

Changing landscape, changing supervision

Developments in the relationship between
BigTechs and financial institutions

DeNederlandscheBank

EUROSYSTEM

Changing landscape, changing supervision. Developments in the relationship between BigTechs and financial institutions

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Summary

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The growing importance of BigTechs in the financial sector requires particular attention from supervisory authorities such as DNB. The central question in this report is what the growing role of BigTechs means for Dutch banks and insurers and the supervision of the financial sector.

The rise of BigTechs and partnerships with financial institutions

BigTechs are increasingly active in the financial services sector. BigTechs have already acquired a major role in the financial sector in Asia, and particularly in China. In this region they operate as platforms for the provision of financial services. US-based BigTechs are also increasingly offering financial services, often in partnership with financial institutions. In Europe, including in the Netherlands, cooperation between BigTechs and financial institutions is mainly focused on payment services, and to a limited extent on lending. At global level, financial institutions are also increasingly using cloud services from BigTechs.

Financial institutions and BigTechs have different motives to cooperate. Financial services are attractive to BigTechs as a means of strengthening their ecosystems and increasing their revenues. The addition of new services to their ecosystem generates more data (D), which BigTechs can use to improve their product offering. The improved product offering then attracts new consumers

and businesses to their network (N), thereby further increasing and reinforcing the activities (A) in their ecosystem. These factors constantly interact and reinforce each other in the DNA feedback loop. Joining forces with financial institutions allows BigTechs to offer financial services without becoming subject to financial supervision themselves. At the same time, they can take advantage of consumers' relatively high level of trust in banks and insurers. Cooperation can be attractive to financial institutions because BigTechs can support them in providing more digital convenience for their customers. It can also lead to a larger sales market. Furthermore, cooperation in the cloud helps financial institutions to increase their innovative power, flexibility and efficiency.

The potential impact of partnerships in the Dutch market varies depending on the sub-market.

Cooperation with banks is having a fairly high impact on payment services, where Dutch banks are already working with BigTechs. These relationships may intensify due to sustained customer demand for greater digital convenience. The credit market also has great potential for partnerships. For banks this will provide opportunities to improve their credit risk models and the lending process. In the case of insurers, partnerships can have a major impact on non-life insurance, where cooperation increases the scope for innovation in the production chain. Synergy benefits can also be achieved between insurance products and user data on smart devices.

Trends and future scenarios

Technological changes, economic developments, changing customer requirements and regulation will affect the future market for financial services.

Financial institutions are moving their IT systems to the cloud and using them to develop new services and processes in partnership with technology companies. Advanced data analysis techniques combining financial and non-financial customer data are increasingly being used. Institutions are offering a growing range of financial services on online platforms. This digitalisation process has accelerated over the past year due to governments' social distancing measures to combat the COVID-19 pandemic. Cross-border services are also growing, aided by digitalisation and platformisation. Consumer trust and security remain vitally important in the choice of a financial service provider. Banks and insurers enjoy higher trust than BigTechs, but BigTechs win in terms of digital convenience. In Europe, regulations will be introduced in the coming years to strengthen citizens' data sovereignty and data privacy, the operational resilience of cloud service providers and the security of platform companies. Regulations are also being prepared to control concentration risks and abuse of power by platform providers.

The strategy of BigTechs and the innovative power of financial institutions to a large extent determine how relationships between BigTechs and financial institutions will develop. The strategic choices BigTechs make concerning their role in this relationship are crucial. Will their role remain limited to facilitating technology and innovation, or will they assume a leading role and take over the customer relationship? Just how dominant a role BigTechs can play will depend partly on the trust they enjoy among customers of financial institutions and the scope afforded them by regulation. This includes not only prudential regulation but also regulation on data privacy and competition. Financial institutions' innovative power is another crucial factor. This is tied in with their own vision and strategy, their capacity for change, their ability to attract innovative talent and their capacity to work with innovative cloud operators. Although financial institutions have already innovated successfully in some cases, the question is to what extent they will be able to do so in the future. Future scenarios will depend on the interaction between the choices made by financial institutions and BigTechs, but the likelihood of any particular scenario cannot be predicted. Moreover, the market scenario that prevails will not be static but may change over time. Since BigTechs set the bar in terms of innovation, the question is whether banks and insurers can develop sufficient innovation capability in good time. If they succeed, they will be able to shape the innovation in financial services. If they fail, they may find themselves in a dependent position.

Implications for policy and supervision

The Dutch banking and insurance market may change dramatically due to the continuing entry of BigTechs and developments in their cooperative relationships with financial institutions. This will require a reassessment of financial rules and supervision of institutions. In this regard we present three implications for policy and supervision:

1. Financial institutions must be seriously challenged on the sustainability of their business models

The scenario analysis in this report shows that the rise of BigTechs may have profound consequences for the business models and strategies of financial institutions. Based on the scenarios outlined in this report, DNB will seriously challenge institutions on their strategies and the sustainability of their business models in view of the ongoing digitalisation of financial services. Capacity development in technology and organisation will be necessary if an institution opts for a platformisation strategy, while the choice for a specific niche also requires specific capabilities.

2. The regulatory framework must be adjusted to address new risks

While network effects are stimulating the growth and concentration of activities of BigTech platforms, the regulatory frameworks are not yet adapted to respond to the consequences for the financial markets in a structural way. The rise of BigTechs in the financial sector may entail concentration risks in the areas of financial

services, the distribution of financial products and services and access to consumer data. The relevant regulatory frameworks need to be adjusted to address these three concentration risks. In the longer term, the continuity and resolvability of systemically important BigTechs and distribution platforms may also require attention.

3. Towards more European supervision and cooperation between supervisory authorities

BigTechs operate across borders. Obviously, as the role of BigTechs in the financial sector is steadily increasing, financial supervision of these parties at the European level is required. In addition, an increasingly platform-based financial sector and economy require closer cooperation between supervisory authorities. Individual supervisory authorities with mandates in the areas of cybersecurity, data protection, competition and financial supervision should intensify their cooperation to enable more comprehensive supervision. Effective cloud supervision requires alignment of regulatory frameworks at the European level to prevent overlapping or conflicting rules in national and European regulations.

1 Introduction

Ongoing digitalisation, new technologies and the entry of BigTechs may have far-reaching implications for the financial sector and require DNB to reconsider the way in which supervision is structured. In a previous forward-looking study DNB outlined scenarios showing how the banking services market may change, taking into account the growing importance of data.¹ In the present report DNB focuses on the growing role of data-driven 'BigTech' companies in the financial sector and their relationships with financial institutions.² DNB thus fulfils its ambition to anticipate and actively respond to the consequences and opportunities of technological innovation and potential disruption of the financial sector.³ In the fast-changing landscape DNB considers it paramount that trust in the financial sector remains solid, financial institutions are sound, ethical and resolvable, and financial stability is guaranteed.

BigTechs have entered the financial sector worldwide, often through relationships with financial institutions. BigTechs manage ecosystems, or bundles of related digital services and products, enabling users to purchase multiple services through a single platform.⁴ BigTechs seek to attract consumers and business customers by offering a growing

number of services and products from different sectors on their platform. Some BigTechs also facilitate financial services through their platform, usually in cooperation with financial institutions. These cooperative relationships can take the form of outsourcing by financial institutions, like the use of cloud services provided by BigTechs. However, BigTechs may also provide financial services for consumers and businesses themselves or in partnerships.

The various forms of cooperation between financial institutions and BigTechs can entail substantial risks, so they are very important for financial supervision. BigTechs are not generally licensed as banks or insurers themselves, but occupy a position between the institution and the customer and perform part of the service. In this way the boundaries between supervised and non-supervised entities get blurred.⁵ Where financial services are offered through hybrid forms of cooperation, there may be a lack of clarity as to the responsibility for compliance with rules of conduct and duties of care. Cooperation between financial institutions and BigTechs may also lead to operational risks due to the fragmentation of the value chain and dependence on a limited number of critical IT service providers.

¹ DNB (2020a), Data age calls for increased attention from the banking sector and DNB; DNB (2020b), Transforming for trust. Lending, saving and paying in the data age.

² By BigTechs we mean the large technology companies that operate a digital platform simultaneously across many markets. Specifically these are: Microsoft, Alphabet (Google), Amazon, Facebook, Apple, Alibaba and Tencent (known for WeChat Pay). With regard to financial institutions we focus on banks and insurers, in the light of DNB's responsibilities and the potential impact.

³ See DNB (2019), DNB2025 - DNB Vision and Strategy, for a commentary on DNB's forward-looking vision and strategy.

⁴ An online platform can be defined as a digital service that facilitates interaction between two or more distinct but independent groups of users (companies or individuals) interacting by means of the service on the internet. Platforms and financial and non-financial corporations can form part of wider open or more closed ecosystems comprising various partnership relationships. See for example OECD (2019), An Introduction to Online Platforms and Their Role in the Digital Transformation.

⁵ See also DNB (2021) Supervisory Strategy 2021-2024.

Moreover, there are risks to the business model and hence ultimately to the financial soundness of existing financial institutions. The central question in this study is what the changing relationships between BigTechs and financial institutions imply for Dutch banks and insurers, and for policy and supervision. This report surveys the existing cooperative relationships around the world, analyses the underlying motives for cooperation among BigTechs and financial institutions and illustrates the possible impact on the Dutch banking and insurance market (Chapter 2). It then describes four possible future scenarios (Chapter 3). On this basis the report provides recommendations on ways in which regulation and financial supervision can respond to the growing role of the BigTechs (Chapter 4).

2 The emergence of relationships between BigTechs and financial institutions

This chapter starts by presenting the various relationships that currently exist between BigTechs and financial institutions. BigTechs already play a major role in financial services, particularly in China. In Europe, BigTechs have so far taken a less prominent role, but several relationships between financial institutions and BigTechs have already been established. At the front end (where the customer contact takes place) BigTechs provide payment services – and to a lesser extent other financial products – and at the back end they provide cloud services. This is also the case in the Netherlands, where various forms of cooperation have arisen. The chapter then focuses on the motives that BigTechs and financial institutions have to enter into partnerships and outlines the potential impact of partnerships on the Dutch banking and insurance market. This chapter thus serves as a prelude to the scenario analysis in Chapter 3, which looks at how the relationships may evolve over time.

2.1 Existing relationships between BigTechs and financial institutions

2.1.1 Cooperation at the front end: Asia and the United States

BigTechs have formed extensive relationships with financial institutions particularly in Asia.

In China, BigTechs play a major role in meeting their customers' need for financial services. This is due to the more limited accessibility of traditional banking services in China, the BigTechs' effective response to the rapid digitalisation of Chinese society and favourable rates charged to users. Alipay (Alibaba) and WeChat Pay (Tencent) have grown to be the largest and second-largest mobile payment platforms in China. The Chinese BigTechs also serve as platforms for the provision of other financial services, such as lending, wealth management and insurance. They often operate through financial subsidiaries, but they also enter into partnerships with traditional financial institutions.

Ant Group, the financial division of the Alibaba group, provides services as a high-tech credit platform that connects banks and borrowers, and Tencent sells securitised loans to banks. Around a hundred partner banks compete to provide loans for Ant's e-wallet users. Lending takes place through the group companies Huabei and Jiebei, which in 2020 provided around 10% of the total consumer credit granted in China. This Chinese BigTech also offers e-commerce and a social network as part of its ecosystem, so it has access to a large volume of customer data that traditional banks lack. Using advanced data analysis, Ant can provide tailored microcredit loans which are then securitised and

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sold on to investors, including traditional banks. Chinese customers thus have better access to loans, leading to improved financial inclusion in China. Ant generates fee income from these services and traditional banks gain access to loan portfolios that they may not otherwise have had. Tencent provides financial services through its digital bank, WeBank. Securitised loans are also sold to other traditional banks through WeBank. Chinese regulators have recently imposed new requirements on BigTechs with online lending platforms in an effort to reduce financial and competition risks (see also Box 5 later in this chapter).

