved or pending banking licences – ownership and main business lines[26]

Table 3

	Bank	Parent (BT/DFT/SFT)①②		Parent main lines of business
China③	MyBank	Ant Group	DFT	E-commerce/online retail
	WeBank	Tencent	BT	Tech/gaming and messaging
	XW Bank	Xiaomi	BT	Electronics/communications
	Suning Bank	Suning.com	BT	E-commerce/online retail
	AiBank	CITIC/Baidu	BT	Internet search/advertising
	Jilin Yillion Bank	Meituan	BT	Food delivery, e-commerce/online retail
	Kincheng Bank	360 DigiTech	DFT	Digital consumer lending, loan facilitation
Hong Kong SAR④	Airstar Bank	Xiaomi	BT	Electronics/communications
	Fusion Bank	Tencent	BT	Tech/gaming and messaging
	Ant Bank	Ant Group	DFT	E-commerce/online retail
	PAOBank	OneConnect	DFT	Cloud services, B2B solutions
	WeLab Bank	WeLab Holdings	DFT	Digital consumer lending, B2B solutions
Korea⑤	Kakao Bank	Kakao Corp	BT	Social media, information technology, gaming
	K Bank	KT Corp	BT	Telecommunications
	Toss Bank	Toss	DFT	Finance super app, payments, banking, insurance, investing
Singapore⑥	TBD (not yet operational)	Grab/Singtel	BT	Transportation and communications
	TBD (not yet operational)	Sea Group	BT	E-commerce, gaming
	TBD (not yet operational)	Ant Group	DFT	E-commerce/online retail
EU	Net-m Privatbank 1891 AG	NTT Docomo	BT	Mobile communications
	Rakuten Europe Bank S.A.	Rakuten	BT	E-commerce/online retail
	N26 Bank GmbH	N26, Inc.	DFT	Payments, IT and communications
	Revolut Bank UAB	Revolut	DFT	Payments, crypto, consumer loans
	Klarna Bank AB	Klarna Holding AB	DFT	Payments solutions for e-commerce firms
	PayPal (Europe) S.à r.l.et Cie,S.C.A.	PayPal Holdings	DFT	Payments, payments solutions for businesses
	Murmur Financial	Starling Bank	SFT	Banking
UK	TBD	Revolut	DFT	Payments, crypto, consumer loans
	TBD	PayPal Holdings	DFT	Digital payments, payments solutions
	Tandem Bank	Tandem Money	SFT	Banking
	Atom Bank		SFT	Banking
	Monzo Bank		SFT	Banking
	Cashplus		SFT	Banking
	Starling Bank		SFT	Banking
	Metro Bank PLC		SFT	Banking
	Chetwood Financial		SFT	Banking
US	Rakuten Bank America	Rakuten	BT	E-commerce/online retail
	TBD	Revolut	DFT	Payments, crypto, consumer loans
	Square Financial Services	Square, Inc.	DFT	Digital payments, business lending, payments solutions
	Mid-Central Savings Bank	Jiko Group, Inc.	DFT	Investment services
	Golden Pacific Bancorp	SoFi, Inc	DFT	Personal finance, consumer lending, crypto
	LendingClub Bank	LendingClub	DFT	Consumer loans, securitization,
	NelNet Bank	Nelnet, Inc.	DFT	Student loan servicing and management
	Varo Bank, NA		SFT	Banking

Text = Currently awaiting regulatory approval for licence.

① BT = Big tech; DFT = diversified fintech; SFT= standalone fintech. ② Parents of SFTs are not listed because their primary or sole business is their banking licence. They do not operate within a broader group structure. ③ Regulations in China prevent tech firms from holding >30% in a digital bank. All "parents" of Chinese digital banks have stakes at or around this amount. ④ The HKMA has awarded eight digital bank licences. For the purposes of this paper, this table only covers those owned by tech firms. ⑤ Regulations in Korea prevent tech firms from holding >34% in a bank. ⑥ The MAS awarded four digital bank licences in December 2020. For the purposes of this paper, this table only covers those owned by tech firms.

Sources: Company regulatory filings; FSI analysis.

