Bank of Russia

APRIL 2021

ECOSYSTEMS: REGULATORY APPROACHES

Consultative report

Moscow
2021

TABLE OF CONTENTS

Introduction **2**
Executive summary **4**
1. Platforms and their contribution to the economy **6**
2. Platforms' positive impact **8**
3. Specific features of global and Russian ecosystems and how they are connected with the financial market **10**
Financial services within BigTech-based ecosystems 10
Payments as a customer data source 11
Russian bank- and BigTech-based ecosystems 12
4. Open and closed platforms **16**
Hybrid model as the main ecosystem model 16
Models used to offer financial services within an ecosystem 17
Sole provider amid multiple ecosystems 19
5. Risks **20**
6. Measures adopted by foreign regulators **25**
7. Approaches to regulate Russian ecosystems **27**
Optimal target structure of the Russian market 27
Restricted access to consumers 27
Global actors in the Russian market 28
Proactive approach to adapt to rapidly changing conditions 29
Open model requirement as an example of the proactive approach 30
Role of the government in platform solutions 31
8. Regulatory goals and possible measures **32**
Proportionality of the proposed regulation 33
Excessive regulation risks 34
Topics for public discussion **35**
References related to the platform and ecosystem regulation **36**
Appendix **37**
Measures adopted by foreign regulators 37
Glossary **45**

Please send your comments regarding the topics covered in the consultation paper and your suggestions until August 1, 2021 to: *ecosystems@cbr.ru*.

If you believe that there are any essential questions not included in the list provided in the consultation paper, please send them as well to the above email.

It is mandatory that reference be made to the Bank of Russia if you intend to use this consultation paper.

Cover photo: Shutterstock/FOTODOM

12 Neglinnaya Street, Moscow 107016

Bank of Russia website: *www.cbr.ru*

INTRODUCTION

The Internet continues to change our lives at a fast pace. The invention and wide usage of multipurpose mobile devices, which help ensure easy access to the World Wide Web resources, have revolutionised both the way people connect and interact and channels to promote and sell various goods and services. Innovations associated with the rise of the Internet and increased performance by networks and computers have flooded the economy and radically impacted the quality of life of billions of people. Search engines have provided users with tools to quickly and effortlessly search the web for the information they need and enabled businesses to showcase and promote their products online. Social networks and messengers have not only turned into an alternative means of man-to-man communications but also facilitators for both instant information dissemination and the formation of public opinion on most issues. Cloud technologies, artificial intelligence, machine learning, voice interfaces are responsible for current dramatic changes in the role of individuals in business processes, increased productivity and new customer value propositions.

Despite such huge developments, progress is not only unlikely to stop, instead, it is accelerating. Internet coverage continues to expand, data transmission is speeding up, Internet traffic and mobile devices tend to cost less, and customers show higher demand for fast and convenient ways to obtain information, goods and services. The 2020 pandemic has triggered the transformation of consumer preferences towards using remote interaction channels and ordering goods and services. Services rendered by various platforms via the Internet help save time that we used to spend on routine tasks, such as searching, comparing prices and quality, buying and carrying useful items home from a store. Platforms themselves are growing from an online "bulletin board" into technological ecosystem giants and have increasingly led the way in the economy.

Accumulated data pools and innovative technologies to process them help businesses find new opportunities for growth by offering suitable services for providers and consumers of goods and services. Due to the Internet, geographic barriers between individuals have ceased to exist, and advanced machine translation systems have overcome language barriers. The world is becoming even more global, and information, goods and services are turning even more easily available.

We witness both global and local market competition intensify. The largest technological companies that have developed in such an environment do not only possess tremendous data pools and formed network effects but also have nearly unlimited financial resources for their innovation-driven growth. Purchasing their shares with previously impossible multipliers to earnings, investors are ready to put up for years with the lack of current positive financial results in companies' pursuit to secure the market share and accumulate the network effect. Global technological companies have already moved beyond their national market and are globally promoting the products made by national manufacturers. This is true of both content that does not involve physical delivery (music, films, software, computer games, and remote services) and to goods and services to be actually delivered by post or depending on the territorial presence of the provider.

Being aware of and appreciating all the unmatched advantages for the consumer that ecosystem services can nowadays ensure, we ought to say that still, there is a fly in this ointment. Unregulated development of ecosystems has already today resulted in significant arbitrage with other business models, challenged the competitive environment, forced manufacturers to act based on ecosystem rules and tariffs, made consumers loyal and frequently impacted their consumption patterns. The situation may aggravate due to the lack

of national ecosystems in the market. In such countries, the issue of protecting national manufacturers has become especially acute. However, the regulation of both national and foreign ecosystems is now on the priority agenda of regulators and antitrust authorities even in the United States and China, the countries where global ecosystems originate from.

In order to meet new challenges these days, regulators should maintain a competitive environment, reconsider and prevent unfair competition practices that may slow down innovation-driven growth, deteriorate the quality of goods and services, and further on result in higher prices. The digital economy development dynamics certainly requires regulation to be up-to-date, as it must keep up with rapid changes in the economy.

Russia is one of the few countries where strong national ecosystems operate in the local market and successfully compete with foreign actors in any and all activities. However, Russian ecosystems will find it increasingly difficult to remain technological leaders and withstand rivalry with the Internet giants, especially amid regulatory and tax arbitration in favour of global actors.

By many digitalisation features, Russia is among the leading countries, as innovations and online services are highly popular with households, and there are favourable technological and infrastructural conditions for their faster development. Today, we can see several national companies in Russia, that lead the way in the competitive environment and are building platform and ecosystem business models, and a great number of smaller platforms existing in the market. Another Russia's special feature is that the financial sector is the leading force in developing ecosystems, with large banks extensively contributing thereto. At the same time, technological companies are integrating financial services into their ecosystem product range.

As a financial regulator, the Bank of Russia deems it fundamentally important to hold discussions with the business community, experts, and all stakeholders on the main consequences and risks related to the development of platform and ecosystem solutions in the financial market in particular and in the economy as a whole, as well as possible supervisory measures to eliminate regulatory arbitration, minimise negative consequences and risks, including those in the medium term.

According to international experience, if regulatory tools are employed too late and based on the "correcting instead of preventing" principle, business and society as a whole may be adversely affected. However, if used too early and excessively, regulation may, first of all, have a negative impact on the development of national actors and national goods and services providers. Therefore, regulators' main task in any country is to ensure the right and timely updated regulation balance between requirements and restrictions, on the one hand, and freedom of entrepreneurship, on the other hand.

This consultation paper is aimed at solving this issue for Russia. The paper highlights the main trends in the development of ecosystems, their impact on consumers and goods and service providers both within the ecosystem and beyond it, and on the economy as a whole. The main focus is made on the risks associated with the entry of global ecosystems to the Russian market, as well as on the consequences of an increased share of ecosystems in the Russian market for manufacturers and consumers, including taking into account the special features of the financial sector of the economy. The key topics to be discussed are outlined in the sections below and at the end of this consultation paper.

The Bank of Russia will appreciate your feedback and welcomes your comments through August 1, 2021.

EXECUTIVE SUMMARY

1. The Russian economy, similar to the rest of the world, is moving towards broader use of platform models and ecosystems.
2. Platforms infuse the economy with innovation and provide a better quality of life to the consumers — the majority of daily purchases can already be made online, with most goods being only a few clicks away. Often ecosystems offer solutions based on a single mobile application enabling the user to perform all the necessary operations. Accumulating big amounts of data allows ecosystems to build their clients' profiles and ensure seamless provision of services, as well as increase the accuracy of targeted offers of various products, customised to the needs of every user.
3. Platforms and ecosystems offer new opportunities for product and service providers as well. E-commerce platforms allow SMEs to reach a greater number of customers, eliminating geographical barriers to their business development.
4. Global ecosystems have emerged on the basis of major technological companies possessing considerable amounts of data and an extensive client base. Russia's special feature in this regard is that the financial sector is the leading force in developing ecosystems. Russian technological companies are also moving towards building ecosystems through expanding their range of services and starting to provide some financial products as well.
5. Unregulated development of ecosystems, however, may cause new risks for their participants, other economic actors influenced by their activities, and the economy as a whole. Among such risks are unfair competition and monopolisation of certain market segments, discrimination against ecosystem participants, monopolisation of technologies, unauthorised use of clients' personal data, and insufficient cybersecurity and protection from fraud. Ecosystems also often operate in the context of regulatory and tax arbitrage.
6. In a platform-based economy, data becomes the most valuable asset. Therefore, developing a regulatory framework for managing data — obtaining, using and storing it as well as ensuring the users' right to dispose of their data — turns into a key aspect of the governmental regulatory policy.
7. It is also important to highlight the risks for creditors and depositors of the core banks of bank-based ecosystems. Such risks are related to the banks first entering non-financial industries, including strategic risk, step-in risk, and information security risk. The Bank of Russia will issue a separate consultation paper containing an analysis of the risks assumed by the banks that are building ecosystems, as well as proposed regulatory requirements for such banks.
8. Regulators are now extensively developing their policies with regard to ecosystems since the traditional mechanisms are becoming less effective, while new ones are still evolving. That said, according to international experience, if regulatory tools are employed too late, it leads to risk accumulation and requires radical measures, which are distressing for both the business and the society. The timely introduction of regulation, limitations and requirements seems to be the most favourable regulatory scenario.
9. In order to minimise the potential negative consequences of ecosystems growing in the Russian market with no oversight, it is necessary to take proper regulatory and supervisory measures, which would require amending the regulatory environment in the near future. Assessing risks that arise from the platforms' and ecosystems' activities