American BigTechs are also partnering with financial institutions. Google, for example, will provide payment accounts ('Plex') in the United States in cooperation with Citi and a number of regional banks (see Box 1). Amazon is working with Goldman Sachs in the United States to provide loans to small and medium-sized enterprises (SMEs) on the platform and is offering car insurance in India with a local partner. Facebook is also entering into partnerships in India to provide loans and insurance

through WhatsApp. In the insurance sector, links to health apps are one of the bases for tie-ups between various BigTechs in life and health insurance. Insurance companies use user data from smartphones and smartwatches running Apple or Android (Google) software to offer premium discounts or cashbacks to reward 'healthy' behaviour. The American insurer John Hancock, for example, provides up to 15% discount on life insurance premiums if policyholders collect enough points in the 'Vitality program', which also enables them to recoup the cost of their Apple Watch or Google Fitbit. Google (Health) and Amazon (Care) also have their own activities in the healthcare sector.

2.1.2 Cooperation at the front end: Europe
In Europe the partnerships between BigTechs and banks at the front end of the value chain are currently focused on providing payment services and, on a limited scale, lending. BigTechs mainly provide payment instruments that allow contactless mobile and online payments by creating an overlay over existing payment instruments such as debit or credit cards. Payment service providers have also

Box 1 Google Plex

Google announced 'Google Plex' in the United States at the end of November 2020. A Google Plex account combines a traditional checking account with Google Pay payment services such as contactless and peer-to-peer payments, as well as services such as a personal budget planner and offers from merchants. Google will offer the Google Plex accounts in cooperation with Citi and 10 other (smaller) American banks. Citi's retail division is still relatively small and the bank can reach more customers by using Google Plex as a distribution channel. Google says that cooperation has benefits for both parties: it enables the bank to offer customers the best possible user experience, while Google can take advantage of the bank's regulatory expertise. There are no indications that Google plans to offer Plex accounts in Europe.

entered into partnerships with BigTechs, including Adyen with Amazon to provide Amazon Pay. The Chinese payment apps Alipay from Ant Group and WeChat Pay from Tencent are also available through payment service providers.⁶ Those services are only available to customers with a Chinese payment account and are therefore aimed primarily at Chinese tourists. BigTechs have also entered the European market in cooperation with banks for lending, albeit to a lesser extent than in other parts of the world.⁷ Amazon in particular is active in this area with the provision of loans to online retailers using its platform. In Germany, Amazon has entered into a partnership in this area with ING.⁸ Online retailers can apply for loans of between EUR 10,000 and EUR 750,000 with terms of up to three years.

In the European insurance sector the role of BigTechs at the front end is still limited and we mainly see partnerships with smaller Insurtech firms. Various Insurtech firms focus on improving the user experience, both in the process of taking out a policy and in the claims handling process. Insurtech is also used, for example, in robo advice and to reward 'good behaviour' by customers. Motor insurers grant discounts on premiums for a good, safe driving style, which is monitored by an app. Partnerships with BigTechs are still less common in the insurance market, although there are some examples, such as the provision of cyber risk insurance by Allianz and Munich Re in partnership with Google. Online advertisements on BigTechs'

social media platforms have become more important for insurers as a means of offering insurance directly. There are also comparison sites particularly in the United Kingdom and the Netherlands which are important sales channels for specific insurance products. Google also entered this market in the United Kingdom (and the United States) with 'Google Compare', a comparison site for motor insurance and other products, but that venture was terminated prematurely in 2016.

2.1.3 Cooperation at the back end: cloud services

At the back end financial institutions are increasingly moving their systems to the cloud, a trend which appears to be stronger among banks than insurers.⁹ Financial institutions have traditionally run their core processes on their own IT systems. This is now changing fundamentally. Cloud service providers offer shared storage and processing capacity ('infrastructure as a service' – *IaaS*) and a platform to develop and run applications ('platform as a service' – *PaaS*) (see Figure 1). Software applications can be based entirely on the cloud and are used on a subscription basis ('software as a service' – *SaaS*). Almost every activity can be outsourced. Institutions that outsource activities nevertheless remain responsible for compliance with financial regulations, and outsourcing is not permitted if it would impede adequate supervision. Banks that have moved their systems to the cloud can also offer them to third parties by means of the 'banking as a service' (*BaaS*) model.

6 See also ACM (2020), Big Techs in the Dutch payment system.
7 Cornelli et al. (2020), Fintech and big tech credit: a new database. BIS working paper no. 887.
8 ING (2020), ING in Germany and Amazon join forces in SME lending.
9 For the United Kingdom see Bank of England (2020), How reliant are banks and insurers on cloud outsourcing?

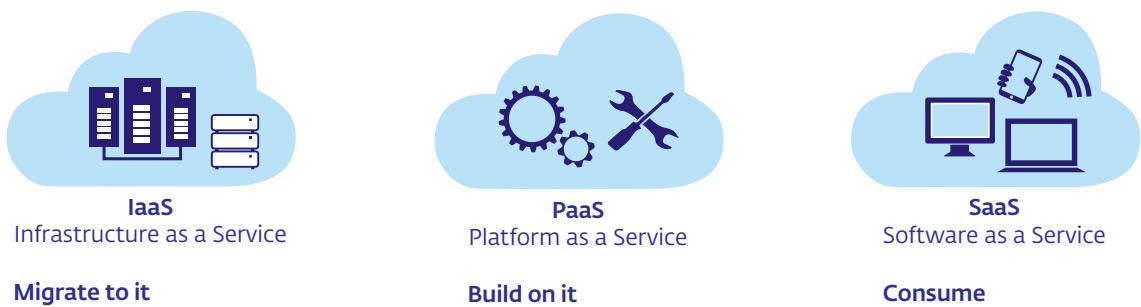
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A longer-established example is that of a smaller bank using the payment infrastructure of another, larger or specialised bank. This concept can be extended to other financial services, such as Allianz’s open insurance platform in cooperation with Microsoft Azure.¹⁰ Financial services can also be tied to non-financial products. This is also known as ‘embedded finance’.¹¹ It is a modern version of the much longer-established practice of tying a product such as travel or cancellation insurance to the sale of a travel package or the hire purchase of an expensive consumer product. Cooperation in the cloud opens the way to linked offers by financial service providers and financial and non-financial companies.

Three BigTechs dominate the cloud services market.

There are many providers of cloud services, including major technology companies such as IBM and Oracle, as well as a series of more specialised firms. However, the widest range of services is provided by the trio of Amazon Web Services (AWS), Microsoft Azure and Google Cloud.¹² Oversight of critical ICT service providers is being developed in Europe through the Digital Operational Resilience Act (DORA), as detailed in the next section.¹³ The innovative ecosystems coalescing around the major operators and the large investments they are able to make in the technology of today (such as artificial intelligence, AI) and the future (such as quantum computing) also lead to further concentration.

Figure 1 Cloud computing service models



¹⁰ Fintech Magazine (2020), Microsoft: digitally transforming the insurance industry
¹¹ Simon Torrance (2020), Embedded Finance: a \$7 trillion market opportunity. See also Capgemini & Efma (2021), World Retail Banking Report 2021
¹² It remains unclear whether this will change as a result of the European ‘GAIA-X’ initiative. See GAIA-X - Home (data-infrastructure.eu).
¹³ For the risks of growing dependence on a limited number of international cloud providers in general, see: FSB (2019a), Third-party dependencies in cloud services: Considerations on financial stability implications.

Box 2 The digital transformation of Generali in partnership with Google

The insurer Generali Italy and Google have been in a five-year strategic partnership since June 2019. The aim is to transform, innovate and adapt Generali’s products and services, and attract innovative talent. New products are being developed with Google Cloud in a technology laboratory in Italy. Google is thus an innovation partner, alongside the ‘classic’ cloud service providers AWS and Salesforce. Generali works a great deal on innovation with insurtechs.

A key priority of the cooperation is relationship management, using remote sales tools, a speech and chat bot and WhatsApp-based communication for claims settlement. Efficiency is a second priority. An example is the assessment of vehicle damage. Using a photograph, claims can be processed automatically within a few hours, whereas this previously took several days or weeks. Generali has also been able to develop new products using devices and sensors connected to the internet (‘Internet of Things’, IoT) and Big Data. For example, about 1.5 million of its customers’ cars are connected directly to Generali so that the company can analyse the drivers’ driving style. Generali is working with various car manufacturers to install this application in cars during the manufacturing process. Finally, the cooperation between Google and Generali contributes to the development of tools to make data available faster and more widely to all employees and facilitate more in-depth analyses.

Partnerships in the cloud are partly aimed at joint product development, as in the example of Generali (Box 2). Amazon and Google also operate at the front end of the value chain. Although their cloud service providers are very large, independent companies, and the activities at the front and back end are not directly linked, this does ultimately strengthen their dominant position in the market. A company such as Google Cloud also takes the opportunity to provide cloud services in combination with other products and services of the Alphabet group.

2.2 Motives for cooperation

2.2.1 Why do BigTechs want to provide financial services?

BigTechs want to offer financial services primarily to strengthen their own ecosystem and generate more revenue.¹⁴ They want to become more attractive to consumers by improving their own ecosystem or making it more attractive. The original basis of the ecosystem differs depending on the BigTech. For example, products (hardware and software packages respectively) form the basis of the ecosystem of Apple and Microsoft.

¹⁴ FSB (2019b), BigTech in finance: Market developments and potential financial stability implications.

Box 3 The Diem initiative

The Diem initiative (formerly Libra) of the Diem Association, which is supported by Facebook, demonstrates Facebook’s aim of establishing its own infrastructure allowing international transactions to be conducted instantly and cheaply and providing universal access to financial services. It will issue its own stablecoin, the Diem. A stablecoin is a cryptocurrency whose value is pegged to fiat currency or another asset. The intention is to peg the Diem to the dollar. The aim of a stablecoin is to create a crypto with a stable value, whereas the value of cryptos such as Bitcoin can fluctuate widely. However, the value of a stablecoin can also fluctuate.¹⁵ To issue the Diem and manage the Diem dollar reserve, the Diem Association has entered into a partnership with Silvergate, an American bank.

Any overdependence on a digital means of payment issued and controlled outside the euro area, such as the Diem, could have undesirable consequences for financial stability and monetary policy in the euro area. A digital euro could prevent such dependence. A digital euro is an electronic form of central bank money accessible to all citizens and businesses. It is similar to banknotes, but in digital form. DNB believes it is important that citizens maintain access to ‘public’ money issued by a central bank in an increasingly digital world in which the role of cash is steadily decreasing. Together with the European Central Bank (ECB) and the central banks of the other euro area countries DNB is therefore considering the introduction of a digital euro. In mid-2021 the Eurosystem will jointly decide whether the research into the requirements and design of the digital euro will be continued.¹⁶

They earn money by selling these products. Their interest in providing financial services therefore lies in making their products even more attractive. On the other hand, Apple and Microsoft also consider financial services as a direct source of income. Google’s ecosystem is based on its search engine. Google earns money by selling targeted advertisements, so its interest in providing financial services mainly lies in data gathering. Amazon is based on an e-commerce store, whereas Facebook is based on the social network. The provision of payment services on

e-commerce or social media platforms makes it easy for users to conduct transactions without leaving the platform and thereby strengthens the ecosystem. Facebook even plans to develop its own payment infrastructure, with its own stablecoin, the Diem (see Box 3).

BigTechs differ, but a common feature is that they take advantage of data, network effects and activities (DNA). BigTechs generate data as a product (or by-product) of their activities. The data is analysed

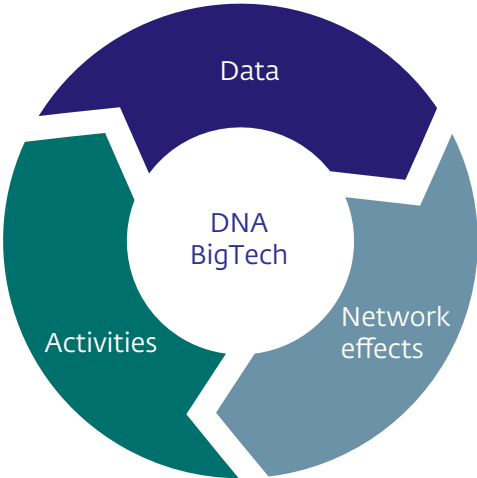
¹⁵ For an explanation see, for example, Bullmann, D., Klemm, J., Pinna, A. (2019), In search for stability in crypto-assets: are stablecoins the solution?, ECB Occasional Paper No 230.

