

## The digital disruption: The role of regulation

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### Introduction

Thank you very much for the invitation to participate in this event.

Presentations before mine have already covered much ground on the implications of the ongoing technological disruption, including its impact on financial inclusion and resilience.

Overall, the already vast literature on the topic and, certainly, the presentations at this conference stress the complex combination of risk and opportunities that digital technologies bring to the financial sector. Indeed, it is remarkable how digitisation is helping to enlarge the opportunity set of consumers and investors, increase efficiency and competition in the provision of financial services, and, importantly, make those services available to larger segments of the population. The significant acceleration of the financial inclusion indicators in the last few years in countries like India and China – where digital payments have skyrocketed – is just one illustration of the power technology has to make the financial system more able to serve the public interest.<sup>2</sup>

Yet the disruption created by new technologies, the new products and the new providers of financial services – particularly big tech companies – also poses relevant risks for the achievement of key social objectives such as market integrity, consumer protection and financial stability. Those are precisely the objectives that justify public intervention when markets fail to deliver them on their own.

The establishment of rules and constraints on market activity, such as that performed by new tech players in the market of financial services, is the most relevant policy tool to address negative market externalities. That regulatory action should be subject to the principle of good regulation under which public intervention should be minimised to what is essential to preserve social objectives. Yet regulation occasionally needs to face relevant trade-offs, as public actions

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<sup>2</sup> According to the World Bank index for financial inclusion, around 80% of the population (older than 15 years) in China and India had a payments account. At the beginning of the series, in 2011, the percentages were 64% and 35%, respectively.

aiming at containing risks for adequate market functioning may limit private tech firms' ability to deliver services that could otherwise be socially valuable, for instance as a result of their positive impact on financial inclusion.

In that context, it is important to bear in mind that regulation is not the only form of policy intervention that can help correct market failures. At times, the direct provision of services by government-owned companies may contribute to socially desirable options. In the area of digital payments, for instance, experience in countries like India<sup>3</sup> shows how public infrastructures may help society to embrace the benefits of technology and facilitate financial inclusion while avoiding some of the risks posed by excessive reliance on large private providers. In particular, putting in place public infrastructures such as India's Unified Payments Interface (UPI) seems to substitute, at least to some extent, for a more forceful policy intervention to address big tech risks related to anti-competitive practices, walled garden ecosystems and hoarding user data.<sup>4</sup>

The introduction of central bank digital currencies (CBDCs) is another example of how well designed public facilities can help optimise the net benefits of digital payment platforms for society as a whole.<sup>5</sup>

Sound policy strategies aiming at facilitating an orderly adoption of new technologies in the financial sector should therefore incorporate a good combination of regulation and the provision of public infrastructure. While other presentations have focused on the latter, let me share with you a few reflections on how the regulatory framework needs to be adapted to preserve a key social goal: financial stability. For more concreteness I'll focus my remarks on how risks posed by big techs could be addressed by adequate rules constraining their practices and modus operandi.

## **Big techs and financial stability**

One of the most important recent developments in the financial industry is the rapidly expanding participation of large technological companies (big techs) in the market for different financial services. Big techs originally specialised in non-financial areas such as e-commerce or the provision of different types of technological services through the internet. However, starting with payment services, several big techs soon became active in the business of wealth management, lending or insurance. In some cases, they also perform regular banking services through licensed subsidiaries or through joint ventures with commercial banks.<sup>6</sup>

As is now well documented, the expansion of big techs leverages on their unique business models based on technological and, especially, data superiority, which allows them to benefit from network externalities.<sup>7</sup>

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<sup>3</sup> A good summary of India's experience after the introduction of the public digital payment platform UPI can be found in D'Silva et al (2019).

<sup>4</sup> See Croxson et al (2022).

<sup>5</sup> See Auer et al (2022).

<sup>6</sup> See Zamil and Lawson (2022).

<sup>7</sup> See BIS (2020).

Big tech services have brought efficiency to the financial industry. Moreover, by offering innovative products they have eroded the historical dominant position of commercial banks in in some market segments – notably payments, for which a banking licence is not required. Furthermore, in some jurisdictions they have been able to make payment facilities and external funding available to firms and individuals who did not previously have access to banking services.<sup>8</sup> Yet the financial activity of big techs does pose some risks for the preservation of financial stability which may not always be fully captured by the current regulatory framework.<sup>9</sup>

Those risks stem from at least four different sources.

