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Big tech regulation: in search of a new framework

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Abstract

Technological innovation in the market for financial services has given rise to new products, new delivery channels and, most importantly, new providers, such as big techs. These developments are the source of a number of opportunities but may also present certain risks that need to be addressed by appropriate policy action.

In the case of big techs, most of the risks arise from their ability to leverage on a common infrastructure – notably large amounts of client data – that helps them gain a competitive advantage in a wide variety of non-financial and financial services and create substantial network externalities. Big tech business models entail complex interdependences between commercial and financial activities and can lead to an excessive concentration in the provision of both financial services to the public and technology services to financial institutions; consequently, big techs could pose a threat to financial stability in some situations.

The challenges that this specific business model pose for society cannot be fully addressed by the current (mostly sectoral) regulatory requirements. Two specific regulatory approaches for big techs could then be considered and to some extent combined. The first is *segregation*, which is a structural approach that seeks to minimise risks arising from group interdependencies between financial and non-financial activities by imposing specific ring-fencing rules.

An alternative approach to segregation is *inclusion*, which consists in creating a new regulatory category for big tech groups with significant financial activities. Regulatory requirements would be imposed for the group as a whole, including the big tech parent. These group-wide requirements would not normally have a pivotal prudential (ie minimum capital and liquidity) focus, but would introduce controls for intragroup dependencies across financial and non-financial subsidiaries. This could be achieved by establishing a series of requirements (which are spelled out in the paper) that mainly relate to the governance, conduct of business, operational resilience and, only when appropriate, the financial soundness of the group as a whole.

While the segregation approach is arguably simpler and bolder, the inclusion approach provides for a more tailored option to address specific risks associated with big techs' business model. In any event there is a clear need for the international regulatory community to develop guidance.

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Big tech regulation: in search of a new framework[1]

Section 1. Introduction

Ongoing technological disruption is affecting all aspects of financial activity. Technology has brought about new financial instruments, new payment means and services, new distribution channels and new settlement mechanisms. It has also provoked the emergence of new providers of financial services and reduced the role of traditional intermediaries.

A far-reaching development has been the intensive participation of technological firms in the market for financial services (FSB (2019a)). Large providers of digital services (big techs) have made inroads in several segments of the financial sector and its value chain (Graph 1). They have gained relevant market quotas in digital payment services[2] and, in some jurisdictions – especially in Asia – achieved significant market positions in the provision of other services like credit and wealth management; the pandemic seems to have accelerated this trend (FSB (2022)). Although not yet the case in practice, some big techs could develop stablecoin projects or decentralised finance (DeFi) applications on a global scale by leveraging their already widely established multi-product platforms.

Big techs' business model favours the continuous expansion of the size and variety of financial and non-financial services that they offer to the public. Central to this model are significant network externalities that multi-service platforms generate to attract and retain customers and vendors. Data derived from those activities – particularly related to e-commerce, social media and payments – help them enlarge the scope of their activities. Client data are particularly valuable in the provision of financial services as they help to tailor product offerings and assess customers' eligibility for credit and insurance products (BIS (2019)).

The direct provision of financial services by big techs is normally conducted through regulated legal entities.[3] For example, big techs offer payment services through subsidiaries that hold money transmitter licences in the US; or e-money or payment institution licences in the EU. Some big techs (eg Alibaba, Tencent or Rakuten) hold stakes in credit institutions which offer a variety of banking services.[4]

Although network externalities favour an expansion strategy based on a progressive integration of all segments of value chains, including the front-end interaction with ultimate users, big techs also provide critical technology services to traditional intermediaries and occasionally participate in joint ventures with them. In particular, financial firms rely heavily on cloud computing-services (CCS) provided by big techs and increasingly demand more advanced technology services, such as data analysis or credit

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2 Carstens et al (2021).

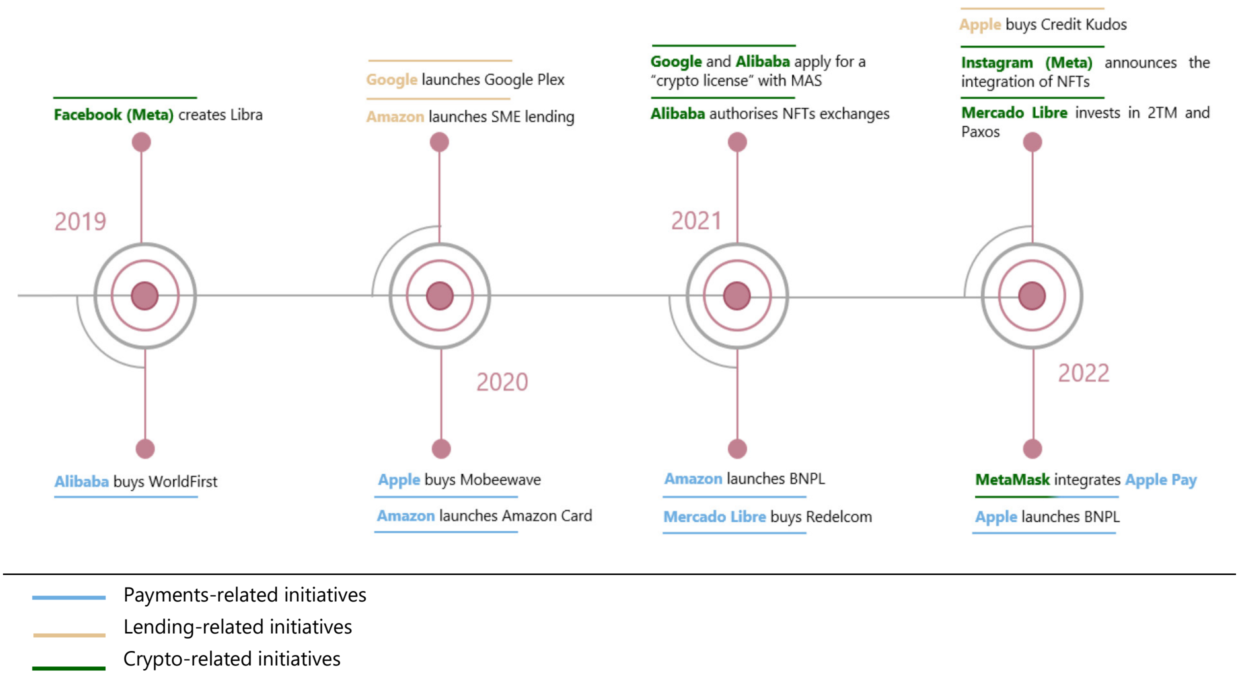
3 Throughout the paper we refer to regulated (legal) entities as those that hold a financial services licence that authorises them to perform a specific activity. Similarly, the term "regulated activity" refers to activities that can only be performed by regulated entities holding a licence that allows them to perform that activity.

4 In the EU, Rakuten Bank, a fully licensed credit institution established in Luxembourg, is a consolidated entity of Rakuten Group. In China, Ant Group has a stake of 30% in MYbank; Tencent has a stake of 30% in WeBank.

scoring facilities. At the same time, financial institutions may offer their financial products through big tech platforms as well as other types of partnership arrangements (eg white labelling or banking-as-a-service).[5]

Recent big tech initiatives in financial services

Graph 1



Therefore, potential risks to financial stability originate not only from the direct provision of financial services in combination with commercial activities, but also from extensive linkages with traditional financial institutions. Importantly, financial stability concerns also arise from those features of the big tech business model that can lead to an excessive concentration in the provision of both financial services to the public and technology services to financial institutions. Those risks can only be partially addressed by the existing regulatory framework, which imposes requirements on the legal entities that perform regulated activities, rather than on the big tech group as a whole.

Over the last few years, some observers have suggested that gaps in the regulatory framework could be addressed by relying increasingly on an activity-based approach and less on entity-based rules.[6] This notion rests on the idea that regulation should be adjusted in order to avoid a situation in which tech companies could perform regulated activities (or activities that entail the same risks as regulated ones) without the need to satisfy appropriate regulatory requirements.[7] Yet, while activity-based rules are an essential ingredient of the regulatory framework, this approach does not provide for a complete solution. First, many big tech groups are already subject to the existing activity-based regulation (in areas like consumer protection, anti-money laundering and countering the financing of terrorism (AML/CFT) etc) through their subsidiaries that offer regulated financial services. Second, relying mainly on activity-based rules is not as effective as existing regulatory tools for preserving financial stability, such as the prudential requirements imposed on specific entities, like banks and insurers. Finally, the greatest risks

5 Examples include partnerships between Apple and Goldman Sachs to launch Apple Card, and between Amazon and Citi to develop a buy-now-pay-later scheme (Citi Flex plan).

6 See Restoy (2021a) and Borio et al (2022) for a conceptual analysis of activity-based and entity-based regulation.

7 For example, a current debate involves the issuance of stablecoins and the provision of related services. To the extent that those activities resemble the ones performed by regulated entities like banks, money market funds or asset custodians, they should receive a comparable regulatory treatment (see Box 1).

posed by big techs are not only those that arise from the provision of specific regulated services but also those that relate to the combination of their financial and non-financial activities in the context of their unique business model.

Recently the regulatory discussion has evolved to consider approaches that combine activity-based rules with specific entity-based requirements for big techs. Several publications have argued that policies aimed at addressing risks posed by big techs in areas like competition, financial stability, operational resilience, conduct of business or personal data protection require a specific regulatory approach for big techs over and above activity-based rules.[8] The benefits of assessing the different modalities of a mixed activity- and entity-based approach have also been defended by a number of prominent policymakers.[9] Moreover, entity-based rules for big techs have already been advanced by national authorities in some policy domains, notably in competition, where big techs are facing – or will soon face – concrete obligations aimed at preventing anticompetitive practices and the abuse of market dominance.[10]

The design of entity-based rules for big techs is beset with challenges. In particular, such rules must address risks that are relevant to different policy domains, such as financial stability, consumer and data protection or operational resilience, and are closely interrelated and rooted in the nature of the big tech business model. Rules should also consider big techs' complex organisational structures, with many subsidiaries which are often heavily interdependent.[11] Moreover, as big techs' scope of activities extends across multiple geographies, the regulatory framework should be consistent with the jurisdictional responsibilities of the relevant host authorities.

This paper considers two different regulatory approaches to deal with the risks posed by big techs. The first one (segregation) would impose a specific group structure so that financial services are separated from non-financial activities, coupled with requirements on relevant interdependencies (eg data-sharing or common technological infrastructure) with the non-financial part of the group. A second approach (inclusion) consists of establishing a new regulatory category for big techs active in finance and a series of requirements that must be satisfied at the group-wide level. The paper also provides the contours of such a regulatory framework for big techs. For that purpose, it takes stock of the existing frameworks for the regulation of complex financial groups and conglomerates with financial activities as a starting point of the discussion. While financial conglomerates (defined as groups that perform more than one traditional financial activity) operate business models which differ markedly from that of big techs (where non-financial activities are often predominant), their regulation provides some pointers on how to address risks stemming from a combination of activities and helps structure the discussion on the necessary properties to regulate big techs.

The rest of the paper is structured as follows. Section 2 describes the objectives of appropriate regulation for big techs that are active in the market for financial services. Section 3 discusses how the current regulatory framework applies to big techs' financial activities and their provision of services to financial institutions. Section 4 reviews how regulation for financial groups and conglomerates has developed in search of elements that could inform the policy required to address the risks posed by big techs. It also introduces the segregation and inclusion approaches. Section 5 provides a sketch of a specific regulatory framework for big techs under the inclusion approach and discusses its scope of application, the main regulatory obligations and the normative architecture across jurisdictions in which big techs are active. Section 6 provides some concluding remarks.

[8] See Restoy (2019 and 2021a,b), Crisanto, Ehrentraud and Fabian (2021), Crisanto, Ehrentraud, Lawson and Restoy (2021), Carstens et al (2021) and Adrian (2021).

[9] See Carstens (2021), Knot (2021), Villeroy de Galhau (2021) and Panetta (2021).

[10] Examples are the European Commission proposal for an European Digital Markets Act, SAMR rules in China and several congressional initiatives in the US. See Crisanto, Ehrentraud, Lawson and Restoy (2021) for a comparison of those initiatives.

[11] See Crisanto et al (2022).

Section 2. The objectives of regulation

Regulation is principally concerned with introducing rules and requirements to correct market failures that lead to socially sub-optimal outcomes. Big techs present risks which affect different policy domains and social objectives including fair competition, market integrity, consumer protection and financial stability (see FSB (2019b, 2022), BIS (2019)). Those risks stem from big techs' unique business model, which benefits from substantial network externalities and is based on an extensive use of technology and customers' data to offer a wide variety of financial and non-financial services.

In the area of financial stability, big techs pose risks that could be transmitted through different channels: (i) by providing financial services directly to the public; (ii) by offering key technology services to financial institutions; and (iii) by favouring concentration in the market for financial and technology services:

- Big tech groups offer banking, insurance and other financial services – often in the form of novel bundles – through their subsidiaries. Those activities are often performed in joint ventures with banks which entail an opaque distribution of responsibilities that hinders adequate prudential oversight (FSB (2019b), BIS (2019)). The combination of regulated financial activities (such as payment services) with non-regulated financial services (like certain types of credit underwriting) and non-financial (commercial) activities generates risks that may not always be covered by the existing regulatory framework. Some of those risks emerge from a de facto reassembling of different components of banks' value chain without holding a banking licence. More generally, operational risks that arise through intragroup interdependencies are often evident in the reliance by different subsidiaries on common data and technological facilities.[12] Finally, big techs' issuance of potentially widely accepted means of payment (such as digital tokens or stablecoins) or the provision of specific services related to them (like custodial wallets) is subject to relevant risks in different domains (consumer protection, AML/CFT, monetary control).[13] In particular, failure to deliver – or to maintain trust in – the promised stability of such products, for example the value of the stablecoins against fiat currency, could eventually generate systemic distress.[14]
- Excessive dependence by financial institutions on third-party providers generates operational risks. When those services are of a technological nature, the vulnerabilities become more pronounced due to possible cyber incidents affecting the continuity of services and data protection. Moreover, the concentration of some of those services within a relatively small set of (big tech) providers results in the consequences of operational risks being particularly pronounced and potentially systemic.
- The existence of substantial network externalities enables big techs to attract an increasing number of users as they offer more services. The larger the number of services offered and the larger the number of users, the more data will be generated by the big techs in order to support the continuous expansion of their supply of services. That dynamic allows big techs to quickly build positions of market dominance in specific products and creates incentives to apply that advantage in relation to other market segments through anticompetitive practices.[15] The forces responsible for fostering such concentration have a direct effect on market contestability and consumer welfare. At the same time, excessive concentration in both the direct provision of financial services to firms or households (eg payments) and the provision of technology services

[12] See Crisanto et al (2022).

[13] See Arner et al (2020).