¹⁶ As this decision has yet to be taken, in this study we will not anticipate the possible introduction of a digital euro. The digital euro does not therefore form part of the scenarios in Chapter 3.

and used to improve their activities and expand their product range, thereby attracting more users and increasing the network effects. The more interactions that take place between users, the more data is generated and the more opportunities there are to further expand the network and reinforce the network effect.¹⁷ Network effects occur when the utility for an individual user increases as the number of other participants grows. This gives rise to a self-reinforcing mechanism that enables BigTechs to grow rapidly (see Figure 2). Since all BigTechs operate in a similar way, overlaps between the BigTechs also grow. In converging towards each other, their competition increases. Amazon, for example, generates increasing income from third-party advertisements, Microsoft increasingly sells hardware as well as software and Apple's income from digital services (such as its music and TV streaming services) is growing rapidly.¹⁸

The provision of financial services can further strengthen the DNA feedback loop.¹⁹ The provision of payment services on e-commerce or social media platforms makes it easy to conduct transactions without leaving the platform, for example. These transactions also generate valuable data, which can be used, for example, to place more targeted advertisements. The BigTechs take different approaches when it comes to exploiting DNA synergies. Data from e-commerce platforms, for example, can be used in credit scoring models for SME and consumer loans, while BigTechs with a social

Figure 2 The DNA feedback loop



Source: Taken from BIS (2021a), [Public Policy for big techs in finance](#).

media platform can use data on users' preferences to price and distribute financial products, such as insurance from third parties. The provision of cloud services for financial institutions can lead to network effects in BigTechs' B2B marketplaces, where businesses operating in the cloud can join forces and combine services. Banks are attractive for the BigTech platforms because they attract their own business customers and thereby amplify the network effects. Partnerships with major international banks are sometimes announced with great publicity, as in the case of AWS with HSBC²⁰ and Google with Deutsche Bank (see Box 4).

¹⁷ This concept and the accompanying explanation are taken from: BIS (2019), [BIS Annual Economic Report, Big tech in finance: opportunities and risks](#).

¹⁸ See also McKinsey & Company (2019), [How the best companies create value from their ecosystems](#), for the underlying driving forces.

¹⁹ See also FSB (2019b).

²⁰ Amazon (2020), [AWS and HSBC Reach Long-Term Strategic Cloud Agreement](#).

Box 4 Deutsche & Google: a long-term partnership

On 4 December 2020 Deutsche Bank and Google Cloud signed a 10-year 'strategic partnership' contract worth billions of euros. They will jointly renew Deutsche Bank's applications and systems and develop new products, including a new interface for retail banking and 'assets as a service'.²¹ The intention is also to provide Deutsche Bank products on the Google Cloud Marketplace, so Deutsche Bank will also be able to provide certain services for other banks ('banking as a service'). The strategic interest lies in the long term of the contract, which enabled Deutsche Bank to make the necessary investments.

2.2.2 Why do BigTechs want to enter into relationships with financial institutions?

In Europe and the United States in particular, regulation appears to be a major factor when firms partner with financial institutions rather than entering the financial sector independently.

In Europe and the United States, BigTechs generally provide financial services in cooperation with financial institutions, enabling them to offer financial services without themselves being subject to banking regulation. It appears that they do not wish to become financial institutions themselves and thus be subject to prudential supervision. While some BigTechs (such as Google) have licences entitling them to provide payment services in the European Union, they now mainly provide a

technical layer over the existing payment instruments and provide their payment services in cooperation with banks and credit card companies (such as MasterCard and Visa). Another factor is that the financial services market in Europe and the United States is considerably more mature than those of China and Africa, for example, so it is more difficult for BigTechs to compete directly with financial institutions. In China and Africa technology companies have set up financial entities without the involvement of existing financial institutions (for example Alipay from Alibaba and M-Pesa from Vodafone).²² Those entities are generally subject to relatively light regulatory regimes.²³ In China the regulation of BigTechs' financial activities has recently been considerably tightened (see Box 5).

²¹ Assets as a service is a model whereby firms do not have to acquire certain production resources themselves, but pay for the use of such production resources on another company's balance sheet. Printers are an example.
²² See Table 2 in FSB (2019b).
²³ FSB (2020), *BigTech Firms in Finance in Emerging Market and Developing Economies: Market. developments and potential financial stability implications*, p. 11-13.

Box 5 BigTechs in China: experiences with regulation and supervision

In an effort to reduce financial and competition risks and strengthen data protection, Chinese regulators have recently imposed new requirements on BigTechs with online lending platforms. For example, the government ordered Ant Group to restructure following the halting of its IPO in November 2020. Ant Group is required to place all its businesses in a financial holding company. That means it will have to meet the same requirements as banks and will be subject to stricter supervision.²⁴ Ant Group is also required to sever the connections between the Alipay payment platform and the lending operations.²⁵ Each standalone business unit will then be subject to the applicable specific financial regulation. The severing of the link between Alipay and lending could have major consequences for the profitability of the Ant Group, since the combination of services is one of the company's principal attractions.

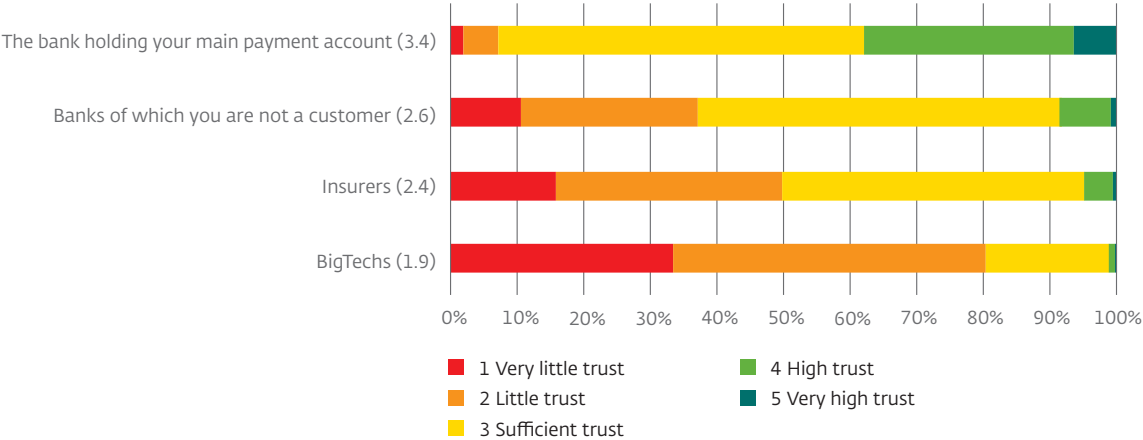
China also has a special licence for digital banks.²⁶ Digital banks in China are not permitted to have physical branches, among other things. The capital and liquidity requirements are the same as those for traditional banks. Similar regulations have also been introduced for digital banks in other Asian countries, such as Hong Kong, South Korea, Singapore and Taiwan. Tencent, which is known for WeChat, the dominant social media platform in China, provides financial services through its digital bank, WeBank, in which Tencent has a 30% minority interest. WeBank also sells securitised loans to other traditional banks, but the size of these loans is limited due to the terms of the digital banking licence.

Various regulatory initiatives are currently being developed in Europe that will affect the activities of BigTechs. As part of its Digital Finance Package the European Commission has proposed a regulatory framework for ICT risk management for financial entities and oversight of critical ICT service providers used by financial entities. This is known as the Digital Operational Resilience Act (DORA).²⁷ These proposals concern oversight of cloud service providers among others. Oversight differs from supervision and in this case means there would be no preconditions governing market entry and only

a limited range of enforcement and sanction tools, with audits being conducted without binding substantive recommendations. Another part of the Digital Finance Package is the legislative proposal known as Markets in Crypto Assets Regulation (MiCAR), which includes rules for cryptos, including stablecoins. These are specific rules for crypto issuers and providers of associated services. The proposal for a Digital Markets Act (DMA) includes rules for online platforms that can be seen as 'gatekeepers'. These rules will also govern the provision of financial services through these

²⁴ Financial Times, 3 February 2021, [Ant strikes deal with Chinese regulators over restructuring](#).
²⁵ Financial Times, 12 April 2021, [Ant ordered to restructure by Chinese regulators](#).
²⁶ Central Banking (2021), [Regulating big tech and non-bank financial services in the digital era](#).
²⁷ European Commission (2020), [Digital finance package](#).

Figure 3 Financial institutions trusted more than BigTechs



Source: CentERpanel. DNB study on privacy and data-sharing, 28 August – 7 September 2020.
Note: 2,576 respondents. Trust is measured on a scale ranging from 1 (very little trust) to 5 (very high trust). Average trust is shown in brackets after the name of the provider.

platforms, but they will not yet make BigTechs subject to financial supervision.²⁸ The Digital Services Act lays down rules for digital intermediaries.

Moreover, consumers say they trust financial institutions more than BigTechs. Banks have traditionally played a role in managing savings and providing financial services, so consumers may be inclined to place more trust in banks than BigTechs when it comes to financial services. BigTechs appear to realise this: when announcing Google Plex accounts (see also Box 1), Google said it wanted to

improve financial services by entering into partnerships with financial institutions that consumers trusted with their money.²⁹ Surveys also show that consumers trust financial institutions more than BigTechs with regard to data protection. A survey of American consumers, for example, shows that 60% place a high degree of trust in traditional financial institutions, while only 12% do so in the case of BigTechs.³⁰ Surveys in the Netherlands show similar results. A survey conducted by DNB, for example, shows that 93% of respondents have an adequate or high degree of trust in the bank holding

28 European Commission (2020b), *The Digital Markets Act: ensuring fair and open digital markets*, also for a more detailed explanation of the gatekeeper role.

29 See Google Plex announcement (18 November 2020) by Caesar Sengupta, General Manager of Payments: "We've been working hard to help make payments simple, secure and helpful for everyone. But this is just the beginning, and there's a lot more we can do to go beyond payments. To help people save better, manage money, and improve their overall financial wellbeing. We believe the best way to do this is by partnering with financial institutions, who people trust with their money".

30 BIS (2021b), *Whom do consumers trust with their data? US survey evidence*.

their main payment account, whereas 80% have little or very little trust in BigTechs (see Figure 3). Although insurers are trusted less than banks, they are actually trusted much more than BigTechs. The main reason for the mistrust of BigTechs is fear of data abuse. Dutch consumers therefore prefer to share data with banks rather than BigTechs.³¹ Consumers nevertheless share data through the BigTechs' apps on their telephone, so their attitude to trust seems paradoxical (see also the scenarios in Chapter 3).

2.2.3 Why do financial institutions want to enter into relationships with BigTechs?

The growing demand among retail customers for convenience and the ongoing digitalisation (mobile first) are key motives for banks to cooperate with BigTechs. Not all banks will be able to meet these customer demands directly in the short term, partly due to their legacy core banking systems, which lead to a lack of flexibility and efficiency. BigTechs are also very strong in the mobile area, which is becoming ever more important as consumers are increasingly using their mobile phone to access online services and make payments. Many banks have entered into partnerships with Apple and Google to facilitate mobile payments. Since the NFC chip in iPhones is not open to other operators (unlike the chip in Android phones), iPhone owners can only make contactless payments if their bank has a contract with Apple.³² Banks feel

compelled to cooperate with Apple because their competitors offer this facility. In the case of Android phones, banks can develop their own payment applications, although not all banks choose to do so. Instead, they enter into partnership with Google to provide Google Pay, possibly for cost reasons and the expectation that Google will be able to offer digital convenience.

Banks and insurers can also enter into partnerships to explore alternative earning potential and expand their sales market. By cooperating with BigTechs, banks that are not strongly positioned in retail can rapidly reach new customers and increase their sales. In the case of Citi, for example, the partnership with Google is a means to conquer the American market for payment accounts, savings and mortgages and to diversify its income. That is not currently a motive for major Dutch banks in their home market, as they are already well able to reach domestic retail customers. It could, however, open the door to a larger private customer base abroad based on simple propositions, thereby allowing larger-scale operation and hence cost benefits. Conversely, this could be a potential motive for foreign banks and insurers to enter the Dutch market through a partnership. More extensive partnerships with BigTechs are still further off for insurers than for banks. Insurers nevertheless see opportunities to sell more products in cooperation with partners by

³¹ DNB (2020). A quarter of Dutch consumers shared payment data in exchange for services.
³² Apple says it will not open the NFC chip for security reasons. However, this has drawn the attention of competition authorities such as the Netherlands Authority for Consumers and Markets (ACM) (see also *Big Techs in the Dutch payment system, 2020*). The European Commission has launched a competition investigation into these practices. The Commission is considering new regulations to force Apple to open its NFC chip to competitors in order to create a level playing field.

being more responsive to consumer's habits and wishes. Examples include usage-based insurance offered on sharing platforms for cars. Insurers could work with BigTechs to provide this kind of technology, but currently they are doing so mainly with specialist Insurtech providers.