[26] This table is not an all-inclusive list and provides a selected overview of approved or pending banking licences.

Licensing regimes in selected jurisdictions

21. **The potential risks associated with tech firms' ownership of banks are considered, initially, through the bank licensing process.** This process serves a critical gatekeeping role and aims to control the population of prospective sponsors that seek a new banking licence.[27] While the decision to grant or deny a prospective applicant a banking licence entails a significant degree of judgment by the licensing authority, it is often guided by a similar set of criteria.

22. **For all banking authorities, their applicable bank licensing criteria are informed by the standards prescribed in the *Core principles for effective banking supervision* (Basel Core Principles, BCPs).** The BCPs – developed by the Basel Committee on Banking Supervision (BCBS) in 1997 and last updated in 2012 – contain a set of 29 principles which collectively serve as the de facto minimum standard on the sound prudential regulation and supervision of banks (BCBS (2012)). In particular, BCP 5 covers the minimum licensing criteria that are applicable in all jurisdictions.

23. **The BCP licensing criteria contain a range of principles-based standards that are relevant for all potential bank applicants and are not specific to the particularities of tech firms.** These criteria include an assessment that the proposed ownership structure and governance of the bank and its wider group does not hinder effective supervision; an evaluation of the suitability of the bank's major shareholders, including their ability to provide additional financial support if needed; and an examination of the fitness and propriety of the proposed Board and senior management and any potential conflicts of interest. It also includes provisions for minimum initial capital levels for all banks; a review of the strategic and operating plans of the proposed bank, including the appropriateness of corporate governance, risk management and internal controls; and an analysis of the financial statements and projections of the proposed bank. The latter criterion includes the strength of the bank's principal shareholders to support the proposed strategic plan.

24. **Despite a similar starting point, specific licensing requirements imposed on tech-owned bank applicants differ across jurisdictions.** These variations appear to be driven, in part, by whether jurisdictions filter all prospective bank applicants, including tech firms, through their general licensing framework; or have introduced bespoke digital bank licensing regimes for tech firms and their underlying tech-centric business models (various Asian authorities) or for NFCs in general (ILC charter in the US). The approaches taken, combined with the principles-based nature of the BCP licensing criteria, result in differing requirements. Table 4 provides a synopsis of certain aspects of the licensing regime that are specifically applicable to tech-owned banks

[27] While some tech firms have obtained a banking licence by acquiring an existing bank, the vast majority of them have applied for a new banking licence, and are therefore subject to applicable licensing requirements.

Overview of licensing and regulatory requirements for tech firms in select jurisdictions Table 4

	CN	EU	HK	Korea	SG①	UK	US
Licensing regimes							
Type	• Normal (private) bank licence or online bank licence • FHC licence required if certain thresholds met.	Normal bank licence②	Digital – one type	Internet-only bank licence	Digital – two types (digital versions of normal bank licences) • Digital full bank (DFB); retail and non-retail • Digital wholesale bank (DWB): SMEs and other non-retail segments	Normal bank licence	Normal bank licence or ILC charter③
Objectives	Inclusion, competition	na	Inclusion, innovation	Competition, innovation	Growth, inclusion, innovation	Competition	na
Phased entry	None	None	None	None	Yes – for DFB	Optional	None
Ownership, organisational structure and consolidated supervision	• 30% max shareholding limit • Controlled by Chinese citizens • Must form FHC if conditions met	No restrictions on ownership by NFCs	• No caps on foreign ownership, but local incorporation required • If holder of >50% shares is not a bank or FI, must form intermediate holding company	• 34% max shareholding cap for NFCs	DFBs: • Headquartered in SG and controlled by Singaporeans • Foreign companies can form JV • Track record in tech or e-commerce	No restrictions on ownership	ILC parent not subject to consolidated supervision, but FDIC requires ILC parent to enter into various agreements
Directors and executive officers	Same as existing banks • FHCs: executive officers cannot serve concurrently at the FHC and the institutions it controls	Same as existing banks	Board must have requisite knowledge of technology-driven business models	Same as existing banks	• DFB – directors: same as existing banks Certain shared executive officers allowed during 5-year phase-in, but others prohibited	Same as existing banks	ILC: parent limited to less than 50% of directorships at bank. • Prohibition on hiring senior executives at an ILC bank if the individual associated with ILC parent or its subsidiaries in past 3 years
Competition	Anti-monopoly language in licensing framework for FHCs	Aggressive pricing strategy to build market share cited as risk factor	Supervisory concern if predatory tactics used to build market share at expense of losses	Cannot be major shareholder (>10%) if violation of financial and anti-monopoly rules	Supervisory actions to be undertaken to deter value-destructive behaviour	Same as existing banks	Same as existing banks
Capital and liquidity rules	Same as existing banks	Fintech banks may face higher requirements	Same as existing banks	Absolute amount of capital required less than traditional banks	DFB: Same capital requirements as D-SIBs after phase-in period	Same as existing banks④	CARs imposed on ILC banks higher than traditional new bank applicants
Strength of parent	NFC parents of FHCs must be profitable at least two straight years	Required	Required	Required	Required	Required	Required
Exit plan	Required	Required	Required	na	Required	Required	Optional
Ongoing prudential requirements							
Related party transactions	✓	✓	✓	✓	✓	✓	✓

