

**Plamen Dzhaparov****BigTechs in Finance – Realities and Prospects**

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**Abstract** In recent years, large technology companies have become increasingly active participants in the financial services sector. Driven by motives such as expanding economies of scope and deepening customer engagement, BigTechs are no longer satisfied with offering convenient payment applications alone. They are increasingly venturing into products and services that, until recently, were considered the exclusive domain of traditional financial intermediaries. Their undeniable advantages - including high market capitalization, the global nature of their business, and access to vast amounts of data — have understandably raised concerns among banking managers. At the same time, the advance of BigTechs into the financial industry comes with several challenges, both for the companies themselves and for the competent authorities, who are increasingly placing them within the scope of regulatory scrutiny.

**Keywords** BigTechs, Finance, Banking, Digitalization.

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**Introduction**

In recent years, one of the most significant developments in the financial sphere has undoubtedly been its close integration and symbiosis with the high-tech sector. Moreover, the financial industry is one of the largest consumers of digital technologies and plays a defining role in the digital transformation of the economy as a whole. The intersection of technological advancement and financial markets is associated with the term fintech, which refers to the activity of all innovative providers of financial services that offer alternatives to traditional financial institutions. However, emerging digital players are not the only threat facing conventional banks, insurance companies, and others. The ambitions of major technology giants (BigTechs) in the financial sector have long been an open secret. In recent years, many analyses have focused specifically on their potential to become the leading alternative providers of financial services.

**1. Drivers of the Big Tech Invasion into the Financial Sector**

Traditionally, the group of BigTechs includes “Magnificent Seven” - Alphabet (Google), Amazon, Apple, Meta (Facebook), Microsoft, Nvidia, and Tesla. However, many other globally active companies such as IBM, Samsung, Alibaba, Baidu, and Tencent can also be classified in this category. Alongside their typical activities related to software and hardware

development, e-commerce, online advertising, social networks, artificial intelligence innovations, and cloud computing, these companies are increasingly offering their financial solutions — most commonly in the area of payments, but also digital wallets, P2P transfers, credit cards, and certain types of insurance. Their interest in the financial space is hardly surprising. Especially for companies operating in e-commerce, such as Amazon, the implementation of payment services can be considered a natural extension of their core business.

The incursion of tech giants into various areas of finance is illustrated in Figure 1. As shown, they already have a solid presence in the financial sector in many parts of the world, with the most notable concentration in China, where Ant Group (part of Alibaba) and We-Bank (part of Tencent) offer the broadest range of financial services.

Fig. 1. Examples of BigTech companies in Financial Services (To, 2023)

	Apple	amazon	Meta	Google	Microsoft	Alibaba.com	Tencent 腾讯	SAMSUNG	vodafone	mercado libre
Headquarter	US	US	US	US	US	China	China	Korea	UK	Argentina
Core Offerings	Electronic hardware	Online marketplace	Social media advertising	Search advertising	Software, services & hardware	Online marketplace	Gaming / technology	Electronic hardware	Mobile Communications	Ecommerce platform
Mobile Wallet	Apple Pay	Amazon Pay	Meta Pay; WhatsApp Pay	Google Pay	Microsoft Pay (discontinued)	Alipay	WeChat Pay, Tenpay	Samsung Pay	M-Pesa	Mercado Pago
Credit extension	Apple Card, Apple Pay Later	Amazon Credit Cards, Amazon Lending, Amazon Pay Later				MYBank	Tencent Credit Services	Samsung Finance+	M-Pesa	Mercado Credito
Banking Products	High yield savings account associate with Apple Card			Abandoned Plan		MYBank	WeBank	Samsung Money by Sofi	M-Shwari	
Investment / Asset management						Investment and Lending Services	Tencent Wealth Management			Mercado Fondo

Although at this stage, financial services represent a relatively small part of the business of major technology companies, demand for these services is growing faster than for their other products. Evidence of this trend is the rapid increase in downloads of financial applications, especially after 2020. Moreover, over time, the demand for financial services has diversified. Until 2018, payment applications accounted for the majority of financial app downloads. However, after 2020, the share of new downloads of payment apps has significantly and steadily declined (by about one-third) in favor of applications for consumer banking, financial investments, and personal finance management (De Fiore et al., 2024: 7 - 10).

It should be noted that the incentives driving individual tech giants to enter the financial sector can be interpreted from various perspectives. These include diversifying revenue streams, achieving additional economies of scale and scope, increasing market capitalization, strengthening customer engagement and loyalty, gathering additional consumer data, consolidating market influence, and more. It’s also worth mentioning that their appetite for entering different industries and markets is partly driven by their ability to absorb losses. Unlike smaller firms, large technology companies typically have “deep pockets”,

which means they are not forced to exit a market in case of certain product or initiative failures (Doerr et al., 2023: 5).