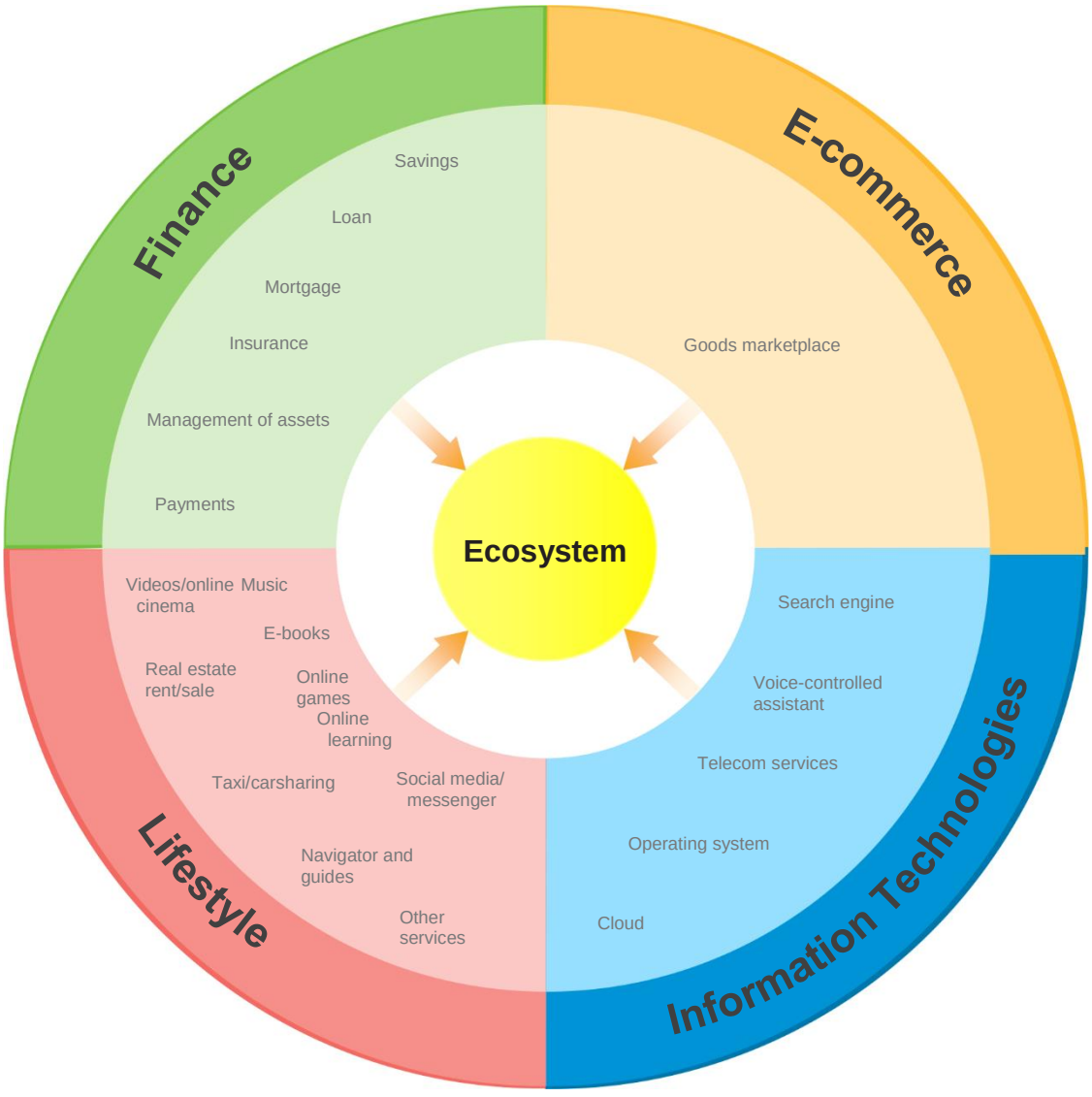
would provide a flexible regulatory toolkit and ensure its timely adaptation to changing conditions.

10. Digital markets are highly dynamic, allowing for a faster takeover by certain ecosystems compared to traditional markets. Another possibility is a dramatic drop in the number of providers using traditional business models and operating outside of platforms or ecosystems (including a decline among traditional financial institutions). New regulations should minimise corresponding negative consequences, the impact of such transformation processes included.
11. National regulation should also guarantee the protection of a competitive environment in the domestic market as the dominance of global ecosystems may strengthen at a fast pace. The cross-border nature of foreign ecosystems' activities coupled with regulatory and tax arbitrage may result in them rapidly taking a dominant position in the Russian market.
12. The role of the government as a major actor in the platform solutions market should be transparent and predictable. Moreover, it is crucial for the government to level the playing field for all market participants and to ensure equal access to state information systems.
13. The optimal target structure of the Russian market would include at least several major national ecosystems competing with each other and foreign actors, as well as niche providers and smaller platforms meeting clients' needs beyond ecosystems while challenging the leaders.
14. Regulators should focus their efforts on minimising risks and supporting a competitive environment, including steps to prevent the emergence of artificial barriers for niche players and those playing catch-up, as well as promote innovation and maximise benefits to be gained by the country's population and business from the introduction of platform and ecosystem solutions to the national economy.

1. PLATFORMS AND THEIR CONTRIBUTION TO THE ECONOMY

The transition to the platform economy currently witnessed in nearly all global markets stems from a combination of several factors, being the accumulated technological developments that have ensured a qualitative transition from the breakthrough stage to the implementation stage, the request for changes and eliminated geographical barriers between consumers and goods and service providers, the exhausted opportunities of traditional business models, primarily from the point of view of business margins and the usually generated growth of shareholder income. Special features of the platform business model, equally based on both technological and behavioural changes, can lead to a qualitative restructuring of any business. Uber's experience may serve as a good example. The company has reshaped the taxi landscape and laid the foundation for the so-called gig economy, meaning an economy based on independent contract (instead of direct hiring) and network effects.

ECOSYSTEM SERVICES *Chart 1*



As a rule, an ecosystem combines several platforms on which various goods and services are sold and rendered to customers. An ecosystem may also include off-line services offered to clients, including those provided through an office network. Major ecosystems develop a wide range of services to meet most of the basic consumer needs, such as real estate purchase or rent, health and education services, passenger transportation, travel, mobile communications, social media, financial products, and many other goods and services. Ecosystems can also be built based on one or more essential needs. A real estate ecosystem can, for example, include such related products as mortgages and repair, design, and cleaning services in addition to selecting and purchasing an apartment. At the same time, ecosystems can develop their services not only for individuals, but for corporate customers as well. The most important is that an ecosystem allows to build a client profile aggregating data associated with all such client's purchases within the ecosystem and to use such data for targeted offering goods and services to such client.

In Russia, similar to the rest of the world, certain company types have not yet been legally shaped or formalised. Most companies (groups of companies) often mentioned in the ecosystem context are at different stages of creating/building value chains within their individual business models. Such groups of companies enjoy absolutely different financial results, from highly profitable (as for Alphabet in the US and Sber in Russia) to market average figures. Some companies that first used platform business models (such as Uber) never had positive financial results, however, it did not hinder the increase in such companies' stock value (capitalisation).

Lack of profit of new platforms at the first stage of their existence has most often appeared to be a deliberate strategy to quickly attract customers, both consumers and sellers. Further on, the emerging network effects and scale effects allow to apply monetisation tools and make the platform business to profitable, which is presupposed by investors in the share price. It is such examples of a company's prospects highly assessed by investors that boost competition (among the vast majority of companies whose shares are traded in the open market or who are negotiating to sell their business) and encourage companies to consider the possible use of platform solutions in their business.

As long as no fees are charged with individual customers by a platform, consumers often tend to believe that platform services are free. However, it should be borne in mind that in such case, the platform will ensure monetisation by advertising (meaning that consumers will pay with their attention), or the platform has included the fee in the product or service price. Thus, targeted offers to consumers may be selected by the platform based not so much on their best interests, but on the terms and conditions of agreements to promote certain goods. Any platform's main task is to find the right balance between the interests of consumers and providers and manage the internal conflict of interests.

Special features of platform business models (focusing on swift customer base growth to boost network effects, customers tending to stay loyal to the ecosystem, the economies of scale effect, pooling and analysing considerable amounts of customer data, using them to market and promote goods, including when platforms enter new segments) help build a strong foundation for higher market power, even for dominance in the markets where they operate. According to the Competition in the Digital Economy report issued by the European Union, a large client base for any company using a platform business model gives it more sophisticated competitive advantages, encourages its development as an ecosystem and makes it almost impossible to remove it from the markets served. Therefore, platforms and ecosystems have become increasingly involved in redistributing resources in the economy, which may testify to its platformisation.

2. PLATFORMS' POSITIVE IMPACT

It is undeniable that digital platforms influence our daily lives, and such impact cannot be overestimated. To go digital, commerce, primarily retail one, required much more than the mere Internet. At the same time, platforms developed as mediation tools (initially with the sole function of a meeting spot for sellers and buyers, following the example of the famous Iz Ruk v Ruki (From Hand to Hand) newspaper), which gave rise to both many new services of similar type and the underlying business model itself. Today platforms are considered to have the function of a quasi-regulator that sets the rules, monitors compliance therewith and is responsible for the performance of contracts concluded using them.

The development of platform services has significantly improved the quality of consumers' lives: services have become more affordable, goods (due to competition among providers) have grown cheaper, especially in highly commoditised[1] segments, and the choice has turned broader. After platforms transited from an initial online bulletin board stage to a centralised platform model and began setting rules for providers, services reliability and consumer protection have improved. Given that network effects are based on large-scale involvement of both sellers and consumers, it is not surprising that any platform's main goal is attracting customers, especially at the initial development stages. Along with the formation of the digital platform market, user habits have also been built, which are now also a special feature of the platform business model. Thus, we have got used to the fact that most of the platform services are free for consumers. Such an approach allows companies to quickly gain a user base (to trigger network effects) and to increase market share by displacing competitors with business models based on payback within the business cycle. At the same time, platforms themselves may remain unprofitable for a long time even with significant revenue, focusing their strategy on extensive growth and brand formation[2].

Combining several platforms into an ecosystem along with complementary off-line services can deliver a new quality experience to customers: they will no longer have to register separately on several platforms, enter additional logins and passwords. On the contrary, ecosystems use a single end-to-end customer identifier, and, as a rule, all online services are concentrated in a single mobile application (Super App). After ecosystems receive data on clients' actions and purchases, ecosystems can generate targeted offers that suit clients' needs. For instance, if a customer requests information about drawing courses in a search engine, the client will also be offered to buy art supplies online. It can save the client a lot of time spent on finding and buying necessary goods and services.

Providers also benefit from developed platform business models. They enter new target markets that might have never been accessible to them due to geographical barriers. It has the greatest impact on small and medium-sized businesses with limited resources to expand their retail outlet networks. As a rule, such companies are located within a small region. Connecting to a platform helps both eliminate territorial restrictions and use advantages provided by the platform, such as warehouse and logistics services. Thus, manufacturers can focus on the core of their business — the production itself. Sometimes platforms may act as a new kind of business incubator, offering startup registration, consultation and support, which is especially useful at the initial stage. Platforms also assume such functions as marketing, advertising, call centre, and customer support. The higher popularity of aggregator services is also worth mentioning. Consumers increasingly prefer to compare

---

[1] *Commoditisation effect means that goods or service providers perform only their main functions, being production itself, while platforms are responsible for the rest stages of the value chain (such as customer relations, marketing, product promotion, and logistics).*

[2] *Such companies as Uber or Ozon are the best examples.*

offered basic goods and services in a single interface, rather than browsing the websites of individual providers. Accordingly, even if a small business starts selling goods or services online, a stable client flow cannot be guaranteed without connecting to such aggregator websites, which role is taken by platforms.