First, from the direct provision to the public of a suite of sensitive financial services such as payments, credit, wealth management and, sometimes, deposit-taking. Unsound performance of those activities could contribute to potentially systemic stress due to excessive indebtedness, operational discontinuities and liquidity mismatches and also to facilitate illegal activities. The parallel performance of several of those financial activities alongside the provision of other non-financial services within the same group could exacerbate operational risks and complicate their supervision by the competent authorities.

Second, from the frequent provision of relevant technological services to regulated financial institutions (such as cloud computing services) that lead to large third-party dependencies and important operational vulnerabilities. Recent outages in the technological services provided by big techs illustrate the potential significance of those risks.<sup>10</sup>

Third, by the issuance of new means of payments – such as so-called stablecoins. Given the complementarity of those new payment instruments with other services offered by big tech platforms to a large number of users, they have the potential to replace fiat currency as a predominant settlement instrument, thereby challenging the integrity of the payment system, consumer protection and, possibly, monetary sovereignty.<sup>11</sup>

And, finally, from the potential to generate significant concentration dynamics in the provision of key financial services. Network externalities that characterise big tech business models can easily lead to a continued increase in their size<sup>12</sup> and business diversification, at the cost of damaging competition in a quickly increasing number of related market segments. Notice that concentration threatens not only market contestability but also financial stability as it amplifies the dependence of financial system participants on the services provided by a few large players.<sup>13</sup>

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<sup>8</sup> See Frost et al (2019)

<sup>9</sup> See FSB (2019a, b).

<sup>10</sup> Examples are the outages of Facebook in October 2021 and Amazon in December 2021. See the comments on this issue in the [submission](#) by the Chair of the Federal Trade Commission to the Inquiry by the Consumer Financial Protection Bureau on Big Tech Payment Platforms, December 2021.

<sup>11</sup> See Arner et al (2020).

<sup>12</sup> A case in point is the mobile payment sector in China, where Alipay and WeChat Pay make up 90% of the market.

<sup>13</sup> See Carstens et al (2021).

## The current regulatory approaches

The challenges posed by big techs are now being addressed – with different approaches and intensity – in several jurisdictions.

So far, authorities are following a piecemeal approach aiming at inserting specific rules in the current regulatory framework in order to contain some of the risks I mentioned before.

In particular, the provision of financial services (payments, wealth management, credit underwriting) other than banking or insurance are regulated through an activity-based approach. Big tech subsidiaries that perform specific regulated activities are subject to the corresponding sectoral requirements that typically address consumer protection, AML/CFT and sometimes operational resilience.<sup>14</sup>

In some jurisdictions, authorities are now considering the introduction of a specific regulatory and supervisory framework for large providers of technological services to regulated institutions.<sup>15</sup> That regime will affect, in particular, those subsidiaries of big techs that provide services to a large number of financial institutions, such as cloud computing.

However, many of the risks that big techs' activity generates for the adequate functioning of financial markets stem from the combination of both financial and non-financial activities that they perform. Their ample array of services is typically anchored on shared systems across subsidiaries and an extensive use of all available data from clients obtained throughout all the activities performed by the group. Risks posed by such interdependencies can hardly be fully addressed by pure activity based regulation.<sup>16</sup>

This is certainly the case of the prevention of excessive market concentration. In the EU, the European Commission has put forward a proposal for a Digital Markets Act (DMA) which establishes a series of specific requirements which must be satisfied by big tech platforms ("gatekeepers" in the DMA terminology), aimed at preventing (and not only prosecuting ex post) anticompetitive practices that could lead to the abuse of market dominance. Special rules on data use, data protection and data-sharing obligations with end users and business users are a key component of the proposed DMA. A similar entity-based approach is already being enforced in China following the rules established by the market regulator (SAMAR), and is the one considered in different legislative initiatives which are currently under discussion in the US Congress.

Moreover, we have recently seen some initiatives for the development of specific regulation of entities performing services related to stablecoins. In particular, a report by the US president's commission composed of the Treasury and main regulatory agencies<sup>17</sup> has proposed a bold legislative reform that would require issuers of stablecoins to become insured depository institutions and establish concrete rules and a supervisory regime for entities providing

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<sup>14</sup> See Restoy (2021), and Crisanto, Ehrentraud and Fabian (2021).

