

# FSI Briefs

No 12

Big techs in finance: regulatory approaches and policy options

Juan Carlos Crisanto, Johannes Ehrentraud and Marcos Fabian

March 2021

FSI Briefs are written by staff members of the Financial Stability Institute (FSI) of the Bank for International Settlements (BIS), sometimes in cooperation with other experts. They are short notes on regulatory and supervisory subjects of topical interest and are technical in character. The views expressed in them are those of their authors and not necessarily the views of the BIS or the Basel-based standard setting bodies.

Authorised by the Chairman of the FSI, Fernando Restoy.

This publication is available on the BIS website ([www.bis.org](http://www.bis.org)). To contact the BIS Media and Public Relations team, please email [press@bis.org](mailto:press@bis.org). You can sign up for email alerts at [www.bis.org/emailalerts.htm](http://www.bis.org/emailalerts.htm).

© *Bank for International Settlements 2021. All rights reserved. Brief excerpts may be reproduced or translated provided the source is stated.*

ISSN 2708-1117 (online)  
ISBN 978-92-9259-458-9 (online)

# Big techs in finance: regulatory approaches and policy options<sup>1</sup>

## Highlights

- *At present, financial services represent a relatively small part of big techs' overall activities, though this can change rapidly due to the unique features of their business models and they could quickly become systemically important – or “too big to fail”.*
- *Big techs' financial operations are subject to the same requirements as those of other market participants. As such, big techs need to hold appropriate licences to perform regulated financial activities or provide their services in partnership with financial institutions that meet the regulatory requirements.*
- *Risks connected with big tech activities in finance may not be fully captured by the regulatory approach up to now, which is geared towards individual entities or specific activities and not the risks that are created by substantive interlinkages within big tech groups and their role as critical service providers for financial institutions.*
- *An effective oversight of big tech activities in finance calls for going beyond a piecemeal policy framework and considering recalibrating the mix of entity-based and activity-based rules, in favour of the former in certain policy areas. A step further would be to assess the possibility of introducing a bespoke approach for big techs encompassing a comprehensive public policy framework. In any case, there is a need for enhancing cross-sectoral and cross-border cooperative arrangements.*

## 1. Introduction

Large technology companies – big techs – are increasingly attracting the attention of policymakers. More recently, there has been growing political momentum to adopt new legislation, particularly in the area of competition and antitrust. Examples signalling this approach include the US congressional report on the biggest American technology companies; the EU Digital Markets Act and Digital Services Act; or the recent antitrust actions by China's banking and market regulators.<sup>2</sup> These regulatory efforts are particularly relevant as big techs continue to expand their financial offerings. Yet questions are growing louder as to whether the regulatory framework is commensurate to the risks they bring to the financial sector.

This paper provides an overview of the current regulatory landscape for big techs operating in finance and discusses avenues for improvement. Section 2 describes why big techs are unlike other entities and deserve regulatory attention. Section 3 outlines their regulatory treatment and the financial licences

<sup>1</sup> Juan Carlos Crisanto (Juan-Carlos.Crisanto@bis.org) and Johannes Ehrentraud (Johannes.Ehrentraud@bis.org), Bank for International Settlements, and Marcos Fabian (fabian@asbasupervision.org), Association of Supervisors of Banks of the Americas (ASBA). We are grateful to Stijn Claessens, Jon Frost, Leonardo Gambacorta, Denise Garcia Ocampo, Joseph Noss and Jeremy Prenio for helpful comments and to Esther Künzi for administrative support.

<sup>2</sup> For the United States, see the *Investigation of competition in digital markets* published in October 2020 at [https://judiciary.house.gov/uploadedfiles/competition\\_in\\_digital\\_markets.pdf?utm\\_campaign=4493-519](https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf?utm_campaign=4493-519); for the European Union, see proposals for the Digital Markets Act and Digital Services Act published in December 2020 at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020PC0842> and <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020PC0825>; and for China, see Box 3 in Restoy (2021).

they have obtained in a number of jurisdictions. Section 4 offers some considerations for policymakers and Section 5 concludes.

## 2. Big techs in finance: why they deserve attention

Big techs' business model is geared towards operating digital ecosystems of interconnected products and services. At the moment, big tech platforms mainly operate outside finance in areas such as e-commerce, internet search or social media. Leveraging their strong technology capabilities, some big techs are also important providers of IT services and infrastructure such as cloud computing and data analytics.<sup>3</sup> Amazon Web Services (AWS), for example, is one of the dominant players in cloud computing for financial institutions in areas such as risk management, core banking systems and data analytics (IBFED and Oliver Wyman (2020)).

Big techs are increasingly making inroads into finance. While big tech firms do not operate primarily in financial services, they offer them as part of a much wider set of activities. Big tech firms' involvement in finance started with payments, where they have reached a substantial market share in some jurisdictions.<sup>4</sup> They soon expanded into other sectors and are now also involved in the provision of credit (particularly consumer financing and microloans with shorter maturities), banking, crowdfunding, asset management and insurance (Table 1). Geographically, big techs' expansion into financial services has been more pronounced in emerging and developing economies, particularly China, than in advanced economies (FSB (2020a)).<sup>5</sup> By augmenting their business lines with financial services, big techs diversify their revenue streams, access new sources of data and reduce frictions in their core non-financial offerings, thereby making their overall ecosystem more attractive to users (FSB (2019b)).