CAR = capital adequacy requirement; FHC = financial holding company; JV = joint venture.

① While SG has licensed digital wholesale banks, their requirements are excluded from this table since DWBs are not subject to deposit protection; and the focus of this table is on the features of SG's digital full banking licence, which covers retail depositors. ② While the EU has not established a specific digital bank licensing regime, the ECB has issued additional guidance specific to potential fintech bank applicants. See ECB (2018) for further details. ③ While tech firms that engage in only financial activities can seek a bank licence applicable to all banks, those that engage in non-financial activities must apply for an ILC charter. This table covers primarily the licensing and prudential requirements on the ILC charter. ④ All new banks, including tech-owned banks, are required to hold additional capital such that they are able to meet Pillar 1 and Pillar 2a buffer requirements for at least 12 months following full authorisation (either outright or after mobilisation) for three years.

Sources: Deloitte (2020); applicable jurisdictional publications ; FSI analysis.

25. **Key differences in licensing rules involve quantitative requirements.** These variations encompass the following areas: requiring the tech-owned bank parent company to rationalise its organisational structure and to form a holding company if certain thresholds are met; differentiating capital adequacy ratios (CARs) for tech-owned banks in relation to other bank applicants; requiring more tangible evidence of parent company support in the case of tech firms that own banks; and imposing ownership limitations on tech firms' stake in a bank.

- ***Organisational structure and consolidated prudential requirements:*** While consolidated supervision of financial groups is commonly practiced, some authorities may not have similar powers when tech firms own banks.[28] To remedy these shortcomings, some authorities require the financial activities of the wider big tech or diversified fintech group entity to be segregated and organised under a financial holding company (FHC) structure to facilitate the application of consolidated prudential requirements and group-wide supervision. China requires certain tech firms to form FHCs if they own or control two or more different types of financial institutions that meet certain size thresholds;[29] or at authorities' discretion for "macroprudential regulatory requirements" even if the size thresholds are not met (PBOC (2020)). Hong Kong requires all tech firms that own more than 50% of the digital bank to form an intermediate holding company (IHC) incorporated in Hong Kong, with the IHC's activities subject to consolidated prudential requirements and group-wide supervision.[30]
- ***Capital requirements:*** Singapore and the US impose higher CARs on tech-owned banks given their untested business models.[31] In Singapore, a digital full bank (DFB) is subject to the same risk-based CAR as a domestic systemically important bank at the outset,[32] regardless of its size or complexity. The US FDIC sets firm-specific leverage CARs based on their qualitative assessment of the tech-owned bank's risk profile as part of the authorisation process, rather than being hard-wired in regulation. The two US ILCs licensed in 2020 – Square Bank and Nelnet Bank – are required to maintain minimum leverage CARs of 20% and 12%, respectively, far higher than the 8% leverage CAR applied for other newly licensed banks.
- ***Strength of parent company:*** Many banks owned by tech firms (that have operated for at least three years) and their parent companies are not profitable.[33] This heightens the importance of assessing the parent's ability to support its bank. While this factor is considered in all jurisdictions, approaches vary. China recently introduced a requirement that if the NFC (including tech firms) is a principal or controlling shareholder of the FHC (which controls the licensed bank), it must have been profitable during the past two (for principal shareholders) or three (for