In addition, cloud partnerships with BigTechs can boost financial institutions' capacity for innovation and lower their costs.³³ BigTechs have an innovative business culture and are able to attract a lot of innovative talent. Strategic partnerships with BigTechs can enable financial institutions to gain innovative knowledge and bolster certain competences, for example in data analysis. This is the case, for example, in the partnerships between Google and Generali and Deutsche Bank.³⁴ Financial institutions also see the use of the cloud as a means to increase flexibility (faster capacity upscaling and downscaling and standardisation), accelerate innovation (short time to market) and save costs. Cloud service providers also operate on a scale that enables them to reach a level of cyber resilience that is difficult for individual companies to achieve.

2.3 Potential impact of cooperation with BigTechs in the Dutch banking and insurance market

Below we outline the financial product markets that could potentially be affected by cooperation between financial institutions and BigTechs.

This section thus serves as a bridge between the description of financial institutions' current relationships with BigTechs earlier in this chapter and the scenario analysis in Chapter 3. In this analysis we identify the categories of financial products that can be expected to have most impact on Dutch financial institutions.

The focus is on the potential impact of cooperation at the front end of the value chain for each product category in the Dutch market. BigTechs have entered the cloud and payments market in the Netherlands, but so far they have rarely taken over distribution channels from financial institutions for specific products. What we see happening on a global level may be a portent what is about to happen in the Dutch market. Cooperation and competition with BigTechs could take off if foreign financial institutions with European passports enter the Dutch market jointly with a BigTech.

³³ See inter alia EBF (2020), *The use of Cloud Computing by Financial Institutions*.

³⁴ See [Deutsche Bank and Google Cloud sign pioneering cloud and innovation partnership – Deutsche Bank](#), and Box 2

Figure 4 Impact of cooperation between BigTechs and financial institutions in the Dutch banking and insurance market



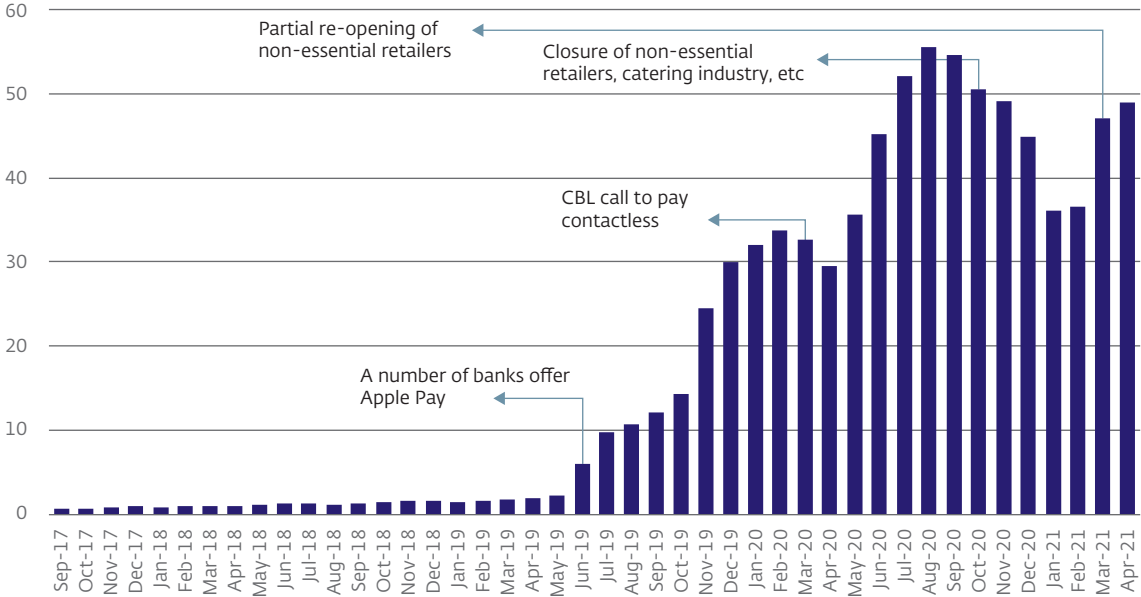
Note: Figure 4 shows the potential impact of partnerships in each product category. The score is based on DNB assessments following discussions with institutions and literature research. The total score is based on the sum of the scores for the following four criteria: whether there are partnerships in mature financial markets; whether a partnership is beneficial for financial institutions; whether a partnership is beneficial for BigTechs; and the importance of the product category for the business model of Dutch financial institutions. A score of 0, 1 or 2 points has been awarded for each criterion. The minimum total score is 0 and the maximum total score is 8.

Relationships between financial institutions and BigTechs could potentially have a major impact on the Dutch market for banking and insurance products, as shown in Figure 4.³⁵ A high aggregate final score in a product category indicates that partnerships between financial institutions and BigTechs in the Dutch market could have a major potential impact.

2.3.1 Banks
The potential impact of partnerships between banks and BigTechs in the payment services market in the Netherlands is high, due to the joint provision of user-friendly payment apps and possibly reduced opportunities for cross-selling.
In the Dutch payment market, banks have entered into partnerships with Apple and Google to enable their customers to make mobile payments using Apple Pay and Google Pay. Banks themselves already enabled customers to make contactless

³⁵ This impact would be on services at the front end of the value chain, for consumers and SMEs. Services aimed at corporate and institutional customers will be affected less quickly.

Figure 5 Number of mobile contactless payments (in millions)



Source: Betaalvereniging Nederland (Dutch Payments Association)

payments with an Android handset, but this did not prove very popular. It was only when banks started to offer Apple Pay in June 2019 that the use of mobile payments at points of sale increased sharply (see Figure 5).³⁶ Dutch banks were initially reluctant to enter into partnerships due to the (high) transaction fees that Apple charges compared to the (low) transaction fees they receive from merchants. They nevertheless signed up with Apple in order to meet the constant calls from their

customers. A number of banks have recently also introduced payments through Google Pay. If in the future banks enter into partnerships with BigTechs that go beyond the current forms of cooperation, the direct customer contact between banks and their account holders may be diluted, making it harder for banks to make their customers aware of other products, such as loans and insurances. That would be detrimental for the banks’ business model in the Dutch market. The provision of

³⁶ The use of contactless payments by mobile phone rose sharply in the spring of 2020 when the Dutch Food Retail Association (CBL) issued a call on behalf of supermarkets for customers to make contactless payments. The decrease in the number of mobile contactless payments in the autumn of 2020 reflects the closure of non-essential retail, hospitality and other establishments by the government due to the coronavirus. Meanwhile the proportion of mobile payments at the point of sale increased further.

payment services has been loss-making for some years,³⁷ but is particularly beneficial for banks due to the potential for cross-selling of more profitable financial products. Other developments are also taking place in the payment chain that could dilute the relationship with customers, such as the emergence of account information and payment initiation services.

Although there are no partnerships yet between BigTechs and banks in the Dutch business credit market, they may well arise, with changes most likely in the SME credit market. It may also be attractive for BigTechs to provide SME loans in cooperation with banks in the Netherlands, for example to online retailers operating on their e-commerce platform. This could strengthen their ecosystem, because online retailers could then more easily expand their activities. In the Netherlands we are already seeing Bol.com providing such loans to SMEs in cooperation with Rabobank. A BigTech such as Amazon, which has been operating in the Netherlands for some time, could do likewise, possibly even in cooperation with a foreign bank. In Germany, for example, Amazon, is working with ING in the provision of business credit to sellers on the Amazon platform. It can be attractive for BigTechs to lend to SMEs in cooperation with banks, because they can then take advantage of banks' existing lending infrastructure and the available funding. In the case of banks, cooperation provides opportunities to improve their credit rating models by using BigTechs' data and data analysis and

possibly also to streamline the lending process itself.³⁸ A shift to non-bank credit has also taken place in the SME credit market in recent years. Alternative forms of lending account for a growing share of this market.

The consumer credit market for banks in the Netherlands is small compared to other forms of credit, so the impact of any partnerships on the overall banking business model will be modest.

Although the outstanding amount (EUR 12 billion from banks at the end of 2020) is not particularly large, the number of consumers with outstanding consumer credit is high (over 9 million at the end of 2020).³⁹ Partnerships could give banks an opportunity to expand this market, which could be attractive due to the high margins on consumer credit. The downside, however, is that such consumer loans can be risky, for both the lender and the borrower. Cooperation can be attractive to BigTechs, because they can help cash-strapped potential customers quickly and easily with a loan via the bank. This increases the activities in their ecosystem, making it more attractive for online retailers to offer products on it. Large online retailers also offer credit facilities themselves. Consumer credit linked to e-commerce is already offered in the Netherlands by companies such as the Swedish payment service provider Klarna and by credit card companies using the Buy Now Pay Later (BNPL) model. BNPL accounts for a growing share of the Dutch consumer credit market. This growth is expected to continue in the years ahead.

³⁷ DNB (2020b).

³⁸ Cornelli et al. (2020).

³⁹ BKR (2021) *Kredietbarometer van Nederland* (in Dutch)

The Dutch investment services market is a growth market, in which partnerships with BigTechs may provide banks with opportunities to gain a greater market share. One in five Dutch households had investments at the end of 2020.⁴⁰ After record deposits of EUR 3.8 billion in 2020, households' total assets in Dutch investment funds amounted to EUR 47.3 billion at the end of 2020.⁴¹ For banks the provision of investment services and the resulting fee income supplement the interest income from lending. Partnerships enable banks to better respond to the preferences of private investors, who say they want transparency, convenience and the possibility to easily invest digitally. Banks also try to offer solutions themselves. Rabobank, for example, has introduced the Peaks investment app that enables users to round up payments to the nearest euro and invest the difference. In a partnership a BigTech can potentially offer better data analysis capabilities, for example by using AI in portfolio selection or the provision of investment advice. BigTechs also benefit from a partnership because they can enter the market through an established player. Partnerships between BigTechs and banks in investment services are currently found only in China, where Alibaba and Tencent provide both their own investment services (advice through partnerships with wealth managers) and a platform on which banks can offer their investment products.

The mortgage market in the Netherlands is not likely to be affected by partnerships in the foreseeable future, because they would only offer limited added value for banks and BigTechs.

Banks have a major strategic interest in maintaining the lead in this market themselves, since residential mortgage portfolios generate a large share of their profit and create synergy benefits. BigTechs could help banks in further streamlining the mortgage lending process or assessing the risk profile of potential customers, but Dutch FinTechs could probably also do this. Ockto, for example, has partnerships with a number of mortgage lenders to simplify the submission of documents by consumers, while Calcasa provides automated home appraisals. As far as is known, BigTechs are not yet providing mortgage loans elsewhere in the world, either independently or with banks. A mortgage partnership would not necessarily be a logical choice for BigTechs. Mortgages are not a natural fit with the other products in their ecosystems. Moreover, national differences in the functioning of housing markets and regulations on housing finance would make it difficult to scale up joint mortgage products to other countries. Mortgage lending also involves particular administrative and legal procedures. On the other hand, the margins that can be earned on mortgages may make this market more attractive for BigTechs. In the Dutch mortgage market, banks have for some years faced growing competition from mortgage funds that obtain their financing from institutional investors. This development has eroded the market share of the traditional bank lenders and made the Dutch mortgage market more efficient.

⁴⁰ AFM (2021), AFM Consumentenmonitor Beleggen 2020 (in Dutch)
⁴¹ DNB (2021), Dutch investment funds hit record AUM at EUR 1 trillion.

2.3.2 Insurers

The Dutch non-life insurance market could be greatly impacted by partnerships due to the relatively large scope for cooperation in the use of data analysis, the deployment of innovations and the provision of supplementary services.