<sup>3</sup> See, for example, BIS (2019), FSB (2017), Frost (2020) and Croxson et al (forthcoming).

<sup>4</sup> In China, for example, big tech firms processed payments equivalent to 38% of GDP in 2018 (FSB (2020a)).

<sup>5</sup> At global level, big tech credit was estimated to reach USD 572 billion in 2019 (Cornelli et al (2020)).

Big tech	Main business	Banking <sup>%</sup>	Credit provision	Payments	Crowd-funding	Asset management	Insurance
<b>Google</b>	Internet search/advertising	✓*		✓			
<b>Apple</b>	Tech/producing hardware			✓			
<b>Facebook</b>	Social media/advertising			✓			
<b>Amazon</b>	E-commerce/online retail		✓	✓	✓		✓
<b>Alibaba (Ant Group)</b>	E-commerce/online retail	✓	✓	✓	✓	✓	✓
<b>Baidu (Du Xiaoman)</b>	Internet search/advertising	✓	✓	✓	✓	✓	✓
<b>JD.com (JD Digits)</b>	E-commerce/online retail	✓	✓	✓	✓	✓	✓
<b>Tencent</b>	Tech/gaming and messaging	✓	✓	✓	✓	✓	✓
<b>NTT Docomo</b>	Mobile communications	✓	✓	✓	✓		
<b>Rakuten</b>	E-commerce/online retail	✓		✓		✓	✓
<b>Mercado Libre</b>	E-commerce/online retail		✓	✓		✓	

✓ Provision of financial service through big tech entity and/or in partnership with financial institutions outside big tech group in at least one jurisdiction. ✓\* Launch expected in 2021. % The core activity of an entity engaged in banking is taking deposits, though regulations vary across countries.

Sources: BIS (2019); Citi GPS (2018); FSB (2019b); IBFED and Oliver Wyman (2020); van der Spek and Phijffer (2020); public sources; FSI.

Big techs provide their financial services either in competition with traditional financial institutions or in partnership as overlays on top of their products and infrastructure, with big techs only providing the customer-facing layer in some cases.<sup>6</sup> Apart from providing financial services themselves, big techs are also investing in financial institutions outside their groups.<sup>7</sup>

While financial services currently do not contribute a substantial amount to big techs' overall revenues<sup>8</sup> and mostly play a subordinated role in their business model, this has the potential to change rapidly due to their unique features and they could quickly become systemically important – or “too big to fail” (Carstens (2021)). Four features stand out.

First, big techs are exploiting activities with strong network effects. As such, they benefit from competitive advantages stemming from the so-called **d**ata analytics, **n**etwork externalities and interwoven activities (DNA) loop. Once a big tech has attracted a sufficient mass of users on both sides of its platform, network effects kick in, accelerating its growth and increasing returns to scale. Every additional user creates value for all others – more buyers attract more sellers and vice versa. The more users a platform has, the more data it generates. More data, in turn, provide a better basis for data analytics, which enhances existing services and thereby attracts more users (BIS (2019)).

<sup>6</sup> Existing partnership arrangements include, for illustration, Apple/Goldman Sachs and Amazon/JPMorgan Chase (to offer credit cards); Google/Citigroup (to offer checking accounts through the Google Pay app); and Amazon/Bank of America (as funding partners for Amazon lending). Big techs may also act as intermediaries. Amazon India, for example, operates an API-based Seller Lending Network (SLN), which allows sellers on its platform to seek loans from third-party lenders.

<sup>7</sup> For example, Tencent is a minority shareholder in Brazil's Nubank.

<sup>8</sup> In 2018, big techs' core businesses accounted for around 46% of their revenues; financial services for about 11% (BIS (2019)).

Second, significant network effects may enable big techs to become gatekeepers, allowing them to leverage their dominant position in a given market to exert influence over its functioning. This may include control over who can enter the market, who receives what kind of data and how the market operates. Their sphere of influence in one market often extends to other markets connected to it.

Third, big techs have a large and captive user base at their disposal.<sup>9</sup> Extensive customer networks, coupled with low online acquisition costs, bring with them the ability to scale up quickly in market segments that are outside their core business. For example, it took Ant Financial's Sesame Credit 11 months to reach 100 million users; its money market fund Yu'e Bao took 20 months (Citi GPS (2018)).

Fourth, with big data as their lifeblood, it is not surprising that big techs devote significant resources to developing or acquiring state-of-the-art technologies.<sup>10</sup> After all, access to large troves of data generates value only if it is matched by technological capabilities to analyse it. Big techs use the insights derived from data analytics as a basis for developing novel services, including for hard-to-reach market segments, or enhancing the user experience and speed of existing ones.<sup>11</sup>

With big techs ante portas, financial authorities are seeking to find a balance that supports the benefits of big tech while minimising potential risks to the financial system. While the jury is still out on the overall impact of big techs' entry into financial services, big tech is said to potentially make the financial sector more efficient, lead to improved customer outcomes and aid financial inclusion. However, it may create or increase risks for financial stability and consumer protection, and comes with challenges for competition, data privacy and cyber security.<sup>12</sup>

<sup>9</sup> For example, Facebook has around 2.3 billion monthly active users; Tencent's WeChat around 1 billion (IBFED and Oliver Wyman (2020)).