[28] In the US, banking authorities do not have consolidated supervision authority over the parent entity of an ILC chartered bank or its non-bank subsidiaries. In the EU, similar regulatory perimeter questions arise if a non-financial parent entity owns a bank, particularly if the relevant national authority designates the parent company as a "technology" firm rather than a "financial holding" company. See Chazan et al (2020) for further details on the EU's regulatory perimeter issues when technology firms own banks.

[29] The size threshold includes if the NFC owns or controls a commercial bank with assets of at least RMB 500 billion, other financial institutions with assets of at least RMB 100 billion or total client assets of RMB 500 billion. Additionally, FHCs may conduct non-financial business to the extent that their non-financial assets do not exceed 15% of total assets. Among other firms, the People's Bank of China has ordered both Tencent and Ant Group (which both own digital banks in China) to form FHCs.

[30] Malaysia, although not covered in our paper, has an approach similar to Hong Kong. It requires a sponsor that holds 50% or more shares in a proposed digital bank to organise its financial and financial-related subsidiaries under a financial group, headed by a single apex entity, which should be a licensed institution or an FHC.

[31] The ECB's licensing guidance on fintech bank applicants mentions that prospective tech-owned banks may face higher CARs than traditional banks, but there is no publicly available information on the actual minimum CARs imposed on tech-owned banks at authorisation. Hong Kong and the UK also have powers to vary CARs, but no publicly disclosed information is available.

[32] The application of the higher CAR is imposed after an initial phase-in period.

[33] As examples, Revolut and Klarna, two of Europe's largest tech firms with banking licences, have posted continuous losses over the last three years. Revolut's losses for 2020 totaled approximately GBP 206 million, while Klarna's were approximately USD 167 million.

controlling shareholders) years. In the US, corporate parents (or controlling shareholders) of ILC banks must enter into a capital and liquidity maintenance agreement to support their subsidiary bank at a level deemed appropriate by the supervisory authority, and to pledge assets or secure a line of credit to demonstrate their source of strength to their depository institution.[34] Other jurisdictions seek (Hong Kong, Singapore) or may seek (EU, UK) a commitment letter from the parent or controller to provide financial support to the bank if needed; this requirement, however, is not unique to tech-owned banks and is generally applied to all new bank applicants.

- ***Ownership:*** China and Korea cap NFC ownership of banks at 30% and 34%, respectively, ensuring that all NFCs, including tech firms, must enter into a consortium to be a bank sponsor. Singapore requires local incorporation and prohibits DFBs from being controlled by foreign sponsors. The prohibition of foreign control in both Singapore and China allows their respective prudential authorities to be the home country supervisor of the tech-owned bank parent, regardless of their future expansion.

26. **Qualitative requirements also vary across jurisdictions.** These requirements encompass a broad range of areas covering technology experience, board independence and sharing of senior executives, exit policy and related party transactions.

- ***Emphasis on technology related elements:*** Singapore requires the parent company to have experience in operating a technology or e-commerce business, while Hong Kong expects the proposed board to have experience with technology-driven business models and imposes an independent assessment of the applicant's planned IT governance and systems as part of the licensing process.[35]
- ***Board independence and sharing of executive officers:*** Overlapping boards and shared officers between the bank and the tech firm parent (or its affiliates) may help the former leverage the strength and expertise of the latter; such arrangements can also hinder the bank's independence and lead to conflicts of interest. The US limits the parent's representation to less than 50% of the ILC bank's board at inception. Singapore provides a phased-in approach, requiring one third of the DFB board to be independent during the first five years of operation and increasing to majority independence thereafter.[36] As for executive officers, Singapore allows a DFB to share certain executive officers (such as the Chief Technology Officer) with its parent or affiliated entities during an initial five-year phase-in period but prohibits the sharing of others. They also require the DFB to demonstrate that the arrangement will benefit the bank. The US prohibits adding or replacing a member of an ILC bank's board or a senior executive during the first three years after becoming a subsidiary of an NFC parent, while also prohibiting the hiring of a senior executive at an ILC bank if the individual has been associated in any manner with an affiliate of the ILC bank during the past three years.[37] China allows FHC board members to serve concurrently as a board member of the institution they control, but they are not allowed to serve concurrently as executive officers at such institutions.
- ***Exit policy:*** Nearly all jurisdictions in our sample require sponsors to develop an exit plan as part of the licensing process,[38] providing authorities with a "playbook" if the parent company is