For traditional insurers various types of non-life insurance – such as cover for a person's first car or moped – may contribute little to profit, but they are strategically important from the perspective of subsequent cross-selling of more lucrative products, such as legal liability, occupational disability and sick leave insurance. In the non-life segment insurers mainly work with insurtechs for interaction with end-users. Examples are the cooperation between Nationale Nederlanden (NN) and VVCR-Prodrive in vehicle fleet management and between Achmea and a number of sharing economy platforms (Peerby, Vereniging voor Gedeeld Autorijden). In the future it may be attractive for both non-life insurers and BigTechs to cooperate with each other. In the case of insurers, this may increase the opportunities for innovation in the production chain, for example through larger-scale distribution, more efficient and more user-friendly handling of claims using AI and synergy benefits between insurance products and IoT data. In the case of BigTechs, cooperation with non-life insurers could generate synergies with other products they already provide in their ecosystems, such as cyber risk insurance combined with cloud services. There are also opportunities for cross-selling, for example by tying insurance to products sold in their ecosystem, such as AppleCare+ for Apple devices. Deeper market entry by BigTechs

could change the structure of the Dutch non-life insurance market. For example, BigTechs could turn comparison platforms into gatekeepers, making them the dominant platforms through which insurance is sold. BigTechs could also increase competition in non-life products by entering the market in cooperation with a foreign insurer or reinsurer. BigTechs' online distribution channels fit in well with existing practices in the Dutch insurance market, which is already substantially digitalised: around 60% of policies are arranged online, a higher proportion than elsewhere in the EU.⁴² Platformisation is also already occurring: around a quarter of non-life policies are arranged through comparison sites and insurers are seeking to cooperate with other operators' platforms, as mentioned above. BigTechs can also compete with insurers to provide additional insurance services associated with insurance products, such as platforms that help employers and employees to reduce sickness absence and keep the workforce healthy.

Despite the mutual benefits of partnerships in the health insurance market in the Netherlands, the potential impact appears limited due to the high degree of regulation. The Dutch health insurance market is large, but also nationally based and tightly regulated. Apart from Achmea and ASR, most health insurers only operate in the healthcare sector. This demonstrates the sector's strategic importance for the business model of typical health insurers. Cooperation between health insurers and BigTechs can offer mutual benefits due to the high information value of IoT data produced by smart devices such as

⁴² Roland Berger & Efma (2020), *Acceleration of digital in retail insurance acquisition*.

smartphones and smartwatches and the ability to use that data in health programmes or premium calculations. Given the way the market is regulated, however, partnerships are not very likely. As well as strict privacy requirements, legal rules surrounding basic health insurance pose various obstacles. The market for supplementary health insurance, which is smaller but less strictly regulated, offers greater scope for cooperation. It is therefore a sector where partnerships do arise, including in the Netherlands. An example is the aforementioned Vitality preventive health platform, with which the Dutch health insurer ASR is affiliated.

The impact of partnerships on the Dutch life insurance market is probably very limited due to the sustained contraction of this market.

Partnerships between life insurers and BigTechs could in principle be attractive for both parties,

because AI and IoT data can be used for risk assessments and premium calculations. IoT data can also help promote a healthy, active lifestyle. Partnerships with BigTechs are nevertheless unlikely to develop on a large scale in the Dutch life insurance market in the foreseeable future. This market is contracting too rapidly and customer contact is too infrequent. Partnerships may also be impeded by privacy concerns surrounding the use of personal health data in risk assessment and premium differentiation. There also appears to be little potential for partnerships in the provision of additional services. Complementary services in the life segment are aimed mainly at financial planning. NN's Platform55 is an example of this. Partnerships between insurers and BigTechs are less likely in this area: there is less obvious scope to use IoT here than in the non-life or health segment.

3 Scenarios for the relationship between BigTechs and financial institutions

This chapter includes a scenario analysis outlining how the banking and insurance market could look in five to seven years' time if the partnerships with BigTechs continue to develop.⁴³

3.1 Trends

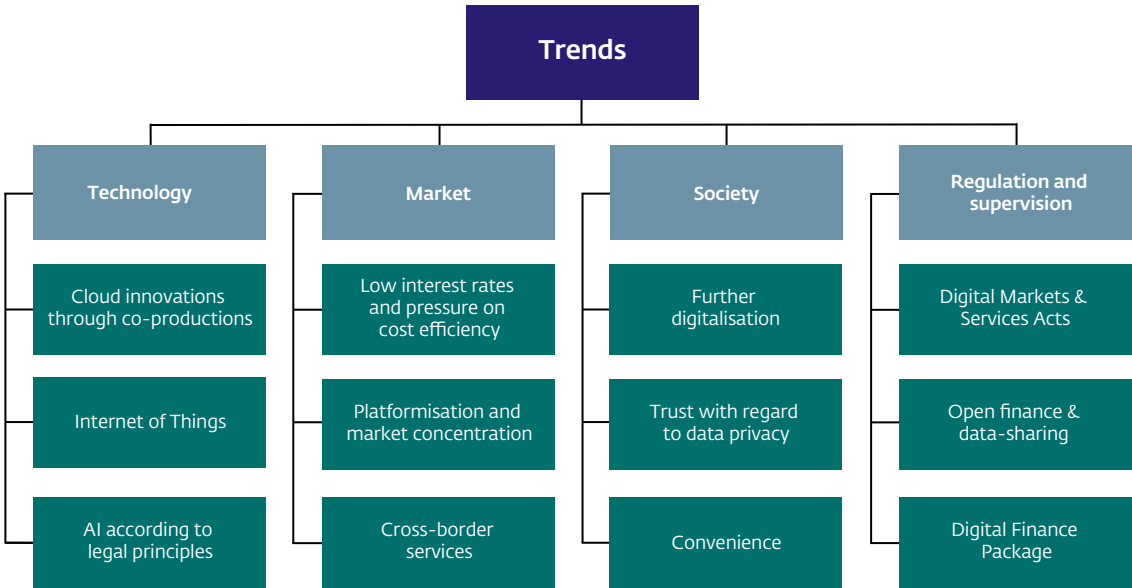
Various trends will be decisive for the development of forms of cooperation between BigTechs and financial institutions and have consequences for the banking and insurance market.

The main trends can be subdivided into four categories: technology, market, society and regulation (Figure 6). In the technology category, cloud services are seeing strong growth. Financial institutions' IT runs almost entirely in the cloud, and new services and methods are being developed on a cloud-native basis. Advanced data-analysis techniques, including the use of data from sensors in products (IoT), and AI are found everywhere. Their use is conditional upon appropriate cyber-security and good ethical standards. The post-coronavirus economic recovery will be crucially important for the banking and insurance market. The assumption is that capital market interest rates will remain low and the interest rate term structure will remain relatively flat.⁴⁴ This puts pressure on lending margins, so banks have to stay focused on

increasing their cost efficiency. The trend towards platformisation and the formation of service and product ecosystems continues. Only a few platforms remain viable, so concentration risks arise. Within Europe, financial services are to a large extent provided digitally on a cross-border basis from a single country. Digitalisation was accelerated by last year's coronavirus measures and is advancing rapidly in society. Digital currencies have appeared on the scene, including so-termed 'stablecoins'.⁴⁵ Distributed ledger technology is used more widely, but there is no assumption that decentralised finance will become widespread. Security and trust remain central to the financial sector, with the public attaching great importance to the security of their money and to data privacy. In this regard financial institutions have a lead over the BigTechs. On the other hand, BigTechs have the advantage of offering convenience, which the consumer greatly values. With regard to regulation, Europe has introduced a raft of legislation aimed inter alia at strengthening the operational resilience of cloud service providers, data sovereignty, facilitating the safe sharing of financial data with third parties, digital identification, the security of platform companies and preventing any abuse of power by these platforms.⁴⁶

⁴³ This is a more in-depth analysis of scenarios from [DNB \(2020b\)](#), one of which concerned cooperation between BigTechs and financial institutions.
⁴⁴ Despite a slight rise in capital market interest rates and hence a steepening of the interest rate term structure towards the completion date of this report, in mid-June 2021.
⁴⁵ Central bank digital currencies do not form part of the scenarios (see Box 3).
⁴⁶ See section 2.2.2 for a description of the European regulatory initiatives.

28 Figure 6 Trends



3.2 Four scenarios

It is not clear how the trends and choices relating to the crucial factors will turn out in practice.

In addition to these trends, the two main factors are the axes that determine the relationship between BigTechs and financial institutions, and the implications of this relationship for the banking and insurance market (Figure 7). It is the BigTechs' strategy that will ultimately determine the position they occupy and the choices made in the partnership (horizontal axis). Financial institutions' innovative power determines the extent to which they can play an active role in the partnership or become more dependent on the BigTechs (vertical axis). The two factors are underpinned by choices

made by both BigTechs and financial institutions. These choices are uncertain and will depend on a range of factors (explained in more detail below).

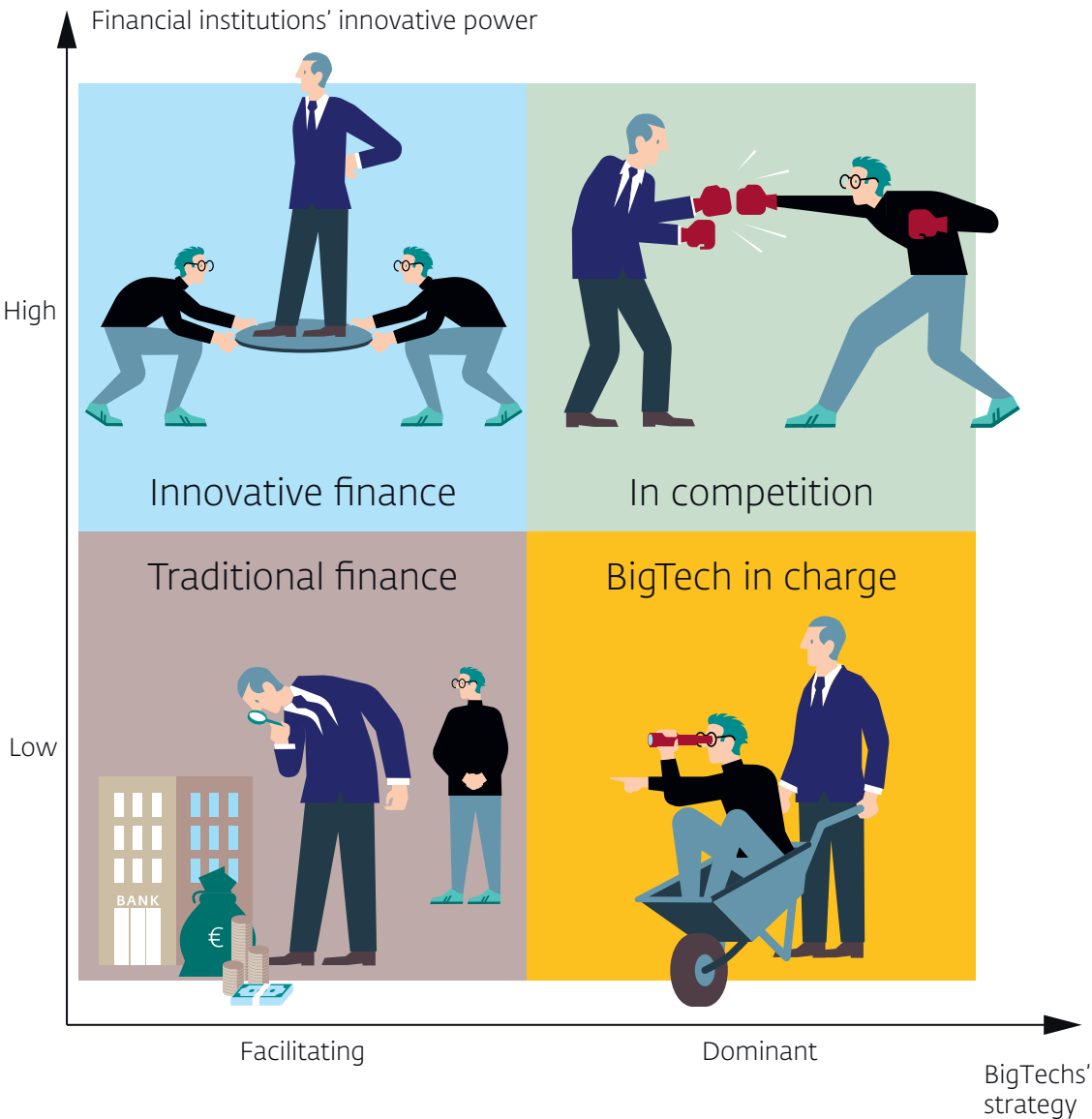
The first crucial factor is the BigTechs' chosen strategy in the partnership. Is the BigTechs' strategy to be facilitating or actually to be dominant towards the bank or insurer? Do BigTechs act unilaterally in determining the contract terms and the extent of involvement at the front end of financial services? The choice that BigTechs make in this regard is one of the crucial factors. How dominant BigTechs can be depends on the trust they enjoy among the public, the competition between them and the extent to which they need the financial institutions' infrastructure. The dominance also

depends on the way BigTechs are regulated in various areas, including competition, privacy safeguards and the scope of financial and conduct supervision.