<sup>10</sup> Google, Amazon, Apple and Microsoft now account for four of the global top 10 companies by research and development spend; on mergers and acquisitions, they have spent over USD 10 billion on 100 deals since 2012 (IBFED and Oliver Wyman (2020)).

<sup>11</sup> On a market level, Gambacorta et al (2020) find that the use of big data to assess firms' creditworthiness may reduce the need for collateral in credit markets. On a product level, MYbank's "310" loans, for example, require three minutes to apply, one second to approve and zero human interaction (Lu (2018)).

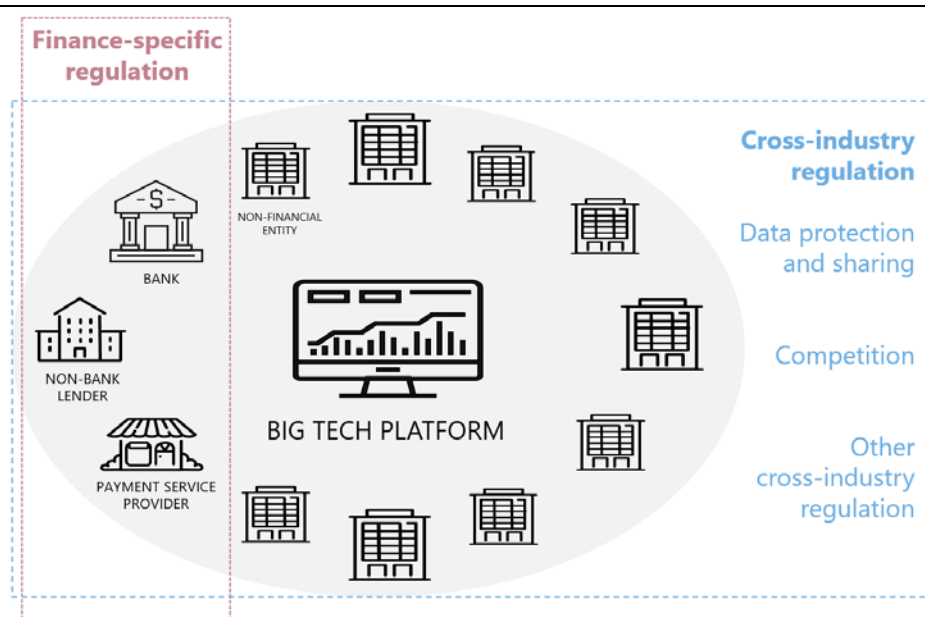
<sup>12</sup> These benefits and risks may differ for emerging and developed markets. For a discussion on risks and benefits see, for example, BIS (2019), Carstens (2018), Croxson et al (forthcoming) and FSB (2019b, 2020a).

### 3. Regulatory landscape for big techs

There is no specific regulatory treatment of big techs operating in finance. Rather, it depends on their specific business model, in particular the type of financial activities they are engaged in. This means big techs are subject to a combination of: (i) regulations specific to the financial industry and therefore applying to the types of services provided, such as banking, extending credit or transmitting payments; and (ii) general laws and regulations that apply to financial and non-financial activities (Graph 1). These two types of regulations have been referred to as finance-specific regulations and cross-industry (or cross-sector/horizontal) regulations, respectively (IBFED and Oliver Wyman (2020)).

Regulatory environment for big tech groups

Graph 1



Source: FSI.

In terms of finance-specific regulations, when providing financial services, big techs are generally subject to the same requirements as other market participants. Like them, big techs, or more accurately individual entities within a big tech group, need to hold appropriate licences to perform specific regulated activities.<sup>13</sup> Yet differences in the regulatory treatment of banks and non-bank financial institutions (NBFIs)<sup>14</sup> may have an implication for what type of financial services big techs choose to provide and how to provide them. Banks and certain NBFIs are subject to microprudential requirements based on internationally agreed standards.<sup>15</sup> These make them subject to minimum capital obligations calculated on the basis of their consolidated balance sheets, and supervisors must review the main activities of the

<sup>13</sup> Holders of the same type of licence, however, may face different requirements. This is due to the embedded proportionality of financial regulation (based inter alia on entities' size), which tends to alleviate the obligations of certain entities due to the smaller scale and nature of their businesses.

<sup>14</sup> Entities allowed to provide financial services other than those reserved for banks, such as deposit taking. NBFIs include, for example, payment service providers that facilitate payment transactions by transferring money, clearing or settling balances, and non-bank lenders that use their own balance sheet to grant loans at their own risk.