[34] The FDIC, as the primary federal regulator of ILC banks, published a final rule in February 2021 that required parents of prospective ILC banks to enter into several formal agreements with it as a precondition to obtain deposit insurance, and hence, an ILC charter. See FDIC (2021), 12 C.F.R § 354.4.

[35] While the EU does not have a specific regime for digital banks, their licensing regime includes general guidance that requires proposed Board and senior executives to have knowledge and experience to understand the risks of the business model. It also notes that a tangible indicator to fulfil such a requirement would be to appoint a Chief Information Technology Officer as a member of the proposed fintech bank's executive board. See ECB (2018) for further details.

[36] This requirement is similar to all newly incorporated banks in Singapore and not specific to digital banks.

[37] ILC affiliates include, but are not limited to, the NFC parent entity and all companies that are controlled by the NFC parent.

[38] In the US, the ILC is required to develop an exit plan if requested by the supervisory authority.

unable to support the bank. This requirement is novel in that a bank that is just starting out is not necessarily expected to fail, and the imposition of this requirement is an explicit recognition by prudential authorities that the tech-driven business models are unproven, particularly during an economic downturn.

- ***Related party transactions and conflicts of interest:*** The potential for conflicts of interest is a key concern regarding the affiliation between banks and NFCs, including tech firms. Beyond ex ante rules related to dual hatting of boards and senior executives that may lead to potential conflicts, most jurisdictions do not impose additional conflict of interest rules during the licensing process.[39] This is mainly because once a bank (including one owned by a tech firm) is licensed, it is subject to ongoing prudential requirements that govern the transactions between a bank and its related parties in all jurisdictions covered in our sample.[40] Supervision and enforcement of related party rules, however, may pose significant challenges, particularly at big techs and large diversified fintechs that operate a bank.

27. **For jurisdictions other than China and Korea, there is limited guidance on the potential competitive concerns associated with tech firms' ownership of banks as part of the licensing process.** The most explicit discussion comes from China's recently updated licensing regime and regulations on FHCs – which affects certain big techs that own banks such as Tencent and the Ant Group.[41] These state that their controlling shareholders should not abuse any market monopoly position or their technological superiority (PBOC (2020)). Although not specific to tech firms, Korea prohibits any company that is in violation of applicable fair trade/monopoly rules (in addition to other financial and tax related laws) during the past five years from owning more than 10% of the voting shares of a bank (Choi (2020)). Three jurisdictions – Singapore, Hong Kong and the EU – cite predatory tactics or aggressive pricing strategies to build market share as a consideration in their licensing process.

28. **There are, however, a number of proposed rules that aim to curb the ability of tech firms that have market dominance in their core business lines to leverage their power as they enter financial services.** The most prominent example is the EU's proposed Digital Markets Act (DMA), which subjects designated "gatekeeper" platforms to enhanced requirements, including anti-tying measures, prohibitions on preferencing their own products on their platforms, mandated interoperability with third parties, and data portability (European Commission (2020)). Similarly, initiatives in other countries (China, UK, US) identify specific classes of "dominant" firms and impose requirements that mirror many of those found in the DMA (Crisanto et al (2021b)).

[39] The one exception is the US, which prohibits the ILC chartered bank to enter into any contract for services material to its operations with the NFC parent or any of the parent's subsidiaries. This provision not only reduces the scope for potential conflicts of interest, but helps to reduce the bank's reliance on the tech parent (or its affiliated entities). This, in turn, can help authorities to extricate the activities of the bank from the tech parent, if needed.