Therefore, platforms provide manufacturers with a high-quality IT infrastructure demanding significant investment and numerous related services. The economies of scale effect and special features of consumer behaviour ensure that, for an individual manufacturer, joining a platform becomes more profitable than building an independent value chain to the end customer.

Topics for discussion:

1. What other positive impacts can the development of platforms and ecosystems ensure for society?

3. SPECIFIC FEATURES OF GLOBAL AND RUSSIAN ECOSYSTEMS AND HOW THEY ARE CONNECTED WITH THE FINANCIAL MARKET

In an era when consumer demand is the main driver of the economy, companies strive to satisfy as many customer needs as possible. According *to McKinsey*, ecosystems will account for approximately 30% of global GDP ($60 trillion) by 2025.

Four American technological companies, Google, Apple, Facebook and Amazon (the so-called GAFA), and two Chinese ones, Alibaba and Tencent, are usually named as the largest international ecosystems. By using the digital platforms successfully and adding related market segments to their perimeter, these BigTech-based companies have gained strong influence due to both financial success and extensive client base. That said, the Chinese actors are mainly focused on the national market due to its scale and population, their international expansion is less visible compared to American technological giants. Unlike global BigTech-based companies, where Chinese ecosystems enter foreign markets, they remain nationally focused by providing services to Chinese tourists abroad and promoting Chinese manufacturers.

Financial services within BigTech-based ecosystems

It is quite obvious when the largest technological actors at first had no interest in traditional financial products. Financial markets are outside such companies' core competencies, differ from the technological sector due to lower margins and are pretty much overregulated. If they enter the financial sector, they will have to start communicating with financial regulators and to deal with new risk types that are not inherent to their formed large business. However, a full-scope ecosystem cannot operate properly without built-in financial services, which makes BigTech-based companies increasingly contemplate entering the financial market. Payments for purchased goods and services and P2P transfers are the main financial services in this regard, followed by lending, maintaining customer accounts, insurance, and investment products. The inclusion of financial services in the BigTech-based ecosystems is mostly driven by their being complementary to the core business, which helps improve the quality of customer experience, provide seamless services, increase the time customers spend within ecosystems and reduce the number of cases when customers have to leave the ecosystem perimeter. In addition, proprietary financial services decrease their cost and ensure additional margins for ecosystems as the provider of such services. It is equally important to obtain customers' transaction data. Such customer data are useful for scoring and targeted offers from ecosystems, which further strengthens platforms' positions as advertising agents.

Therefore, now BigTech-based companies tend to move into mainstream banking. By embedding financial products into their platforms, such companies prefer to either partner with classical participants in the financial market or to ensure a financial institution within the ecosystem group of companies. The second model is typical of Chinese Alibaba and Tencent, while American actors choose the partnership model for all financial products except payments. Amazon Lending, available to sellers in the United States, Great Britain, Germany, Canada, China, France, India, Italy, and Spain, and to buyers in the United States, was initially developed in partnership with Bank of America Merrill Lynch, and then expanded by partnering with Goldman Sachs in the US and ING in Germany. Apple Card operates based on a similar model in partnership with Goldman Sachs and Mastercard payment

system.

At the moment, none of the GAFA companies has traditional financial licences, such as banking, insurance, brokerage or others in any market. Payments are the main financial segment that successfully fits into almost any commercial activities and is critical for creating a full customer journey within ecosystem services. Therefore, in those markets where payment services require a special permit (licences or entry into any register), the GAFA companies get such licences issued. Google, Apple, Facebook, and Amazon operate under licences (secured for the group as a whole) for e-transfer service providers in the US, and these global actors (except for Apple) have the payment service provider status in the European Union.

In Russia, Apple Distribution International and Google Ireland Limited are included in the registers of foreign payment service providers and payment application providers. Facebook and Amazon do not render payment services in the Russian market.

Currently, there are two fundamentally different ways to incorporate payment services into present-day platform solutions: as an add-on to an existing retail payment system (Apple Pay, Google Pay) or within proprietary payment and settlement system (Alipay, Tenpay, well-known for its WeChat Pay service).

Payments as a customer data source

It is important to understand that the choice of a model, being a conscious business decision in terms of the necessary payment function in a growing ecosystem, was not literally a choice: as noted above, tech companies are interested in data streams generated and transmitted within payment systems, but not only upon making payments as such. It is easy to notice that the add-on option is used by companies registered in advanced economies and, more importantly, countries with a well-developed retail financial infrastructure. For instance, in the US, by the time the first platform solutions emerged, credit cards had already been extensively and commonly used, and 88% of the adults had bank accounts in 2011, with 94% of them in 2014 and 2017. With such initial positions, tech companies only had to build a user-friendly interface to bring user payments online.

The situation was quite different in many developing countries. The rapid growth of mobile payments in Africa has been fuelled by typical catch-up development patterns: mobile communications appeared to be much more accessible (geographically) and affordable (financially) than banking services. Mobile money transactions do not involve conventional bank accounts, but rather replace them with a mobile account linked to a phone (SIM card). SMS services can serve as an interface, which does not require users to have a smartphone or Internet connection. In Kenya, home of the M-Pesa mobile transfer system, only 42% of individuals over 15 years old had bank accounts in 2011. In 2014 and 2017, that figure grew to be a little over 55%, but due to mobile accounts, the aggregate share of the adults holding accounts reached 75% and 82%, respectively.

The success story of the M-Pesa mobile transfer system established by two telecoms (Vodafone Group and Safaricom) is a vivid example of how the development of retail payments skipped stages (in this case, the bank card stage). Currently, M-Pesa performs mobile transfers, payments, and microfinance services in Kenya, Tanzania, South Africa, Afghanistan, Lesotho, Ghana, Mozambique, Egypt, and some other countries. The similarly built mobile money systems have seen rapid growth (simultaneous with the development of small businesses and private entrepreneurship), which ensures financial accessibility in countries with few banks and too expensive bank services for most households.

Chinese retail payments system seems to be something in between the two mentioned options: basic banking services were fairly popular (the share of the adults with accounts held in financial institutions has grown from an average of 64% in 2011 to a significant amount of 80% in 2017), while in retail payments, cash was preferred by most individuals. It became possible to break historical habits due to technology developments, first of all after the world production of smartphones started to concentrate in China. Alibaba and Tencent created payment systems within their applications that were easy to use with QR codes, but their huge success was only possible because literally every potential user, seller or buyer was guaranteed a cheap smartphone with the appropriate application and camera to use QR codes.

Therefore, it is true that tech companies consider payment services from a functional point of view, relying on the existing infrastructure when choosing a product configuration and using both market opportunities and established consumer habits. The way P2P transfers within the WeChat messenger became popular is the best example. In China, they traditionally give each other red envelopes which contain cash, usually an insignificant amount, as a present for major holidays. When the red envelope sending function was introduced on New Year's Eve, the service instantly grew popular. Its Chinese market share is now almost equal to that of the previously dominant Alibaba.

Russian bank- and BigTech-based ecosystems

It is worth mentioning that the ability and way of financial companies, primarily banks, to enter the ecosystem market depends on how tough the banking regulation is in a particular jurisdiction. For instance, the US actually banned non-financial activities by financial companies[1]: any non-banking activities performed by any such organisation or its subsidiaries are only permitted as ancillary to their financial activities, while other commercial activities are prohibited or allowed only in special limited cases.

As for the domestic market, it is possible to ascertain a rather interesting trend: cutting-edge financial institutions are transforming into technological companies and creating their ecosystems of financial and non-financial services, as well as implementing joint projects with Internet companies.

Sber

Sber is steadily expanding its ecosystem of non-financial services by acquiring companies in a wide range of sectors from high-performance data processing (GridGain) to telemedicine (Doc.Doc). The initiative to transform Sber from a large traditional bank into an ecosystem tech company of the Google and Amazon level was envisaged by Strategy 2020. The ecosystem core is the SberX division and a number of research laboratories (Robotics, Blockchain, and Artificial Intelligence), which are responsible for coordinating complex ecosystem development in order to create a better customer experience. As part of the ecosystem growth, Sber is to launch various financial initiatives, enter into strategic alliances, search for startups, and test new market niches.

All Sber ecosystem services have common elements, many of which are not only used by the bank itself but are also exported further (for example, SberCloud is cloud solutions for Sber, its partners, and external customers; Segmento means an advertising B2B platform based on data of transactions performed by Sber's customers; Bizon is B2B services for cyber protection against network attacks and protection of business reputation in the Internet). Sberbank ID is an integrating tool for customer registration and identification in many services (such as Citymobil and Delivery Club).

---

[1] *Section 4 of the Bank Holding Company Act of 1956.*

Building its ecosystem and creating new financial services, including in the form of joint ventures with other companies (Mail.ru Group, Speech Technology Centre, Soyuzmultfilm), Sber strives to have due regard to the demand for certain markets among retail and corporate customers by analysing consumer requests (demand for entertainment services, delivery of groceries, and ready meals). At the same time, the main factor in performing such transactions is not so much Sber's strive to be full-scale and covering both real and virtual space, as the great potential for digitalisation of purchased services due to further technological changes.

At the same time, Sber has a dominant position in the Russian banking system, renders services for more than half of total customers, both retail and corporate (Sber's share in the number of customer accounts is 56%), and controls about 65% of active payment cards and more than 70% of turnover related to trade acquiring and P2P transfers. Thus, Sber's ecosystem is developing based on the advantages in the financial sector, accrued customer base and transactional information about customers.

Tinkoff

From the very commencement, Tinkoff has been set up based on the remote customer service model. The bank's main special feature is that it does not have any representative offices or branches, it only has the head office in Moscow. Nevertheless, the company operates in almost all Russian regions. Tinkoff has actually proved that the electronic Internet systems used by the company to perform its activities are of utmost importance in developing the banking business.

Later, the company added a number of activities to the main banking business, such as insurance, restaurant reservations, business services, investor tools, and many others that were combined into Tinkoff ecosystem. The company is currently positioning itself as an online financial ecosystem built around clients' needs and providing a full range of financial services for households and businesses. Tinkoff pays special attention to the development of lifestyle banking: the ecosystem gives customers the opportunity to analyse and plan personal spending, invest savings, receive bonuses under loyalty programmes, book travel, buy movie tickets, reserve restaurant tables, and many other services. The single access window to Tinkoff online ecosystem is the so-called Super App. In accordance with the idea, the ecosystem focuses on such areas as online retail helping with online orders, leisure and city entertainment (quests, excursions, etc.), health (fitness and wellness), food delivery, gas stations, transport (such as carsharing), investment management, and others.