<sup>15</sup> A case in point are the IAIS global frameworks for the supervision of internationally active insurance groups: the Common Framework ("ComFrame") and the Insurance Capital Standard.

group as a whole.<sup>16</sup> In addition, banks identified as global systemically important banks are subject to additional prudential measures to mitigate the problems which would emanate from their failure.<sup>17</sup>

With respect to the modalities under which big techs provide financial services, they may obtain their own licences, or partner or form joint ventures with other financial institutions. Table 2 gives an overview of the approaches taken by 11 big techs to provide banking, credit and/or payment services in different regions.<sup>18</sup> In general, the requirement to obtain a licence depends on what concrete activity an entity performs along the financial services value chain.

- **Banking.** Four out of the 11 big techs covered in this paper have fully or majority-owned entities in their group that hold banking licences in the European Union and Hong Kong SAR.<sup>19</sup> In addition, in China and Hong Kong SAR, there are four entities with banking licences that are joint ventures of big techs with other companies, with big techs holding only minority stakes.<sup>20</sup>
- **Credit.** Apart from in China, it appears that big tech entities do not hold non-bank licences for granting credit (without taking deposits), but operate in partnership with other licensed institutions.<sup>21</sup> In some cases, however, entities that engage in granting loans are not regulated under financial law and may only be subject to requirements under commercial law.<sup>22</sup>
- **Payments.** All big techs have entities in their groups that hold payment licences and thus are authorised to conduct payment services and/or issue e-money in at least one jurisdiction. In Europe, these licences have mainly been issued by authorities in Ireland, Lithuania, Luxembourg and the United Kingdom; in the United States, by regulators at the state level (see Boxes 1 and 2 in Restoy (2021)).

<sup>16</sup> According to Basel Core Principle 12, an essential element of banking supervision is supervising the banking group on a consolidated basis, adequately monitoring and, as appropriate, applying prudential standards to all aspects of the business conducted by the banking group worldwide.

<sup>17</sup> These prudential measures include additional going concern loss absorbency; recovery and resolution requirements.

<sup>18</sup> While Table 2 focuses on the licences held in banking, credit and payment services, big techs also perform other regulated activities that need to be authorised. Ant Group, for example, is active in wealth management and insurance through its licensed subsidiaries Tianhong and Cathay Insurance.

<sup>19</sup> European Union: PrivatBank1981/Docomo and Rakuten Bank/Rakuten; Hong Kong SAR: Ant Bank (Hong Kong)/Ant Group and Fusion Bank/Tencent.

<sup>20</sup> MYbank/Ant Group (30%), Baixin Bank/Baidu (30%), WeBank/Tencent (30%), Livi Bank/JD.com (36%).

<sup>21</sup> In Brazil, for example, which has a regulatory framework for non-bank lenders (Sociedade de Crédito Direto or Sociedade de Empréstimo entre Pessoas), Mercado Livre's lending arm (Mercado Crédito) is not licensed itself but operates in partnership with other licensed institutions (Banco Topázio S.A. and Money Plus Scmepp Ltda).

<sup>22</sup> Regulations for the extension of credit vary considerably across countries and the responsibility for supervising this activity does not necessarily lie with the financial authority (Ehrentraud et al (2020)).



Licences held by big tech companies in selected jurisdictions

Table 2

Licence held	Licences and market presence																	
	Brazil			China			European Union			Hong Kong SAR			United Kingdom			United States		
	B	C	P	B	C	P	B	C	P	B	C	P	B	C	P	B	C	P
Amazon									✓						✓			✓
Apple																		✓
Facebook									✓						✓			✓
Google									✓						✓			✓
Ant Group			✓	✓*	✓	✓			✓	✓		✓			✓			✓
Baidu				✓*	✓	✓												
JD.com					✓	✓				✓*								
Tencent				✓*	✓	✓				✓		✓						
Mercado Libre			✓															
NTT Docomo							✓		✓						✓			
Rakuten							✓		✓						✓			✓

■ Market presence in partnership or joint venture with other FIs. ✓ Big tech has entity within group that holds financial licence.

✓ Big tech offers financial services both through partnership or joint venture with other FIs and has entity within group that holds financial licence. ✓\* Shareholding of big techs in these banks is below 50%.

**B = banking licence.** For the European Union and United Kingdom, CRD credit institution; for Hong Kong SAR, authorised institution; for Brazil, BCB approval under Resolution 4.122/2012 and Circular 3.649/2013; for the United States, National Bank Charter or state-level Bank Charters (commercial banks, savings banks, and trust companies). **C = credit licence.** For Hong Kong SAR, money lender licence; for the United States, non-bank lender licence (state-level); for Brazil, Sociedade de Crédito Direto or Sociedade de Empréstimo entre Pessoas; for China, internet micro lender or consumer finance licence. **P = payments licence.** For the European Union, payment institution or e-money institution; for Brazil, Instituição de pagamento; for the United States, money transmitter, sale of checks, money services business (governed primarily by state law); for China, third-party payment licence.

The analysis excludes cases in which payments are made and/or credit is extended for purchasing products and services exclusively within the platform.

Sources: Encontre uma instituição (BCB webpage); HKMA registers; EBA Euclid Register; FCA Financial Services Register; NMLS® Consumer Access; various news and reports.