[14] See FSB (2020) and President's Working Group et al (2021).

[15] See de la Mano and Padilla (2018), Vives (2019) and BIS (2019).

to financial institutions may increase the vulnerability of the financial system and eventually threaten financial stability.[16]

Those potential challenges for financial stability merit a response by regulatory authorities. Indeed, several jurisdictions have developed policy initiatives that aim to address some of the challenges posed by the emergence of large technology providers in the market for financial services.[17] Notice, however, that most of the above risks are not strictly related to the financial soundness of big techs but often with their business models – in particular internal and external interdependencies – and with their conduct of business. Therefore, traditional prudential tools (like capital and liquidity requirements) may not be effective in dealing with big tech-specific risks.

Section 3. The current regulatory approach for big techs

Big techs are subject to regulations that span different policy domains. These include sectoral rules for their financial activities, requirements that apply to them as providers of technology services to financial institutions, and other obligations in areas such as competition and personal data protection.

In financial services, big techs are in principle subject to the regulatory frameworks that apply to the financial sectors in which they are active (ie banking, insurance or investment business). Under these sectoral frameworks, risks stemming from the provision of financial services by big techs are mostly addressed by the existing licensing requirements for regulated services. Legal entities within big tech groups that conduct activities such as deposit-taking or insurance underwriting are required to hold the corresponding banking and insurance licences and to comply with sectoral prudential requirements. These requirements apply at the level of the legal entity carrying out the activity (ie at the solo level) and, depending on the activity performed, at a wider level that includes other entities within the group.[18,19]

Diversified big tech groups are not typically subject to prudential regulation on a consolidated basis, even if some of their subsidiaries have banking or insurance licences. In some jurisdictions, however, sectoral prudential rules do impose constraints on licensed firms in relation to certain non-financial (eg commercial) activities that may be pursued within the groups to which they belong (see Section 4). Moreover, the supervisors of regulated institutions that are members of corporate groups (such as big techs) are required to take a broad perspective on risk by reviewing the activities of the wider group that

16 See Carstens et al (2021).

17 See Crisanto et al (2021).

18 That is the case for entities that constitute a banking group when viewed in relation to the bank. The Basel Framework defines banking groups as groups that engage predominantly in banking activities. A banking group includes the holding company, the bank and its offices, subsidiaries, affiliates and joint ventures, both domestic and foreign. The scope of application of the Basel Framework includes, on a fully consolidated basis, any holding company that is the parent entity within a banking group to ensure that it captures the risk of the whole banking group. A holding company that is a parent of a banking group may itself have a parent holding company. In some structures, this parent holding company may not be subject to this framework because it is not considered a parent of a banking group. See SCO 10 and Basel Core Principle (BCP) 12.

19 Under Insurance Core Principle (ICP) 23, for example, the group-wide supervisor, in cooperation and coordination with other involved supervisors, is required to identify the insurance group, which in principle includes the head of the insurance group and all the legal entities controlled by the head of the insurance group, and determine the scope of group supervision. ICP 17 provides guidance on group-wide capital adequacy assessments.

could have a material impact on the safety and soundness of regulated institutions.[20,21] To perform regulated activities that do not entail risk transformation (such as payment services or wealth management), firms are also required to obtain a licence and need to satisfy a set of rules that are generally concerned with issues related to conduct, such as investor/consumer protection and AML/CFT.[22] The scope of application of those rules does not normally extend beyond the solo entity level (eg limited to a payment service provider within a big tech group). In addition, there are typically no constraints on the combination of those regulated activities with other unregulated activities within the same group, or with other regulated activities apart from banking or insurance.

Certain financial activities, which some big techs perform, may not be subject to specific licensing requirements. This is the case for credit underwriting in a number of jurisdictions.[23] Even when such activity is regulated,[24] the rules mostly focus on consumer protection and do not impose specific constraints on the performance of complementary activities (eg payments or wealth management) other than deposit-taking.[25]

Activities related to the issuance or operationalisation of stablecoins have only recently received regulatory attention. At present, most jurisdictions do not have regulations that are specific to stablecoins (FSB (2020)). However, work is under way in major jurisdictions to modify their regulatory frameworks.[26] In the EU, the proposed MiCA Regulation, which has already reached an advanced stage in the legislative process, would establish a regulatory framework for cryptoassets, including stablecoins.[27] In the US, the Treasury and regulatory agencies have recommended that Congress issue legislation to restrict stablecoin issuance to federal banks and depository institution (see Working Group on Financial Markets et al (2021) and Box 1).

20 For banks, the Basel Core Principles state that, in supervising an individual bank which is part of a corporate group, it is essential that supervisors consider the bank and its risk profile from a number of perspectives: (i) on a solo basis; (ii) on a consolidated basis (in the sense of supervising the bank as an economic unit together with the other entities that form a banking group); and (iii) on a group-wide basis, taking into account the potential risks to the bank posed by other group entities outside the banking group. Furthermore, the Basel Core Principles require that the supervisor "understands the overall structure of the banking group and is familiar with all the material activities (including non-banking activities) conducted by entities in the wider group, both domestic and cross-border" and to take "action when risks arising from the banking group and other entities in the wider group, in particular contagion and reputation risks, may jeopardise the safety and soundness of the bank and the banking system." See Basel Core Principle 12 in the Core principles for effective banking supervision.

21 The Insurance Core Principles require the group-wide supervisor to determine the scope of group supervision and to include all entities that are relevant from the perspective of risk or control; risks that emanate from the wider group within which the insurance group operates should be taken into account. See ICP 23.2.

22 See Restoy (2021a), Crisanto, Ehrentraud and Fabian (2021) and Crisanto, Ehrentraud, Lawson and Restoy (2021).

23 There are no international standards specifically for credit underwriting, and regulatory requirements vary considerably across countries. In the European Union, there is no EU-wide sectoral licensing regime for non-bank lending. A majority of Member States do not regulate this activity at national level (European Commission (2021, 2022)). Some countries, however, require a banking licence (eg Austria and Germany) or a non-bank licence (eg Italy). In the United States, non-bank lenders are required to comply with state laws regulating money lending in each state in which they offer their services (see Box 2 in Ehrentraud et al (2020)).

24 See eg FSB standards on residential mortgage lending (FSB (2012)).

25 For example, in Delaware, a *Licenced Lender* that provides short-term consumer loans is required to prominently post its itemisation of charges for those loans "in plain view in an area easily accessible to its customers at the entrance to every office open to the public; and on any internet website it maintains related to those loans." The same applies for the display of the following statement: "A payday loan is not intended to meet long-term financial needs." See Licensed Lenders - Office of the State Bank Commissioner - State of Delaware.

26 At the international level, in July 2022 the CPMI and IOSCO issued final guidance on stablecoin arrangements confirming that the Principles for Financial Market Infrastructures apply to systemically important stablecoin arrangements that transfer stablecoins.

27 See European Commission (2020).

Box 1

Regulatory developments on stablecoins in the European Union and the United States

In the European Union, in September 2020 the European Commission adopted measures "for a competitive EU financial sector that gives consumers access to innovative financial products, while ensuring consumer protection and financial stability".① One of the legislative proposals put forward as part of this "Digital Finance" package is the Markets in Crypto-Assets regulation (MiCA), which would apply to all market participants that issue cryptoassets (issuers) or provide services related to cryptoassets (crypto service providers) in the EU.

MiCA distinguishes between four types of cryptoassets: asset-referenced tokens, electronic money (e-money) tokens, significant tokens and general cryptoassets. Stablecoins may be classified as either e-money tokens (in case they purport to maintain a stable value by referring to the value of a fiat currency that is legal tender and their main purpose is to be used as a means of exchange), asset-referenced tokens (in case they purport to maintain a stable value by referring to the value of several fiat currencies that are legal tender, one or several commodities or one or several cryptoassets, or a combination of such assets) or significant token (if classified as either e-money or asset-referenced tokens that have a considerable scale and/or international reach).

Only credit institutions or e-money institutions would be allowed to issue e-money tokens. In contrast, issuers of asset-referenced tokens would need to be authorised as such (unless the tokens are below certain thresholds or are offered only to qualified investors). Other requirements under MiCA relate to eg conduct of business, consumer protection, prudential safeguards, safekeeping of clients' cryptoassets and funds, governance, conflicts of interest and business continuity. Supervisory responsibility for e-money and asset-referenced tokens would be placed on national authorities; for significant asset-referenced tokens on EBA; for significant e-money tokens on both. In addition, the European Securities and Markets Authority (ESMA) would be responsible for establishing and maintaining a register of cryptoasset service providers, which should include information on the entities authorised to provide those services across the EU.

In the United States, the US President's Working Group (PWG) on Financial Markets (which includes the Treasury, the Federal Reserve Board, the Securities and Exchange Commission and the Commodity Futures Trading Commission), together with the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency, published a report on stablecoins on 1 November 2021.② The report identifies regulatory gaps related to payment stablecoins and payment stablecoin arrangements, ie stablecoins that are designed to maintain a stable value relative to a fiat currency and therefore have the potential to be used as a widespread means of payment. The report follows an earlier statement released by the PWG in December 2020 on "key regulatory and supervisory issues relevant to certain stablecoins";③ and a legislative proposal – the Stablecoin Tethering and Bank Licensing Enforcement (STABLE) Act – put forward by members of the US House of Representatives that would require stablecoin issuers to be regulated as insured depository banks.④

According to the 2021 PWG report, payment stablecoins give rise to concerns around market integrity, investor protection and illicit finance, as well as potential financial stability and prudential risks. These include the risks of stablecoin runs, risks to the payment system and additional risks linked to the potential for some stablecoins to rapidly scale (ie systemic risk and concentration of economic power).

To mitigate these risks, the report recommends that Congress act promptly to enact legislation to ensure that payment stablecoins are subject to a federal prudential framework. Such a framework should require: (i) stablecoin issuers to be insured depository institutions and to be restricted from having commercial affiliates; and (ii) custodial wallet providers to be subject to federal oversight and, if deemed appropriate, limits on their affiliation with commercial entities or their use of users' transaction data. In addition, supervisors should have the authority to implement standards to promote interoperability among stablecoins. The report also recommends that the US Financial Stability Oversight Council consider the potential designation of certain activities conducted within a stablecoin arrangement as systemically important, and that authorities make use of existing powers over stablecoins where appropriate.

① https://ec.europa.eu/info/publications/200924-digital-finance-proposals_en.

② https://home.treasury.gov/system/files/136/StableCoinReport_Nov1_508.pdf. ③ https://home.treasury.gov/news/press-releases/sm1223. ④ Under the STABLE Act, any company offering stablecoin services would have to follow relevant federal and state banking regulations; and stablecoin issues would be required to place their uninsured reserve funds with the Federal Reserve. For a one-page summary of the proposal, see https://tlaib.house.gov/sites/tlaib.house.gov/files/STABLE_Act_One_Pager.pdf.

In the area of the provision of technology services to regulated financial institutions, most jurisdictions currently lack a specific regulatory approach. In general, risks related to excessive dependence on services provided by critical third parties (like cloud computing service providers) are indirectly addressed under the current regulatory framework for operational risks and, more specifically, outsourcing. Through supervisory action, authorities monitor the management of the business relationships of financial institutions with large third-party providers. In some cases, regulators require firms to ensure that their contracts with large tech providers recognise audit powers for the firms' supervisor.[28] An exception to that approach is the current European Commission (EC) proposal for a Digital Operational Resilience Act in the EU (DORA) which would impose specific requirements on firms' relationship with critical third-party providers and establishes a regulatory and supervisory regime for those providers that need to be incorporated in the EU.

Regulatory developments have also taken place in addressing anticompetitive practices that arise from big tech business models which result in market dominance and excess concentration. In China, the market regulator (SAMR) has undertaken measures to impose ex ante requirements on big techs to prevent market abuse. In the EU, the EC proposal for a Digital Markets Act also establishes a specific pro-competition regulatory regime for big techs (characterised as gatekeepers), which crucially includes obligations on data use within and data-sharing outside the big tech group. In the US, several legislative initiatives submitted to Congress aim to achieve the same objectives by proposing various types of entity-specific rules.[29]

Overall, the current regulatory framework and recent policy initiatives follow a rather piecemeal approach. Risks are mostly addressed one by one without fully acknowledging the interaction among them as they are all directly linked to the unique business model of big techs. Moreover, except for the initiatives adopted in the area of competition, little action has been taken to address the risks that emerge from the combination of financial or commercial activities that big techs perform through their group entities. Issues such as operational risk, data misuse or the prudential implications of the combination of regulated and unregulated activities that big techs perform can hardly be addressed by focusing regulatory attention on individual activities performed by a subset of their subsidiaries in specific sectors. Box 2 presents a more detailed description of the shortcomings of that sectoral approach.

28 For example, in the EU financial institutions should ensure within the outsourcing agreement that the service provider grants them and their competent authorities full access to all relevant business premises and unrestricted rights of inspection and auditing related to the outsourcing arrangement (EBA (2019)). Similarly, in the UK financial institutions should ensure that written agreements grant the Prudential Regulatory Authority the rights to inspect and audit the service provider of material outsourced functions (BoE PRA (2021)).

29 See Restoy (2022) and Crisanto, Ehrentraud, Lawson and Restoy (2021).

Box 2

Shortcomings of sectoral regulations in relation to big tech risks

Sector-specific regulations suffer from several shortcomings that weaken their ability to address big tech risks, particularly in relation to the interaction of different activities that big techs perform. Areas in which the deficiencies of the current regulatory setup are becoming increasingly evident include:

Regulatory approach. Outside the banking and insurance sectors, financial regulations often follow an activity-based approach. As such, they are geared towards risks posed by the performance of specific activities (like payments or wealth management services) and leave aside possible spillover effects from other activities that related entities (such as those within big tech groups) perform (Crisanto, Ehrentraud and Fabian (2021), Restoy (2021b)). They also fall short of addressing the different challenges associated with large platform companies that benefit from advantages arising from the "data-network-activities" loop.① Two of these challenges relate to concentration of market power and data governance (Carstens et al (2021), Restoy (2022)), which in some circumstances could have implications for financial stability.

Scope of application. The regulatory perimeter at best extends to a subgroup of entities within the overall big tech group. Even if a banking entity is present within the group, the existing banking regulations do not apply to the wider big tech group, nor necessarily to entities that are interdependent with those within the banking group.② Similarly, for insurance companies, the regulatory perimeter encompasses the head of the insurance group and all the legal entities controlled by it, potentially leaving aside other entities within the wider group that are interdependent with the insurance group.③ As such, the types of regulated entity a big tech has within its group determine not only which sectoral regulations apply but also the regulatory perimeter and the enforcement powers authorities have at their disposal within that perimeter. These powers reflect the objectives of sectoral regulations (eg protection of depositors, policyholders or investors) and may not be sufficient to address all relevant risks posed by big techs.