The Super App accumulates a wide range of both Tinkoff's own products (financial and lifestyle) and its partners' services, which will be integrated into the ecosystem via the Open API on the App-in-App principle directly into the Super App interface.

VTB

With due regard to new challenges and threats, VTB has outlined its development strategy as building an open ecosystem based on digital partnerships. Thus, the bank has identified six key industries for development: tech companies, ad services, e-commerce and retail, telecom, entertainment and transportation.

At the same time, VTB has launched the Square Meter housing ecosystem, which ensures services helping to search, check, evaluate, and purchase real estate, and plan and perform repair works. Clients are offered mortgages of both VTB Bank itself and partner banks.

Yandex

Initially, Yandex was a classic Internet search engine, and today it is one of the largest technological companies that have managed to build an efficient ecosystem.

For many years (since 1998), Yandex's business was built around media products, starting from search tools and mail service to news, and, accordingly, monetisation was achieved through the use of contextual advertising as the main business model that matches the users' needs. Since the mid-2010s, Yandex's key strategy is going from online to offline by developing various services (by the end of 2018, the company's non-advertising revenue reached 20%).

Another advantage of Yandex is a single flexible tech platform: when a new service is launched, all technologies available in the company and other ecosystem components (brand, back office, and advertising network) are at the disposal of an internal startup.

Today, the company's technological range is quite wide: from fact-finding technology to biometric speech recognition and developments in the field of computer vision. Due to technological innovations, users of services such as Yandex. Navigator or Yandex. Music can send a search address request by voice, select compositions according to the mood or the necessary product from a variety of similar ones.

In addition, Yandex is actively developing an experimental smart home ecosystem, to which you can add various technological devices: lighting devices, smart sockets, and air conditioners functioning with the participation of the voice assistant named Alice.

Thanks to the ecosystem model, Yandex has transformed from a local search engine, a competitor to Google, into the largest innovative project incubator related to digital technologies in Russia. Internet search and marketing services (analytics and contextual advertising) remain the core business of the company. Yandex ecosystem also includes a variety of services based on digital technologies, many of which have become critical information infrastructure. For example, the distribution of road traffic in Moscow today is largely based on the use of the Yandex. Maps (Yandex. Navigator, Yandex. Transport, and others) by residents, drivers, couriers, and taxi drivers. In addition to the existing services, the company is constantly developing numerous digital startups and ensuring extensive educational activities in such area.

Mail.ru Group

In the context of the ongoing changes, Mail.ru calls itself an ecosystem of ecosystems demonstrating that the company's task is to ensure the optimal operation of all areas and find synergies between projects, combining them with a common infrastructure and service products.

For many years, Mail.ru Group has been a group of equal divisions: VKontakte and Odnoklassniki, MY.GAMES, mail service and media projects by Mail.ru. In recent years, they have been joined by Delivery Club, Youla service, Pixonic, BOOM music service; the company holds stocks in GeekBrains and Skillbox educational platforms, and Citymobil taxi aggregator. Such products have built their own autonomous ecosystems. Each project has its own identity and unique value to its audience. Mail.ru Group platforms benefit from scale and company-level synergies. Each new member increases the efficiency of Mail.ru Group solutions, and they, in turn, strengthen the positions of new members. The ultimate goal is to create the most efficient platform to accelerate existing services and create new products.

The special feature of Mail.ru Group model is large partnerships. For instance, together with Alibaba Group, the company plans to develop e-commerce, which in partnership with Sber, it strives to build the O2O platform in the areas of food tech and mobility.

MTS

According to the new strategy by MTS, the development of the company will be focused on creating product ecosystem on the basis of the main telecommunication business with a seamless transition between services. The ecosystem core will be end-to-end customer identification, the use of big data, and shared sales channels, loyalty management and customer relations. In addition to the main business, the industries to build the ecosystem primarily include FinTech and TV, which will gradually be complemented by other products related to entertainment.

Currently, MTS can be deemed a unique actor in terms of delivering content to clients; the company's portfolio includes all possible types of channels: satellite, IPTV, cable, mobile, and OTT[2] platform. The next logical development step is the production (in any format) of its own content, which, in the context of the strategy, puts the MTS ecosystem on a par with Netflix, Apple, and Amazon.

[2] *Over the Top, providing video via the Internet.*

4. OPEN AND CLOSED PLATFORMS

The impact of a large platform on the economy depends on the model it uses to admit participants. Depending on the publicity of the admission criteria, platforms can be divided into closed and open ones.

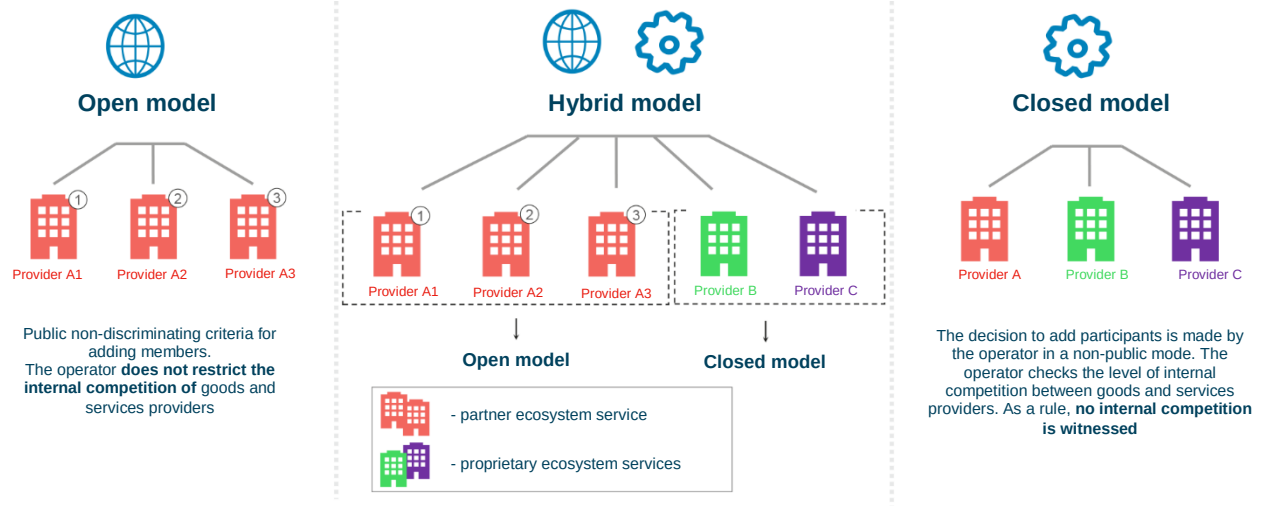
A closed platform does not publicly announce the rules by which participants are admitted. In such case, the platform itself, its affiliates or a limited number of partner companies act as goods and services providers. As long as the business is developed into an ecosystem, the platform becomes interested in having as many different types of services as possible, instead of different providers of the same service. As a result, there is practically zero internal competition between the same service providers on such a platform, since, from the point of view of the development of a closed ecosystem, it is important to have a product or service within the perimeter of the ecosystem, and not the completeness of options for its presentation or a wide choice within each product category.

The open platform model allows competing goods and services providers to have access thereto; their admission to the platform is based on criteria publicly disclosed by the platform. At the same time, such criteria are non-discriminating, meaning that their wording has not been prepared with a view for the characteristics of any specific providers. Platform owners and their affiliates either do not act as providers on such a platform or act in compliance with the platform common rules. Thus, the platform is an equally accessible neutral infrastructure ensuring an independent sales channel for goods and services providers.

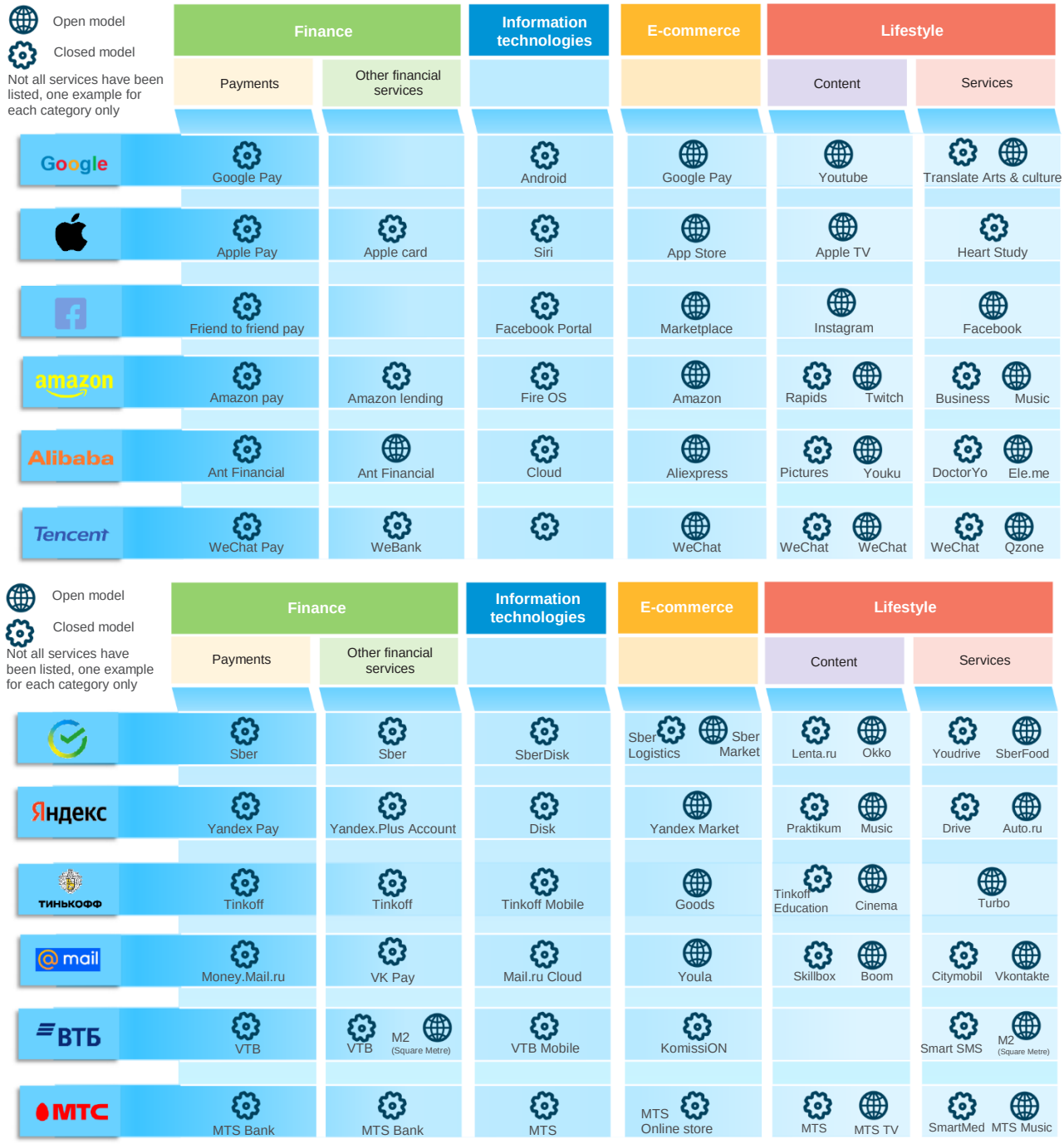
Hybrid model as the main ecosystem model

Analysis of business models used by the largest global and Russian ecosystems proves that they all operate according to a hybrid model, combining open and closed segments. For example, product marketplaces within such ecosystems (e-commerce) operate pursuant to an open model, while the ecosystem itself acts as a mobile communications provider or messenger.