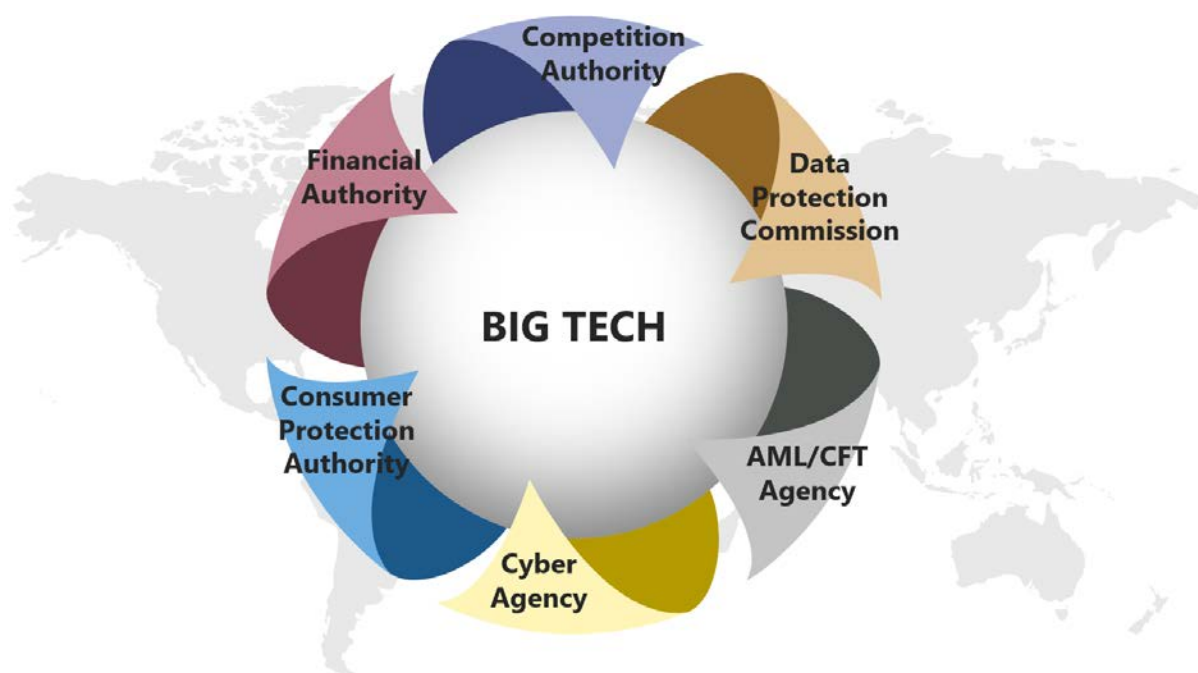
In cases where a big tech entity operates through partnerships and/or joint ventures with incumbents and provides its financial services in collaboration with financial entities, it will normally not need any licence.<sup>23</sup> This modus operandi, however, comes with its own risks and has the potential to be problematic for at least two main reasons. First, the unbundling of financial services across multiple players could make it unclear who is accountable for which risk or activity (IBFED and Oliver Wyman (2020)). Second, the diffusion of accountability has the potential to lower big techs' incentives for screening and monitoring clients and activities and generate excessive risk-taking behaviour that could impact the financial condition or reputation of the financial firms involved.

<sup>23</sup> Partnerships in payments, for example, feature a range of approaches. Big techs may provide banks with the technology for tokenising credit cards and making contactless payments (eg Apple and Google), or facilitating international money transfers (eg Baidu and Tencent).

In terms of cross-industry regulations, meaningful differences exist in legal regimes across jurisdictions and how they are applied in practice to banks, NBFIs and non-financial entities (NFEs)<sup>24</sup>, including those within big tech groups. For instance, on data protection and open banking, rules vary in terms of entities covered, data rights, data usage and the scope of data that can or must be shared;<sup>25</sup> on competition, regulatory approaches may differ in cases where financial authorities have a competition mandate, typically as a secondary objective; and on AML/CFT, requirements may not be applied homogeneously across countries and obliged institutions.<sup>26</sup> Broadly speaking, even where banks, NBFIs and NFEs face exactly the same requirements, they may be subject to different levels of supervision over their business practices.<sup>27</sup> Finally, depending on the national setup, there could be a multitude of authorities responsible for enforcing cross-industry regulations, each with its own mandate and policy objectives (Graph 2).

Authorities responsible for finance-specific and cross-industry regulations

Graph 2



Source: FSI.

<sup>24</sup> Entities that provide services other than those provided by banks or NBFIs, which are neither licensed nor registered. They do not provide financial services themselves but could do so in partnership with other financial institutions and/or provide related services to them (eg operation of mobile app for contactless payments).

<sup>25</sup> In general, only banks and NBFIs participate in open banking initiatives, but in some cases NFEs are involved. Whilst in some jurisdictions rules are binding, in others they are voluntary.

<sup>26</sup> Although international standards apply to a wide range of professional providers of financial services, the application of those standards to specific entities is not necessarily identical. For example, customer due diligence is not understood in the same way by different types of agents. Onboarding requirements are normally more demanding in the case of banks than other providers of financial services. See Restoy (2021).