Supervision. Big techs may have a considerable number of non-financial entities within their groups that work together to support the digital platform ecosystem. Naturally, some of these entities will have close links to regulated financial entities of the group (eg as subsidiaries or affiliates) and may fall within the supervisory perimeter. Others, however, may not, and in such cases the supervisor may lack legal authority to obtain information that is necessary to evaluate risks that originate with the non-regulated group entities and may affect the regulated entities. In addition, supervisory rules and practices cannot easily be extended to commercial entities in the same way as they can to (unregulated) financial firms.

Transparency. While authorities could impose reporting and disclosure obligations on regulated entities under sectoral regulations, there are several factors at play that may hamper their effectiveness: the cross-sectoral and cross-border nature of big tech activities; the centrality of data flows and cutting-edge technology within the digital platform ecosystem; and the large number of different types of entity within big tech groups, arranged in multi-layered and entangled group structures. At present, it appears impossible for anyone outside the big tech groups, including the financial authorities, to reach a holistic understanding of their inner workings based on disclosed information.

① The DNA loop affords big techs the ability to establish a substantial presence in financial services rapidly and, by doing so, to even become systemically important. See BIS (2019), Crisanto, Ehrentraud and Fabian (2021), Croxson et al (2022), Feyen et al (2021) and Frost et al (2019). ② The scope of application of the Basel Framework includes "on a fully consolidated basis, any holding company that is the parent entity within a banking group to ensure that it captures the risk of the whole banking group" (SCO10.2). The diagram in SCO10.5 illustrates the scope of application of the Framework, which in this example applies up to the level of the bank's parent holding company but not necessarily to the diversified/commercial parent holding company that exists beyond that level. ③ ICP 23.1 states that the insurance group may be a subset of a wider group, such as a larger diversified conglomerate with both financial and non-financial entities, and that risks that emanate from the larger group should be taken into account in the course of supervision of the insurance group (ICP 23.2.3).

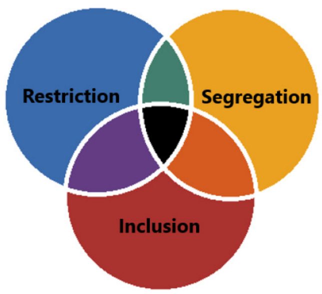
Section 4. In search of an appropriate regulatory framework

4.1 The need for an entity-based approach

As the current (mostly sectoral) approach does not sufficiently address the risks posed by big techs which are active in financial services, a regulatory re-think is warranted. There is a need to address the specific challenges posed by big techs in order to protect key public policy objectives, in particular financial stability. As a complement to activity-based regulation, group-wide entity-based rules would allow for the introduction of controls that focus on the interaction between the different activities that big techs perform, from which many of the risks to financial stability could arise.[30]

Existing banking and insurance regulation already incorporates constraints that address risks emerging from the performance of non-financial activities by regulated financial institutions. Those requirements typically fall under one or more of the following categories: restriction, segregation and inclusion (Graph 2). In the first category, financial institutions are restricted from performing specific activities. The clearest example of that approach are requirements in the US that prevent depository institutions from undertaking significant commercial activities.[31] In the second category, regulation seeks to shelter specific sensitive activities (like banking or insurance) from risks arising from other business lines. This is a key rationale for the recent decision in China to require large commercial groups to create financial holding companies (FHCs) to group their financial activities under one umbrella and to impose prudential requirements on those holding companies. A third approach seeks to include the financial activities (whether regulated or unregulated) and the relevant non-financial activities within a concrete regulatory category. This, in turn, allows for the introduction of controls and obligations for the whole group. These three general approaches are to some extent mutually compatible and flexible depending on the circumstances.

Restriction, segregation and inclusion approaches — Graph 2



	Restriction (■)	Segregation (■)	Inclusion (■)
Advantages	• Simple to implement • Risks more clearly identified and managed	• Sheltering of financial activities from non-financial risks • Transparency	• Comprehensive group-wide approach • Allows for innovation and efficiency
Drawbacks	• May impede innovation • Could severely constrain provider and service diversity	• Group-wide risks may be under-appreciated • Requires limits on interdependencies that may discourage participation in finance	• Complex practical implementation • May lead to disproportionate regulatory burden

Source: Authors' conceptualisation.

In the case of big tech groups, similar actions could be taken to address the financial stability risks posed by the combination of financial and commercial activities they perform, as described in

[30] This focus on the combination of activities would be shared with prudential regulation for banks which was primarily established to address the implications of banks' engagement in risk transformation activities by simultaneously conducting two types of activities: taking deposits, on one side, and providing loans or conducting other forms of risky investment, on the other (Restoy (2019)).

[31] Although commercial firms can have an industrial loan company charter which allows them to perform banking activities under some conditions. See Zamil and Lawson (2022).

Section 3. The first approach – restriction – would radically alleviate most of those risks. Yet this approach looks overly intrusive. Restricting big techs from engaging in regulated financial activities might result in missed opportunities to benefit from innovative technologies and reduce provider and service diversity. This approach is therefore not explored further, and the rest of this section discusses the segregation and inclusion approaches.

4.2 The case for a segregation approach

The segregation approach represents a school of thought that sees key public policy objectives as best achieved by imposing a specific group structure for any big tech that offers financial services. This approach would require that financial services be legally separated from non-financial activities and grouped together under the umbrella of an FHC, which would be responsible for meeting prudential and other requirements on a consolidated basis for the resulting financial subgroup.

Following the segregation of the financial and commercial activities, requirements could then be imposed on the FHC to control the interactions and interdependencies with the rest of the group. These requirements would not necessarily have a predominant prudential motivation (ie to protect the safety and soundness of the FHC) but would aim at, inter alia, preserving operational resilience, adequate data management and business conduct.

Differences in the degree of implementation of the segregation approach may restrict group interdependencies more or less severely. Along a spectrum, the strictest application would result in a ring-fencing of the financial subgroup and would represent an attempt to eliminate interdependencies with the rest of the group. This could entail specific governance arrangements to avoid undue influence of the parent company and the non-financial subsidiaries on the financial subgroup. Restrictions could apply to intragroup financial transactions between the financial and non-financial components[32] and also prohibit the common use of group-wide technology platforms by the financial subgroup. More importantly, data-sharing could be severely constrained (eg through Chinese walls) between the financial and non-financial parts of the big tech group. The objective of such restrictions would be to minimise the transmission of internal risks (eg operational, reputational) at a group-wide level and prevent the misuse of data to build positions of market dominance. They would also seek to achieve a degree of simplicity and transparency in the operations of the group, which, in turn, should facilitate the practical application of financial regulations and supervisory oversight.

Segregation could be implemented at the global or at the jurisdictional level. The former would imply the creation of a financial holding company (FHC) in which all financial activities worldwide would be grouped together and made subject to consolidated requirements and ring-fencing. The latter would entail the establishment of a regional or national FHC that would need to satisfy local regulation. If a global FHC exists on top of local FHCs, home-host arrangements could be defined along the lines of current banking and insurance regulation and supervisory practice. In the absence of a global FHC, the jurisdictional approach would logically entail restrictions affecting not only the interaction of the local FHC with the group's non-financial activities conducted in the same jurisdiction, but also with any financial and non-financial activities performed by the group elsewhere.

Conceptually, segregation is a relatively simple approach to mitigating risks arising from big tech interdependencies. It may also place fewer demands on supervisors than the inclusion approach (see below) if the focus on properly ring-fenced financial subgroups is deemed to be less resource-intensive than establishing rules that affect the entire big tech group, taking into account the complexity of business models and the plurality of activities worldwide.

[32] In 2015, the Federal Reserve applied restrictions on intercompany transactions between the financial and non-financial affiliates of the GE group (Application of Enhanced Prudential Standards and Reporting Requirements to General Electric Capital Corporation (7/24/2015)) and reflects elements of segregation and ring-fencing.

Yet segregation has its drawbacks. For one, intragroup operational restrictions – such as Chinese walls – may not be effective in times of stress.[33] More importantly, the main competitive advantage of big techs is precisely their ability to exploit network externalities which crucially rely on the use of common data and technological platforms. Therefore, limiting interdependencies may considerably weaken the business case for big techs to offer financial services, which is why the segregation approach has the potential, in practice, to lead to a similar outcome as the restriction approach.[34]

Overall, while this approach could be an effective and efficient way to mitigate the key risks presented by big techs, it could also hamper technology-led innovation in financial services and other benefits that big techs could bring to the financial industry.

4.3 The case for an inclusion approach

The inclusion approach takes a "group-wide" perspective as it considers both the parent and all its regulated and unregulated entities, and places emphasis on understanding and controlling the risks of interdependencies inherent in big tech business models. Similar to segregation, financial activities could still be grouped into an FHC subject to consolidated regulatory requirements at the subgroup level, but the interactions between financial and non-financial activities would be controlled by group-wide requirements for the big tech group as a whole instead of ring-fencing the financial subgroup. This represents a more comprehensive approach that aims to adjust regulation to existing business models. Such an approach supports, to the extent possible, the benefits of big techs' involvement in finance while addressing potential risks. However, it is arguably more complex than the segregation approach, and its implementation might come with relevant challenges. Moreover, if requirements are not properly measured it could lead to a disproportionate regulatory burden, particularly if the scale of the group's financial activities is not sufficiently large.

Financial regulation has already addressed some of the challenges posed by the inclusion approach. In particular, the international work on financial conglomerates that was initiated prior to the Great Financial Crisis may be of some relevance. The overall objective of that work centred on regulating financial groups that performed more than one regulated activity and preventing capital arbitrage by bank-insurance groups in particular. That – mostly prudential – focus does not fit well with the main risks posed by big techs for financial stability as they are not primarily related to the financial soundness of the group as a whole. Yet certain insights on how to address financial risks that originate from a combination of different activities may provide inspiration on how to approach big tech regulation.

Inspiration from regulatory approaches for financial conglomerates

In the 1990s, supervisors were confronted with emerging groups that combined different entities across sectoral boundaries and were thus able to provide a wide range of financial services.[35,36] In response, bank, securities and insurance regulators came together to explore issues relating to the supervision of financial conglomerates, defined as "any group of companies under common control whose exclusive or

33 Referring to the failures of the British and Commonwealth group in the UK and the Drexel Burnham Lambert holding company in the US in the 1990s, Borio and Filosa (1994) suggest that effective separation could be undermined by market perceptions and group interdependencies, and that intragroup operational restrictions "may not work when they are most needed but they risk undermining any potential 'synergies' between combinations of activities".

34 Restricting the sharing of data within a big tech group could also be seen as a restriction of the rights of the data owner, ie the big tech customer.

35 The announcement of the Citicorp-Travelers merger in 1998 to create the largest banking and insurance financial group in the world is indicative of the market sentiment at that time as well as the pressing need for a regulatory response.

36 For an overview of the structural changes and trends in financial markets during this period, see Borio and Filosa (1994).

predominant activities consist of providing significant services in at least two different financial sectors (banking, securities, insurance)".[37]

In a report published in 1995, this Tripartite Group of bank, securities and insurance regulators identified several supervisory challenges. These challenges related to capital adequacy, contagion, intragroup exposures, large exposures at group level, conflicts of interest, fit and proper tests for managers, transparency of legal and managerial group structure, suitability of shareholders, and rights of access to information. The Group also flagged the need for intensive cooperation between supervisors responsible for different entities within a conglomerate and the exchange of prudential information between them.

The report acknowledged that mixed conglomerates – groups which are predominantly industrially or commercially oriented but contain at least one regulated financial entity and are typically headed by a commercial or industrial company – share many of the challenges posed by financial conglomerates. It, however, emphasised special difficulties in addressing these challenges.[38] For example, in contrast to a financial conglomerate, assessing the capital adequacy of a mixed conglomerate group is practically not possible because "supervisory rules and practices cannot be extended to commercial and industrial entities in the same way as they can to non-regulated financial entities".[39]

As a potential solution, the report suggested, without further elaboration, a segregation of the financial entities of a mixed conglomerate from the rest of the group by establishing a financial subgroup headed by an intermediate holding company. Beyond these considerations, mixed conglomerates did not receive further attention. This apparent neglect, however, reflects the increasing amount of cross-sectoral M&A activity that was focused exclusively on financial services, particularly between the banking and insurance sectors.[40] Moreover, some of these mergers resulted in cross-border groups with scale and reach that was entirely novel at that time. In contrast, the mixed conglomerate model was largely industrial in nature, with limited opportunities to scale rapidly or beyond domestic markets. The phenomenon of the technology-led mixed conglomerate would only emerge in the 21st century as most of the big tech groups that are dominant today were established in the early 2000s.

The work conducted by the Tripartite Group, which later evolved into the Joint Forum, resulted in an initial framework for the supervision of financial conglomerates, which became known as the 1999 Principles. These covered: (i) techniques for assessing the capital adequacy of conglomerates, including detecting excessive gearing; (ii) information-sharing and coordination among supervisors; (iii) testing the fitness and propriety of managers, directors and major shareholders of the conglomerate; and (iv) the prudent management and control of risk concentrations and intragroup transactions and exposures.

In the light of the experience of the Great Financial Crisis, in 2012 the Joint Forum updated the principles, with a focus on closing regulatory gaps and eliminating supervisory blind spots. Annex 1 sets out the 21 principles which were intended to "support consistent and effective supervision of financial

37 See Tripartite Group (1995).

38 Apart from challenges that financial and mixed conglomerates share, the report highlighted that the latter also raise "some rather different issues for regulators" which may demand a fundamentally different approach. For example, the extent to which a regulated entity is exposed to contagion and reputational risk as a result of being part of a commercial or industrial group may be particularly hard to assess. Other challenges relate to fitness and propriety assessments and ensuring that intragroup transactions are conducted at arms' length.

39 Put differently, the difficulty in assessing overall capital adequacy comes from the inability of supervisors to meaningfully include information on commercial or industrial companies in a capital assessment of the group as a whole.

40 In the EU, for example, the bancassurance model – combining banking and insurance activities within a group – has been the prevailing operating model for financial conglomerates, particularly in Austria, Belgium, France, Italy, Spain and Portugal. See European Commission (2017).

conglomerates and in particular those financial conglomerates active across borders" and expected to be applied "at least" to large internationally active financial conglomerates.[41]

At the national level, different regulatory frameworks for financial groups were put in place (see Graph 3 and Annex 2 for details):

- In the EU, the Financial Conglomerates Directive (FICOD), which was adopted in 2002, mirrors to a large extent the Joint Forum Principles. This legislation imposes supplementary supervision on groups that have at least one entity in the insurance sector and at least one entity in banking or securities.[42,43] In addition, provisions on consolidated supervision apply to FHCs which are defined as financial institutions whose subsidiaries: (i) are exclusively or mainly financial institutions; and (ii) include at least a bank or investment firm.
- In the US, there are several types of frameworks for financial groups: the bank holding company (BHC) and FHC regimes for groups with banks,[44] the securities holding company regime for groups with securities firms and the insurance holding company system regime for groups with insurance companies.
- A more recent development is the implementation of the FHC regime in China, which establishes a conglomerate-type framework for companies that control two or more different types of financial institutions.[45]

41 Groups of entities with activities in only one regulated sector (banking, insurance or securities), combined with commercial (ie non-financial) activities, are explicitly excluded.

