

# Regulating big tech in the public interest\*



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## The ascent of big tech

One of the most striking features of the digital economy is the rise of large digital platform companies – or big techs.<sup>1</sup> Big techs are increasingly a part of our daily lives. Just look at the billions of people affected earlier this week by a temporary outage of some of these platforms. Many of us here have used a big tech service today, perhaps by checking our email or sending a message on social media. At other times, we might be ordering a product on an e-commerce platform.

Big techs are also entering financial services. We at the BIS have been following closely how big techs offer payments, credit, insurance, wealth management and more in every major region of the world.<sup>2</sup> These trends are all the more remarkable as big techs were virtually non-existent in financial services only a decade ago. But thanks to network effects, where users attract more users, big techs have achieved scale rapidly.

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\* Speech by Agustín Carstens, General Manager, Bank for International Settlements, at the BIS conference "[Regulating big tech: between financial regulation, antitrust and data privacy](#)", 6–7 October 2021.

<sup>1</sup> The BIS and Financial Stability Board (FSB) define big techs as large companies whose primary activity is digital services. See BIS, "[Big tech in finance: opportunities and risks](#)", *Annual Economic Report 2019*, June, Chapter III; and FSB, *FinTech and market structure in financial services: Market developments and potential financial stability implications*, February 2019.

<sup>2</sup> See BIS, *ibid*; J Frost, L Gambacorta, Y Huang, H S Shin and P Zbinden, "BigTech and the changing structure of financial intermediation", *Economic Policy*, vol 34, no 100, 2019; and J C Crisanto, J Ehrentraud and M Fabián, "[Big techs in finance: regulatory approaches and policy options](#)", *FSI Briefs*, no 12, 2021.

For example, big techs have come to account for 94% of mobile payments in China in the space of just a few years.<sup>3</sup> Big tech credit grew by 40% in 2020 alone, to a global total of over \$700 billion.<sup>4</sup> Beyond credit, big tech stablecoin proposals like Facebook's Diem may soon go live, likely with rapid adoption around the world.

Certainly, big tech services in general, but also in finance, have brought numerous benefits.<sup>5</sup> BIS research has studied how big tech lenders can use new data and machine learning to efficiently allocate and price credit to small businesses, reducing the need for collateral.<sup>6</sup> They have lowered the cost of onboarding new clients, and have helped to overcome geographic barriers to reach previously underserved customers.

In this way, big techs have lowered costs and enhanced financial inclusion around the world.<sup>7</sup>

Yet big techs in finance raise at least three new challenges. Some of these are familiar to financial regulators, and some are decidedly not.

### Challenges of big tech in finance

For central banks and financial regulators, the first and most direct set of challenges from big tech centres on **financial stability**.

Big techs have advantages stemming from their user data, leading to vast networks and a huge range of activities. This advantage flowing from data gives rise to the so-called data-network-activities, or DNA, feedback loop. With this, big techs can move very quickly from "too small to care", to "too big to ignore" to "too big to fail".<sup>8</sup>

Just four big techs provide nearly two thirds of global cloud services, which are becoming a critical service for the financial sector.<sup>9</sup> Cloud services certainly bring advantages in terms of efficiency for individual institutions, but the dependence of the entire financial sector on just a few players makes the system more vulnerable to large-scale operational failures, insolvency or cyber attacks.<sup>10</sup>

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<sup>3</sup> See A Carstens, S Claessens, F Restoy and H S Shin, "[Regulating big techs in finance](#)", *BIS Bulletin*, no 45, 2021.

<sup>4</sup> See G Cornelli, J Frost, L Gambacorta, C Mu and T Ziegler, "Big tech credit during the Covid-19 pandemic", mimeo, 2021.

<sup>5</sup> See K Croxson, J Frost, L Gambacorta and T Valletti, "[Platform-based business models and financial inclusion](#)", *BIS Working Papers*, no 986, 2022.

<sup>6</sup> See Frost et al, op cit; and L Gambacorta, Y Huang, Z Li, H Qiu and S Chen, "[Data vs collateral](#)", *BIS Working Papers*, no 881, 2020.