<sup>27</sup> In addition, entities engaged in financial activities may have to comply with financial sector-specific requirements that apply on top or in lieu of cross-sectoral regulations.

## 4. Some considerations for policymakers

The business model of big techs involves a variety of services provided under a wide range of modalities. While its backbone, the DNA feedback loop, has allowed big techs to become among the largest companies in the world,<sup>28</sup> it entails a number of challenges for policymakers. One is the great speed with which big techs could become systemically important even in areas where their operations appear relatively modest at present. Another challenge is to respond to the various risks their activities generate. These include risks for privacy and consumer protection, market contestability and, eventually, financial stability (Carstens (2021)).

More concretely, with regard to financial stability, partnerships with incumbents could diffuse accountability and promote excessive risk-taking when big techs provide only the customer-facing layer of the value chain while not bearing any underwritten risks themselves; material interconnections within a big tech group could give rise to contagion and reputational risks<sup>29</sup>; and critical third-party services provided to other financial institutions could generate financial stability risks through excessive concentrations and dependencies on specific services (eg data storage, transmission and analytics), particularly in the context of a cyber event or operational failure.

While big techs are subject to a number of regulations as described in Section 3, the policy approach up to now does not seem to pay due attention to the unique features of their business models and the corresponding risks. Finance-specific regulations and cross-industry regulations are geared towards individual legal entities within big tech groups or the specific activities they perform and not the risks from possible spillover effects across all the activities big techs perform (Restoy (2021)). Moreover, the current policy approach falls short of allowing for recognition of the potential systemic impact of incidents in big tech operations (Carstens (2021)).

In the light of the increasing participation of big techs in the financial sector and the potential shortcomings described above, authorities are assessing whether their regulatory approaches for financial activities such as banking or payments are fit for the purpose of regulating the financial operations of big tech companies. Key elements of this assessment include:

- **Understanding big tech business models.** One of the main challenges for financial authorities is to understand and keep abreast of big techs' continuously evolving business models. This requires having a clear picture of the different services big tech entities provide both locally and across borders (including as service providers to financial institutions), the modalities under which they are offered (eg through partnership with other financial institutions or own licensed entities, or as "matchmakers") and how big techs monetise data.<sup>30</sup> Clarity on these features is critical to identify where the ultimate risk of their activities resides. What regulators are increasingly appreciating is that, while big techs share a number of key characteristics, no two are alike. Thus, the risks they generate might differ depending on their core business line, which may have implications for the "right" approach to be taken by an authority.

<sup>28</sup> Several big techs (eg Google, Apple, Alibaba and Tencent) have market capitalisations that far surpass those of the largest banks (Carstens (2021)).

<sup>29</sup> A case in point is a situation where the parent company and/or strategic subsidiaries are subject to severe penalties and/or attract negative publicity (eg due to AML/CFT infractions or consumer protection violations), which may raise credibility issues for the overall big tech group.

<sup>30</sup> Big techs generate revenues not only from charging customers for services provided but also from monetising the data they generate in one business line for purposes of another business line.

- **Assessing risk profiles and transmission channels.** The unique characteristics of big techs, coupled with their numerous group entities and highly interrelated activities, pose significant challenges in assessing their risk profile. Three types of risk stand out. The first are sector-specific financial and non-financial risks (eg credit, liquidity, leverage, operational) as well as those related to the modalities under which financial services are provided (eg partnerships and joint ventures). The second are risks related to the high degree of interconnectedness of entities within a big tech group (eg contagion, concentration, reputational risks).<sup>31</sup> The third are risks arising from cases in which entities of a big tech group operate as third-party service providers for financial institutions. The latter is taking such a prominent role that it could have financial stability implications by exacerbating concentration and operational risks.<sup>32</sup>

The above assessment would allow authorities to form a view on whether big tech-related risks are adequately dealt with under the existing regulatory framework, and whether opportunities for regulatory arbitrage or unwarranted discrepancies in the level playing field have emerged. On this basis, authorities may decide to enhance the current framework. When developing a policy response, the following options could be considered:

- **Recalibrating the mix of entity-based and activity-based rules.** Some advocate that any policy adjustments for big techs should move from an entity-based regulatory approach to one that is activity-based, applying the principle of “same activity – same regulation”.<sup>33</sup> However, activity-based regulation can only complement, rather than substitute for, entity-based regulation. Different types of institution may generate different risks when performing the same activity. For big techs, their business model involves a bundle of very different activities (eg e-commerce, payments, cloud services), each of which gives rise to a specific set of potentially interrelated risks. In other words, the characteristics of big techs matter for how they should be regulated; and there seems to be a case for developing more entity-based rules for big techs in specific regulatory areas such as competition and operational resilience (Carstens (2021), Restoy (2021)).<sup>34</sup> The former to address big techs’ role as gatekeepers and their potential to adopt anti-competitive practices; and the latter to address the critical importance of their role as providers of a wide array of financial and non-financial services, including the provision of cloud computing services to an increasing number of financial companies around the globe.
- **Introducing a bespoke policy approach for big techs.** Policymakers may conclude that the unique features of big techs warrant a comprehensive public policy approach that focuses not only on individual big tech entities and their activities but also on their interactions within the big tech (digital) ecosystem.<sup>35</sup> Such an approach could also evolve from a recalibrated mix of

<sup>31</sup> Channels through which risks may spread are contagion effects through interrelated exposures, double gearing if present, or reputational risks. These may be exacerbated by potential conflicts of interest across big tech entities.