<sup>15</sup> An example is the European Commission proposal for a Digital Operational Resilience Act (DORA) in the EU. See Crisanto, Ehrentraud, Lawson and Restoy (2021).

<sup>16</sup> See Restoy (2019, 2021) and Carstens (2021).

<sup>17</sup> President's Working Group on Financial Markets et al (2021).

associated payment services (like custodial wallet providers). Moreover, the report proposes limiting the affiliation of those entities with commercial companies. If those proposals are finally endorsed by the US Congress, the scope for big techs to promote and sponsor stablecoins would be seriously constrained.<sup>18</sup>

In sum, current developments aim at revising the current activity-based regulation and add a few specific entity-based rules (particularly in the area of competition) to deal with some of the risks posed by big techs. So far, however, there is no ambitious attempt to consider a more comprehensive approach that could consistently address the risks posed in different policy domains by the combination of activities that big techs perform as implied by their unique business model.

### Can we do it better?

At present, there are no internationally established regulatory categories or standards aiming at addressing the risks posed by the combination of different types of financial and non-financial activities within the same group.

The closest reference is probably that of financial conglomerates. Following the publication of the report by the Joint Forum in 2012,<sup>19</sup> jurisdictions established rules and supervisory practices to strengthen the prudential regime of entities which are active in more than one regulated financial sector (ie banking, insurance and securities markets).

One specific type of conglomerate rules are licensing frameworks for financial holding companies (FHCs). FHCs are typically large non-financial companies that hold controlling stakes in two or more financial firms that offer regulated financial services across sectoral boundaries and exceed minimum size thresholds. The FHC and the financial institutions it controls make up a financial holding group. The non-financial activities performed by this group are limited to maximum thresholds.

In China, the People's Bank of China requires companies that control two or more different types of financial companies, including big techs such as Ant and Tencent, to apply for an FHC licence.

The Chinese FHC regulatory regime establishes requirements for the parent FHC in terms of minimum profitability, financial capacity and owners' fit and proper conditions. It also promotes sufficiently simple corporate structures and imposes specific governance procedures including the centralised management of all relevant financial risks across the group. The regime entails the fulfilment of consolidated capital requirements at the group level and includes constraints on related party transactions and cross-subsidiary interactions.

A key objective of the FHC regime is to guard against systemic risk by protecting the safety and soundness of the financial holding group from risks arising from the non-financial activities

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<sup>18</sup> Another relevant initiative to regulate stablecoins is the Commission proposal for a regulation on markets in cryptoassets (MiCA) in the EU. In that proposal, issuers of stablecoins aiming at preserving their value against fiat currency would need a licence to operate as either a credit or an e-money institution.

<sup>19</sup> See Joint Forum (2012).

performed by other parts of the wider group to which it belongs. It also helps address contagion of risks across financial subsidiaries and minimises the potential for regulatory arbitrage across the different types of sectoral rules that apply to the regulated subsidiaries. Importantly, that regime facilitates consistent supervision of all financial risks, including those related to solvency, operational resilience and market conduct.

Certainly, the FHC regime goes a long way towards satisfying the quest for a comprehensive entity-based regime for big techs which are active in the market for financial services. That regime may, however, fall short of addressing all relevant risks.

As we have discussed before, challenges posed by big techs for the preservation of financial stability, or more generally, adequate market functioning are associated with the combined provision of different types of financial and non-financial services as part of their unique business model. That entails using common technological and data infrastructure for the provision of different services.<sup>20</sup> Notice, in that regard, that, particularly in western countries, the non-financial business lines of big techs are substantially larger than those related to regulated activities.<sup>21</sup> Therefore, the grouping of all subsidiaries offering financial services under the same holding company may not be enough on its own to control operational risks or various forms of data and market abuse.

Furthermore, payment services are not explicitly included in the definition of FHCs in existing regulatory frameworks. Given the crucial role that payment services play within big tech ecosystems and, in particular, as an enabler for the provision of complementary financial services, a greater focus on payments could be added to the current FHC regime to enable it to achieve its objectives more fully when applied to large technological companies.