<sup>7</sup> See J Frost, L Gambacorta and H S Shin, "From financial innovation to inclusion", *IMF Finance & Development*, 2021.

<sup>8</sup> See D Arner, J Barberis and R Buckley, "FinTech and RegTech in a Nutshell, and the Future in a Sandbox", *CFA Institute Research Foundation Briefs*, vol 3, no 4, 2017; and E Feyen, J Frost, L Gambacorta, H Natarajan and M Saal, "[Fintech and the digital transformation of financial services: implications for market structure and public policy](#)", *BIS Papers*, no 117, 2021.

<sup>9</sup> See E Carletti, S Claessens, A Fatás and X Vives, *The bank business model in the post-Covid-19 world*, London: Centre for Economic Policy Research, 2020.

<sup>10</sup> See FSB, *Third-party dependencies in cloud services: considerations on financial stability implications*, December 2019; and I Aldasoro, L Gambacorta, P Giudici and T Leach, "[The drivers of cyber risk](#)", *BIS Working Papers*, no 865, 2020.

A second challenge from big tech is preserving **fair competition**. This is relevant especially for competition or antitrust authorities. Big techs have several competitive advantages over other firms by virtue of their business models, technology and networks. In many cases, this is compounded by inadequate regulation and the possibility of regulatory arbitrage.<sup>11</sup>

This combination can be harmful for competition since digital markets are subject to "tipping" in the favour of one player who takes most of the market.<sup>12</sup>

Mergers and acquisitions can exacerbate this problem. There is evidence that some acquisitions by big techs neutralise competitors – so-called "killer acquisitions".<sup>13</sup> This may end up reducing funding for innovative market entrants – a situation known as the "kill zone".<sup>14</sup>

A third set of challenges is around **data governance**. This is particularly relevant for data protection authorities. Big techs have an incentive to collect as much personal data on their users as possible. This is because data resources are key to their business.

When big data are parsed with advanced techniques like artificial intelligence, they can predict user actions in ways that users may not grasp. Big techs may even exploit behavioural biases to manipulate consumers' preferences.<sup>15</sup> Recent research, which will be presented at this conference tomorrow, argues that this can result in a range of harms, from undermining consumer privacy and choice to damaging political discourse.<sup>16</sup>

Beyond the economic consequences, ensuring privacy against unjustified intrusion by both commercial and government actors has the attributes of a basic right.

## Scenarios for future growth

Looking further ahead, one question to ponder is what the future financial system could look like with big techs. Such an exercise necessarily involves some leap of the imagination. But recent experiences with big techs suggest that, without a public policy response, two scenarios – which are not necessarily mutually exclusive – could be more likely than others.

In the first scenario, big techs could establish a large footprint in retail payments by providing their own means to pay. In the current system, big techs provide "front-end" payment services for fees, but "back-end" clearing and

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<sup>11</sup> See R Stulz, "FinTech, BigTech, and the future of banks", *Journal of Applied Corporate Finance*, vol 31, no 4, 2019; M de la Mano, J Padilla, "Big tech banking", *Journal of Competition Law & Economics*, vol 14, no 4, 2018.

<sup>12</sup> See Digital Competition Expert Panel, *Unlocking digital competition* (Furman Report), March 2019.

<sup>13</sup> See C Cunningham, F Ederer and S Ma, "Killer acquisitions", *Journal of Political Economy*, vol 129, no 3, 2021. Some have extended the argument to "reverse" killer acquisitions, whereby big techs discontinue their own innovative projects when acquiring a competitor with innovation efforts in the same area. See C Caffarra, G Crawford and T Valletti, "'How tech rolls': potential competition and 'reverse' killer acquisitions", VoxEU, May 2020.

<sup>14</sup> See S K Kamepalli, R Rajan and L Zingales, "Kill zone", *NBER Working Paper*, no 27146, 2020.