[40] Aspects of Korea's related party rules are more stringent for internet-only banks than traditional banks. For example, internet-only banks are prohibited from extending credit to major shareholders or acquiring stock issued by major shareholders.

[41] See Bray et al (2021) and Meihan et al (2021) for further details.

Section 4 – Policy options

29. **A key question for policy is whether the risks of allowing tech firms to own banks can be mitigated through licensing requirements without undermining the potential benefits they bring to consumers.** While policy responses may differ across countries, they are likely to be guided by at least three considerations:

- ***The policy priorities of each jurisdiction:*** Economies with a large un(der)banked population, those with uncompetitive banking systems, or those where there is a broader push by governments to promote technological innovation in financial services may be more amenable to allowing tech firms to gain entry to the banking system. Other jurisdictions may take a more cautious stance, particularly if financial inclusion, competition or technological innovations in the provision of financial services are not priority areas or a part of their remit.
- ***The inherent risks posed across and within each group of tech firms:*** Among the three groups, big techs, followed by diversified fintechs, pose the biggest concerns. As such, these two groups may warrant greater scrutiny, with the former requiring more stringent licensing requirements than the latter. Standalone fintechs pose the least prudential concerns in relation to other tech firms, and their entry into banking is unlikely to alter the structure or stability of domestic banking systems. Nevertheless, they still pose relevant challenges which need to be considered during the licensing process.[42]
- ***The applicability of the existing licensing regime in addressing the risks of tech-owned banks:*** Prudential authorities need to determine whether their current licensing regime is fit for purpose in the era of tech ownership of banks. In general, authorities that have developed licensing regimes for digital banks (or NFC ownership of banks in general) appear more inclined to impose specific requirements on non-traditional bank owners as a precondition for a banking licence than those that authorise banks under a general licensing regime.

30. **Some risks, however, may be outside the traditional lens of prudential authorities.** On competition, for example, there is less guidance because competition is typically not a mandate of most prudential authorities (Kirakul et al (2021)). In some jurisdictions where competition is a secondary mandate (UK-PRA), their licensing regimes have been influenced by the lack of sufficient competition in retail banking rather than concerns about tech (particularly big tech) dominance in the provision of financial services.[43] Regardless, traditional antitrust metrics, such as whether consumers have been harmed, may be less relevant in the digital era – where consumers may benefit from lower prices via "free" or subsidised services in exchange for their data being harvested. Moreover, big techs' captive ecosystems may allow them to scale quickly and prioritise their own products through various tying, self-preferencing or cross-subsidisation mechanisms that may not be easy to detect and prove (Khan (2017)).

31. **A range of policy options, which incorporate measures either introduced or proposed in various jurisdictions, that could mitigate supervisory concerns related to the entry of tech firms in banking are summarised in Table 5.** The policy options are disaggregated (where relevant) by each group of tech firm and by the five key prudential concerns associated with extending a banking licence to NFCs. Some of these measures may require changes in applicable legislation, necessitate the involvement of cross-sectoral authorities, or pose fundamental challenges in supervision and enforcement.

[42] These challenges include assessing the viability of their business models, the adequacy of their risk management expertise and the ability of the sponsors to provide financial support to the bank, if needed.

[43] China is an exception since it is home to the largest number of big techs operating with a banking licence, which, in turn, may have precipitated their recent guidance on NFC parents of FHCs, which include guidance on anticompetitive behaviour.