<sup>32</sup> Given the increasing reliance by both financial and non-financial firms on cloud services provided by big techs, a significant incident disrupting their operational continuity could have major systemic effects.

<sup>33</sup> Activity-based rules consist of requirements to be met by all institutions offering specific services (eg credit underwriting, payment services, investment intermediation, investment advice, etc). Entity-based rules consist of requirements imposed on institutions with a specific licence or charter (Restoy (2021)).

<sup>34</sup> Risks created for the financial system not only depend on the activity per se but also on the combination of different activities on the balance sheet of an entity (Restoy (2019)). Thus, in some instances, it is necessary to accept differences in the regulatory treatment of a specific activity if the risks generated by this activity depend on who performs it (“same activity, different risks, different regulation”). For instance, there is a difference in terms of financial stability risks depending on whether an entity is highly leveraged or capitalised, and whether loans are made by a deposit-taking institution, a closed-ended mutual fund or a big tech company.

<sup>35</sup> As one example, to sustain and promote effective competition in digital markets, in 2019 an expert panel chaired by Jason Furman recommended that the UK government “establish and resource a pro-competition digital markets unit, tasked with

entity/activity-based regulations that would address the risks stemming from the different activities big techs perform.<sup>36</sup> Moreover, authorities may not need to start from scratch. They can build upon existing policy frameworks such as the ones for financial conglomerates<sup>37</sup> and global stablecoin arrangements<sup>38</sup> as well as upon approaches being developed by authorities worldwide.<sup>39</sup>

- A key element of this policy framework would be to monitor and mitigate the systemic component that is created by the combination of all activities a big tech firm performs. To achieve that, increasing the amount of information available on big tech groups would be critical. Enhanced disclosure would allow authorities to have a holistic understanding of their domestic and cross-border operations; the nature and extent of the risks involved; and important interlinkages between entities within the group, external financial institutions and the financial system as a whole.
- A foundational element of any such approach would be to establish a set of objective criteria for qualifying a firm as big tech, which could prove difficult given their heterogeneity. Relevant authorities are in the process of adjusting underlying concepts behind their competition frameworks. In particular, the European Commission, for example, has proposed a list of criteria for qualifying a large online platform as a “gatekeeper”, which would then become subject to the relevant provisions in the Digital Markets Act that aim at preventing anticompetitive practices. In addition, under the proposal for an EU Digital Services Act, big online platforms would be subject to specific requirements in the area of prevention of their use for illegal purposes, operational resilience, risk management and oversight and rules enforcement by public authorities.
- **Enhancing local and international supervisory cooperation.** In the light of the cross-sectoral and cross-border nature of big tech activities, it is imperative to put increased emphasis on cooperation and coordination at the local and international level. A practical step in this direction could be to establish cross-sectoral and cross-border cooperative arrangements between national authorities, including at least financial, competition and data protection authorities. These cooperation arrangements could involve or augment existing arrangements and build, among others, on the experience collected in running supervisory colleges for banks.<sup>40</sup>

securing competition, innovation, and beneficial outcomes for consumers and businesses” (Digital Competition Expert Panel (2019)).

<sup>36</sup> Arguably, applying a purely activity-based approach would be akin to regulating individual parts instead of an interconnected system because it would miss the systemic component that is created by the combination of all activities a big tech firm performs.

<sup>37</sup> An initial step in formulating a policy response could be to build upon the financial conglomerates framework (Joint Forum (2012)), which brings supervisory attention to the risks arising from unregulated entities that could form part of the wider group to which the financial conglomerate belongs. Moreover, the risk assessment approach presented by this framework includes intragroup transactions and exposures, strategic risk, concentration risk and reputational risk. Adjustments will be needed, though, to account for the fact that big tech groups are not purely financial but mixed conglomerates.

<sup>38</sup> The Financial Stability Board (FSB) has set out 10 high-level recommendations that seek to promote coordinated and effective regulation, supervision and oversight of global stablecoin (GSC) arrangements. The recommendations call for a framework that is proportionate to the risks, and stress the value of flexible, efficient, inclusive and multi-sectoral cross-border cooperation, coordination and information-sharing arrangements among authorities that take into account the evolving nature of GSC arrangements and the risks they may pose over time (FSB (2020b)).

<sup>39</sup> The FSB reports that there are some cases where financial authorities in emerging market and developing economies (EMDEs) have taken steps to tailor their regulatory approach to the relative size of big tech firms’ activities in financial services. In Paraguay, for example, regulation mandates a fintech firm to open a bank account whenever a certain threshold of mobile money outstanding – managed by a mobile network operator – is surpassed. Other EMDEs are conducting assessments on the adequacy of their regulatory frameworks in terms of the size of financial services offered by a big tech firm (FSB (2020a)).