HYBRID ECOSYSTEM MODEL COMBINING OPEN AND CLOSED PLATFORM SOLUTIONS Chart 2



THE LARGEST GLOBAL AND RUSSIAN ECOSYSTEMS OPERATE BASED ON A HYBRID MODEL *Chart 3*



Models used to offer financial services within an ecosystem

Financial services of all the largest ecosystems are offered mainly based on a closed model, either by the ecosystem itself (by its group companies) or by partner financial organisations.

The matter is that bank-based ecosystems consider financial services as anchor ones. If such services are transited to a platform (fee) model involving an open model and admission of other banks and other financial institutions to the ecosystem, the marginality of the ecosystem underlying bank may fall.

For the ecosystems of large tech companies, financial services are now ancillary. A loan is not offered to a client as an independent product but in order to purchase goods. In such case, making the client choose from a large number of loan offers may complicate the customer journey and reduce sales of key ecosystem goods and services.

With an increased client base and expanded business scale, the ecosystem can transit to an open model, sharing the client flow with other financial institutions for a fee. It may occur where the ecosystem bank does not have enough capital to service the higher volume of financial transactions. Another example is where the customer data accumulated by the ecosystem help significantly improve the quality of credit scoring and start charging an additional fee for such service. A similar evolution in the financial services segment can be seen in the Chinese ecosystem, Alibaba, which was built based on a marketplace and is now one of the largest sources of borrowers for the Chinese banking sector.

For the financial segment, the open model is also used, for example, on niche real estate platforms that develop additional ecosystem services related to the real estate acquisition and rent. Such services include mortgage loans, which, due to their significant amount, are positioned as a standalone product and are offered to customers based on the open model. Herewith, the platform increases the value of its services for consumers, giving them the opportunity to compare offers from several banks and choose the most suitable one.

Until recently, the development of such open-model financial marketplaces in the Russian market was hampered by regulatory barriers that were eliminated last year (the Marketplace Project).

Marketplace Project

The Bank of Russia initiated the Marketplace Project in 2017. It is aimed at establishing a regulatory framework for the remote sales of financial products across the Russian Federation. In 2020, the necessary changes to the applicable laws were adopted. At present, the Bank of Russia register includes three financial platforms: Finuslugi (Financial Services), where clients can open a bank deposit and buy compulsory motor third-party liability insurance (OSAGO) policy; VTB Registrar, which offers over-the-counter government bonds; and INFINITUM Specialised Depository with a range of units of unit investment funds (UIFs). A statement on transactions on financial platforms can be obtained from the Financial Transaction Registrar, including using the Public Service Portal. The Marketplace 2.0 Project will help expand the range of products and services on financial platforms, including for legal entities, and will contribute to increased competition in the market and further development of remote financial services.

The development of technologies for automated selection of the best financial product will become the main financial marketplace advantage and maintain a high-quality customer experience, as clients will not have to compare a large number of offers themselves.

It will strengthen the trend to include financial products in any purchased goods and services, merge product and financial marketplaces, and it will primarily affect credit and insurance products. For instance, when a customer buys a tour voucher on a platform specialising in travel, such platform, if necessary, will automatically select and offer such customer the best loan options from banks connected to the platform and the most suitable insurance product from connected insurance companies.

Sole provider amid multiple ecosystems

An open or closed ecosystem model involves a large platform and many providers whether or not admitted to such an ecosystem. It is also worth considering the opposite situation[1,1] with a single provider of a unique product or service (for example, an exclusive broadcast of a football match) and multiple ecosystems. Should regulation adjust existing market practices and enable all ecosystems to offer such service? It seems that a unique product in an ecosystem may increase competition between them, encouraging clients to use several ecosystems instead of the only one if each of them offers a unique product or service. At the same time, such an opportunity is closely related to the tariff issues in ecosystems. If such a service is not free for clients, it can be packaged with other ecosystem services or even sold as part of a single subscription to all ecosystem services pursuant to the all-or-nothing model. In such case, the described incentive to increase competition will not be likely to succeed, since it will be too expensive for customers to buy a subscription to the services of many ecosystems at once.

Topics for discussion:

2. Should there be a regulatory requirement for a mandatory open model for large ecosystems? Should such a requirement apply to all market segments in which such an ecosystem is represented, or only to those segments in which such an ecosystem has a significant share?
3. Should there be regulatory requirements for exclusive providers when dealing with large ecosystems? Is such a provider obliged to offer the opportunity for cooperation to all interested parties in the event of a unique product or service being sold through one of the large ecosystems?
4. Should a single subscription to all services of a large ecosystem be prohibited if this is the only way to fix tariffs for its services? Should there be mandatory separate tariffs for ecosystem services in different market segments?

[1] *In such case, there is no risk of ecosystem monopoly, but, on the contrary, there is monopsony in a specific segment of the platform services market, with a single consumer of such services (a unique provider) and many ecosystems that render such service.*

5. RISKS

Foreign and Russian regulators are of the same opinion that at the present stage of economic development, platforms and ecosystems represent the most innovative business model. That is why seven companies from the top 8 global companies by market capitalisation are implementing the ecosystem model, which clearly illustrates the attitude of investors and their assessment of the prospects for the development of this sector. At the same time, the growing market power of ecosystems forces regulators to assess the consequences and respond to realised risks. It is the analysis of potential risks that should be relied upon when determining the approaches to ecosystem regulation in the Russian market. The main risks inherent to the development of the platform economy can be roughly divided into several types:

- risks for individual ecosystem customers;
- risks for individuals not being ecosystem customers;
- risks for providers being ecosystem participants producing services or goods;
- risks for services or goods providers not included into ecosystems;
- risks for the economy as a whole;
- risks related to monopoly over technological decisions.

The main risk for ecosystem clients (consumers) is a sharp decrease in choice options caused not so much by complexity as by unwillingness to change and search for the necessary goods and services outside any ecosystem perimeter. At the same time, such fact in itself does not brings only negative consequences along, however, over time it can lead to a negative effect. From the point of view of the ecosystem operator, it is important to ensure the breadth of the offered range of goods and services, but not leadership in each individual segment. As a result, an ecosystem client may obtain products and services of satisfactory, but not the best quality, however, due to habit, convenience, complexity of the transition, or simply because of the unwillingness to search and master something new, the client does not try to find more suitable offers outside the ecosystem.

On the other hand, it is obvious that an average customer does not like to choose from too many options. Therefore, the ecosystem owner has to take into account that offers for each type of goods should not be very broad. At the same time, providers may be chosen not only based on the quality of the goods but, for example, due to the partnership terms and conditions, which further on will negatively impact consumers' interests.

Another potential consumer trap is additional individual offers (when algorithms select potentially interesting products based on previous purchases and preferences) with individual pricing. Obviously, consumers will put up with higher prices for the right product at the right time than for a less important or less urgent purchase. It is important that due to the special features of electronic sales (clients see a certain interface and usually cannot compare it with how other clients see the same interface), the consumer may not even become aware of the discriminatory pricing practices or other information manipulations by the ecosystem.

Ecosystems collect large amounts of data on consumer habits and daily purchases, study the pattern of customer behaviour and set relevant targeted advertisements. In future, amid inexorably accelerating everyday life and being pressed for time, consumers will automatically agree to goods and services offered by ecosystems. Therefore, any ecosystem dominance may lead to endless consumption model and excessive purchases of unnecessary goods, and it will be necessary to ensure product competition in such an

ecosystem and the conditions for providers of innovative or better goods and services to reach customers.

It is also possible to make customers loyal to an ecosystem by way of subscription or bundled services offer. Often the purchase of goods or services as one combined product turns out to be cheaper, however, clients have to put up with a lack of choice among bundled services. The services included in the subscription may also result in customers' unwillingness to look for other services outside the ecosystem.

Thus, it is worth noting the potential risks of reducing the overall quality of goods and services in ecosystem markets.

Consumers who prefer to stay outside the perimeter of ecosystems are also not fully protected from the risk of their intensified development. It is not difficult to foresee that in certain regions where any ecosystem is the only source of specific goods or services, the ecosystem may once cease to render services to such regional customers due to its own business decisions or changed strategy. The same risks may arise if local providers operated in the region but could not withstand the price competition with an ecosystem and left the market.

For goods and services providers, a partnership with a platform (including one that is part of an ecosystem) may not only ensure new opportunities, but it may also pose new risks. In particular, such a sales model may lose direct contact with consumers, which will lead to the so-called commoditisation and, on the one hand, will make it possible to focus on product properties and quality, but on the other hand, will make it dependent on the last mile to clients, meaning platform in this case.

As platforms become the main sales channel, there may appear potential negative impacts due to risks of providers being discriminated by the platform (for example, external providers as compared to platform-affiliated providers or individual providers depending on their business size, brand strength, and other factors). Such discrimination may either be of a technological or informational nature (instability of a technical connection, incompleteness or delay in transmitted information, failure to provide collected data, and less favourable providers' positions in search results) or be seen in unequal partnership conditions based on criteria that are not transparent enough.

At the same time, any requirements set by the platform for its participants should not be considered as discrimination, if they are reasonable from the point of view of consumer needs. Moreover, some of such requirements may be mandatory by law, for example, certification of certain products or requirements for advertising information. It is important to ensure that the working conditions on the platform for third-party providers are not worse than for the competing services of the platform itself, its affiliates or a limited number of platform partners selected pursuant to non-public criteria.