The second crucial factor determining the future position is the innovative power of banks and insurers. Financial institutions' innovative power is inextricably linked to BigTechs. Precisely because BigTechs set the pace in terms of innovation, the question is how quickly and effectively banks and insurers are willing and able to keep up. Although financial institutions have already innovated successfully in some cases, the question is to what extent they will be able to do so in the future. In the partnership with BigTechs, will they be able to exploit the lead they have as customers' trusted partners, as experts in the financial field and with the innovative power they have already acquired in their field? Will they themselves actively pursue further innovation in their services? That will depend partly on their vision and strategy, their capacity for change, their attractiveness for innovative talent, their capacity to cooperate with innovative operators in the cloud and their ability to develop new business models.

The four scenarios resulting from the interaction of the two crucial factors are intended to portray possible visions of the future. They are not predictions, but static, potential scenarios of future developments. In reality the market is dynamic, and it is possible that scenarios will arise successively and not materialise precisely as described in the stylised visions of the future. For example, the attitude that BigTechs adopt in a partnership will probably be more facilitating than dominant in the first instance, but it may well turn into a more dominant attitude over the longer term. New and existing financial institutions may make different choices and thus find themselves in scenarios with little or a lot of innovative power. Over time these choices may change, just like the attitude of BigTechs. For example, a financial institution may ultimately choose not to focus fully on innovative power, but to concentrate on a niche market or on efficiency and scale. Highlighting possible outcomes and opening them up to discussion will help policymakers to identify obstacles and anticipate possible risks to the solidity of institutions and financial stability in good time.

30 Figure 7 Scenarios driven by financial institutions' innovative power and BigTechs' strategy towards partnerships



Scenario 1: Innovative finance

Partnerships: BigTechs support innovative financial institutions

Main points of the Innovative finance scenario:

- Finance platforms have the biggest market share in financial services
- The surge in innovation also gives financial institutions an important role in broad platforms
- Technology companies are divided into separate businesses to avoid dominant positions in the market
- In the financial sector technology companies concentrate on their core activity in the cloud

Consequences for the Dutch banking and insurance market:

- Only the most innovative banks and insurers are successful
- Higher profit margins for the most innovative operators
- New business models based on cooperation with retail businesses
- Reduced dependence on interest income
- Long-term cash flows driven by exclusive contracts

An illustration showing a man in a dark blue suit standing on a small, light blue circular platform. Two people, wearing black shirts and blue pants, are kneeling on either side of the platform, supporting it with their hands. The man in the suit has his hands on his hips and is looking towards the viewer. The background is a solid light blue.

In the first scenario personal finance platforms have secured a position that traditional physical bank and insurance branches were never able to attain in terms of breadth and speed of service. These platforms have become the place for consumers and SMEs to organise their complete personal finance: from student loans and mortgages through to old-age pensions and from start-up loans to securities issuance on the blockchain. Major financial institutions have further expanded and taken control of their expertise in the financial field. Banks and insurers have taken advantage of the trust they enjoy among the general public to offer them innovative platform services. A number of

technology giants have tried to establish strong positions in the market, but without success. Resistance from regulators and supervisory authorities that see the technology giants as too much of an impediment to market competition has been an important factor.

In Europe open finance enables consumers and SMEs to agree with a single click to allow their most important personal financial data to be shared with the service provider of their choice. A long battle has been fought over the releasing of information on consumers’ savings balances and the uniform pension statement. Only institutions that

are subject to financial supervision can access this data, with the consent of the consumer. This was an important precondition for the House of Representatives to allow such an extensive form of data-sharing. Consumers still do not entrust this data to technology giants, even in exchange for user-friendly services or other benefits. SMEs are also reluctant to work with BigTechs. They express a preference for banks and insurers, from which they have often been buying services for many years. Digital currencies issued by BigTechs, which the public can use to pay for goods and services on their digital platforms, have not yet been able yet to establish themselves as a means of payment, and there are no indications that their use is about to take off. The general public and businesses prefer to trust the means of payment provided by banks.

It is not only finance platforms that play a dominant role in day-to-day economic life.

Platforms in areas such as travel, dining, homes and healthy living attract the bulk of sales and data movements. These thematic platforms are controlled by major retail firms in cooperation with selected banks. Insurers also participate in broader platforms (homes, mobility, lifestyle), which they sometimes set up themselves. This benefits the most innovative banks and insurers, because they provide everything around the financial processing on the platform. Since long, that has been more than the payment itself. Most money is earned with retrospective payments, on credit, leasing or insurance.

Retail firms that operate a platform leave all of the financial innovation to the partner bank or insurer.

In the professional market this is known as banking as a service or insurance as a service, for which contracts are entered into with retail firms. These contracts are based on exclusivity. The financial institutions that entered this market first have a substantial lead. There are also firms running similar platforms aimed at businesses. Many businesses have outsourced their entire financial administration to these firms so that they can focus on their customers and on supplying their own goods and services without the associated financial hassle. The platform deals with that. For example, it handles the incoming and outgoing payment flows, pays VAT and other tax when due, arranges business finance and takes out insurance. That is all automated and conducted on the most favourable terms, as a combination of banking as a service and insurance as a service. As in the consumer market, the platform has entered into long-term contracts in this area with a number of financial institutions.

This innovative power of financial institutions is supported by BigTechs and their cloud solutions with which they provide not only computing power but also particularly AI and other IT capacity.

In the cloud, banks and insurers develop new products and services with fintechs and other businesses. Banks and insurers that were too slow off the mark have focused on niche markets or have to make do with a position as a supplier on another

bank's or insurer's platform and thus generate smaller margins. Large technology firms support financial institutions. For them, more work in the cloud means more business, and that is their focus.

The BigTechs' cloud activities have been split from the other activities. Politicians in Europe and the United States have mandated this to prevent BigTechs' strong position in the cloud market leading to abuse of power in other markets. Financial institutions have ample opportunity to switch providers. The market for cloud services has grown so fast that large technology firms other than BigTechs have been able to maintain a position in it.

Examinations of banks' and insurers' business model and strategy are an important means by which prudential supervisory authorities can keep an eye on the role that financial institutions will play. Are they innovative enough to successfully adapt their business models to the platform economy or do they have a niche market that safeguards their continuity? A lot of attention is also devoted to the operational and security risks surrounding contracts with non-financial institutions and cloud operators, including the question of whether the rules are sufficient for open, secure, redeemable and supervisable cloud companies.

Scenario 2: In competition

Partnerships: Cloud-based financial institutions compete with vertically integrated BigTechs

Main points of the In competition scenario:

- Finance platforms of financial institutions and broad BigTech platforms compete for customers
- Distinctive characteristics of financial institutions: trust and data protection
- Distinctive characteristics of BigTechs: low price and convenience
- Financial institutions work with non-financial platforms by offering banking as a service and insurance as a service
- BigTech platforms issue digital currencies



Consequences for the Dutch banking and insurance market:

- Only large organisations are successful
- Financial institutions can choose between two possible main strategies: becoming a successful innovative platform or taking on the role of an efficient supplier
- If those strategies are not feasible, they can merge with a larger entity or become specific niche players
- Innovative financial institutions work closely with non-financial companies
- Reduced dependence on interest income
- Long-term cash flows driven by exclusive contracts

The financial services market comprises a number of large platforms established by financial institutions. In this scenario a number of banks and insurers have succeeded in establishing broader platforms and ecosystems that are centred on financial services and in some cases also provide associated products and services. A platform established by an insurer around the theme of 'growing older', for example, offers financial products and services aimed at older people, but also leisure activities, health advice and a route to

voluntary work. The financial institutions on these platforms work closely with all kinds of cloud-native fintechs. In this way the financial institutions succeed in attracting innovative top talent. They use various cloud service providers, including BigTechs. Financial institutions have developed products and services that can be seamlessly integrated into the products and services of non-financial firms, such as major retailers: banking as a service and insurance as a service. This has enabled banks in particular to substantially increase their fee-based

income, from both the consumer market and the business market. Financial institutions' applications are developed in such a way that they can be ported fairly easily to another cloud service provider. Regulation is also focused on interoperability and keeping the cloud sufficiently competitive.

BigTechs operate at the 'front end' of the financial sector as well. They do that in partnership with a number of larger financial institutions by providing banking services and insurance for consumers and businesses as an integrated part of their broad ecosystem. The banks and insurers in the partnerships are large and efficient pan-European players. Financial institutions that failed to keep pace with digitalisation have gone out of business or become niche players focused, for example, on sustainability, detailed knowledge of specific markets or customers valuing personal service. Insurers and banks whose core banking system was established flexibly in the cloud were able to merge more easily, including with online-only providers. These banks and insurers provide the balance sheet for the BigTech platforms. In Europe the platforms of BigTechs and financial institutions are subject to the same rules. These rules originate from the Digital Markets Act and make platforms responsible for preventing abusive practices (such as access by criminals, but also abuse of power) and confer the necessary supervisory powers on public authorities. BigTechs issue digital currencies, which have already gained traction, and look set to be used even more. Consumers use them to pay for services in the BigTechs' ecosystems, and retailers offering their products on the BigTechs platforms accept them as a means of payment.

Platforms of financial institutions and BigTechs compete with each other. Not all platforms survive the tough competition, but sufficient platforms remain active to ensure fair competition in the platform market. The consumer market is to a certain extent divided, as is the business market. Some consumers and businesses make maximum possible use of the services of a broad BigTech platform, as a one-stop shop for products and services, including in the financial field. Although this group – generally young consumers and entrepreneurs – say they consider privacy important, they are won over by the convenience and low prices that the BigTech platforms offer. Privacy turns out to be less important to them in practice, and they see advantages in their data being used for personalised offers. Another large group of consumers, who are generally somewhat older, attach great importance to privacy and the protection of data and financial resources, and are prepared to make an effort and to pay somewhat more for this if necessary. They trust financial institutions more than the BigTechs and therefore use the financial platforms set up by the former. In the case of other products and services too they focus on quality and sustainability, particularly through the use of platforms that can supply local and sustainably produced goods. Banks and insurers use their local knowledge and relationships to cooperate with this type of platform, so they can stay closely aligned with the level of the BigTechs in terms of convenience for consumers and businesses.

In this scenario prudential supervisory authorities must cooperate fully with supervisory authorities in other areas, such as financial market conduct, competition, data privacy and IT security. Such cooperation is essential because these areas are closely connected with the financial health of platforms and the level playing field. There is also a risk that the financial institutions' platforms will lose the competitive battle over the long term and

lose their investments. Supervisory authorities therefore focus particularly on resolution planning for banks and insurers, due to their increasing systemic importance. Care is also taken to ensure a sufficient degree of competition in the platform market. The disappearance of platforms must not leave excessive power in the hands of the remaining platforms.

Scenario 3: BigTech in charge

Partnerships: BigTechs force banks into the role of 'dumb pipes' and make insurers 'invisible'

Main points of the BigTech in charge scenario:

- Technological superiority has made BigTech platforms dominant and has led to a high degree of market concentration
- Financial institutions are dependent on BigTechs for their turnover (front end) and IT services (back end)
- Some financial institutions have gone into resolution due to a lack of acquisition partners
- Financial institutions have become risk-bearers



Consequences for the Dutch banking and insurance market:

- Decrease in the number of institutions due to the battle for economies of scale, BigTechs work with large pan-European institutions
- Remaining financial institutions have bigger balance sheets
- Extensive financial engineering to optimise balance sheet management
- Low profit margins
- No new business models, so even more dependent on interest income
- Long-term cash flows driven by exclusive contracts

In this scenario technology is pervasive in day-to-day life in and around the home: in lighting, household appliances, cars and even sports shoes.