42 Supplementary supervision, as complement to sectoral supervision, was introduced to overcome potential supervisory blind spots that may otherwise exist in the event reliance were placed solely on sectoral supervisory frameworks. In particular, FICOD aimed at addressing risks relating to capital adequacy, size and complexity, risk concentration, contagion (financial or reputational) and conflicts of interest. See Dierick (2004) and Noble (2020).

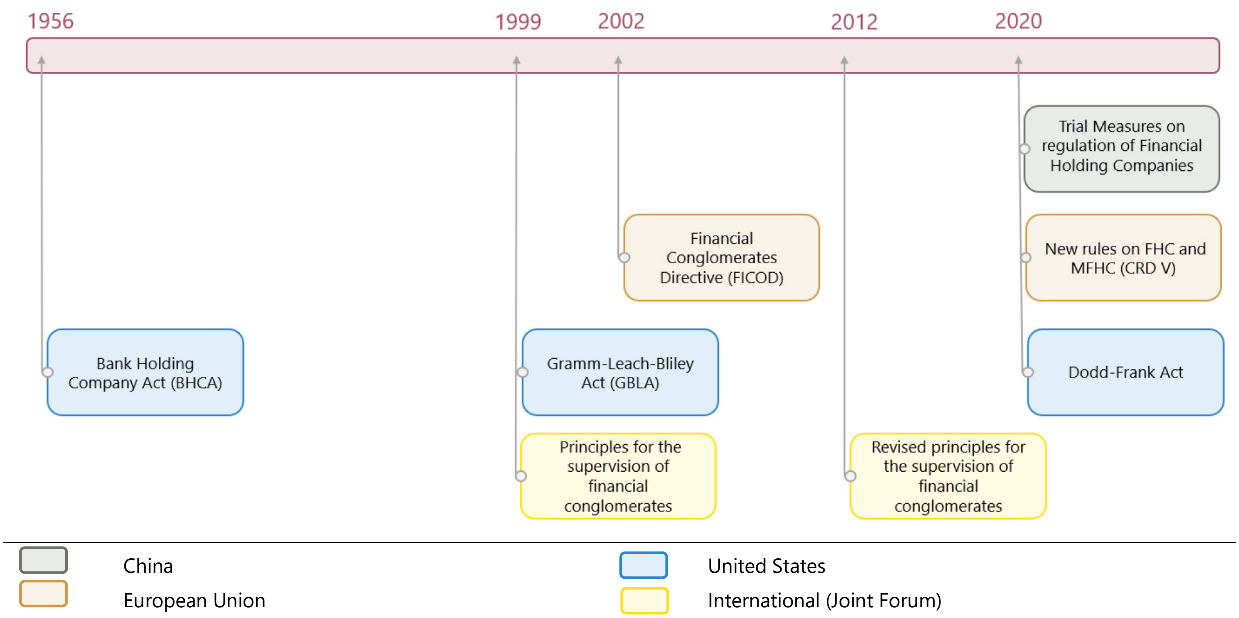
43 Financial conglomerates can be parented by a mixed financial holding company (MFHC), which is defined in Art 2(15) FICOD as "a parent undertaking, other than a regulated entity, which together with its subsidiaries, at least one of which is a regulated entity which has its head office in the Community, and other entities, constitutes a financial conglomerate". Art 2(4) FICOD defines "regulated entity" as a credit institution, an insurance undertaking or an investment firm.

44 BHCs that have registered as FHCs, which is possible only if the holding company as well as all subsidiary depository institutions are well managed and well capitalised, are allowed to engage in a broad range of financial activities, including securities underwriting and dealing, insurance underwriting and merchant banking activities (Federal Reserve Board and US Department of the Treasury (2003), Federal Reserve Bank of New York (2012)). Permissible activities also include those that the Federal Reserve Board and the Secretary of the Treasury determine to be financial in nature or incidental to financial activities, or that the Board determines is complementary to a financial activity and does not pose a substantial risk to the safety and soundness of depository institutions or the financial system (see Subparts C and I of Regulation Y at www.law.cornell.edu/cfr/text/12/part-225).

45 See PBC (2020a).

Selected regulations for financial groups

Graph 3



Source: Public sources.

The regulatory frameworks for financial groups, as described above, contain several elements that are helpful in addressing financial risks that stem from a combination of different financial activities. In particular, the group-wide approach allows for the establishment of controls and obligations in relation to the interactions of different subsidiaries, and also seeks to ensure sufficient loss absorption and reduction in the scope for circumvention of sectoral regulatory requirements.

Yet current regulatory categories for financial groups were not formulated with big techs in mind. Group regulation and supervision were not intended to address the situation in which a group's financial activities are highly integrated with more dominant non-financial interests, or a situation in which a group's financial activities are largely unregulated. Moreover, as discussed in Section 2, current regulation pays insufficient attention to risks which – while relevant for financial stability – do not strictly fall under the safety and soundness objective of prudential regulation. Some regulatory gaps therefore exist in relation to controlling for the interaction between non-financial and financial activities and, within the latter category, certain interactions: (i) between unregulated and regulated activities; and (ii) between activities subject to different types of regulation.

The limits of the current regulatory categories to deal with big tech groups

The limitations of existing regulatory approaches for financial groups may be described in terms of their scope, their licensing and supervisory regimes, and specific requirements. Table 1 provides a summary of the features of the current regimes in the EU, US and China which are relevant for the discussion.

Comparison of the current regulatory regimes

Table 1

			FHC (China)	FHC (EU)	FICO (EU)	MFHC (EU)	FHC (US)
Scope	Required subsidiaries to fall within scope	Bank		✓	✓[ii]		
		Bank and insurance				✓	✓
		Other	✓[iii]				
	Thresholds	Size	✓[iv]			✓[v]	✓
		NFA[i]	✓	✓	✓	✓	✓
Licensing and supervision	Licensing		✓	✓	✓		✓
	Consolidated supervisor		✓	✓	✓	✓	✓
Selected requirements	Consolidated prudential requirements		✓	✓	✓	✓	✓
	Intragroup financial transactions		✓[vi]	✓	✓	✓	✓
	Non-financial intragroup interdependencies (data, IT systems)		✓[vii]				
	Conduct of business (competition)		✓[viii]	✓[ix]			

FHC = financial holding company; FICO = financial conglomerate; MFHC = mixed financial holding company.

i Non-financial activities.

ii Bank or investment firm.

iii The Measures define an FHC as a company with controlling interest in or actual control of two or more financial institutions including commercial banks and financial leasing companies, trust companies, financial asset management companies, securities companies, public fund management companies and futures companies, life insurance companies, property insurance companies, reinsurance companies and insurance asset management companies and other institutions recognised by financial regulators under the State Council.

iv A Chinese FHC must have a commercial bank with total assets exceeding RMB 500 billion or total assets of other financial institutions exceeding RMB 100 million or total client assets exceeding RMB 500 billion.

v For an EU financial conglomerate, the average of the ratio of the balance sheet total of that financial sector to the balance sheet total of the financial sector entities in the group and the ratio of the solvency requirements of the same financial sector to the total solvency requirements of the financial sector entities in the group should exceed 10%.

vi Limitations on financing of FHC by controlled institutions.

vii The Trial Measures establish that data-sharing within the FHC must comply with applicable laws and be subject to the consent of clients. Responsibilities must also be clearly defined for any business collaboration between the FHC and its controlled institutions in relation to sharing of client information, sales teams, IT systems, background operating systems, business premises and other resources.

viii Principal, controlling or de facto shareholders of FHCs cannot engage in unfair competition by abusing their market monopoly or technical superiority.

ix The BHC Act provides that the Federal Reserve may not approve an acquisition that "would result in a monopoly or [...] (which effect) may be substantially to lessen competition in any section of the country, tend to create a monopoly, or in any other manner be in restraint of trade, unless the Board finds that the transaction's anti-competitive effects are clearly outweighed by its probable effect in meeting the convenience and needs of the community".

Sources: Trial Measures, FHC, FICOD, CRR.

In the EU, consolidated supervision applies to a financial conglomerate, MFHC or FHC.[46] Supplementary supervision focuses on mitigating the risks of contagion and concentration across the group, as well as preventing the multiple use of capital. While this regime exhibits the positive features

[46] Credit institutions or investment firms with a mixed-activity holding company parent are supervised on a solo basis, with general supervision over transactions between the institutions and the mixed-activity holding company and its subsidiaries.

of an entity-based regime, it is not tailored to capture risks that stem from the business models of big tech groups.[47]

- In terms of regulatory perimeter, FICOD introduces supplementary supervision for entities that form part of a financial conglomerate. However, if that financial conglomerate is part of a wider group, supplementary supervision does not extend to group entities that lie outside the financial conglomerate.[48]
- With regard to scope of application, the identification of a financial conglomerate is predominantly focused on traditional bancassurance groups that meet certain thresholds in terms of size and significance of cross-sectoral activities, but does not capture emerging forms of diversified groups such as big techs.
- Requirements imposed on a financial conglomerate include the establishment of risk management processes and internal control mechanisms at the conglomerate level, as well as group-wide capital adequacy and reporting of significant intragroup transactions and concentration risk at the conglomerate level. Nonetheless, there are no specific provisions regarding intragroup interdependencies, such as data-sharing or systems-sharing arrangements.

In the US, while a BHC/FHC may engage in a range of financial activities, the control of at least one banking entity is a necessary condition for the BHC/FHC rules to apply. By definition, this excludes diversified groups such as big techs from being subject to the rules, even if such groups are substantially engaged in financial activities other than banking.[49] To a large extent this reflects the primacy of banking ("banks are special") historically in the regulatory approach, which has often been construed in terms of banks' unique role in payments and maturity transformation. Regardless of whether this distinction continues to hold, other drawbacks of this approach to cope with the challenges posed by big techs include the following:

- BHCs/FHCs are required to maintain consolidated capital adequacy[50] and observe intragroup exposure and risk concentration limits; however, there are no specific provisions regarding intragroup interdependencies.
- The supervisory architecture of BHCs/FHCs is organised around the Federal Reserve as an umbrella supervisor coordinating with the "functional regulators". The consolidated oversight of the Fed is aimed at ensuring the viability of the depository institutions of the FHC, but not at addressing risks arising from the combination of different activities within the group.

In China, the FHC framework represents a comprehensive entity-based regime that could potentially address the perceived risks of big techs. However, there are a number of elements that may fall short of expectations based on the preceding discussion.

- As for the scope of application, the FHC regime requires firms that control two or more financial companies – if certain thresholds are met in terms of total assets – to establish an FHC. The

47 See Noble (2020) and ESA (2022) for a more detailed analysis of the limits of the EU framework for financial conglomerates to regulate mixed-activity groups such as big techs.

48 The Capital Requirements Directive (CRD) V introduced the obligation for certain FHCs and MFHCs to seek approval by the consolidating supervisor, bringing (M)FHCs within the scope of supervisory oversight. This obligation ensures that FHCs and MFHCs can be held directly responsible for ensuring compliance with consolidated prudential requirements, without subjecting them to additional prudential requirements on an individual basis.

49 A limited amount of commercial activities is allowed. BHCs may acquire an interest in a company that engages in commercial or industrial activities up to 5% of that company's voting stock. Ownership of 5% of a company's voting stock is permitted only when that ownership does not constitute "control". Per the Fed's BHC supervision manual, the exemption is designed to permit diversification of investments by a bank holding company and its subsidiaries which do not result in control of a non-banking organisation.

50 However, the Federal Reserve may not establish separate capital adequacy requirements for an FHC subsidiary that is in compliance with the capital requirements of its functional regulator.

definition of financial companies is broad, and the presence of a banking subsidiary is not a prerequisite for the FHC definition to apply. Yet payment service providers are not explicitly included in the definition of financial companies.[51] Moreover, FHCs' engagement in non-financial business is limited to 15% of their consolidated assets, and this requirement effectively separates financial from non-financial activities within the wider group. It also creates a de facto financial subgroup within the wider big tech group which is subject to the requirements of the FHC regime.

- With respect to requirements, FHC licence holders are subject to obligations on, inter alia, corporate governance, shareholder eligibility and risk management; prudential requirements also apply at a consolidated level. The FHC regime also includes specific provisions on intragroup interdependencies, cross-subsidiary interactions and risk isolation mechanisms.[52] These requirements apply to the the FHC and the financial institutions it controls, but not to interactions between the FHC subgroup and non-financial entities within the wider group; nor do they address intragroup dependencies with the wider group.[53]
- The People's Bank of China (PBC) is responsible for the group-wide regulation and supervision of the FHC, while sectoral financial regulators remain in charge of regulating financial institutions controlled by the FHC. This supervisory architecture aims to prevent cross-sectoral and cross-market contagion of financial risks. It is, however, limited only to entities held by the FHC (the FHC subgroup) and does not specifically address risks that stem from the combination of financial and non-financial activities.

Section 5. A new regulatory category for big techs

As described in previous sections, the current regulatory framework suffers from several shortcomings that weaken its ability to address relevant risks posed by big techs. Moreover, while the existing regulation of complex financial groups provides helpful insights it does not address all relevant policy challenges posed by big techs. In particular, existing regulatory categories are not suitable for groups that, while being active in the market for financial services, do not have a predominant focus on traditional regulated activities and whose risks do not mainly pertain to the prudential domain.

A potentially promising way forward could be to define a new framework for addressing the specific risks that originate from the unique business model of big techs that perform significant financial activities (big tech financial group (BTFG)). This could take the form of a consistent set of entity-based rules spanning different but related domains (governance, conduct of business, operational resilience, financial solvency). Such a regulatory category could be defined in terms of its scope of application as well

[51] Nevertheless, there is the possibility of including other institutions recognised by financial regulators under the State Council. Also, the PBC may exercise its supervisory discretion to ask a company to form an FHC for "macroprudential regulatory requirements."

[52] For example, FHCs should obtain client consent to share data within the FHC subgroup and ensure that the handling of data complies with the relevant laws and regulations. Cross-subsidiary interactions must be documented, with clear responsibilities set out for any collaboration between an FHC and the institutions it controls, or between the different institutions it controls (eg when sharing client information, resources or IT systems). Risk isolation mechanisms have to be established at the group level, with the aim of reinforcing firewalls and isolating subsidiary-specific risks.