The FHC regime therefore seems a useful reference for a policy reflection on how best to regulate big techs with the aim of preserving financial stability and other relevant social goals. Yet that reflection should consider how the FHC regime could be adapted to cope with the unique business model of big techs and the key role played by their payment infrastructures.<sup>22</sup>

## Concluding remarks

To conclude, the disruption that technology is creating in the market for financial services is probably unprecedented. The new developments are dramatically changing the very nature of the services offered, the diversity of the users and providers, and the way the latter perform their activities and distribute the products they offer.

In that context, the public policy response to such a far-reaching technological disruption has to be commensurate with the magnitude of that disruption. That entails both direct public intervention to provide the required infrastructure to fully grasp the benefits associated with

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<sup>20</sup> See Crisanto, Ehrentraud, Fabian and Monteil (forthcoming) for a description of the interconnection between the different business lines of big techs.

<sup>21</sup> See eg Feyen et al (2021).

<sup>22</sup> See Ehrentraud, Evans, Monteil and Restoy (forthcoming) on specific proposals to adjust the FHC regime to make it suitable for big techs.

innovation as well as an overhaul of the current regulatory framework. The current regulatory setup, consisting of a series of diverse activity-based requirements accompanied by specific rules for traditional financial institutions, is simply not fit for purpose.

In particular, the potential implications of the activities performed by big techs in the market for financial services require the establishment of a consistent set of entity-based rules spanning different but related policy domains. For that purpose, we may need brand new regulatory categories and supervisory procedures to address the challenges posed by their unique business models, including effective mechanisms for coordination among financial, competition and data authorities.

The good news is of course that some relevant policy actions are already taking place in several jurisdictions. What we need now is sufficient ambition, policy impulse and international cooperation to make those efforts more comprehensive and consistent at the global level.

## References

Arner, D, R Auer and J Frost (2020): "Stablecoins: risks, potential and regulation", *BIS Working Papers*, no 905. November.

Auer, R, H Banka, N Yaa Boakye-Adjei, A Faragallah, J, H and J Preino (BIS): "CBDCs and Financial Inclusion: Fixing a broken machine?" *FSI Insights on Policy Implementation*, forthcoming.

Bank for International Settlements (2020): "Big tech in finance: opportunities and risks", *Annual Economic Report 2019*, Chapter III.

Carstens, A (2021): "Public policy toward big techs in finance", speech at the Asia School of Business Conversations on Central Banking webinar "Finance as information", 27 January.

Carstens, A, S Claessens, F Restoy, and H S Shin (2021): "Regulating big techs in finance", *BIS Bulletin*, no 45.

Crisanto, J C, J Ehrentraud and M Fabian (2021): "Big techs in finance: regulatory approaches and policy options", *FSI Briefs*, no 12, March.

Crisanto, J C, J Ehrentraud, A Lawson and F Restoy (2021): "Big tech regulation: what is going on?", *FSI Insights on policy implementation*, no 36, September.

Crisanto, J C, J Ehrentraud, M Fabian and A Monteil: "Big tech interdependencies – a key regulatory blind spot?", *FSI Insights on Policy Implementation*, forthcoming.

Croxson, K, J Frost, L Gambacorta and T Valletti (2022): "Platform-based business models and financial inclusion", *BIS Working Papers*, No 986, January.

D'Silva, D, Z Filková, F Packer and S Tiwari (2019): "The design of digital financial infrastructure: lessons from India", *BIS Papers*, no 106, November.

Ehrentraud, J, J Evans, A Monteil and F Restoy: "How to regulate big techs", *FSI Occasional Papers*, forthcoming.

Feyen, E, J Frost, L Gambacorta, H Natarajan and M Saal (2021): "A policy triangle for Big Techs in finance", *VoxEU*, September.

Financial Stability Board (FSB) (2019a): FinTech and market structure in financial services: Market developments and potential financial stability implications, February.

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

Frost, J, L Gambacorta, Y Huang, H S Shin and P Zbinden (2019): “BigTech and the changing structure of financial intermediation”, *Economic Policy*, vol 34, no 100.

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

President’s Working Group on Financial Markets, the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency (2021): Report on stablecoins, November.

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

Restoy, F (2021): “Fintech regulation: how to achieve a level playing field”, *FSI Occasional Papers*, no 17, February.

Zamil, R and A Lawson (2022): “Gatekeeping the gatekeepers: when big techs and fintechs own banks – benefits, risks and policy options”, *FSI Insights on policy implementation*, no 39, January.