These smart products can be replaced instantly if the consumer so wishes. He or she receives a message from an operator such as Amazon, Apple or Google and can order a replacement or an alternative with a single click. Thanks to their superior use of data and technology, BigTechs play a key role in the purchase and sale of these smart products that use IoT. They are the link between various market parties: the suppliers of products such as manufacturers and retailers, the purchasers of these products and services – both consumers and businesses themselves – and the financial service providers. Financial services are ‘embedded’ in these smart products, so the payment is made directly, possibly using digital currencies issued by the BigTechs, or the services are linked to innovative concepts such as subscriptions or replacement insurance. Banks and insurers provide financial services in the background on behalf of the BigTechs.

But that is not the only place where BigTechs play a pivotal role: they also operate by placing a layer around payment accounts and insurance policies.

The BigTechs’ ‘super app’ is the starting point for all financial matters and is now by far the most commonly used app on almost every smartphone. It is the access point for everything the consumer wants to buy or do. Borrowers even use it to arrange mortgages, with the aid of data-driven robo advice. With their smart use of AI, protection against cybercriminals and constantly innovative design, the

BigTech portals have supplanted those of the financial institutions. A partnership is the only option the banks and insurers have to keep the customer satisfied. For consumers the app is a solution providing deeper financial insight, a means to negotiate discounts in various areas and an easy method of switching between products and providers. This scenario clearly demonstrates the trust paradox: consumers say they trust BigTechs less than financial institutions, but they ultimately choose maximum convenience and the benefits that BigTechs provide.

Banks and insurers are dependent on BigTechs due to the additional layer they place on financial services and the pivotal role they play in sales of IoT products.

Financial institutions focus on technology firms for their activities. They need to be very competitive to maintain their place on the BigTechs’ platforms. If institutions do not match the benchmark in terms of turnover, price and service reviews, they may lose their contract. The BigTech’s priority is to guard its ecosystem and maintain its high quality. Financial institutions have thin margins. They must innovate using the BigTech’s cloud solutions to achieve the required service level and they need pan-European scale to achieve sufficiently low costs.

The financial institutions bear the financial risks of BigTechs’ ecosystems on their balance sheets.

This is where banks and insurers need to excel relative to each other and scale helps in that regard. Banks also have access to central bank financing.

Banks' and insurers' execution costs have been reduced to the lowest possible levels since local branches have all but disappeared and the workforce has been reduced. Some banks and insurers adopt an aggressive 'all or nothing' strategy of running at a loss for several years with the aim of pushing competitors out of the market and achieving greater scale. This may jeopardise their core capital and puts their continued existence on the line.

Financial institutions avoid acquisitions of smaller sector peers due to fears of legacy problems. They prefer to wait for institutions to be resolved through the European Resolution Board, where both banks and insurers go into resolution. They then acquire the lucrative customers through their platform. This has caused uncertainty in the market, however, as well as reduced consumer confidence in the financial sector.

BigTechs have also secured a strong position among banks and insurers at the back end of the value chain through their activities in the cloud. Although they were unable to access the data in the cloud, due to protective European regulations and safeguards, they already had sufficient aggregated data thanks to their interface as a 'layer' over the services in order to understand the financial sector. It is no coincidence that financial institutions call their cloud contracts 'fat contracts', because the BigTechs in particular rake in fees with every step

that the financial institution takes in the cloud in cooperation with other operators. Smaller banks and insurers had long been left to the mercy of a few BigTechs. They were unable to conduct a flexible multi-cloud strategy because they lacked the financial and operational capacity to do so effectively. BigTechs offer packages that become more advantageous as more services are purchased for longer periods. These salami tactics have paid off for them.

In this scenario prudential supervisory authorities focus on the risks on the balance sheet and cooperate with competition authorities to curb the power of the BigTech platforms. Will institutions manage to avoid excessive risk and will they remain sufficiently profitable with lower revenues to generate capital to build up the necessary buffers? Supervisory authorities also focus on the living will and resolution planning for banks and insurers, because the remaining institutions have become so large that they are also more systemically relevant. In this scenario, trust in the financial sector comes under pressure from the upheaval resulting from a large number of banks and insurers going into resolution in a short period. Supervisory authorities try to take a stand against the strong market position of the BigTechs, but the BigTechs continue to increase their power during the protracted competition disputes. The changing market structure means insurers too need to be supervised at the European level.

Scenario 4: Traditional finance

Partnerships: Financial institutions need BigTechs in order to save costs

Key points of the Traditional finance scenario:

- Little dynamism due to a lack of innovative power among financial institutions and a lack of interest among BigTechs
- Financial institutions focus on cost savings and efficiency
- Financial institutions are highly dependent on cloud service providers
- Consolidation process is slow

Consequences for the Dutch banking and insurance market:

- Limited change
- Pressure on margins is absorbed by emphasising cost savings and efficiency
- Financial institutions that cannot cut their costs sufficiently and achieve efficiency benefits go out of business



Society continues to digitalise and the financial sector does likewise, but without significant innovation. There is strong pressure to cut costs. Financial institutions are not very successful at attracting innovative top talent, so their innovative power remains limited. A gradual shift towards the BigTechs' cloud services does nevertheless enable financial institutions to clear out their legacy systems and meet increasing security and resilience requirements. The main motive for using the cloud is to save costs. Institutions therefore usually opt for a single primary cloud service provider, nearly always one of the BigTechs. The cost of cloud services decreases if they purchase more services with higher volumes. Furthermore, financial institutions lack the capacity and knowledge to adopt a multi-cloud strategy. In this scenario the

current fragmented market for banking services and insurance products remains largely intact. Consolidation in Europe takes place mainly within national boundaries, with weaker institutions persevering for a long time and sometimes being merged into a larger but not very powerful entity.

Financial institutions' platforms have limited success. Access to data is not well standardised, and consumers and businesses often consider the added value insufficient to grant third parties access to all kinds of sensitive data. Banking as a service and insurance as a service only get off the ground to a limited extent. The main sales channels are therefore still the institutions' own apps and websites, and comparison sites and intermediaries for insurance and loans. Consumers and SMEs

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consider banking services and insurance products as commodities, for which they have few spare resources.

BigTechs show little interest in further penetration in the financial sector, due to tight regulation and standardisation of data access.

As a result they have difficulty in bringing successful applications to the market. In partnerships too they are burdened by the extensive framework of supervisory law and consequently restrict the cooperation to IT support services. Rules relating to operating risks, cybersecurity, data protection and market power, as well as increasing protectionism, make Europe unattractive for BigTechs as a market in which to expand their products and services. Margins of financial services and products are low. Moreover, consumers and businesses have little trust in BigTechs when it comes to purchasing financial products and providing access to financial data.

The profitability of banks and insurers comes under further pressure.

New initiatives only generate limited alternative income to offset banks' declining interest margins. The dynamics of the insurance market are also poor. In the case of both banks and insurers the emphasis is therefore on further cost savings. Institutions that lag behind in this area price themselves out of the market and disappear.

In this scenario prudential supervisory authorities focus on the feasibility of cost savings and efficiency measures taken by financial institutions.

Attention is also devoted to the pressure on profitability. Are banks and insurers sufficiently profitable to generate capital to build up buffers? Institutions are also challenged to adopt a multi-cloud strategy to prevent concentration risks.

4 Implications for policy and supervision

The changes brought about by the growing role of BigTechs in the financial sector require a reconsideration of existing financial rules and supervision. The entry of BigTechs offers opportunities for a more efficient and more innovative financial sector, but it can also lead to extensive structural changes in the sector, with the associated risks to financial stability, data privacy and the financial soundness and integrity of institutions. The scenarios presented in Chapter 3 call for a reconsideration of the financial supervisory authorities' mandate to keep it aligned with a changing sector landscape. To this end, three implications for policy and supervision are presented in the next three sections.

4.1 Financial institutions must be seriously challenged on the sustainability of their business models

In its supervision, DNB will continue to challenge institutions seriously on their strategy and the sustainability of their business model, in view of the digitalisation of financial services. The scenario analysis shows that BigTechs' strategic choices, but also the strategic commitments of banks and insurers, are crucial for future-proofing financial institutions' business model. This is not only about the strategic considerations and preferences of financial institutions; having the capacity and expertise to implement the chosen strategy is at least as important.

For example, an institution that wishes to adopt a platformisation strategy must have the right capabilities in terms of both technology and organisation. The DNB study *Transforming for Trust* (2020) already states that sound data management is essential for institutions to ensure successful implementation of innovative business models. By contrast, financial institutions that opt to provide BigTech products through a platform must expect pressure on margins and sales volumes. An assessment must be made of the institution's ability to cope with such pressure, for instance by achieving increased scale and greater cost efficiency. A niche strategy also requires specific capabilities with regard to knowledge of certain customer segments, business sectors and local conditions, in order to excel as a specialist in a dynamic environment.

DNB will challenge institutions under its supervision even more with regard to their strategy, examining whether they are allowing for different scenarios in the development of product segments of importance to them and whether they have the required capabilities in-house, and subsequently calibrate the sustainability of their business model accordingly.

4.2 The regulatory framework must be adjusted to address new risks

Concentration risks associated with BigTechs require changes to financial regulation.

As described in Chapter 2, BigTech platforms create value by bringing together the demand and supply sides of a market. The value of the platform therefore rises as more players – on both sides of

the market – operate through the platform. These network effects stimulate the growth and concentration of platforms. This is reinforced by the role of data: thanks to the large-scale use and variety of data available to them, platforms can improve their services and tailor them to their customers, thereby further increasing the value of the platform for users.⁴⁷ As a result of these factors BigTechs lead to concentration and oligopolistic market structures.

This concentration of platforms and the associated risks to the financial system are not yet being structurally addressed in regulation. Competition regulations are focused not so much on tackling the concentration of platforms as on preventing abuse of market power by large platforms⁴⁸, including possible lock-ins of customers or users. In the context of the financial sector, however, large, concentrated platforms can cause risks to financial stability, even if these platforms comply with competition rules. These risks touch directly on the mandate of financial supervisory authorities.⁴⁹ In this regard three types of concentration risks are particularly relevant to the financial sector:

- **Concentration of services:** a strong dependence among financial institutions on a relatively small group of critical service providers for the provision of technology services. This concerns cloud services, for example, but also the provision of AI models, software or data. This form of

concentration can lead to systemically important cyber risks.

- **Concentration of distribution:** risks can arise when BigTechs play a dominant role in the customer relationship in the financial value chain. Examples include the loss of financial BigTech platforms and reputational damage for the platform, for example as a result of mis-selling by the platform or events elsewhere in the BigTech. If these risks materialise, they may damage trust in the financial system – and hence also financial stability.
- **Concentration of data:** as stated earlier, data is a key driver of growth and concentration of BigTechs: more (varied) data opens the way to better service, which in turn generates more data. Concentration of data also leads to more concentration of services and distribution, however. Data concentration thus acts as a catalyst for concentration risks around the provision of services and distribution described above.

The above-mentioned concentration risks can also develop over a short timeframe, even in markets in which BigTech currently still plays a modest role.⁵⁰ The question of how these risks can be addressed in financial regulations is considered below.

Concentration of services requires a broader supervisory view of important links and players in the value chain. As described above, BigTechs are playing an increasingly important role in providing

⁴⁷ See Cr  mer et al (2019) *Competition policy for the digital era*, European Commission.

⁴⁸ See the Commission proposals for the *Digital Markets Act*, which focuses specifically on the obligations of gatekeeper platforms with regard to their business practices.

⁴⁹ BIS (2021c) *Big techs in finance: regulatory approaches and policy options*, FSI Briefs No 12.