If a platform is the dominant sales channel (which is most important for providers being small and medium-sized businesses), the issues of the continuity of such a platform and information security (safety of commercial and customer data, swift and complete information exchange) have to be dealt with. The platform can set the price of the offered goods and other conditions. In such a scenario, providers depend on the platform to the greatest extent possible, which creates a favourable environment for abuse and should be closely attended to by regulators.

At the same time, companies that, for any reasons, do not operate through platforms or ecosystems may potentially face greater risks. Thus, a significant flow of demand can lead to a forced change in the business model and at least a short-term decrease in margins. It should be borne in mind that the main strategy for entering new markets in the platform

economy is price competition, which can be long withstood by few businesses[1]. Transitioning to the status of a niche actor can also lead to a loss of marginality and the usual growth rates, which, as a result, reduces the attractiveness of the business for investors and may cause difficulties in raising funds for further development.

In general, the rapid strengthening of the role of platforms in all significant market segments will inevitably lead to a change in their usual structure, and such changes may be irreversible. According to international experience, the launch of platforms leads to an increase in concentration on a particular segment, which entails a known set of risks of unfair practices and significantly affects both the specified segment and all segments associated therewith within the supply or value chains. It should also be borne in mind that in the absence of regulatory requirements, a platform, as a rule, does not share information about sales and consumer preferences with other market participants, using such data for its own purposes, which also affects the relevant market segment.

In its market, an ecosystem (or a large platform) starts performing functions similar to those of a regulator within its perimeter. It determines the rules of admission, reviews complaints from participants, generally sets standards, and monitors their implementation. The only difference is that an ecosystem, first of all, pursues business goals. With the development of such type of business, other market participants may encounter barriers to their activities caused by the increased influence of ecosystems on their main segment.

Separately, it is worth mentioning the risks for the economy associated with the jurisdiction of key actors in the national market. Thus, the dominance of foreign companies can cause additional risks in terms of effective law enforcement and the use of supervisory measures. It is impossible to ignore the potential impact on the information content of social networks and media included in the perimeter of foreign ecosystems and the possibility of a sudden seizure of their activities for non-economic reasons. In an environment where platforms are the last mile to Russian customers, such a dependence of a large number of Russian providers on platforms as the main sales channel proves the need of a national alternative system. For the same reason, if such platforms promote foreign manufacturers, they will have an advantage over the Russian real sector of the economy, including over Russian small and medium-sized businesses.

It is also worth considering the topic of innovations and technological developments affecting society as a whole. Any business strives to have a competitive advantage, and the scenario of operating a unique technology in the interests of its own business becomes not only theoretically attractive but also quite common. However, companies with significant market power can often afford not only their own developments, but also extensive work in the market, including the purchase of promising development companies with the subsequent integration of technologies into their own systems. Still, it is not uncommon for companies to acquire businesses for potential growth but never actually use them. In a similar way, it is possible to fight against potential competitors that perform promising developments in the area of interest to the company. It is impossible to assess certain prospects for the development of any technology, and, on the one hand, such practices are not unique to the platform market, but on the other hand, they are often the subject of separate discussions by both the business community and regulators, given the sensitivity of the digital world to technological innovations.

[1] *Manufacturers being small and medium-sized businesses are first affected by such risks, entailing insolvency and loss of business.*

Examples of innovative solutions in the platform services market

The development of voice interfaces can potentially increase the attractiveness of ecosystem services for households. There will be no need in understanding complex interfaces and remembering the right buttons, instead, the necessary action can be voice-controlled. If such a solution was owned by the only actor, it would make customers even more loyal to such an ecosystem. However, the spread of this technology, on the contrary, eliminates the barriers to customers' using different ecosystems. With voice commands, clients do not have to be aware of another ecosystem's interface on a mobile phone or PC.

The next stage of innovation may be the development of independent bots-assistants, including those with voice interfaces, which will be able to interact with different platforms, ecosystems, and niche providers and will be an open super ecosystem. The ways to monetise and operate such assistants should be a topic for a separate large-scale discussion. Thus, innovative solutions can significantly affect the emerging market landscape and business models of individual participants.

Attention should be paid to the risks indirectly associated with the previously noted increase in the level of concentration in the market, being the risk of data leakage. While not specifically inherent to ecosystems, it is nevertheless characteristic of any accumulated digital data, and it will be the higher the larger and more specific such data pools are. Due to the special features of its activities, an ecosystem accumulates a significant amount of unique data about its users (both consumers and providers), including the interests and preferences of customers with their potential breakdown by socio-demographic characteristics, data on sales volumes, allowing to identify the most promising and in-demand products and modifications, transactional, payment and personal data. While almost all jurisdictions have laws regulating the circulation and protection of at least some of such data, the information concentration increases the risks of both its leakage and misuse.

While developing the services of its "digital state", an ecosystem tends to evolve from the widely used loyalty programs based on internal points to the use of an internal "currency". There are many examples of discussions and plans to use internal accounting units within the ecosystem as a means of payment for goods and services provided by the ecosystem, and as savings for later use or as a loan. However, the emergence of such accounting units can be a factor in the excessive binding of consumers to the ecosystem, which will worsen conditions for competition. In addition, the ability of ecosystems to change the economic value of such units can lead to consumer rights infringement.

Internal accounting units issued by an independent decision of the issuing organisation will be the most undesirable consequence from the point of view of the monetary system. In fact, such instruments will be monetary surrogates. With the wider use of such payment instruments as alternatives to national currencies, the effectiveness of monetary policy could significantly decrease in any jurisdiction. The emergence of such accounting units could result in regulatory arbitrage with deposits and loans. The degree of the possible severity of uncontrollable consequences varies from the risks of slightly depreciated national currency and changes in the market level of interest rates to a significant substitution of some transactions in the real sector by payments denominated in internal accounting units. The issuance of monetary surrogates can pose threats to the national payment system and financial stability due to the risk of loss of solvency by their issuers.

It is also necessary to additionally highlight the risks for creditors and depositors of banks, on the basis of which ecosystems are formed. Such risks are associated with the banks engaging in non-financial industries that are new to them, including strategic risk, the risk of forced support, and the risk of information security. The Bank of Russia will issue a separate consultation paper containing an analysis of the risks assumed by the banks that are building ecosystems, as well as proposed regulatory requirements for such banks.

Thus, the new regulation of platforms and ecosystems, in addition to stimulating their further innovative development, should also provide for measures to reduce the likelihood of the associated risks and minimise the possible negative consequences of their occurrence.

Topics for discussion:

5. Which of the risks listed in this section are to be considered the most significant for Russia? Can we already observe the consequences of such risks? Which ones?
6. What other risks can the activities of platforms and ecosystems pose to the Russian market?

6. MEASURES ADOPTED BY FOREIGN REGULATORS

Global regulators have started to pay much attention to the growing influence of the largest ecosystems. Currently, the requirements imposed on them are concentrated in the field of protecting customers' personal data, checking the posted content, equal access to monetised information on consumer behaviour and habits (requests, preferences, data on purchases and transactions, and socio-demographic profile), and antitrust laws. Financial regulators, with the exception of China, often have no reason to interfere with such ecosystems, since they do not explicitly enter the relevant markets.

In general, approaches to the regulation of ecosystem activities in each jurisdiction depend on a number of factors. Such factors, first of all, include the presence of local ecosystems/platforms in the market (related market segments), the priorities of social and economic development for the next 5—10 years, and historically established approaches to the regulation of new areas. For example, the US antitrust regulation tools are traditionally strong including the measures of influence in court[1]. The European Union is forming a special regulation of digital platforms and ecosystems aimed at supporting (potential) local actors through increased requirements for large (foreign) companies[2]. The UK's approach to ecosystem regulation is similar to that of the European Union. It also discusses the issue of introducing special regulation and creating an independent special-purpose regulator for digital platforms and ecosystems.

In China, given the strategy aimed at accelerating the development of technologies, their implementation in all spheres of life, as well as the practically achieved goal of minimising the use of cash, local companies are supported by the government, and their growth takes place in an almost free legal field until the company becomes too large and begins to replace the functions of the state or special-purpose regulators.

The existing duopoly (Alipay and Tenpay together account for about 93% of the retail payment market in China) cannot but attract the attention of regulators. If at an early stage in the development of electronic payments, their activities met the goals of the Chinese regulator to reduce cash turnover, today the growing market power of the two largest platforms begins to pose the risks characteristic of ecosystem monopolies. In order to minimise such risks, the regulator first introduced restrictions on the amount of payment, requirements to keep users' balances in accounts with a zero-interest rate, and then created NetsUnion state clearing platform which deprived Alipay and Tenpay of the exclusivity of transaction data.

In January 2021, the People's Bank of China proposed to tighten anti-monopoly measures against companies in the non-bank payments market. The draft law proposed by the regulator sets forth that the People's Bank of China will be able to recommend the Anti-monopoly Committee of the State Council of the People's Republic of China to reorganise the company if its activities hinder the development of the payment services market. Companies operating in this industry must also comply with the AML/FT requirements of the regulator. In the event of a serious violation, the regulator may revoke the company's licence.

The People's Bank of China plans to hold negotiations with companies if the market share of non-bank payment services reaches 33.3% for one company, 50% for two companies,

---

[1] *For example, claims are currently being considered against Facebook (Court pursuant to Section 13 (b) of the Federal Trade Commission Act (the FTC Act), 15 U.S.C. §53 (b), for a permanent injunction and other equitable relief against Defendant Facebook, Inc.) and Google (Section 2 of the Sherman Act, 15 U.S.C. §2, to restrain Google LLC (Google) from unlawfully maintaining monopolies in the markets for general search services, search advertising and general search).*

[2] *The Digital Services Act and Digital Markets Act projects have been submitted to the European Commission and are undergoing the standard approval procedure of EU legislative acts.*

and 60% for three companies. Non-bank payment organisations will be subject to anti-monopoly checks if the market share of non-bank payment services reaches 50% for one company, 66.6% for two companies, and 75% for three companies.

In addition, the Chinese regulator plans to develop a legal framework to identify and regulate systemically important non-bank payment institutions.

While such a scenario is implemented in China, the government is forced to take rather tough measures to preserve the competitive environment amid current duopoly conditions. Moreover, Alibaba Group was required to sell media assets to reduce the social and political influence.

In this regard, the timely establishment of requirements for the largest actors will allow avoiding tougher measures associated with the destruction of the existing business, which can result in financial losses of ecosystems and their clients, reduce public welfare and be negatively perceived by both businesses and households.

More detailed information on regulatory measures in the largest jurisdictions is available in the appendix of this paper.

Topics for discussion:

7. What global trends and experience in the development of ecosystems and approaches to their regulation can be most relevant for Russia? Are there specific factors in the development of Russian platforms and ecosystems that need to be taken into account in regulatory matters?