<sup>40</sup> The ECB defines a supervisory college as “a permanent, though flexible, structure comprised of an international bank’s “home” and “host” supervisors”. See “What are supervisory colleges?” (europa.eu).

## 5. Concluding remarks

Big techs are increasingly making inroads into financial services. They have reached a substantial market share in payments in some jurisdictions and are actively involved in the provision of other financial services worldwide. While financial services still represent a relatively small part of big techs' overall activities, this can change quickly due to their unique business operation features and they could rapidly become systemically important – or “too big to fail”.

Big tech business models involve different financial services provided under a wide range of modalities, giving rise to a variety of risks. Finance-specific regulations and cross-industry regulations are geared towards individual legal entities within big tech groups or specific activities and not the risks from possible spillover effects across all the activities big techs perform. Moreover, meaningful differences exist in cross-industry regimes across jurisdictions and how they are applied in practice. These differences are exacerbated by the diversity of authorities responsible for cross-industry regulations.

As a result, relevant risks are not fully captured by the regulatory approach up to now, among them the diffusion of accountability and excessive risk-taking that could arise in the context of big techs' partnerships with incumbents to provide financial services; contagion, concentration and reputational risks that could arise from significant interconnections among different entities within a big tech group; and financial stability risks that could be generated from material dependencies to third-party services throughout the financial system.

The entry of big techs into finance calls for a comprehensive public policy approach that combines financial regulation, competition policy and data privacy. Policy options that could be considered include adjusting the existing policy approach by recalibrating the mix of entity-based and activity-based rules, in favour of the former in certain policy areas; developing a bespoke regime for big techs; and strengthening cross-sectoral and cross-border cooperative arrangements between national authorities and foreign regulators. These options may support authorities in their considerations on how best to adjust the regulatory framework in their efforts to address the risks that the business model of big techs entails while preserving the benefits they create.

## References

Bank for International Settlements (2019): *Annual Economic Report*, Chapter III, “Big tech in finance: opportunities and risks”, June.

Carstens, A (2018): “Big tech in finance and new challenges for public policy”, keynote address at the FT Banking Summit, December.

——— (2021): “Public policy for big techs in finance”, introductory remarks at the Asia School of Business Conversations on Central Banking webinar, “Finance as information”, Basel, 21 January.

Citi GPS (2018): “Bank of the future: The ABCs of digital disruption in finance”, *Citi GPS: Global Perspectives & Solutions*, March.

Cornelli, G, J Frost, L Gambacorta, R Rau, R Wardrop and T Ziegler (2020): “Fintech and big tech credit: a new database”, *BIS Working Papers*, no 887, September.

Croxson, K, J Frost, L Gambacorta and T Valletti (forthcoming): *Platform-based business models and financial inclusion*.

Digital Competition Expert Panel (2019): *Unlocking digital competition*, March.

Ehrentraud, J, D Garcia Ocampo, L Garzoni and M Piccolo (2020): "Policy responses to fintech: a cross-country overview", *FSI Insights on policy implementation*, no 23, January.

Financial Stability Board (2017): *Financial stability implications from fintech: supervisory and regulatory issues that merit authorities' attention*, June.

——— (2019a): *FinTech and market structure in financial services: market developments and potential financial stability implications*, February.

——— (2019b): *BigTech in finance: market developments and potential financial stability implications*, December.

——— (2020a): *BigTech firms in finance in emerging market and developing economies: market developments and potential financial stability implications*, October.

——— (2020b): *Regulation, supervision and oversight of "global stablecoin" arrangements: final report and high-level recommendations*, October.

Frost, J (2020): "The economic forces driving fintech adoption across countries", *BIS Working Papers*, no 838, February.

Gambacorta, L, Y Huang, Z Li, H Qiu and S Chen (2020): "Data vs collateral", *BIS Working Papers*, no 881, September.

International Banking Federation and Oliver Wyman (2020): *Big banks, bigger techs? How policy-makers could respond to a probable discontinuity*, July.

Joint Forum (2012): *Principles for the supervision of financial conglomerates*, September.

Kirakul, S, J Yong and R Zamil (2021): "The universe of supervisory mandates – total eclipse of the core?", *FSI Insights on policy implementation*, no 30, March.

Lu, L (2018): "How a little ant challenges giant banks? The rise of Ant Financial (Alipay)'s fintech empire and relevant regulatory concerns", *International Company and Commercial Law Review* (2018), January.

Restoy, F (2019): "Regulating fintech: what is going on, and where are the challenges?", speech at the ASBA-BID-FELABAN XVI Banking public-private sector regional policy dialogue "Challenges and opportunities in the new financial ecosystem", Washington DC, 16 October.

——— (2021): "Fintech regulation: how to achieve a level playing field", *FSI Occasional Papers*, no 17, February.

Van der Spek, L and S Phijffer (2020): "Will bigtechs change the European payments market forever?", *Compact*, 2020/2, "Payments & Business Technology".