Tech firms' entry into banking – policy options

Table 5

Supervisory concern	Entities that own banks	Potential policy options	Considerations
Conflicts of interest	All tech firms	• Impose arms length requirement on all types of transactions between bank and affiliated companies, including the tech parent, its principal shareholders and executive officers • Set quantitative limits on transactions between bank and all affiliated companies, including parent	• Difficult to supervise and enforce in entities with varied and complex organisational structures, such as BTs and DFTs • Prescriptive guidance may be required given tech firms' limited regulatory knowledge
	BTs and DFTs	• Require majority of bank board to be independent of parent at inception or after phase-in period • Prohibit hiring of a senior executive at the bank if the individual has been associated in any manner with the tech parent or a company controlled by the tech parent in past three years • Allow for dual hatting of certain executives during phase-in period but establish guidelines	• Subsidiary bank board members may still be under the influence of parent company • Overly onerous requirements may discourage interest in a banking licence • May need to specify duration of phase-in period and which executives can be shared during that time
Concentration of power and anticompetitive behaviour	BTs and DFTs	• Restrict ability of tech firms that violate anti-monopoly rules to be a major bank shareholder • Introduce data portability rules to include relevant non-financial information held by BTs • Impose data privacy rules (eg limits on ability to use consumer data across multiple platforms) • Prohibit cross-subsidisation and self-preferencing of banking products and introduce anti-tying rules	• Requires involvement of other authorities, including competition and data authorities • Supervisors and competition authorities may need to rethink how cross-subsidisation, anti-tying and self-preferencing rules would apply to BTs with varying business lines
Contagion and systemic risk	All tech firms	• Impose higher capital requirements on the tech-owned bank in relation to traditional banks • Impose a recovery plan requirement on the bank	• Overly onerous requirements may discourage interest in banking licence
	BTs and DFTs	• Require all financial activities to be separated from the firm's non-financial businesses and organised under an FHC structure • Impose enhanced prudential standards on the FHC, if asset size exceeds a pre-specified threshold • Impose a recovery plan requirement on the FHC • Impose caps on NFC ownership • Prohibit the bank from entering into any contract for services material to its operations with the tech parent or the parent's subsidiaries	• Supervisors may need to define "financial" activities and whether ancillary functions, such as cloud computing, should be considered a financial activity • May need powers to impose separation of financial business and apply enhanced prudential standards on FHC • Overly onerous requirements may discourage interest in banking licence
	Some BTs	• Requirements on systemically important cloud service providers	• May require involvement of other authorities
Consolidated supervision	BTs and DFTs	• Require all financial activities in group to be separated from the firm's non-financial business and organised under FHC structure to facilitate application of consolidated prudential requirements and group-wide supervision (either ex ante for all or subject to size threshold) • Obtain regular information on all affiliates and portfolio companies of FHC	• May be difficult to assess risk profile of the group-wide entity and to ascertain the risks posed by parent's various non-financial activities to the FHC and the bank. • May need powers to impose consolidated prudential requirements on FHC • Even if FHC structure imposed, risks posed from the interactions between the FHC and the broader group may need to be assessed
Parent/owner support of the bank	BTs and DFTs	• Require parent company to be profitable for a period of at least two consecutive years to demonstrate source of strength	• Many tech parents may not be eligible for a banking licence if profitability is an explicit factor in licensing decisions
	All tech firms	• Require parent company and/or principal shareholders to pledge assets or secure line of credit to support subsidiary bank if needed • Obtain pledge/commitment of parent company or controlling shareholders to support the bank	• Overly onerous requirements may discourage interest in banking licence • Support in the form of a pledge or commitment may not be legally enforceable

All tech firms = BTs, DFTs and SFTs; BTs= big techs; DFTs = diversified fintechs; FHC = financial holding company.

Source: Country practices in selected jurisdictions; FSI analysis.

Section 5 – Conclusion

32. **Prudential authorities have granted tech firms a banking licence to promote financial inclusion and to foster competition.** These objectives are expected to be achieved through the greater use of technology in the provision of financial services. This, in turn, has been supported by secular trends – such as the extensive ownership of mobile devices and consumers' greater comfort with using online platforms for e-commerce – and accelerated by the Covid-19 pandemic. Tech firms, with their technology-first business models, superior data analytics and accessible user interfaces, may be well placed to provide financial services to underserved consumers and at a cheaper cost than incumbents, helping to deliver better outcomes for society. Nevertheless, their stated claims of using technology to improve consumer outcomes need to be scrutinised during authorisation and subsequently through ongoing supervision.