<sup>15</sup> See A Kamer, J Guillory and J Hancock, "Experimental evidence of massive-scale emotional contagion through social networks", *Proceedings of the National Academy of Sciences of the United States of America*, March 2014.

<sup>16</sup> See D Acemoglu, "Harms of AI", *NBER Working Paper*, no 29247, 2021.

settlement use public infrastructure anchored on the central bank's balance sheet. However, big techs' large networks and data could allow them to develop their own payment systems that combine front- and back-end services. Currently, regulatory barriers to establishing private payment networks are low. This is why the rapid emergence of closed-loop payment networks operated by just a few big techs is a real risk. It would lead to a fragmentation of payments and represent a threat to the public good character of the payment system.

In the second scenario, big techs would not only operate their own payment system, but also issue a stablecoin for exclusive use in their system, like Facebook's Diem proposal. The implications of this scenario would be even more profound. Let me mention three of these implications.

First, big techs' large networks could lead to a rapid and large-scale adoption of stablecoins. Data from payment transactions would enhance their ability to exploit the DNA loop. This could further concentrate market power in the hands of a few, and threaten financial stability, fair competition and data governance.

Second, stablecoins could challenge bank business models, especially if those new instruments affect the demand for banks' deposits. As alternative sources of bank funding may be more costly and less stable, this would hamper banks' ability to perform their credit intermediation function.

And third, stablecoins could lead to a fragmentation of the monetary system, as they could result in "walled gardens". Funds collected by big techs by issuing stablecoins could become quite large,<sup>17</sup> and could be moved around rapidly by users, including across borders. In this type of scenario, stablecoins could erode a jurisdiction's monetary sovereignty and its unit of account through "Diem-isation", whereby a large platform denominated in foreign currency comes to dominate digital payments. This would constitute a new form of dollarisation, which is familiar to some emerging market economies.<sup>18</sup>

### Possible public policy responses

So, if these scenarios appear likely, what should public policy do? To be clear, the goal of public authorities is not to halt useful innovation in the financial sector. Rather, policy should serve the public interest, balancing overall benefits with potential risks.

To achieve this balance, authorities should consider three possible responses, which are also not mutually exclusive.

The first is managing big tech through the adaptation of existing regulations and oversight.

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<sup>17</sup> Projections for a stablecoin Libra introduced in Europe range in total asset size from €152.7 billion in the "means of payment" scenario to €3 trillion if it becomes a widely adopted store of value (M Adachi, M Cominetta, C Kaufmann and A van der Kraaij, "A regulatory and financial stability perspective on global stablecoins", ECB *Macroprudential Bulletin*, May 2020).

<sup>18</sup> See M Brunnermeier, H James and J-P Landau, "The Digitalization of Money", NBER Working Paper no 26300, 2019, which discusses the potential of "digital currency areas" that transcend national borders. In addition to Diem-isation, one could imagine circumstances in which a stablecoin denominated in a new unit of account, eg a basket of currencies as in Facebook's original Libra proposal, would displace the national currency – "Libra-isation".

Recent BIS publications have laid out the rationale for regulation in this area and have described policy initiatives in China, the EU and the United States.<sup>19</sup> A particular focus lies on the areas of competition, data governance and financial stability. These initiatives seek not only to address the risks posed by big techs but also to overcome gaps in existing regulatory frameworks. Let me briefly give you some more details.

**Competition policy** is the most active area. Here, a paradigm shift is emerging. Authorities aim to preserve market contestability by strengthening ex post enforcement tools. But they are also developing new entity-based regulation that would constrain business practices of big techs ex ante. Examples are the proposed European Digital Markets Act, the Chinese Platform Antimonopoly Guidelines and a number of legislative proposals in the United States. Last July's UK government consultation on a pro-competition regime for digital markets is a further example. This builds upon the Furman Report, about which Jason will certainly say more in a few minutes.

In terms of **data governance**, policy initiatives emphasise protecting personal data rights, in particular personal consent and data portability. Many initiatives are modelled after the European General Data Protection Regulation. An important example here is the enactment of the Personal Information Protection Law in China this year. This will change how data can be collected, used and shared by Chinese big techs. Meanwhile, open finance proposals aim to give users more control over their data.