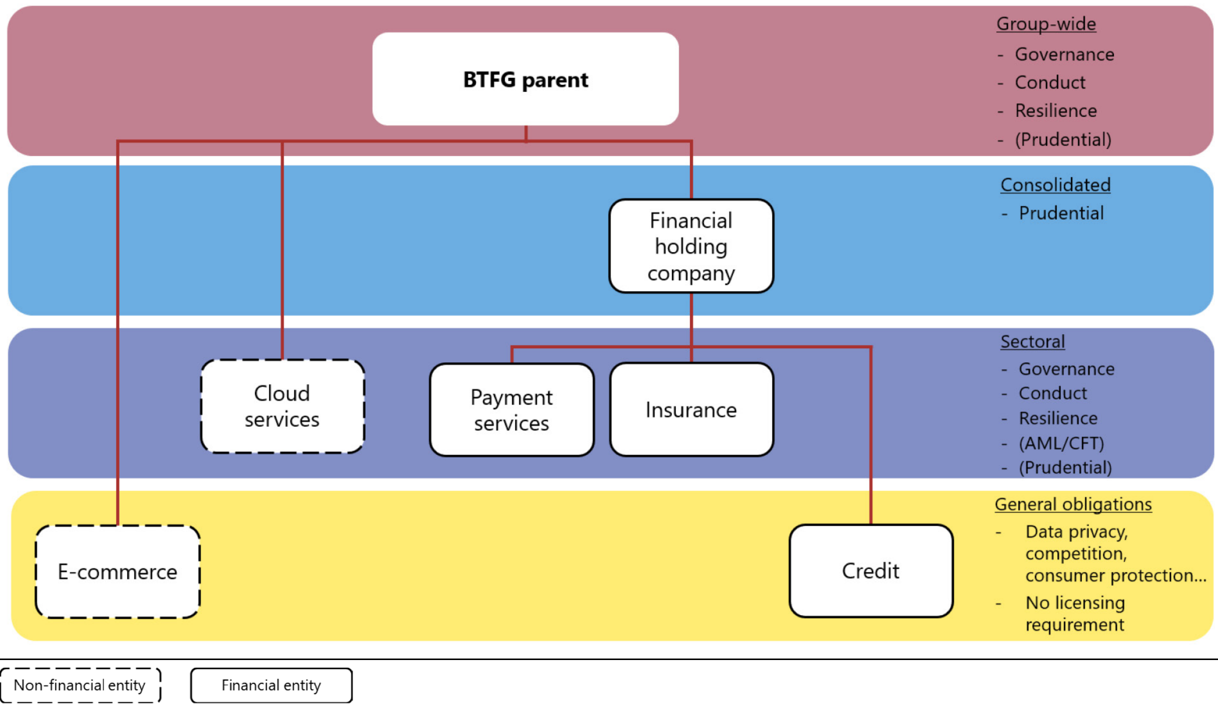
[53] Few specific restrictions or limitations are imposed on the interactions between the FHC subgroup and the non-financial entities of the wider diversified group. Some high-level guidance exists, however, on the relationships between the FHC and the rest of the group: "In the event that an FHC carries out a related party transaction with a related party other than the financial institutions it controls, it shall comply with the market principles and shall not violate the principle of fair competition and antitrust rules." See www.pbc.gov.cn/en/3688253/3689009/3788480/4110293/2020101516495219224.pdf and 2020101516495219224.pdf (pbc.gov.cn).

as actual group-wide requirements, in line with the inclusion approach described in Section 4.1. It would also be necessary to articulate the nature of the coexistence of such rules with those imposed on specific subsidiaries at both the domestic and, where relevant, international level.

The regulation of big techs would therefore be organised around three sets of rules depending on whether they apply to: (i) the BTFG parent; (ii) the individual regulated subsidiaries; and, when relevant, (iii) the FHC (or other intermediate operating entity) under which all or some financial activities are grouped. While existing frameworks currently apply in the latter two categories, the nature and scope of those rules would be affected by provisions applied to the BTFG parent, particularly in relation to financial-commercial interdependencies.

Table 2 provides an illustration of the foreseen regulatory structure for a big tech group that conducts: a non-financial activity not subject to financial sector regulation (e-commerce); a non-financial but potentially regulated activity (cloud computing service provider to financial institutions); a regulated financial activity subject to prudential (eg minimum capital) rules (insurance), a regulated financial activity not subject to prudential rules (payments) and a non-regulated financial activity (lending). The table also illustrates the foreseen requirements for the different legal entities within the group as well as the home-host arrangements. The rest of this section develops criteria for identifying a BTFG and then discusses the type of rules to be imposed on the BTFG parent, requirements affecting the internal organisation of the group, the allocation of responsibilities between home and host authorities and supervisory considerations.

BTFG group structure and applicable regulation — Table 2



Source: Authors' conceptualisation.

5.1 Scope of application

The identification of a BTFG should be based on evidence of significant engagement by the group in financial activities. There are challenges both in defining financial activities and in determining what might be a significant engagement in those activities. A specific difficulty for big techs relates to the multi-faceted and interdependent nature of their interests in financial services, supported by new technologies. However, the more general challenge of specifying the financial regulatory perimeter and licence requirements is not new and has a much longer history.[54]

The Joint Forum approach of construing financial activities in terms of the regulated entities that pursue traditional activities in any of the three financial sectors of banking, insurance or securities business is not fit for purpose. There are at least two reasons for adopting a broader perspective. The first is the rapid expansion of big techs' activities in payments (including, potentially, stablecoin issuance). These activities, which are already, or are likely to soon become, regulated in most jurisdictions, are not captured by the traditional sectoral regulatory categories of banking, insurance and investment business. The second reason is a feature of the former, namely the trend towards disaggregation of products and services offered by traditional financial institutions into standalone elements (eg lending, digital wallets) that may not be comprehensively regulated in all jurisdictions.

The definition of financial activity for the purpose of identifying a BTFG should therefore take into account the group's financial sector engagement broadly in terms of:

1. its regulated entities in the traditional sectoral sense (ie banking, insurance, investment firms);
2. its engagement in other regulated financial activities (eg payments, eventually stablecoin-related activities such as issuance, custody and wallet services)[55]; and
3. its unregulated financial activities[56] that represent a standalone component of traditional financial business (eg "buy now, pay later" (BNPL) lending) or non-traditional activities that are proximate (eg digital asset services).

Control of a banking entity could represent a significant involvement in financial activities. This is evidenced in other frameworks (eg the BHC Act in the US) that tend to regard the unique nature of a banking licence as having direct regulatory consequences for its parent. However, the mere existence of a bank (or any other regulated entity, for that matter) within a group does not convey any information about the extent of that entity's activities or the risk posed by that entity.

A different approach might seek to capture these elements by setting thresholds that determine the classification of an entity as BTFG in a transparent way. Thresholds may be specified in relative terms (eg >20% of the group's total assets or revenues in the financial sector) or in absolute terms (eg $5 billion of total assets).[57] The use of income data maybe particularly helpful as big techs often engage in

[54] The case of the Manhattan Company is a very early example of a company that was ostensibly established to provide clean water to the residents of New York but, in fact, operated as a bank. See also Borio and Filosa (1994) and EBA (2017) for further discussion on regulatory boundaries.

[55] In what follows, we refer to regulated activities as those that can be performed by legal entities that are licensed to perform a specific activity in any financial sector (eg banking, insurance, securities, payments or others).

[56] While we use the term "unregulated" for activities that are not subject to licensing requirements, we acknowledge that licensing obligations vary across jurisdictions. For example, credit underwriting can only be performed by banks in Germany or Austria but does not require a licence in other countries (Ehrentraud et al (2020)). In those latter cases, we consider credit as an unregulated activity even if some activity-based requirements (eg limits on interest rates for consumer credit) apply to them.

[57] For example, FICOD applies a financial sector threshold of 40% of total assets of the group to determine whether they fall within the scope of the directive; FICOD also applies a threshold of EUR 6 billion per financial sector in determining cross-sectoral financial activity.

partnerships with financial institutions to offer financial services.[58] However, the adequacy of any single measure is questionable given the diversity of big techs' business models and balance sheets. Moreover, groups can easily structure their interests in such a way as to avoid the breach of a particular threshold. The main challenge in setting thresholds would be to strike a balance between providing clear guidance to firms while maintaining a degree of flexibility in the face of evolving technologies and business models. In particular, thresholds need to address the potential speed at which a big tech may be able to scale its operations and achieve dominant market positions. This can be compounded by the timing difference between a breach of the threshold and the application of rules which might leave the supervisor in the unenviable position of catching up with industry and confronting possibly irreversible market changes.[59]

A multiple threshold approach could be a sensible solution. It may be calibrated in such a way that a breach of only one threshold would trigger the BTFG identification. Relative measures based on traditional financial data such as balance sheet size, revenues and profitability may prove to be inadequate by themselves given differences in big tech business models and balance sheet structure, and could therefore be aided by appropriate absolute measures.[60] Moreover, similar to existing provisions in the EU financial conglomerate framework,[61] supervisors could, when deemed relevant, consider supplementary or alternative thresholds to traditional financial data, including measures that reflect macroprudential concerns that take into account the big tech's systemic importance and market dominance in specific financial markets.[62]

Requirements would not apply, in principle, to a BTFG that is engaged solely in unregulated financial activities. However, if legally possible, supervisory discretion could be exercised to apply requirements to a group where the risks, in particular to operational resilience, arising from unregulated financial activities are deemed to be high. That could be the case if the disaggregation of financial products and functions in combination with novel technologies presents concerns of a prudential or systemic nature.

An entity that qualifies as a BTFG parent could be subject to authorisation under the new or existing categories,[63] regardless of whether the entity is a holding company or an operating company, or whether it is directly engaged in financial activities. Regulatory requirements would be imposed solely on the BTFG parent to affect the conduct of the BTFG parent in relation to its subsidiaries and other participations given its ability to direct both the financial and commercial activities of the group.[64] In general, it would be unnecessary and undesirable to extend direct regulatory or supervisory oversight to any non-financial entities apart from the BTFG parent as this might introduce a degree of complexity and possible moral hazard. As discussed below, an exception to this principle are legal entities that provide critical technology services to the financial sector (eg cloud computing service providers).

58 Thresholds should be designed with a view to bringing within scope big techs which offer financial products and services through partnerships without using their own balance sheet.

59 For example, rapid mass adoption of a stablecoin at a global level.

60 Complexity may arise in the calculation of some these measures, but in most cases management should be able to derive the relevant measure from consolidated accounting data.

61 Article 3 (5) FICOD.

62 Further indicators for the BTFG identification could draw on the criteria set out in Article 39 of the MiCA to identify significant asset reference tokens.

63 The latter would be the case if the BTFG parent is already subject to sectoral or financial conglomerate requirements.

64 In the example of a 50:50 financial joint venture (JV) in which no party has control, there may be grounds to include the JV entity in full for the purposes of calculating the thresholds. However, in the absence of control, the BTFG JV partner may face challenges in applying specific BTFG requirements to the JV entity. Some coordination with the supervisor of the JV entity and, if applicable, the supervisor of the other JV partner would therefore be encouraged in order to order to assess the relevant risks.

5.2 Organisational structure

Given the complexity of big techs' business model, effective regulatory action requires them to adopt a suitable organisational structure.

In particular, as with the segregation approach (see Section 4), grouping all financial activities under a dedicated legal entity may facilitate the oversight of diversified groups, such as big techs. That would also allow compliance with established rules to become more practical and effective. In particular, the allocation of the financial components of a BTFG into a subgroup could facilitate the establishment of controls (including capital adequacy requirements) over the BTFG's provision of regulated and unregulated financial services by related entities that would not have been imposed previously. As noted earlier, the Chinese authorities' FHC regime is a recent example of this approach, while the early work of the Tripartite Group (the predecessor of the Joint Forum) advocated a similar approach to "mixed conglomerates".[65,]

Grouping all financial activities into a subgroup could also increase organisational and reporting transparency for both the financial and non-financial elements of the group. Lack of transparency in big tech segmental reporting has been documented as a means of obscuring internal cross-subsidies within platforms and networks and contributing to competitive distortions in the market.[66] The creation of a financial subgroup could reduce opacity and increase understanding of these factors for both risk management purposes and competitive behaviour.

However, unlike the segregation approach, the creation of a FHC or financial subgroup under the inclusion approach would not imply ring-fencing all financial activities from the rest of the group. The aim would not be to eliminate all relevant internal interdependencies, but to control them with the relevant regulatory requirements (see below). Yet the formation of a financial subgroup under the BTFG parent would create an internal border between the financial and commercial activities of the group. This border may be used to restrict the flow of two-way traffic in specific circumstances where contagion risk is of a concern, eg intragroup funding provided for high-risk commercial activities in other parts of the group.

5.3 Regulatory requirements

The group-wide approach has long been established as a supervisory principle for prudential regulation. However, it is often construed as a relatively light superimposition or "add-on" to sectoral approaches. For this reason, its application to big techs requires a change in emphasis in two respects. First, in recognising that the integration and interdependence of the financial and commercial activities are central to most business models in big tech.[67] Second, by acknowledging the primacy of data within such groups and big techs' tendency to use data to achieve dominant market positions very rapidly, ie the group-wide approach should also reflect the concerns of data protection and the potential for excessive concentration.

All BTFG parents which meet the established thresholds would need to satisfy requirements that relate to governance, conduct of business and operational resilience (Table 3). A BTFG parent would only be responsible for meeting financial soundness requirements such as group-wide minimum capital and liquidity if it controlled one or more regulated entities and fell under the existing sectoral categories of a parent entity (for example, an FHC or BHC) that is subject to consolidated prudential requirements. In any event, BTFG requirements would not be intended to replace existing legal and regulatory requirements but to complement them. Similar to the existing regimes for financial conglomerates or FHCs, the new entity-based rules for the BTFG parent should supplement sectoral rules already in place.

[65] *The supervision of financial conglomerates*, July 1995.

[66] A recent critique of big tech opacity (in terms of public disclosure) is provided in Strauss et al (2021).

[67] Crisanto et al (2022).

Regulatory requirements for BTFGs

Table 3

Governance	Conduct	Operational resilience	Financial soundness
Group-wide corporate governance standards: • Suitability of board members and senior management • Constraints on overlapping boards within BTFG • Transparency of organisational structure • Policies to identify conflicts of interest • Risk management culture • Internal interdependencies • Pricing policy for intragroup transactions	Group-wide conduct of business standards: • Collection and use of client and user data • Sharing of data within group and external parties • Anticompetitive practices (ex ante rules) • Unethical, illegal or discriminatory misuse of platform	Group-wide operational resilience standards • Mapping of intragroup interdependencies • Interdependencies between services offered to financial institutions and other big tech activities • Business continuity planning and testing • Disclosure to supervisors	Group-wide prudential requirements • Capital requirements • Liquidity requirements • Group-wide capital and liquidity planning • Management of group-wide concentration risks and significant intragroup transactions

Requirements apply to all BTFGs.