7. APPROACHES TO REGULATE RUSSIAN ECOSYSTEMS

Governments have accumulated experience in protecting competition and consumer rights in the traditional economy. Some of this experience can be successfully applied in the digital economy, including for the regulation of ecosystems. It is, first of all, applicable to the responses by antitrust authorities and consumer protection authorities to complaints from providers and buyers in terms of unfair behaviour of platforms and ecosystems, price and non-price discrimination[1].

But the special features of ecosystems impose new requirements for regulation in such areas. Traditional tools appear to be ineffective amid new conditions. New challenges are emerging for regulators, including Russian ones. This section describes the optimal structure of the Russian market from the point of view of further successful development of the platform and ecosystem solutions thereon, as well as a number of key issues that need to be solved to ensure sustainable preservation of such a market structure in future.

Optimal target structure of the Russian market

At least several large national ecosystems competing with each other and with foreign actors may be considered to be optimal target structure of the Russian market. At the same time, niche providers will meet the demand of customers outside ecosystems, if the quality or price of a particular product or service offered by the ecosystem does not suit consumers. For example, a customer may prefer to buy farm goods from a local store rather than ordering groceries or ready-to-eat food delivered through the ecosystem. Smaller, niche or new platforms in the market will maintain competition with leading ecosystems, replacing them in those segments where they can offer the consumer innovative technology or services of a different quality level.

It seems that such a picture of the national market will meet the requirements of the current conditions, provide the necessary dynamics for the implementation of changes, create the proper level of fair competition and fuel innovation, without which it is impossible to imagine further development of the digital economy.

Restricted access to consumers

In the case of the growing dominance of ecosystems for niche providers outside them and new small innovative companies that may become future competitors of ecosystems, the opportunities for access to potential customers are limited[2].

---

[1] *In this regard, the recent EU action against Amazon retail platform is a good example. The platform was accused of manipulating search results in favour of its own branded products and exclusive use of consumer preference information to develop its own goods.*

[2] *Such basis of regulation is, in particular, discussed in a joint statement of regulators of France and the Netherlands (Considerations of France and the Netherlands regarding intervention on platforms with a gatekeeper position, 2020): 'For example, intervention may be necessary when users are locked in a platform or competition is or will soon be hampered by a lack of access to inputs, capital and users. It should thus apply to situations where, without any intervention, it is unlikely that smaller actors and new entrants who otherwise may grow out into a new disruptive innovator are able to compete with the structuring platform'.*

It is quite natural that the ecosystem's share grows in its services markets given the powerful competitive advantages that serve as the basis for its business model. As a result, some of the non-platform participants will be forced to leave the market. This is how creative destruction[3] manifests itself when weak actors give way to a stronger and more efficient ecosystem in the market. Users benefit from the growth of ecosystems, as they get the services they need seamlessly and with little or no time or mental effort. The main disadvantage is that the ecosystem deliberately binds users to itself. Therefore, smaller and new actors, a number of which could quickly grow and become strong competitors to ecosystem businesses by increasing the quality and value of their offers to consumers, will face a problem, as they will have difficulties in accessing such consumers. This is difficult to imagine in a traditional economy, but in a digital economy where customers dwell on a digital platform of ecosystems, access to a buyer who is inside the ecosystem is a problem for other actors. The current regulation does not qualify this as dishonest behaviour of the dominant participant, so the likely outcome is that new actors will not merely enter such business. However, society as a whole is not interested in limiting its development potential, holding back promising business models and increasing the quality of goods and services offered to consumers.

Thus, Internet giants, being ecosystems which, due to their investments, efforts, innovations, or even due to historical reasons, have occupied a dominant position in national markets, may have interests conflicting with public welfare and society's striving to create growth incentives and conditions for future breakthrough actors that will compete with ecosystems in future. It is important that the ecosystem success is achieved through their efforts but with the participation of society as consumers of their services. Accordingly, the regulatory policy should proceed from the support and creation of incentives for innovative development in relation to both the leading market actors and smaller platform participants and technological startups.

Global actors in the Russian market

The technological and economic ease of entry and strengthening of the positions of global actors in the national market amid regulatory, tax and other arbitration can lead to the accumulation of significant risks both in protecting competition and financial stability.

As noted in the Financial Stability Board (FSB) report[4], BigTech companies find it easy to provide financial services to the markets of developing countries. Already existing economies of scale and expensive innovative solutions leave little chance for competitors. Such globalisation of finance brings many benefits to financial end users. At the first stage, society as a whole benefits from an increased variety of services, their price reduction, and greater convenience in obtaining them. In this regard, national regulators may be interested in the global BigTech companies and ecosystems formed on their basis in the domestic financial market, and in the growth of competitive pressure on domestic actors. However, if there is no proper regulation, negative factors will prevail over temporary positive effects in future.

Due to the provision of services using a platform, it becomes possible to provide them without an appropriate licence on the back of regulatory arbitration. At the same time, the concept of market boundaries is blurred, since the provision of services is not connected with any specific place or territory. Amid such conditions, the task appears to be to not only develop regulation for such actors (primarily at the supranational level[5]). It also becomes

---

[3] *The term was first used by J. Schumpeter in 1942.*

[4] *BigTech Firms in Finance in Emerging Market and Developing Economies: Market developments and potential financial stability implications, The Financial Stability Board (FSB), October 2020.*

[5] *According to A. Carstens' speech on the regulation of BigTech companies (Carstens A., 2018), 'it is easy to break one stick, but far*

necessary to adjust the competition rules for national players in such a way that national ecosystems are not in a deliberately losing positions as compared to global actors in the national market.

Proactive approach to adapt to rapidly changing conditions

Due to network effects, economies of scale, and actions to anchor users in an ecosystem, the dominance of individual actors can grow rapidly. Therefore, regulators need to pursue flexible policies and have rapid response tools. It is important that regulatory decisions are predominantly preventive in nature, giving businesses the predictability they need to grow. Such an approach based on preventive regulation is preferable for the subjects of the digital economy[6], and transparent rules may have a positive impact on the quality of the regulatory environment.

Such approach involves the development of analytical tools, determining the range of necessary information and collecting relevant data to analyse the strength of network effects, the potential for economies of scale, the potential of information asymmetries in growing ecosystems (how useful the information collected by the platform for its services is, how much more information the services have in relation to competitors, including non-platform ones[7])[8]. Such analysis will allow:

- first, to assess the benefits to society from ecosystem development in the form of economies of scale and the strength of network effects;
- second, to assess the benefits that other businesses of the owner receive from an ecosystem, how strong the competitive advantages and the threat of dominance in individual businesses are when the ecosystem is not dominant.

It may be that the platform's competitive advantages generated by the ecosystem allow its individual platform or even non-platform businesses (services rendered in a traditional way) to strengthen their positions in their respective markets. Thus, a relatively mature ecosystem can collect enough information to qualitatively assess the patterns of demand for loans, credit risk, and so on, which helps its banking services to dominate the loan market. It is important for regulators to take this into account, even if several ecosystems are represented on the national market, it does not exclude the scenario that in some separate segments (in a particular type of service), one of the ecosystems will take a dominant position[9].

---

more difficult to break a bunch of sticks in one go. Cooperation gives strength'. See also Stulz R. M. (2019). FinTech, BigTech, and the future of banks. Journal of Applied Corporate Finance, 31 (4), 86–97.

[6] *For example, such approach is used by regulators in Europe (see 'Considerations of France and the Netherlands regarding intervention on platforms with a gatekeeper position', 2020).*

[7] *The EU report notes: 'Therefore, any discussion of market power should analyse, case by case, the access to data available to the presumed dominant firm but not to competitors, and the sustainability of any such differential access to data'.*

[8] *See OECD (2018), Peitz M., Valetti T. M. (2015).*

[9] *It is important to consider such spillovers from the ecosystem to individual businesses (especially non-platform ones) when modernising antitrust laws. It is important to not only assess the indicators of platform dominance (number of users, market share of platform services), but also to assess the effects that such a platform is able to create or has already been creating in certain markets, including non-platform ones.*

Open model requirement as an example of a proactive approach

A proactive approach allows you to address challenges at a stage while they are such and have not yet transformed into actual risks and urgent problems. The task of regulators in this approach is to make the starting opportunities for growth equal for potential participants. Such alignment may include the introduction of a requirement to open dominant ecosystems to other participants, meaning the admission of non-platform participants to the ecosystem platform based on criteria publicly disclosed by the ecosystem.

At the same time, the technical opening of a closed ecosystem with the ability to connect to the ecosystem of competing services alone does not solve the main problem associated with the informational advantages that businesses affiliated with the ecosystem have (Chart 4).

To eliminate information discrimination, it is necessary to eliminate information asymmetries[10], make the data collected by the ecosystem available for all competing providers participating therein (Open data).

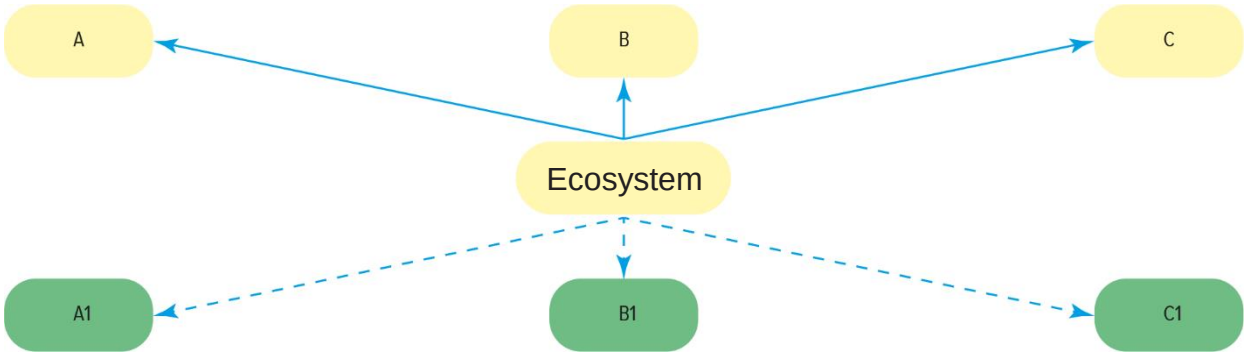
The alternative of data closure (regulatory prohibitions to collect and exchange information between ecosystem businesses; erasing the digital traces of users (deleting history; storing history only on the regulator's servers) is a less attractive way, as it hinders innovation in the provision of services to platform clients. Collecting and sharing information has benefits for society and consumers.

Since aggregated rather than personalised data should be disclosed, the ecosystem will have a competitive advantage in serving specific users, but there will no longer be a competitive advantage in terms of assessing consumer behaviour patterns, assessing risks, and so on.