In the area of **financial stability**, individual jurisdictions have followed different paths. Let me take the example of China. In the light of the big techs' dominance, it may not come as a surprise that Chinese authorities have instituted a range of financial stability requirements. A key one is that some entities may need to be licenced as financial holding companies under the supervision of the People's Bank of China. This is a novel entity-based approach for regulating and supervising the operations of big techs.

All these initiatives constitute important steps in addressing risks posed by big techs. And there are more in other jurisdictions. Some of them introduce activity-based requirements that indirectly affect big techs. Others impose specific entity-based obligations directly on them.

Going forward, big techs' growth will require additional regulatory responses. Most likely, this will include entity-based rules. Relying only on activity-based requirements will not be enough.<sup>20</sup>

A second policy response is to give a further spur to the improvement of current payment arrangements in several dimensions, making them cheaper, faster, more transparent and more reliable. Central banks could broaden access to their payment systems and improve domestic and cross-border interoperability. This could be achieved through application programming interfaces and the use of international standards.

Around the world, 59 retail fast payment systems are in place. Examples include TIPS in the euro area, the Unified Payments Interface in India, PIX in Brazil and CoDi in Mexico. The bottom line is that efficient, open payment platforms can prevent dominance by any one big tech provider.

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<sup>19</sup> See J C Crisanto, J Ehrentraud, A Lawson and F Restoy, "[Big tech regulation: what is going on?](#)", *FSI Insights on policy implementation*, no 36, 2021.

<sup>20</sup> See Carstens et al, op cit; and F Restoy, "[Fintech regulation: how to achieve a level playing field](#)", *FSI Occasional Papers*, no 17, 2021.

The third response is perhaps the most far-reaching: central banks could introduce digital currencies, or CBDCs.<sup>21</sup> As we emphasised in our Annual Economic Report this year, CBDCs present an opportunity to design a technologically advanced representation of central bank money with core features of finality, liquidity and integrity.<sup>22</sup>

CBDCs could also serve as a common, interoperable platform that would promote innovation and competition. By offering as high a level of privacy as feasible to users, they could provide an additional public good.<sup>23</sup>

For each of the components of this three-pronged approach, there is a strong case to strengthen regulatory cooperation. By this, I mean cooperation not only among central banks and financial authorities, but also with competition and data authorities. In the light of the cross-border nature of big tech activities, such cooperation should also have an international dimension.

As you can see, a lot of work lies ahead of us. ■

### About the author

*Agustín Carstens* became General Manager of the BIS on 1 December 2017. Mr Carstens was Governor of the Bank of Mexico from 2010 to 2017. A member of the BIS Board from 2011 to 2017, he was chair of the Global Economy Meeting and the Economic Consultative Committee from 2013 until 2017. He also chaired the International Monetary and Financial Committee, the IMF's policy advisory committee from 2015 to 2017.

Mr Carstens began his career in 1980 at the Bank of Mexico. From 1999 to 2000, he was Executive Director at the IMF. He later served as Mexico's deputy finance minister (2000-03) and as Deputy Managing Director at the IMF (2003-06). He was Mexico's finance minister from 2006 to 2009.

Mr Carstens has been a member of the Financial Stability Board since 2010 and is a member of the Group of Thirty. He holds an MA and a PhD in economics from the University of Chicago.

<sup>21</sup> See B Cœuré, "[Central bank digital currency: the future starts today](#)", speech at the Eurofi Financial Forum, 10 September 2021.

<sup>22</sup> See BIS, "[CBDCs: an opportunity for the monetary system](#)", *Annual Economic Report 2021*, June, Chapter III.

<sup>23</sup> See R Garratt and M van Oordt, "Privacy as a public good: a case for electronic cash", *Journal of Political Economy*, vol 129, no 7, 2021; and R Garratt and M Lee, "Monetizing privacy with central bank digital currencies", *Federal Reserve Bank of New York Staff Reports*, no 958, 2021.

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