Requirements apply only to BTFGs that fall under existing financial group categories (eg FHC or MFHC).

Source: Authors' illustration.

The proposed requirements below for BTFG parents do not represent a comprehensive list of rules, but a focused consideration of the salient interactions between BTFGs' financial and commercial interests.

Governance

Most big tech groups have established corporate governance policies that are often a requirement of being listed on an exchange. In most cases, these rules do not contain specialised requirements for financial institutions or other firms with significant financial activities. It would therefore be appropriate to envisage group-wide corporate governance standards that explicitly take into account the specificities of the BTFG.

Requirements on governance for qualifying big tech groups could resemble those already applied to current regulatory categories for financial conglomerates. Existing regimes require governance arrangements at the financial group or conglomerate level to ensure adequate oversight and control of risks throughout the group. This includes provisions on the suitability of senior management, group-wide strategies and policies, risk management and internal controls, and reporting obligations. For BTFGs, these provisions should be aligned with and facilitate group-wide supervisory oversight. In particular, the BTFG parent should ensure that policies are in place to assess the suitability of the board members and senior management in all legal entities within the group. Moreover, constraints should be placed to limit overlapping boards between the BTFG parent and the subsidiaries. However, the principle of proportionality should apply to governance requirements at the legal entity level. They should not unduly constrain the capture of talent for subsidiaries which do not perform regulated financial activities.

The BTFG parent should ensure that the organisational structure is transparent. Arguably, this may be more challenging for groups that are engaged in multiple activities in different jurisdictions and whose activities are dispersed throughout the corporate structure of the group.

The BTFG parent should also ensure that policies are established to identify all potential conflicts of interest. Existing regimes already account for conflicts between financial entities. However, for a BTFG parent, particular attention should be paid to interactions between the commercial and financial activities. For example, a conflict may arise when an e-commerce platform has an objective to maximise gross merchandise value at the same time that the users of the platform are supported by credit services provided by a subsidiary bank or lending company within the group.

Regulation should require the BTFG parent to establish policies to ensure a consistent group-wide risk management culture. Risk management policies should seek to address external risks as well as internally generated (intragroup) risk. Differences between financial and non-financial risk may require adaptation in relation to specific internal controls or compliance procedures. However, the BTFG parent should ensure that principles of risk management and risk management processes are consistently maintained and communicated throughout the group.

The BTFG parent should establish polices in relation to internal interdependencies as a critical aspect of group-wide governance. These policies should be documented and cover key areas such as the use of a common payment infrastructure and technological solutions, data-sharing arrangements and proprietary risk assessment systems.[68]

Intragroup transactions should be subject to an appropriate pricing policy at a group-wide level. Intragroup transactions may occur between different types of financial entities within the group or between the financial and commercial businesses of the group – and may flow in either direction. Policies established by the BTFG parent should, in general, seek to ensure that such transactions are undertaken on an arm's length basis or specify grounds for alternative pricing. The arm's length principle should be understood as a device to increase transparency on economic interactions within the group and as a mitigant to the potential build-up of risk which could result from one of the parties being subject to the influence of the other.[69] Transactions not performed at arm's length could be liable to additional reporting and scrutiny by the supervisory authority.

Conduct of business

Big tech groups should be subject to conduct rules that would mitigate risks associated with insufficient protection of customers' personal data, anticompetitive practices and unethical behaviour.[70]

One of the most contentious issues relates to the collection and use of client or user data. These data may be collected and used by different subsidiaries or participations of the BTFG parent conducting either financial or commercial activities; for example, the collection and use of non-financial personal data to create a user credit score that would then qualify the user for a particular financial product. Various regulatory initiatives have been referenced in the preceding sections of this paper that seek to safeguard data and allow for legitimate sharing of data. Given that data regulation is an area that is changing rapidly, a BTFG parent should be aware of the complexities that relate to their different businesses and comply with all applicable data laws and regulations on a group-wide basis. In doing so, the BTFG parent should consider how data are used throughout the group and whether consistent internal standards are applied on a group-wide basis, adjusted where necessary for local requirements.

[68] See Crisanto et al (2022).

[69] Exceptions may exist and could be self-evident; one particular case would be the provision of capital or liquidity support from a BTFG parent to its regulated subsidiaries or intermediate holding company.

[70] We do not consider conduct of business issues that are specific to selling or treating customers/users fairly, but acknowledge that these are also major areas of concern in relation to big tech.

In particular, where data are collected by the commercial business of the group and used by entities engaged in financial activities, or vice versa, the BTFG parent should ensure that the informed consent of the user has been obtained.[71]

The BTFG parent should also identify all instances of data-sharing within the group between the financial and commercial businesses and ensure that these arrangements are documented between the relevant entities. Such documentation should clearly indicate the nature of the relationship between the parties, the purpose of collecting and using the data, and any limitations on data use.

The objective of preserving a level playing field supports the establishment of data-sharing obligations for big tech groups with other providers of financial and non-financial services.[72] This reflects general concerns regarding users' inability to access or transfer their own data and is also foreseen in the proposed Digital Markets Act (DMA) in the EU.[73] BTFG parents should be responsible for the fulfilment of any data-sharing obligations in accordance with the terms established in the relevant regulation (including scope of shared data, format, vehicle of transmission etc).

The BTFG should also be subject to effective pro-competition rules. Following the approach already considered in major jurisdictions (see Section 3), prohibitions or constraints should be established to address practices such as unfair platform admission criteria, self-preferencing and product bundling. Naturally, beyond the enforcement of those ex ante rules, big tech groups will continue to be subject to the ex post oversight by competition authorities to prevent the abuse of positions of market dominance. The BTFG parent should ensure that all entities within the group comply with applicable competition rules.

Specific rules should prevent big tech platforms being used for illegal, unethical or discriminatory uses. Operators of platforms should be subject to clear rules in that respect that allow for rapid and effective enforcement. The application of such rules should depend on the role, size and impact on the online ecosystem, and will involve some degree of judgment and complexity. The recently agreed Digital Services Act (DSA) in Europe exemplifies one particular regulatory approach to address this concern.[74]

Operational resilience

A BTFG parent should establish policies for operational resilience at a group-wide level. These policies should form part of group-wide internal standards that are applied and communicated on a consistent basis throughout the big tech group.[75]

Intragroup dependencies in relation to data or critical technology functions (eg cloud services) are key sources of concern for operational resilience. This is particularly the case when subsidiaries engaged in financial activities are highly dependent on the commercial entities for such services. Moreover, complex interlinkages may emerge if the same services are provided at the same time to other third-party

[71] Obtaining customers' consent for the use of their data throughout the group is already required in the FHC regime in China.

[72] Level playing field arguments also feature prominently in discussions on how approaches towards open banking/finance should evolve.

[73] See Article 6 (h) of the DMA.

[74] The DSA covers: (i) measures to counter illegal goods, services or content online; (ii) new obligations on traceability of business users to help identify sellers of illegal goods; (iii) effective safeguards for users, including the ability to challenge content moderation decisions made by platforms; (iv) bans on certain types of targeted adverts on online platforms; (v) transparency measures for online platforms, including on the algorithms used for recommendations; (vi) additional obligations for very large platforms to prevent the misuse of their systems by taking "risk-based" action and mandating independent audits of risk management systems; (vii) access for researchers to key data of the largest platforms; and (viii) an oversight structure to address the complexity of the online space. See https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/digital-services-act-ensuring-safe-and-accountable-online-environment_en.

[75] Such an approach contrasts with rules that establish obligations for regulated entities at the solo level without regard to the overall group. This is the case for DORA, for example, which will apply to all financial institutions (bank and non-bank) as well as other key players, such as credit rating institutions, auditors, third-party ICT providers, trading venues and other, financial market "adjacent", firms.

financial service firms. The BTFG parent should seek to address these potential risks while complying with existing sectoral business continuity and outsourcing requirements for regulated subsidiaries.

The BTFG parent should be required to map all intragroup interdependencies between the financial and commercial elements of the group. This is particularly important where value chain functions are performed centrally or by one or more non-financial entity within the group on behalf of the financial entities. These interdependencies should be documented and evaluated according to a degree of criticality in the event of disruption. Moreover, responsibilities for the risks stemming from business collaboration between the different entities of the group should be clearly defined, as provided for example in the FHC regime in China.

Business continuity planning and testing should be conducted regularly on a group-wide basis by the BTFG parent. A range of plausible scenarios should be considered, paying particular attention to the vulnerabilities and remedial plans of the financial entities in the case that either data or technology services provided by the group become unavailable. The business impact on those entities should be evaluated and reported to the supervisor on a regular basis.

The BTFG parent should ensure that all necessary information is provided to the supervisor on request for any intragroup arrangements in which critical value chain functions are provided to the financial entities of the group. If the supervisor is not satisfied with the information provided regarding such an arrangement, the BTFG parent should facilitate direct discussions with and access to the entity providing the service as necessary.

Heightened supervisory concern exists if the same or similar services are provided to other third parties that are engaged in financial activities. The BTFG parent should ensure that the supervisor is provided with all necessary information to assess the potential systemic risk posed by the service provider and the impact of a disruption or failure. This information should include the identities of the third-party clients and the extent to which services are provided to them.

While providers of critical technology services to financial institutions are often members of big tech groups, under the proposed framework the provision of such services alone would not qualify a big tech as a BTFG, given their non-financial nature.[76] However, given the importance and potential operational risks associated with financial institutions' reliance on those services, a specific regulatory and supervisory regime should be envisaged for those legal entities that offer such services, regardless of whether they belong to a big tech group. This is consistent with the approach followed in EU's DORA. For those, however, that do belong to a big tech group, ideally, the regulatory regime should account for the interdependencies between the services offered to financial institutions and other big tech activities, regardless of whether a big tech qualifies as a BTFG.

Financial soundness

At present, while big tech groups may have a significant presence in several markets for financial services, they continue to be predominantly commercial in nature. Moreover, the risks they pose, including those associated with internal interdependencies are best matched with tools related to governance, conduct and resilience. Therefore, in principle, it would not be effective to apply prudential capital and liquidity requirements at a group-wide level to most big tech groups. Prudential requirements could nevertheless be applied to certain regulated entities that exist within a big tech group on an individual (solo) or consolidated subgroup basis, as described earlier.

Only if warranted by the nature and scale of its financial activities, a BTFG could become subject to prudential requirements for the group as a whole. This situation would arise if the BTFG, including the BTFG parent, falls under the financial conglomerate or sectoral regulatory categories that create an

[76] This means that the above requirements on operational resilience would not apply to big techs that only offer those services and do not directly provide financial services to their clients.

obligation to satisfy consolidated prudential rules[77]. However, there could be some benefit if the scope and application of the current regulatory categories were to be reviewed to ensure that a BTFG that presents a high degree of financial risk would also be subject to consolidated requirements.[78] That could be the case if a BTFG has one or more regulated entities in the group and holds dominant positions in markets for certain regulated (eg payments) or unregulated financial services (eg credit provision or credit scoring).

Such a comprehensive approach would address more fully the prudential risks within the group, including: (i) the risk that the same capital is used in different parts of a BTFG to support its financial activities; (ii) risks from significant intragroup transactions; and (iii) group-wide concentration risks.[79] Where it is not an option, however, the supervisor could consider alternative ways to reach these objectives, such as asking a big tech to change its group structure. In any case, big techs should be prevented from circumventing prudential requirements: (i) by disaggregating financial products and functions such that entities that offer them would not be subject to consolidation (eg credit and payments); or (ii) by moving activities and exposures from one location to another within the corporate structure.

5.4 Multinational big techs

The above discussion has generally described the relationship between a BTFG parent and the relevant supervisor within the same jurisdiction. However, the financial and commercial interests of a BTFG parent would often transcend borders, and the principal locus of the commercial activities may even differ from that of the financial activities, eg instances of US headquartered big techs whose financial activities may be predominantly carried out in jurisdictions outside the US. In this situation it is inevitable that home-host supervisory concerns will arise. These concerns may exhibit a different order of complexity compared with traditional financial group supervision on account of the borderless nature of digital services as well as the higher degree of interaction between financial and commercial activities.

The (preferred) global approach

The provision of services by a BTFG in several jurisdictions – either directly or through local subsidiaries – would logically require regulation of the BTFG parent to capture the global businesses of the group. Indeed, many of the risks posed by big techs stem from the combination of the activities that they perform in different parts of the world.

However, in some areas, such as conduct of business (data, competition, ethics) risks emerge primarily in the location in which business is conducted. It is therefore unavoidable, and to some extent desirable, that big tech regulation in those areas rely on local rules. Interestingly, most national authorities would recognise their jurisdiction over all providers of services within their territory even if their activity is

[77] Currently, most big techs do not meet the conditions to be subject to group-wide prudential requirements.

[78] On 27 October 2021, the EC issued a proposal to amend the Capital Requirements Regulation, including "provisions on prudential consolidation to ensure that financial groups that are headed by fintech companies or include, in addition to institutions, other entities that engage directly or indirectly in financial activities are subject to consolidated supervision". Moreover, the ESAs have recommended a revision of existing consolidation rules and the creation of bespoke consolidation rules for groups conducting both financial and non-financial services (recommendation 7b in ESA (2022)). Current frameworks do not enable competent authorities to require consolidation of all the relevant non-financial entities of big tech groups.

[79] If consolidated prudential requirements were imposed on a BTFG as whole, then group-wide management of concentration risks and reporting of intragroup transactions would naturally extend across the entirety of the group, including both the financial and non-financial entities. There may be some utility in reviewing the concentration of external exposures of the BTFG as a whole if such exposures are retained in both financial and non-financial entities, and the supervisor may impose appropriate limits depending on the circumstances. Significant intragroup transactions should be reviewed for conformity with the governance standards of the BTFG, especially in relation to the interaction between the financial and non-financial entities within the group, and between financial entities.

only performed by entities incorporated in foreign jurisdictions. This is the case, for example of the EU draft rules for big techs (gatekeepers) in the DMA and DSA.

In the prudential domain, as in the case of multinational banking groups, when consolidated requirements are applied to a BTFG, the rules may apply on the home consolidated basis, as well as the solo (or sub-consolidated) level in the relevant host jurisdiction.[80] Some host regulators already require an intermediate holding company structure for foreign groups to perform regulated activities within their jurisdiction, and this approach may be particularly relevant if a BTFG is not subject to consolidated supervision by a home regulator or coordinator. To the extent that all financial activities are grouped under such an FHC in the host jurisdiction, any unregulated financial activities within this group may be subject to consolidated prudential and other relevant requirements that the host may apply.

It could be envisaged that all financial subsidiaries and local FHCs, regardless of jurisdiction, be grouped under a single global FHC below the BTFG parent. That global FHC would be subject to relevant consolidated prudential requirements and, possibly requirements on operational resilience for the global financial businesses and the supervision of the home regulator.