33. **The extension of banking licences to tech firms – particularly big techs and large diversified fintechs – introduces new, and magnifies old, risks.** New risks stem from their unique and scalable business models that are premised on extracting data from their extraordinarily large and captive user base that can be leveraged as they enter banking. These features also accentuate traditional concerns that are often cited when large commercial-industrial NFCs seek to own banks – such as conflicts of interest, concentration of market power and anticompetitive behaviour, contagion and systemic risks and impediments to consolidated supervision.

34. **Licensing criteria aimed at facilitating consolidated supervision and increasing loss absorbency are key quantitative elements that some authorities impose as a precondition for tech firms to operate a bank.** Some jurisdictions require the tech-owned bank parent entity (if certain thresholds are met) to segregate their financial activities into a holding company structure to facilitate consolidated prudential requirements and ongoing consolidated supervision. This requirement is particularly useful for tech firms that have material non-financial businesses, such as big techs, to ensure that all their financial activities are housed under one roof and subject to consolidated standards on corporate governance, risk management, related party rules and capital and liquidity. Other jurisdictions impose higher CARs at authorisation on the tech-owned depository institution due to its unproven business model and/or higher risk profile.

35. **The source of strength assessment is an important aspect of the licensing process and closer scrutiny of the tech parent's ability and willingness to provide financial support may be warranted.** This is because many tech-owned banks that have been licensed to date are unprofitable and may need to rely on their parent (or principal shareholders) for support in times of need. While most sampled jurisdictions seek a commitment letter from the parent to demonstrate their source of strength, some require more tangible evidence of parent company support. China requires the non-financial corporate parent of the FHC (that controls the bank) to be profitable for at least two or more years. This provision alone, if applied across a range of jurisdictions, may render various tech firms ineligible to apply for a banking licence. Meanwhile, the US FDIC requires the ILC parent to enter into a capital and liquidity maintenance agreement to support the bank at a level deemed acceptable by the supervisory authority, and to take other ex ante actions, such as pledging assets and/or securing a line of credit, to demonstrate their ability to provide financial support to their depository institution.

36. **Several authorities also apply various qualitative criteria to address the perceived risks of allowing tech firms to own banks.** These conditions cover a broad range of areas that appear unique to the affiliation of tech firms (or NFCs in general) and their depository institution. Prior technological experience of bank sponsors, limitations on dual-hatting of boards and shared executive officers between the bank and the tech parent entity, a provision to develop an exit plan in case the bank fails, and constraints on the bank's ability to enter into any contract for services material to its operations with the tech parent or the tech parent's subsidiaries highlight key non-financial provisions.

37. **There is limited guidance on other policy concerns – such as concentration of power and anticompetitive behaviour – as part of the licensing process.** Korea is the only country in our sample

that prohibits companies from becoming a major shareholder in a bank if they breach anti-monopoly regulations, among other rules. China, perhaps because it is home to the greatest number of big techs that operate a bank, specifies that FHC controlling shareholders should not abuse any market monopoly position or their technological superiority. Three jurisdictions – Singapore, Hong Kong and the EU – cite predatory tactics or aggressive pricing strategies to build market share as a consideration in their licensing process. In the case of the EU, the proposed Digital Markets Act, if ratified, would subject designated "gatekeeper" platforms to a sweeping array of pro-competition requirements. Collectively, these provisions are aimed at unlocking the data monopoly of various gatekeeper platforms, while prohibiting certain activities that are deemed anticompetitive, as big techs and large fintechs accelerate their entry in the financial services domain.

38. **Above all, in devising applicable licensing criteria, authorities should consider tech firms' distinct business models and their inherent risk characteristics, including their ability to scale at unprecedented speeds.** Big techs pose the greatest overall risks, followed by large diversified fintechs. Various aspects of the existing licensing regime can be tailored for, and adapted to, their risk profiles to mitigate the underlying risks, but supervision and enforcement may pose formidable challenges. In explaining the concept of exponential growth in the context of Covid-19, the British mathematician Hannah Fry noted: "…it feels like nothing is happening for ages and then it's like an unstoppable truck…" (Financial Times (2021)). The same could be said about large tech firms' entry into banking.

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