Although BigTechs show interest in the entire product range of traditional financial intermediaries, credit institutions are currently the most affected. This suggests that the analysis in the report should focus primarily on the competition and interaction along the 'banks–BigTech' axis. The reasons why banks perceive large technology companies as a significant threat to their revenues can be summarized in several key points.

Firstly, a common feature in the business models of BigTechs is their innovative online platforms, equipped with flexible interaction and sales capabilities in an internet environment. In addition to possessing excellent technological capacity and privileged access to cutting-edge technologies, thanks to their experience in providing digital services, they also have the necessary knowledge and know-how to design a simplified and user-friendly interface. This allows them to build virtual payment systems (such as Google Pay, Apple Pay, and Amazon Pay) without seeking cooperation with traditional banking institutions (Vachkov et al., 2022: 73).<sup>1</sup>

Second, the Big Tech players have an enormous customer base, far exceeding that of financial institutions. User profiles in Google and Facebook, for example, number in the billions and represent an unreachable value for any bank. In addition to enabling them to spread their services literally among billions of users, the impressive customer base allows BigTechs to handle an endless amount of data, which is of immense importance in the context of today's highly popular Big Data philosophy. Facebook and X, for instance, know exactly who their users like and what they like, remember every thought that caught their attention, every opinion they agree with or that angered them; Amazon knows what and from which manufacturer their customers are buying; Apple and Google know more precisely than the users themselves what they watch, read, and who, when, and where they meet. Based on this abundance of data, they can create and test precise models for identifying consumer habits and behaviors, pricing, risk assessment, initial identification and verification of customer identity, etc.

Moreover, the unique business model of BigTechs is based on three interconnected components: Data, Network, and Activity, which form the foundation of the so-called DNA cycle. Network effects play a crucial role in this cycle, as the value of a service increases with the number of its users — the more people interact on a platform, the more attractive it becomes (Tucker, 2018). For example, Facebook seeks to reach as many users as possible, knowing that for users, the platform is more useful when more people also use the social network. This becomes even more evident in e-commerce, where the benefit for a

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<sup>1</sup> This statement is not entirely indisputable, at least because the entry of BigTechs into the payments segment occurs in collaboration with companies that are part of the traditional financial infrastructure, such as global card operators like Visa and MasterCard. On the other hand, the tech giants themselves often rely on partnerships with large banking groups. An example is the case of Microsoft and JP Morgan (Microsoft, 2019).

participant on one side of the platform (sellers) increases with the number of participants on the other side (buyers).

Network effects create more users and more value for them while simultaneously hindering their migration to competing services, even if those services offer higher quality. Ultimately, network effects enable BigTechs to generate more data. In turn, Big Data analysis improves existing services and further attracts new users. An expanding critical mass of users increases the platform's capacity to deliver a broader set of activities, amplifying network effects and producing even more data.<sup>2</sup>

The addition of financial services to the product mix of major technology companies gives an additional boost to the DNA cycle. Payments within an e-commerce platform foster trust between parties and generate valuable data about transactions taking place. This data, in turn, can be used both to improve existing services in the company's core business areas, such as targeted advertising or search engine optimization, and to offer additional financial services, such as lending or insurance (BIS, 2019).















Third, Big Tech companies also far surpass banks in market capitalization. As shown in Figure 2, the stock market value of JP Morgan Chase, the leader among banks, lags nearly fivefold behind Apple. From this perspective, it's impossible to ignore that large digital players stand out with their strong financial positions, access to cheap funding, and high returns on capital. But it doesn't stop there. While traditional financial institutions have built their critical mass over decades or even centuries, technology companies have achieved this in an unprecedentedly short time, just 10 to 20 years. The high valuation of BigTech shares by capital markets also reflects the exceptional confidence in their long-term vision — a level of trust that leading banks have not always enjoyed, especially in the years following the global financial crisis.

Fourth, the business model and vast scale of BigTech companies inherently secure them a global presence. Unlike banks, which must overcome substantial barriers to enter new markets, software giants possess a highly developed infrastructure that allows them to establish a presence virtually anywhere in the world, without incurring significant additional costs.