⁵⁰ BIS (2021a).

technical services for the financial sector. At present these services are not always covered by rules on outsourcing. Outsourcing is defined as the performance by an external operator of activities that would *otherwise* or *normally* be carried out by the financial institution itself.⁵¹ However, as BigTechs start to provide more and particularly also new services for banks and insurers, it may be unclear what institutions would 'otherwise' or 'normally' do themselves, and hence which partnerships are still subject to the outsourcing rules. This kind of issue has already arisen with regard to e-wallets developed by BigTechs: do applications such as Apple Pay or Google Pay constitute new services, or are they outsourced services because they would otherwise be performed by the institutions themselves? Other, similar discussions are likely in the future. Apart from the definition of outsourcing, financial institutions will also increasingly use purchased data, models or software, in part supplied by BigTech platforms. Such transactions currently fall outside the definition of outsourcing.

These changing market conditions require a shift in the supervisory authority's attention from a focus on outsourcing to a broader view encompassing all external contractual relations of importance to an institution. The forthcoming European rules under the Digital Operational Resilience Act (DORA, see Chapter 2) are an important step in this direction. DORA introduces oversight of service providers that are critical for the financial system, regardless of whether the services they provide are a form of outsourcing. In the future, consideration must be

given to whether further requirements are necessary to ensure effective supervision of certain critical service providers. This could include detailed requirements for operational resilience, subcontracting or risk management, but also micro- or macroprudential requirements for critical service providers or measures relating to the resolution of such service providers. DNB is also already further automating the analysis of outsourcing reports filed by financial institutions. That will enable DNB to identify concentration risks in services for financial institutions faster and more effectively.

Better control of the value chain requires not only oversight of critical service providers but also a more comprehensive overview and more detailed analysis of partnerships and contractual relationships between financial institutions and tech companies, as well as a sharper supervisory focus on those partnerships. Any required changes to regulations and supervision will be included in an opinion submitted by the European supervisory authorities (ESAs) to the European Commission, which is expected later this year. DNB is working on this opinion jointly with the Netherlands Authority for the Financial Markets (AFM).

Concentration of distribution requires new rules on the distribution of financial products and services. As discussed in Chapter 2, BigTechs are not expected to become significant risk bearers in the years ahead as a result of establishing banking or insurance entities themselves. They are nevertheless expected to play an increasingly important role as

⁵¹ This definition is used in EBA Guidelines on Outsourcing, EIOPA Guidelines on Cloud Outsourcing and also in the DORA rules.

distributors (including comparison platforms) of financial products and services. Due to the nature of these markets – particularly the indirect network effects they entail – they could lead to a strong concentration of distribution in a limited number of BigTech platforms, even if the role of BigTechs in distribution is limited at present.

Such concentration also leads to new risks, both to individual risk-bearing institutions and possibly to financial stability. First there is a risk that if distribution channels and customer contact are concentrated in BigTech platforms, it will be more difficult for risk-bearing institutions to make proper risk assessments and manage risks. That may also have system-wide consequences if BigTech platforms, which themselves bear no risk, lay off excessive risks to risk-bearing institutions on a large scale.

Another risk to financial stability concerns the possible size and concentration of BigTech distribution platforms themselves. The loss of such a platform, or of trust in the platform, could undermine the operation of the financial system. The question is to what extent existing financial legislation (for example on distribution) would give supervisory authorities sufficient control of these risks. The existing laws and regulations are not aimed at dominant and concentrated distribution platforms. Rather, the legislation is geared primarily to distribution by smaller, non-systemically important intermediaries, or by risk-bearing institutions (banks or insurers) that are also subject

to prudential supervision. The Digital Services Act (DSA) proposed by the European Commission does not fix this. Although the DSA requires very large platforms to conduct an annual risk analysis of their systemic risks to society, these analyses and the associated mitigating measures do not address systemic importance in the context of the financial sector.⁵² If BigTech platforms play an increasingly important role in the distribution of products, additional financial regulation must also be considered with regard to the distribution of financial products and services by large platforms. Examples include rules to prevent platforms laying off excessive risks to risk-bearing institutions and rules to ensure that risk-bearing institutions are still able to conduct proper risk management.⁵³

Measures can also be considered with the aim of absorbing systemic risks of concentrated distribution platforms. In the case of platforms this type of measure could also differ from more traditional macroprudential measures, such as the additional capital requirements that now apply, for example, to systemically important banks. Attention may also have to be paid to the continuity and resolution of systemically important distribution platforms over the long term. Further thorough analysis is required in the first place with regard to the possible nature and size of systemic risks as a result of concentration of distribution.

Concentration of data requires consumers to exercise control over their data. As can be seen

⁵² See Recital 68, Articles 26 and 27 of Commission proposals for a Digital Services Act.
⁵³ BIS (2021c).

from the scenarios discussed in Chapter 3, data will play an increasingly important role in the competition in the financial sector. Data also acts as a major catalyst of concentration of services, because it enables platforms to provide users with innovative and personalised services and products. Except for limited sectoral rules on data-sharing such as PSD2, the existing rules make it difficult for citizens to determine which organisations have access to their personal data, when they have access and which data they can access. This means that BigTechs currently hold the largest volume and variety of personal data.

The solution to this data lock-in is twofold: first, a more level playing field for access to personal data can be created by giving consumers actual control over their personal data and who will have access to which personal data. Data access can be based on the (expected) added value that a service provider offers the consumer with its services. In the forthcoming discussions on data-sharing and data sovereignty⁵⁴ it is therefore important to focus on rules that give the consumer full control of the data-sharing process. It is also important to facilitate data-sharing across sector boundaries (i.e. not only within the financial sector). A consumer can then instruct financial institutions or BigTech platforms to exchange personal data if that provides benefits for the consumer. Second, it is also necessary to consider how access to – and sharing of – non-personal data can be improved. Data spaces can play an important role in this.

Later this year DNB and the AFM will set out their position on the creation and implementation of a framework for the reuse of data. This will address both data-sharing and the way in which the design of data spaces can promote access to non-personal data.

4.3 Towards more European supervision and cooperation between supervisory authorities

As BigTechs start to play a stronger role in the financial sector, consideration must be given to whether financial supervision of BigTechs should take place more at the European level. In contrast to FinTechs or many traditional banks and insurers, BigTechs operate internationally and even globally. This means adequate supervision of BigTechs' financial activities is often only possible at the European level. In some cases this 'Europeanisation' of financial supervision can be implemented through more formal cooperation between national supervisory authorities: for example, the European supervisory authorities (ESAs) are currently examining whether – if a BigTech or other company sells insurance products in multiple countries – supervisory colleges are necessary in which financial supervisory authorities from the various European countries jointly supervise the rules on the sale of insurance.

⁵⁴ This could include the announced regulation concerning Open Finance and the Data Act, but also proposals concerning the Digital Markets Act and the Digital Governance Act.

In other cases, however, financial supervision should be transferred to a single European supervisory authority. In response to the announcement of Facebook's stablecoin Diem, the European Commission proposed the new Markets in Crypto Assets Regulation (MiCAR). DNB believes that important stablecoins such as Diem – if introduced in the EU – should be supervised at the European level. There is a role here for the European Banking Authority (EBA) or the ECB. Oversight powers under DORA (see next section) should also be centralised as far as possible with a single European financial supervisory authority, such as the EBA. In order to maintain proper supervision of global service providers, concentration of expertise and capacity – and hence centralisation of oversight – is necessary. It is nevertheless important that the supervisory authority has sufficient resources and that it is clear what oversight can and cannot be expected to deliver.

Platformisation in the financial sector and the wider economy necessitates cooperation between different supervisory authorities. The scenarios described in Chapter 3 show that closer interdependence of financial and non-financial service providers and a further blurring of the boundary between financial and non-financial activities is likely. After all, BigTech platforms create value by linking different sides of markets with each other, often across sector boundaries. Network effects thus serve as a catalyst for increased scale and scope of both financial and non-financial activities of the BigTech platform. It is precisely those characteristics that make supervision and regulation of platforms difficult: individual specialist

supervisory authorities have difficulty supervising the many different activities and risks of a BigTech.

One possible solution could be the formation of a new centralised supervisory authority with a cross-sector mandate. The question is, however, whether such a supervisory authority could access sufficient specific expertise in the various sectors in which BigTechs operate. An alternative solution could lie in the 'platformisation' of supervision: more extensive cooperation between supervisory authorities with different mandates – for example financial supervision, data privacy, cybersecurity or competition – in the design of regulation and the conduct of supervision. As in the case of other platforms, network effects can add value: links between areas of expertise and exchanges of information enable more comprehensive supervision.

Platformised supervision can take different forms: examples of the light form include structured information exchanges. In the Netherlands, for example, the financial supervisory authorities have signed a covenant with the Dutch Data Protection Authority (Dutch DPA) on the supervision of PSD2 rules which defines the method used to exchange information. A more far-reaching form of platformised supervision could comprise coordinated and joint implementation of supervisory tasks, possibly under a coordinating lead supervisory authority. This model features in proposed regulations such as the Digital Services Act and the AI Regulation. Finally, there is the option of jointly establishing a new supervisory entity made up of different supervisory authorities. The Single Supervisory Mechanism (SSM) is an

example of this: the SSM was established by various national banking supervisory authorities and the ECB. The SSM is a supervisory platform in the financial sector and the supervision is assigned to an existing entity, the ECB. This approach could also be adopted for use across sector boundaries, with supervisory authorities under different mandates setting up a new supervisory entity. This could be considered, for example, for the supervision of cloud service providers (see recommendation below).

The practical implementation of platformised supervision is a challenge: more intensive cooperation requires different procedures on the part of supervisory organisations. Responsibilities must also be properly assigned and consideration must be given to the relationships between different mandates. However, financial supervisory authorities have a major interest in, but also prior experience of, such supervisory platforms. In the Netherlands, for example, supervision of payment service providers under the PSD2 directive is conducted jointly by DNB, the AFM, the Dutch DPA and ACM. DNB is also involved at national level in the cross-sector Online Trust Coalition initiative, which sets out expectations for information security in cloud services. In addition, financial supervisory authorities already jointly supervise international banks and insurers through supervisory colleges. On the basis of this experience financial supervisory authorities are therefore playing an important role in organising the future supervision of BigTechs. DNB will work at national and European level to promote the development of European supervisory platforms, particularly for the effective supervision of BigTech platforms or AI regulation.

Effective cloud supervision requires future streamlining at European level. The most far-reaching form of platformised supervision is the joint establishment of a new supervisory entity. This is the best option for cloud service providers in the medium term. Of all BigTechs, cloud service providers are currently most important to the financial sector: financial institutions' data and processes are increasingly being held, executed and developed in the cloud. Cloud platforms also play an important role in the development of new products and interfaces through partnerships. Hence there is a high level of concentration risk in the provision of cloud services. It can therefore be expected that large cloud service providers will be subject to the aforementioned DORA oversight. However, cloud service providers will not only be subject to European DORA rules; these service providers are already supervised at national level under the Network and Information Security (NIS) directive, which is currently being revised and sets rules for the operational resilience of critical infrastructure, including the cloud. The DORA and NIS frameworks partially overlap, making effective supervision of cloud services more complex. In addition, the NIS, unlike DORA, imposes binding requirements on cloud service providers, for example with regard to ICT risk management and incident reporting and resolution. This may make DORA oversight of cloud service providers less effective in the future, as cloud service providers must comply with all NIS rules, whereas recommendations made under DORA are non-binding. In addition, the NIS rules may make it more difficult to impose more stringent substantive requirements on cloud service providers under the DORA rules in the future: this would lead to two

legally binding regimes for the cloud that would overlap or conflict with each other. Over the longer term it will therefore be necessary to examine how supervision of critical cloud service providers can be further optimised. DNB believes the possibility of establishing a European cross-sector regulatory and supervisory regime for cloud services must be examined in the future. The ESAs, together with European supervisory authorities in for example the field of privacy or cybersecurity, could play an important role in establishing such a European supervisory framework. DNB is therefore already promoting stronger contacts – both bilaterally and within the ESA – with the European Union Agency for Cybersecurity (ENISA), which is being given an increasing role in the development of rules and standards for cloud and other services.

The above complexities and overlaps do not currently apply to other service providers that are expected to be designated as critical under DORA. For those service providers – particularly if they mainly supply services or are mainly of critical importance to the financial sector – there is therefore less reason to establish cross-sector supervision. DORA oversight or DORA supervision could continue to apply to these operators in the future.

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