A multinational BTFG should therefore be subject to a regulatory framework that combines group-wide requirements imposed on the parent company by home authorities with local rules imposed in the host jurisdictions in which they are active. Table 4 presents the distribution of responsibilities between home and host authorities for the example presented above. We assume that all activities performed by the big tech group in the example are spread in more than one jurisdiction. In general, the envisaged rules could be summarised as follows:

- The BTFG parent would be subject to rules on governance, conduct and resilience. It would also be responsible for ensuring compliance with consolidated prudential requirements if financial activities are important enough for the group to qualify within one of the existing regulatory categories for financial groups that need to meet prudential rules at the consolidated level. The country where the BTFG parent operates determines where the BTFG is headquartered and therefore what (home country) requirements apply to the BTFG.
- All financial activities performed would be grouped into an FHC in each jurisdiction. This legal entity would be subject to host country prudential rules that it would have to satisfy on a consolidated basis. Other rules from the country where it operates could also be imposed (eg AML/CFT). If a global FHC is created, that would also need to comply with group-wide consolidated requirements in its home jurisdiction.
- All regulated entities (eg payments, insurance and, where relevant, critical providers to financial institutions) would need to satisfy the corresponding sectoral requirements in the countries where they are registered. In the case of financial entites, that would also include AML/CFT regulation. The insurance entity would also be subject to prudential regulation at the solo and insurance group level.
- Unregulated entities (e-commerce, lending) would only be subject to general obligations (data privacy, competition, consumer protection) in the countries where they operate, with or without an establishment.

[80] It could be envisaged to add an additional layer in the form of a holding company that groups together financial activities in more than one jurisdiction. In that case, consolidated prudential requirements at the new holding company level may apply. For simplicity, this is not directly considered in the analysis.

The (alternative) regional approach

An effective group-wide regulatory framework would certainly minimise incentives for host jurisdictions to introduce their own comprehensive regulatory regime for local big tech activities.[81] As explained above, the group-wide approach could coexist with local rules, including the obligation to establish FHCs in specific jurisdictions. However, the existence of regulatory controls on interdependencies within BTFGs at the global level would, at least in principle, reduce the need to introduce stringent ring-fencing requirements for local FHCs.

If it is not possible to introduce a regulatory framework at the global level as described above, for example, due to a lack of political momentum or an impasse in reaching an international consensus, policymakers could consider introducing a similar framework at the regional level.[82]

This second-best solution would require the identification of a regional BTFG (rBTFG), which includes the regional parent entity and all its subordinated non-financial and financial (regulated and unregulated) entities that provide services in that region.[83]

Under this approach, if no rBTFG parent exists in a given region, it would have to be created. This entity would, in principle, receive broadly the same regulatory treatment as the BTFG parent outlined above. But for such a framework to be effective, it would need to be complemented with restrictions on the interdependencies of the rBTFG with the rest of the group, such as the cross-border sharing of data, technological infrastructure, systems or other resources. These restrictions should ensure that operational and other risks arising in the wider big tech group – which may not be subject to a comparable regulatory framework – do not translate into difficulties for the rBTFG.

An rBTFG framework may be easier to implement and should therefore be seriously considered if global solutions prove unfeasible. Yet it also has drawbacks. In particular, by definition, a regional regulatory approach is at odds with the global business models of most big techs. Local subsidiaries are not regional silos but heavily interconnected legal entities that rely on a common technological and data infrastructure and follow business practices which are largely established centrally.[84] Moreover, some services are offered remotely by big tech groups without any legal establishment in the relevant jurisdiction. That may severely limit the effectiveness of such an approach. Moreover, an excessive regulatory burden may be created by the obligation for big techs to establish hub entities grouping all operations in a particular jurisdiction, the introduction of controls – over the governance, conduct of business, operational resilience and, when appropriate, financial soundness – on those regional entities and the establishment of limits on the interaction across them may create.

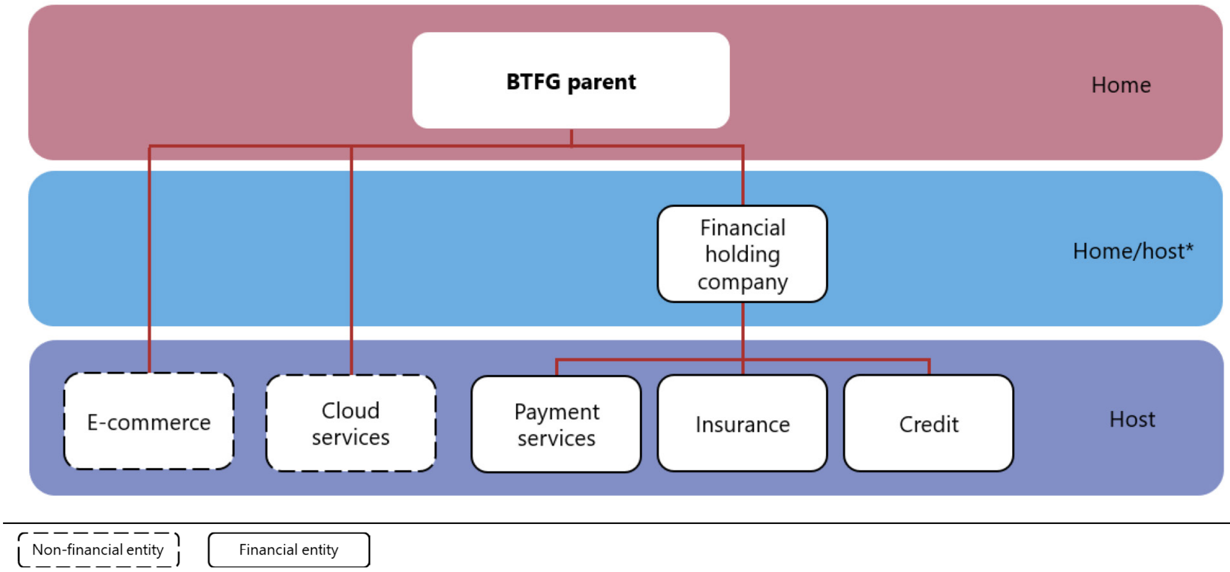
81 See Bains et al (2021) for a description of the main challenges faced by host jurisdictions to regulate the local activities performed by big techs.

82 A regional framework could be introduced in one jurisdiction or span across more than one.

83 An important complication that would need to be addressed arises when services are provided by big tech entities outside that region. It may not always be feasible or desirable to impose localisation requirements by requiring these entities to be embedded in the rBTFG structure.

84 For example, AWS and Google Pay privacy notices state that personal information collected is shared with the parent company and its affiliates. Furthermore, Meta and AWS localised outages, respectively on 4 October 2021 and 7 December 2021, affected their services globally. Cross-border data-sharing and the common use of technology are two of the main elements of intragroup dependencies identified in Crisanto et al (2022).

BTFG group-structure and home-host responsibilities Table 4



(*) An FHC that groups together subsidiaries in a single jurisdiction would be regulated by the host authority. If such country-level FHCs are parented by a global FHC, this entity would be regulated by the home authority.

Source: Authors' conceptualisation.

5.5 Supervisory approach

The multisectoral, multi-objective and multinational regulatory framework for big techs outlined above creates a significant challenge for the design of an appropriate supervisory framework. An adequate supervisory approach should balance the necessary responsibilities of different national and sectoral authorities with the need to ensure a consistent oversight of all regulatory requirements proposed for big techs.

In principle, for the sake of consistency, the oversight of all rules affecting big tech parents could be assigned to a single supervisory authority. The introduction of specific regulatory requirements for big techs that are active in financial services is very much based on the assessment that the combination of activities performed throughout the group generate some risks that could simultaneously affect different social objectives, in particular, financial stability. Those risks could be controlled by appropriate mechanisms for governance, conduct, resilience and financial soundness which are heavily interconnected. The introduction of specific requirements for the BTFG parent is based on its role to establish and precisely monitor those aspects for the group as a whole. There is therefore merit to considering a centralised supervisor for those interlinked requirements imposed on the parent company.

The supervisory authority responsible for a BTFG parent would need to act in close coordination with other non-financial regulators, via memoranda of understanding (MoUs), for example. Many of the proposed requirements enter the domain of non-financial authorities and should therefore require the exchange of sufficient information on supervisory findings in order to contribute to the oversight function. In particular, the inputs of the competition authorities and data protection agencies would be expected to figure prominently in any discussion of group-wide risk. Other agencies might also be able to provide valuable insights, including institutions that are concerned with cyber security, data mobility and/or consumer protection. The supervisors of the BTFG parent should engage with these agencies as necessary.

Different financial subsidiaries of the group, whether regulated entities or FHCs, would need to be subject to the corresponding sectoral financial regulator in the jurisdictions in which they are located. Those sectoral regulators would maintain close contact with the domestic data and competition authorities to facilitate the performance of their oversight of the operations of the big tech groups in their jurisdictions.

The supervisor of the parent companies, together with the regulators of significant subsidiaries, could form a type of supervisory college to facilitate exchange of information and policy consistency. Current models of supervisory cooperation may provide a basis for the enhanced approaches to big tech outlined above. In particular, the practice of convening supervisory colleges for cross-border banks, financial groups and G-SIBs is well established. This approach seeks to promote the effective supervision of international groups through regular supervisory dialogue, cooperation and exchange of information.[85] The supervisory college could serve as a foundation for the cross-border supervision of a BTFG parent and its group by promoting a common agenda. The effectiveness of the colleges may be highly dependent on the ability of the home regulator or coordinator to engage with the host jurisdictions and their perspectives. This is a more challenging task if there are large differences in the size and significance of the host markets compared with the home market, and where the nature of the group activities of the group are very different between jurisdictions.

If the supervisory college only considers the perspectives of financial supervisors, the efforts of the college to evaluate and address group-wide risks are likely to be very limited. On a case by case basis it may therefore be appropriate for the college to invite the voluntary participation of relevant non-financial supervisors, either on a regular basis or for specific thematic discussions. The aim of such participation would be to achieve a more complete and comprehensive view of all the supervisory concerns relating the BTFG parent at a group-wide level. Moreover, a mutual appreciation of the various supervisory perspectives might lead to effective cooperation in areas where financial and non-financial activities intersect.

Section 6. Conclusions

The participation of large providers of digital services (big techs) in the market for financial services is a major source of disruption. The new players have the potential to increase competition, amplify the range of available services for consumers, enlarge the availability of financial services for vulnerable segments of the population and offer opportunities for financial institutions to improve their modus operandi.

Big techs, however, do pose relevant policy challenges, including potential risks to financial stability. Those risks stem not only from the direct provision of financial services (like payments, wealth management or banking) but also from the combination of those services with commercial activities through different subsidiaries. That combination is part of a unique business model based on the exploitation of network externalities which leverage on the extensive use of customers' data across business lines. That business model has the potential to lead to excessive market concentration, amplify operational risks and damage the integrity of the payment and the financial system.

Current regulatory approaches for big techs operating in finance are rather piecemeal. At present, only legal entities within big tech groups that provide specific financial services are subject to licensing and regulatory obligations according to sectoral rules. That approach fails to address the intragroup interconnection between legal entities and activities. Only in the area of competition has some action been taken to introduce specific requirements at the big tech group level. Moreover, while the regulatory framework applicable to financial conglomerates provides a helpful reference, it cannot be directly applied to big techs. We therefore need a regulatory rethink.

[85] The BCBS has elaborated on some of the functions expected of the colleges in *Principles for effective supervisory colleges* (2014).

There is a clear case to consider the development of specific regulation for big techs active in finance. In that regard, two regulatory approaches could be considered. The first one (segregation) would aim at controlling risks arising from interconnection between financial and non-financial activities by grouping all financial activities within a dedicated subgroup. That subgroup would be subject to the relevant financial regulation, including prudential requirements on a consolidated level. Importantly, the financial subgroup would need to satisfy specific ring-fencing rules aimed at minimising interdependencies (including data-sharing and common technological infrastructure) with the rest of the group. This approach could be effective in addressing risks posed by big techs and entails a moderate degree of complexity. Yet by restricting big techs' ability to combine interdependent activities, it might undermine the core of their business model and therefore discourage their participation in finance.

An alternative approach to segregation is inclusion. It would consist of creating a new regulatory category for big techs with significant financial activities: a big tech financial group (BTFG). BTFG regulation should have a group-wide focus, as is currently the case for financial conglomerates and certain other financial groups. However, the scope of the new category and the concrete requirements would seek to address the specificities of big tech groups, as, unlike conglomerates, their regulated financial activities are significant but not necessarily predominant.

Regulatory requirements for BTFGs should complement and not replace existing sectoral regulations. Indeed, the new rules and obligations would affect the BTFG parent and coexist with the existing requirements for the regulated subsidiaries. The BTFG parent, in particular, would be responsible for obligations imposed at the group level mainly in the areas of governance, conduct of business and operational resilience, as discussed above. Consolidated capital requirements would not be imposed for the BTFG unless the group falls under the current prudential categories for financial groups. For a BTFG that engages in more than one regulated financial activity, it might be appropriate to consider the benefits of a specialised holding company that groups all of its financial activities together. In this case, as in the segregation approach, the subgroup could be subject to consolidated prudential requirements, but unlike that approach, interdependencies with the rest of the group would still be allowed although closely controlled.

As most big techs have a multinational character, the new regulatory framework needs to embed a home-host allocation of responsibilities which is consistent with the current legal framework in all jurisdictions where they operate. While the licensing, regulation and supervision of the parent BTFG should be handled in the home jurisdiction, host authorities would maintain jurisdiction over the legal entities established in their territory. The jurisdiction of non-financial host authorities (eg competition commissions) over activities performed directly by big techs in their territory would of course be preserved. The adoption, as an alternative policy approach, of a regional regulatory regime requiring big techs to establish hubs grouping their activities in specific jurisdictions and imposing BFTFG-parent-type requirements upon them would merit consideration although only as a second-best option.

In any event, adequate cooperation across relevant authorities is of the essence. While there are merits in allocating the supervision of all rules applying to the BTFG parent to a single authority, coordination should be ensured – through MoU and supervisory colleges – with other authorities (data, competition) in the home jurisdiction as well as with the authorities in relevant host jurisdictions.

As compared with segregation, the inclusion approach provides for a more tailored regulatory approach for big techs active in finance. It aims at controlling possible adverse implications of the operation of those entities rather than at radically changing their business models or to invite them to discontinue their involvement in the financial industry. At the same time, the inclusion approach is arguably more complex, particularly in what respects the articulation of an effective monitoring system for global groups that span worldwide and conduct a large variety of activities.

Yet, under one or the other approach, there is a need for the international community to make progress in addressing risks that big techs pose for the adequate functioning of the financial industry. In particular, the case seems already sufficiently strong for the establishment of global regulatory guidance covering the designation criteria and the specific requirements to be satisfied by big techs that – due to the relevance for the financial businesses – should be subject to specific regulation.