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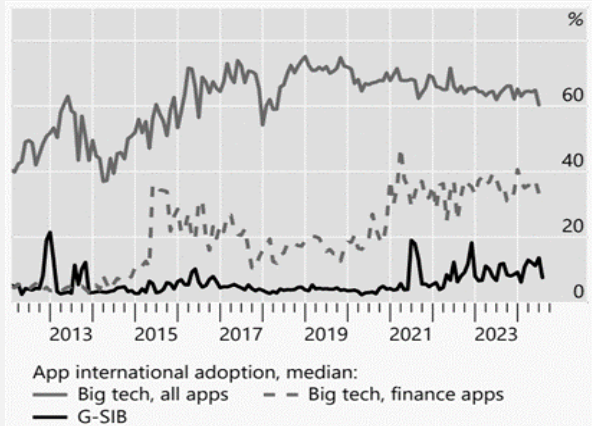
<sup>2</sup> Although large banks have many customers and also offer a wide range of services (eg distribution of wealth management or insurance products, mortgages), they have so far not been as effective as BigTechs at harnessing the DNA feedback loop. One reason is the required separation of banking and commerce in most jurisdictions. Moreover, legacy IT systems are not easily linked to various other services through, for instance, application programming interfaces (APIs) (Doerr et al., 2023: 10).

Fig. 2. Top 7 largest tech companies and banks by market cap (27.04.2025) (Companies Market Cap, 2025)

1	 Apple AAPL	\$3.143 T	1	 JPMorgan Chase JPM	\$676.84 B
2	 Microsoft MSFT	\$2.913 T	2	 ICBC 1398.HK	\$328.80 B
3	 NVIDIA NVDA	\$2.708 T	3	 Bank of America BAC	\$300.05 B
4	 Amazon AMZN	\$2.005 T	4	 Agricultural Bank of China 601988.SS	\$263.73 B
5	 Alphabet (Google) GOOG	\$1.982 T	5	 Wells Fargo WFC	\$227.43 B
6	 Meta Platforms (Facebook) META	\$1.381 T	6	 China Construction Bank 601939.SS	\$224.18 B
7	 Tesla TSLA	\$917.81 B	7	 Bank of China 601988.SS	\$215.31 B

An indicator of this is the level of international adoption, measured as the relative share of their app downloads in countries other than the one where their headquarters are located. For the median BigTech company, this share has increased from 40% in 2012 to over 60% by 2023 (Figure 3). In contrast, the international adoption share for the median globally systemically important bank (GSIB) over the same period has remained relatively flat, around 10%. These figures highlight the far greater degree of globalization and internationalization characteristic of Big Tech firms. This privileged position allows them to achieve substantial economies of scale and scope, resulting in high cost efficiency, further reinforced by the absence of a need to maintain physical branch networks.

Fig. 3. Big Tech international presence over time (De Fiore et al., 2024: 9)



Moreover, the global reach of technology giants actively fosters processes of financial inclusion and the democratization of finance, creating the conditions for them to become key providers of banking services in emerging markets. Specifically, the positive effects on financial inclusion can be attributed to BigTechs' advanced infrastructure, access to non-traditional data, and use of machine learning. For example, by leveraging alternative data and new credit assessment models, they can extend loans to individuals and businesses that have historically lacked access to traditional banking credit. Another way they help

democratize finance is by reducing the reliance on collateral in credit markets. Much of this is happening in countries like Indonesia, Kenya, and India (Doerr et al., 2023: 9 – 13; FSB, 2020).

Fifth, advantages such as an established reputation, brand recognition, and a skilled and motivated IT workforce would also facilitate the integration of a wide range of financial services into BigTech platforms. Another strong point is their ability to create seamless integration between the offered (albeit partial) financial services and the numerous other services in their product portfolio. It would not be surprising if this high level of product differentiation proves to be more appealing to consumers than the "all financial services under one roof" philosophy traditionally embraced by banks.

Sixth, in some ways, Big Tech companies do not so much compete with banks as they make them dependent on their services. Undoubtedly, they are the key providers of technological infrastructure for the conventional financial sector. This includes not only a variety of hardware and software solutions but also cloud infrastructure, which has become a critical necessity for any banking institution. The fact that the cloud solutions market is highly concentrated around a few large tech companies (Amazon, Microsoft, Google, IBM, Alibaba) means that, in practice, it is almost impossible for banks to avoid using their services.<sup>3</sup>

Ultimately, the strong dependence on BigTechs places banks in a fundamentally new situation, because over time, digital giants could take away the role that in the past was almost rightfully theirs, as the center (core) of the financial ecosystem, around which all other market participants gravitate.