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Annex 1 – Joint Forum: *Principles for the supervision of financial conglomerates*

In 2012 the Joint Forum updated its *Principles for the supervision of financial conglomerates* with the aim of complementing the 1999 Principles and eliminating regulatory gaps and supervisory blind spots.[86] The principles are applied to financial conglomerates, which are defined as financial groups active in at least two financial sectors (banking, securities, insurance). The principles are intended to apply "at least" to internationally active conglomerates.

The framework was designed to help monitor and mitigate risks arising from the combination of multiple financial activities within the same group. It is structured in a way to facilitate the implementation of group-wide supervision of financial conglomerates. The principles are organised in the following five categories (see Table 1 for details).

- **Supervisory powers and authority.** Provides supervisors with the necessary powers, authority, and resources to perform comprehensive group-wide supervision.
- **Supervisory responsibility.** Provides guidance on cooperation, coordination and information sharing among supervisors to perform group-level supervision.
- **Corporate governance.** Provides comprehensive principles on corporate governance beyond fit and proper principles.
- **Capital adequacy and liquidity.** Facilitates the assessment of group-wide capital adequacy, including unregulated entities and principles on capital and liquidity management.
- **Risk management.** Provides comprehensive principles on risk management, including risk concentrations, intragroup transactions and exposures.

86 See Joint Forum (2012).

Principles for the supervision of financial conglomerates				Table A.1
I. Supervisory powers and authority	**II. Supervisory responsibility**	**III. Corporate governance**	**IV. Capital adequacy and liquidity**	**V. Risk management**
1. Comprehensive group-wide supervision	5. Group-level supervisor	10. Corporate governance in financial conglomerates	15. Capital management at group level	21. Risk management framework
2. Cooperation and information-sharing	6. Supervisory cooperation, coordination and information-sharing	11. Structure of the financial conglomerate	16. Capital adequacy assessments	22. Risk management culture
3. Independence and accountability	7. Prudential standards and coverage	12. Suitability of board members, senior managers and key persons in control functions	17. Consideration of double gearing	23. Risk tolerance levels and risk appetite policy
4. Resources	8. Monitoring and supervision	13. Responsibility of the board of the head of the financial conglomerate	18. Consideration of excessive leverage	24. New business
	9. Supervisory tools and enforcement	14. Remuneration in a financial conglomerate	19. Consideration of limitations on intragroup transfers	25. Outsourcing
			20. Management of liquidity risks	26. Stress and scenario testing
				27. Risk aggregation
				28. Risk concentrations and intragroup transactions and exposures
				29. Off-balance sheet activities

Source: Joint Forum (2012).

Annex 2 – Regulatory regimes for financial groups

Different regulatory regimes for financial groups have been implemented across jurisdictions. These differences are broadly reflected in terms of scope, licensing and prudential requirements. Notable examples are the Financial Holding Company regime in China, the Financial Conglomerate framework in the EU and the Bank/Financial Holding Company regime in the US, as described below. These regimes of financial groups aim to avoid complexity of ownership and governance structures, mitigate contagion and concentration risks between financial activities and facilitate consistent supervision.

Financial conglomerate regime in the European Union

The European Union has established a regulatory and supervisory regime for financial conglomerates under the Financial Conglomerate Directive (FICOD), passed in 2002.[87] The directive provides a framework for the regulation of groups present in multiple financial sectors and establishes prudential supervision on a group-wide basis.

The Directive defines financial conglomerates as groups with at least one entity in the insurance sector and at least one entity in the banking or investment sector.[88] The group must carry out significant activities in both financial sectors and its overall activities must occur mainly in the financial sector.[89, 90]

Groups falling under the scope of FICOD are subject to supplementary supervision at the consolidated level, performed by a college of supervisors. The coordinator or group-level supervisor – who is determined according to the most important activity within the group – is required to establish coordination arrangements with competent authorities in the form of supervisory colleges.

The FICOD establishes supplementary requirements at the financial conglomerate level. These requirements are not a substitute for sectoral requirements but impose additional provisions to address risks stemming from the combination of financial activities within the conglomerate. The provisions cover:

- **Legal, organisation and governance structures** shall be disclosed to the supervisors.
- **Risk management processes and internal control mechanisms** shall be defined at the conglomerate level, including approval and review of policies and strategies, risks monitoring system and reporting and accounting procedures.
- **Capital requirements** shall be imposed on a consolidated basis. Capital adequacy policies shall be implemented at the level of the financial conglomerate.
- **Significant intragroup transactions** between regulated and non-regulated entities within the financial conglomerate and for any natural or legal person linked to the undertakings of the financial conglomerate shall be reported, together with intragroup transactions not performed at arm's length.
- **Concentration risk** must be reported to the group-level supervisor at the group level.

[87] Financial Conglomerate Directive or Directive 2002/87/EU on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate.

[88] Art 2(4) FICOD defines "regulated entity" as a credit institution, an insurance undertaking or an investment firm.

[89] Activities are considered significant if, for each financial sector, the average of the ratio of the balance sheet total of that financial sector to the balance sheet total of the financial sector entities in the group and the ratio of the solvency requirements of the same financial sector to the total solvency requirements of the financial sector entities in the group exceed 10%.

[90] Where there is no regulated entity at the head of the group, the group's activities must mainly occur in the financial sector, ie the ratio of the balance sheet total of the regulated and non-regulated financial sector entities in the group to the balance sheet total of the group as a whole should exceed 40%.

Another regulatory category defined by FICOD is the mixed financial holding company (MFHC). FICOD defines an MFHC as an entity that: (i) is not a regulated entity; (ii) is the parent undertaking of a group of companies which includes at least one regulated entity (ie credit institution, insurance undertaking or investment firm as per FICOD definition) which has its registered office in the EU; and (iii) together with its subsidiaries and other entities constitutes a financial conglomerate.

The Capital Requirements Directive (CRD) V brings MFHCs under the direct scope of supervisory powers. MFHCs can be parent undertakings of banking groups, and the application of prudential requirements is required on the basis of the consolidated situation of such holding companies.[91] In order to ensure that MFHCs can be held directly responsible for ensuring compliance with consolidated prudential requirements, without subjecting them to additional prudential requirements on an individual basis, CRD V introduces the obligation for MFHCs to apply for an approval by the consolidating supervisor.[92] The same authorisation process applies to a financial holding company, which is a financial institution with mainly financial subsidiaries where at least one is a bank or investment firm.[93] This new regime implies that the parent company has direct responsibility for consolidated requirements throughout the supervised group.

Regulatory regimes for banking financial groups in the United States

The United States has a long history of strictly separating banking, securities activities and insurance, which was legally formalised by the Glass-Steagall Act (1933). The Bank Holding Company Act (1956) reaffirmed this separation by prohibiting banks from affiliating with insurance underwriters and non-financial firms. In 1999 the Gramm-Leach-Bliley Act repealed Glass-Steagall and authorised qualifying bank holding companies (BHCs) to become financial holding companies (FHCs) and thereby engage in a broader range of financial activities.[94]

FHCs are allowed to engage in more diverse financial activities, but strict limitations are maintained on the group's ability to undertake commercial or industrial activities. A qualifying BHC, ie a company controlling one or more banks, that registers as an FHC is allowed to expand its financial activities to include securities underwriting and dealing, insurance underwriting and merchant bank activities.[95] In addition, the Board of the Federal Reserve and the Secretary of the Treasury have defined permissible non-bank activities for BHCs, including activities that are financial in nature or incidental to financial activities, or complementary to a financial activity (commercial or industrial activities would need to fall under one of these categories to be undertaken by a BHC). BHCs can apply to become FHCs provided that all of their depository institution subsidiaries are well capitalised and well managed. Under this regime, FHCs are supervised by the Federal Reserve as the "umbrella supervisor" undertaking group-wide oversight of the company. Financial subsidiaries remain under the supervision of the relevant "functional regulator".

[91] See Directive (EU) 2019/878 of the European Parliament and of the Council of 20 May 2019 amending Directive 2013/36/EU as regards exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers, and capital conservation measures.

[92] Under specific circumstances, an FHC or MFHC that was set up for the purpose of holding participations in undertakings might be exempted from approval.

[93] For details on the role of the ECB in approving (M)FHCs under Article 21a of CRD V, see https://www.bankingsupervision.europa.eu/ecb/pub/pdf/The_ECBs_role_in_approving_mixed_financial_holding_companies.hu.pdf.

[94] Avraham et al (2012).

[95] See Dierick (2004).

Banks registered as FHCs must comply with requirements at the FHC level, and act in such a way as to ensure the viability of affiliated depository institutions. As the umbrella supervisor, the Fed assesses the following areas:[96]

- **Legal, organisational and governance structures**.
- **Governance and risk management processes** at the consolidated level.
- **Capital adequacy** on a consolidated basis, although applicable capital requirements are set by the functional regulators.
- **Intragroup exposures and risk concentration**, and the FHC's compliance with its own internal policies. Intragroup transactions must be on market terms and conditions.

The Dodd-Frank Act (DFA), enacted in 2010 in response to the Great Financial Crisis, aims (among many other issues it was designed to address) to improve the regulation and supervision of BHCs. For this purpose, Title VI amended the BHCA, inter alia, with regard to bank acquisitions by BHCs, examinations conducted by the Fed Board, bank acquisitions by BHCs, capitalisation and management.[97]

Importantly, the DFA put new emphasis on a long-standing doctrine that a BHC should serve as a "source of strength" for its subsidiary banks by clarifying that this is a substantial ongoing obligation.[98] The DFA also provides that a BHC may be required to submit reports under oath for the purposes of assessing compliance with this obligation.[99]

Financial holding company regime in China

The People's Bank of China (PBC) published the Trial Measures on Regulation of Financial Holding Companies on 13 September 2020. These measures follow the Decision on Implementing Access Administration of Financial Holding Companies issued on the same day by the State Council and delegate powers to the PBC to organise the regulation and supervision of FHCs. The measures are intended to close perceived gaps in the regulation and supervision of FHCs under sectoral regulations and prevent the build-up of systemic financial risks.

The Measures provide a definition of FHCs and establish thresholds above which an FHC should be established. FHCs are defined as limited liability companies or joint stock limited companies which have a controlling interest or actual control of two or more financial institutions of different types[100] and are engaged solely in equity investment and management without conducting any commercial businesses. Some thresholds linked to the size of the financial institutions trigger the formation of an FHC; these thresholds are higher if the company controls a commercial bank.[101] The PBC can also exercise supervisory

96 https://www.federalreserve.gov/boarddocs/srletters/2000/sr0013.htm.

97 https://www.law.cornell.edu/wex/dodd-frank_title_vi_-_improvements_to_regulation_of_bank_and_savings_association_holding_companies.

98 In particular, the DFA provides that the "appropriate Federal banking agency for a bank holding company [...] shall require the bank holding company [...] to serve as a source of financial strength for any subsidiary of the bank holding company [...] that is a depository institution" (see PUBL203.PS (govinfo.gov)).

99 See https://thebhca.org/holding-companies-as-a-source-of-strength/.

100 The Measures define an FHC as a company with a controlling interest in or actual control of two or more financial institutions drawn from the following categories: commercial banks and financial leasing companies, trust companies, financial asset management companies, securities companies, public fund management companies and futures companies, life insurance companies, property insurance companies, reinsurance companies and insurance asset management companies and other institutions recognised by financial regulators under the State Council.

101 If the company controls a commercial bank with total assets exceeding RMB 500 billion, or if the total assets of the commercial bank are less than RMB 500 billion, the total assets of other types of financial institutions exceed RMB 100 billion, or the total

discretion if it deems it necessary for a FHC to be established on the basis of "macroprudential regulatory requirements". FHC groups under this regulation may not conduct non-financial business unless their non-financial assets are kept to no more than 15% of the net assets of the FHC.

Groups meeting the above conditions are required by the PBC to apply for an FHC licence.[102] Licences are granted if certain conditions are met that relate to capital;[103] profitability;[104] suitability of shareholders, board of directors, supervisors, and senior executives;[105] and organisational structure, risk management and internal control systems. The PBC has responsibility for group-wide FHC regulation and supervision while sectoral financial regulators remain in charge of regulating financial institutions controlled by FHCs.

The regulation of FHCs reflects both conventional sectoral requirements for financial groups as well as requirements specific to mixed activity groups. Traditional requirements include provisions on the ownership structure, governance and risk management processes, capital or related party transactions, while mixed activity requirements cover cross-subsidiary interactions, data governance or risk isolation mechanisms:

- **Ownership structure**: shall be simple and transparent with corporate levels of the FHC not exceeding three levels. There are also limitations on cross-shareholdings as financial institutions controlled by FHCs shall not hold shares in their parent companies or hold shares in each other.
- **Governance and risk management processes**: shall be performed at the consolidated level, with a comprehensive risk management system, risk preference system (which defines the level of risks the group is ready and able to take in line with its strategy), and internal systems to control risk concentration at the level of the financial holding group.
- **Capital**: capital adequacy shall be calculated and assessed on a consolidated basis. FHCs should establish a capital replenishment mechanism, control debt risks and keep their leverage and debt maturity structure reasonable and appropriate.
- **Related party transactions**: shall be closely managed and should not seek illegitimate benefits.
- **Cross-subsidiary interactions**: responsibilities of the different entities within a financial holding group need to be specified when they conduct business with each other or the FHC. For example, when sharing client information, resources or IT systems.
- **Data governance**: FHCs should obtain the consent of their clients to share client information within the group and ensure it complies with the relevant laws and regulations.
- **Risk isolation mechanisms**: shall be established at the group level, with the aim to isolate subsidiary-specific risks. These mechanisms should reinforce firewalls among the FHC and the institutions it controls and among institutions.
- **Competition**: shareholders of FHC are not allowed to engage in "unfair competition by abusing their market monopoly or tech superiority".

client assets exceed RMB 500 billion; if the company does not control a commercial bank and the total assets of the other types of financial institutions exceed RMB 100 billion, or the total client assets exceed RMB 500 billion. The applications of China CITIC Financial Holdings and Beijing Financial Holdings Group were approved in March 2022.

102 Per the PBC's website, CITIC Group (June 2021), China Everbright Group (June 2021), Beijing Financial Holdings Group (August 2021), Shenzen Zhaorong Investment Holdings (December 2021) and China Wanxiang Holdings (January 2022) have submitted FHC applications to the PBC, and both Tencent and Ant Group are expected to apply as well.

103 The paid-in registered capital shall not be less than RMB 5 billion and account for not less than 50% of the total registered capital of the financial institutions directly controlled by the applicants and they must be capable of continuously replenishing the capital of the financial institutions they control.

104 Companies must have "reasonable" business plans and sound financial conditions over the last two accounting years.

105 Board of directors, supervisors and senior executives must meet relevant qualification requirements.