## 2. Challenges to Big Tech`s Participation in Financial Services

All the advantages of tech giants discussed so far are undeniable and highlight the necessity for banking institutions to continuously keep them "under watch". However, it should also be noted that the disruptive effect of BigTechs on the financial sector is still more of a possible hypothesis and a forecast for the future rather than a current reality. Evidence of this, for example, is that by 2022, financial services still constitute only a small part of their activities, forming less than 4% of their total revenue (Figure 4).

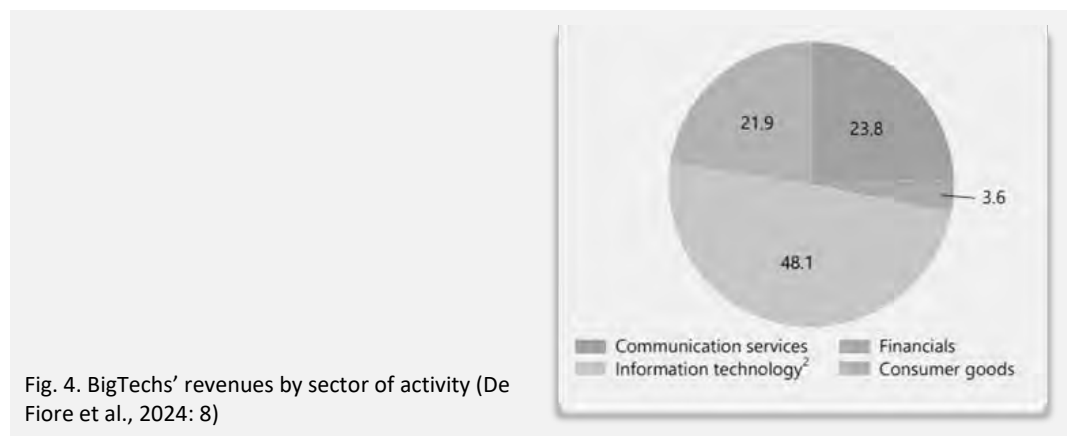
Moreover, the share of lending by tech companies remains insignificant, tens or even hundreds of times lower compared to traditional banks.<sup>4</sup> Additionally, BigTechs focus their

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<sup>3</sup> According to Synergy, the concentration of the cloud services market is continuously increasing. As for public clouds, at the end of 2024, the top three companies (Amazon, Microsoft, Google) hold 68% of the market (Synergy, 2025).

<sup>4</sup> However, it should be emphasized that after 2018, the volume of loans provided by BigTech companies has significantly outpaced that of the fintech sector. Additionally, in some countries, loans granted by BigTech companies have grown faster than bank loans (for example, in China during 2020–2021) and now exceed 1-2% of the total loan volume. Some studies suggest that the volume of lending from BigTech and fintech companies is higher where: GDP per capita and banking margins are higher; banking regulations are less stringent;

efforts to enter the banking space almost entirely on the retail segment, while corporate, private, and investment banking services are episodic and largely unsatisfactory.



In this context, many analyses note that the penetration of digital giants into the banking business is far from just a matter of large capital and technological potential. Various factors have become (or may become) significant barriers to their more substantial involvement in the sector, which they are likely to prefer to avoid. Some of them include:

- Customer concerns about data security and privacy, as well as potential reputational issues. In today's environment, where consumer sensitivity to personal data protection is heightened, large tech companies often find themselves embroiled in scandals related to this issue. When breaches involve customer financial data, the negative effects of such scandals can be multiplied significantly. In this context, several studies have found that when it comes to personal data, consumers trust banks much more than tech companies (Finextra, 2021; Abend, 2025).

- Inability to provide comprehensive financial services and a human touch. Regardless of their resource and technological capabilities, it is unlikely that BigTechs will be able to offer "everything financial under one roof" as banks do. Given their fully digitalized business models, maintaining close customer relationships is beyond their capabilities.

- Lack of financial expertise. Building strong financial teams is the "Achilles' heel" of Big Tech. Digital know-how alone does not replace the need for risk management specialists, credit experts, market analysts, and so on.

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there are fewer bank branches per capita; the "loan-to-deposit" ratio is lower; and bond and stock markets are more developed. Alternative forms of lending are also more successfully implemented in countries where doing business is easier, investor protection is stronger, disclosure requirements are higher, and the effectiveness of the judicial system is better (Cornelli et al., 2023; De Fiore et al., 2024: 11 - 15).

- Potentially higher financing costs. This is because large tech companies do not attract deposits. To raise funds, they rely on their liquidity or on establishing partnerships with banks. This limitation can become a significant obstacle to expanding credit services (Doerr et al., 2023: 8 – 9).<sup>5</sup>

- Uncertainties in the regulatory environment. Although tech giants currently do not have to comply with the complex requirements faced by banks, this is likely to change in the future, given various signals from regulators. If this indeed happens, it will lead to numerous insurmountable complications (due to their lack of Compliance experience in the "jungle" of financial rules and standards) and inevitably reduce the attractiveness of the financial market.

Big Tech's involvement in financial services is also associated with broader concerns. The first one is related to systemic risk. Given the established dependence of banks on a small number of BigTechs (especially in the context of cloud services), a potential breakdown in the systems of one of these digital giants or a shock in the technology sector could cause massive damage to the operations and reputation of the banking industry. A problem in one of the leading hi-tech firms could trigger a systemic crisis, taking down the services of numerous banks across multiple countries, leaving consumers unable to, for example, make payments (FSB, 2019). As noted, these concerns are increasingly raising the alarm among regulators, who observe that the "touch points" of various market players in the dismantled and increasingly fragmented value chain of banks create a new, higher level of interconnectedness within the financial system.<sup>6</sup>

At the same time, the potential for market concentration and abuse of market power is becoming an increasingly frequent subject of analysis if BigTechs gain a leading position in the financial services market. Tech giants, already possessing market power in their core businesses, can extend this power to financial services provision. Specifically, platforms can use their market power, network effects, and the possibilities of cross-subsidization of business lines to increase switching costs for consumers, exclude potential competitors, and strengthen their position by creating high entry barriers to the market (De Fiore et al., 2024: 15-16). On the other hand, these companies have the potential to amass significant amounts of data at minimal cost, thanks to their size and technological capacity. These

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<sup>5</sup> However, some Big Techs overcome these limitations in various ways – by creating their subsidiary neobanks, forming partnerships with traditional banks, and raising funds through securitized products. Additionally, although they are forced to replace cheap deposit funding with more expensive alternatives, they have a significant advantage over banks in raising capital through bonds and shares (De Fiore et al., 2024: 15 – 16).

<sup>6</sup> The UK's FCA, for example, warns that in the longer term, the rapid accumulation of market share by BigTechs could lead to risks for competition. Network effects and economies of scale promote consolidation and provide disproportionate advantages to large tech organizations. In other words, while the early days of fintech were marked by product disaggregation, targeting individual business lines within financial services, the entry of Big Tech companies could reassemble these lines but to their benefit. This underscores the need for a new regulatory approach toward them (FCA, 2022).

data can be used not only for creditworthiness assessments but also for identifying the maximum interest rate borrowers are willing to pay or the highest premium clients would pay for insurance. In other words, once they establish a dominant position, they can leverage it to engage in price discrimination and extract excessive profits (BIS, 2019: 67-68). In the financial sector, all of this could lead to the emergence of "digital monopolies", which would have lasting negative consequences for competition, and ultimately, for market diversity and the quality of services offered.

According to some analyses, the limitation of competition under the influence of BigTechs is already visible in payment services, where the consolidations (mergers and acquisitions) initiated have increased significantly in recent years. Specifically, tech giants are acquiring smaller payment companies before they reach a critical mass of users (Doerr et al., 2023: 23-25). The negative effects here are twofold. First, competition is undermined as potential competitors are swallowed up before they have developed their full potential. Second, venture capital is deterred—just the threat of acquisition reduces funding from venture investors who anticipate that new companies will be bought out before they become stable and independent (Kamepalli et al., 2022: 30-31).

The picture outlined so far shows that BigTechs are not only changing the landscape of digital payments but are also creating structural barriers to the entry of new players, which limits innovation and increases market concentration. From this perspective, it is reasonable to assume that digital companies are strategically positioning themselves to dominate not only in digital technologies but also in the financial infrastructure of the future. This has led many analysts to argue that nearly two decades after the financial crisis, regulators are once again concerned that some companies at the core of the financial system are "too big to fail." However, this time the concern is not about banks, but the tech giants (Crisanto et al., 2021).

## Conclusion

Large digital companies possess a range of advantages that could enable them to capture a significant market share from traditional banks, while also contributing positively to the financial system by enhancing market efficiency and improving financial inclusion. At the same time, their business models are associated with certain limitations, which make further incursions into the sector less certain. Meanwhile, regulators are adding an entirely new array of global risks to their agendas, which come with the presence of BigTechs. Regardless of what the future will be, it is clear that technological giants are creating a new, additional layer of complexity in an already highly sophisticated, complex, and crowded competitive landscape in banking.

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