The next step can be the implementation of the ‘customer data belongs to the customer' principle: the introduction of the requirement for the portability of customer data between platforms, the provision of customer data accumulated by the ecosystem at their request to other market participants, as well as the implementation of the customer's right to "oblivion" (data removal).

Ensuring equal access to the data collected by the ecosystem can be implemented through the allocation of the platform into a separate legal entity and opening the platform.

TECHNICAL OPENING OF THE ECOSYSTEM AS INSUFFICIENTLY EFFECTIVE MEASURE *Chart 4*



A, B, C mean ecosystem products; A1, B1, C1 mean products from other providers.

The dotted arrows show the flow of information from the ecosystem to third-party services, which is less than the flow of information to the ecosystem's own providers indicated by the solid arrows.

[10] *For more details, see, among other things, the recommendations made in the 'Non-discriminatory access to data of individuals in the financial market' consultation paper. Bank of Russia. 2019.*

In such case, the providers that are part of the ecosystem group will participate on equal terms in the ecosystem along with other providers.

It is also important to take into account the non-discrimination factor when shaping the search results of goods and services for the consumer in the ecosystem: the offers of different manufacturers, if included into the platform, should be visible thereon and have equal opportunities to compete for the client's attention with other platform participants. For example, lack of transparency in filtering or ranking algorithms when "placing a product on the shelf" should be considered unfair practices and should be attended to by the relevant regulators. Given that the platform acts as the main, and possibly the only, sales channel for a large number of providers, it is important to ensure that the operation of such channel is based on the principles of a technologically neutral infrastructure and accessible by all participants.

Thus, in addition to the introduction of the requirement for the technical opening of a closed ecosystem, it is necessary to prevent information, tariff, operational or other discrimination of third-party providers in relation to the services rendered by the ecosystem itself.

Role of the government in platform solutions

It is worth mentioning that in the modern economy, the role of the government is not limited to its classical functions, such as regulatory and supervisory ones. Proactive measures on the part of the government in supporting new business models in order to promote innovations, the creation of an independent equally accessible infrastructure to ensure an adequate level of competition, the government's actions as one of the active platform actors should be understandable to the market and predictable in terms of the decision-taking policy. It is important to ensure non-discriminatory access of market participants to state information systems if it is possible to obtain information therefrom for commercial use, for example, to perform scoring when issuing loans and granting credits. Given that data is the main asset and key value for a platform business model, the lack of exclusivity in access thereto will help create the necessary conditions both for the development of specialised services providers and for an overall improvement in the quality of services rendered by existing platform market participants.

Topics for discussion:

8. What structure of the Russian market can be considered optimal in terms of the functioning of platforms and ecosystems?
9. If the platform itself acts as a provider of goods and services purchased thereon, what practices can be considered discriminatory towards other providers? Is it possible to prove similarity with the rules that apply to large retail chains selling goods under their own brand?
10. New platforms' customer acquisition strategies may involve setting prices and fees well below market averages, allowing them to quickly gain a greater market share and create network and economies of scale effects. Can such a practice be regarded as fair if the further monetisation of the accumulated customer base is not built on the anti-competition behaviour of such a platform? Should this strategy be regarded as dumping if it is used by a large platform to enter new geographic regions or new market segments?
11. What is the role of the government in the development of platforms and ecosystems, in addition to being a regulator? In what cases is the development of infrastructure solutions required by the government by creating equally accessible independent technological infrastructures?
12. What other challenges that Russian regulators face should be considered significant?

8. REGULATORY GOALS AND POSSIBLE MEASURES

To create a favourable environment and ensure further innovation-driven development of the platform segment in the Russian economy, the concept of ecosystem regulation in Russia should include the following main goals:

- pursuing the state policy to support internal competition in order to maintain an optimal market structure: competition between large ecosystems, admitting smaller platforms and niche participants, conditions for new actors to enter the platform services market;
- protection of the rights and interests of consumers and providers both within ecosystems and beyond their perimeter;
- ensuring conditions for innovation-driven development of the economy and improving the competitive advantages of national platforms and ecosystems;
- meaningful revision of the concept of unfair competitive practices and strong opposition to them;
- lack of preferences for individual ecosystems from the government, including the exclusive merging of state services with the services of individual ecosystems and platforms;
- prevention of regulatory and tax arbitration, including that in favour of foreign participants in platform markets;
- integration into the international agenda of platform regulation issues, participation in the development of international principles and approaches regarding the regulation of platforms and ecosystems.

To summarise the proposals set out in this paper, in order to achieve the designated goals of regulation and risk compensation listed in section 5, it seems necessary to implement a number of measures, such as:

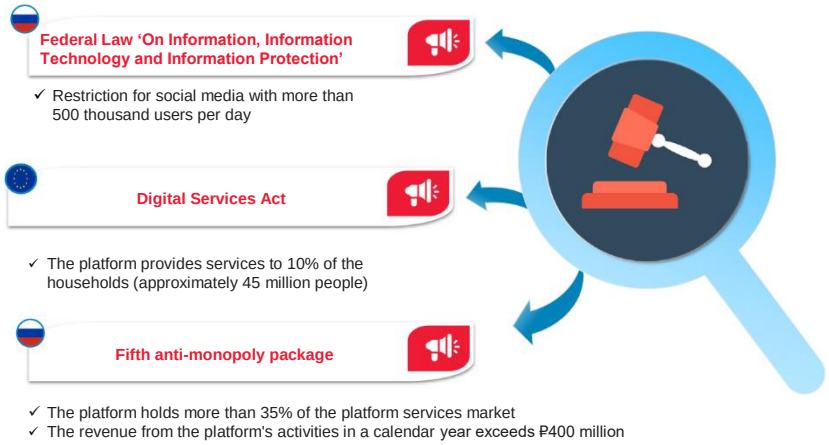
1. Measures to assist the development of national platforms and ecosystems in order to maintain their competitive advantages as compared to international ecosystems in the Russian market in compliance with the WTO and other international agreements. Building relationships with foreign regulators to develop approaches to the admission of foreign ecosystems to national markets provided that national goods and services providers are admitted thereto.
2. Anti-monopoly tools adjusted for the specific economy of ecosystems. It is necessary to revise the definitions, primarily those of the perimeter and assessment of the impact on the subjects of anti-monopoly laws. It is important to define market segments (products), their boundaries, as well as the shares of the dominant ecosystem and/or its elements in individual market segments. The FAS of Russia is to control such share and the existence of criteria according to which it is possible to apply anti-monopoly measures to restrict its organic growth. Special attention is paid to mergers and acquisitions (M&A) of dominant ecosystems, including in the field of technological companies (a ban may be imposed on transactions without the approval of the FAS of Russia). The concept of unfair practices in a platform economy also needs to be revised.
3. The introduction of an open model requirement for dominant ecosystems and the application of measures to ensure the protection of providers not affiliated with the ecosystem but admitted to such ecosystem, including the prevention of their tariff, technological, operational, information discrimination, including discrimination in search and advertising information. Implementation of mandatory Open API that allows consumers and providers to quickly move between different platforms and ecosystems.

4. Measures to ensure the business continuity of large ecosystems and information security and anti-fraud actions. Maintaining an acceptable level of stability, continuity and security of the functioning of organisations operating in a single cyberspace with a focus on ensuring the stable functioning of society, organisations and the state security of property (including information) of households and businesses; health and safety issues.
5. A number of measures to regulate data management, including their protection, principles of use within the ecosystem and outside its perimeter, the implementation of the client's right to dispose of their data.
6. State regulation of the use of internal accounting units within the ecosystem, including a ban on their use as a means of payment, savings and borrowed funds.
7. Reducing barriers to the transition of consumers between ecosystems, platforms and niche providers in order to maintain a competitive environment in the respective basic markets for goods and services, including the cost and other conditions of remittances, non-discriminatory acceptance of national payment instruments, digital literacy of the population, a ban on mandatory packaging of services by dominant actors.
8. Promoting innovation and increasing the availability of services for consumers through the development of infrastructure solutions by the government by means of equally accessible independent technological infrastructures or the introduction of a favourable regulatory regime for their operation on a commercial basis in order to develop competition with insufficient efficiency of market tools. Such infrastructure includes, among other things, a unified information resource for small and medium-sized businesses, the Instant Payment System, the Financial Messaging System, the Unified Biometric System, financial platforms (the Marketplace Project), the Digital Profile Infrastructure, the Know Your Customer information service, and the introduction of the national digital currency. At the same time, an important factor is the predictability of the government's actions, including the decision-making mechanism on the creation of its own elements of the technological infrastructure.
9. The regulation of the activities of ecosystem participants should be performed on a consolidated and comprehensive basis. At the same time, a separate set of prudential measures for ecosystems based on credit institutions will be considered in order to protect the interests of creditors and depositors, being both legal entities and individuals. Such measures will be presented in a separate consultation paper by the Bank of Russia.

Proportionality of the proposed regulation

The introduction of regulatory requirements can be implemented through the allocation of a new subject of the regulation (digital platform, ecosystem) and the establishment at the legislative level of the qualifying characteristics of such an entity, as well as the regulatory body, whose powers will include maintaining the relevant register. At the same time, it is proposed to apply the principle of proportional regulation, where the main requirements should be established for large actors, based on their systemic importance in the economy and potential risks from their activities. The methodology for calculating such size criteria can be approved by the FAS of Russia, and their calculation is carried out by the platforms themselves on a regular basis.

EXAMPLES OF CRITERIA FOR PLATFORM SIZE *Chart 5*



Excessive regulation risks

When imposing requirements and restrictions on ecosystems, it is important to be guided by the principle of maximising social benefits, including maintaining a balance between incentives for already grown companies to innovate and develop, and those that can replace them. Thus, regulatory restrictions should not affect the strategy of leading companies to introduce new technological solutions and improve the quality of services provided to households, small and medium-sized businesses and other clients. In particular, the measures used should not lead to the disappearance of the network effects that serve as the basis for the platform business model. In addition, it should be borne in mind that due to the excessive restrictions of already developed actors, the incentives of their future competitors may also decrease, since their prospects to grow and take a significant market share will be associated with a significant regulatory burden and unreasonable barriers to their further development.

There is also a risk that the weakening of national leaders due to excessively strict regulation may lead to an aggressive expansion of foreign actors. However, a particular jurisdiction may have limited measures to influence them, and the consequences for the national market may be quite considerable.

Currently, there exist no international principles for the regulation of ecosystems, foreign regulators are only developing their policies and determining their attitude thereto. In order to avoid negative arbitration when developing national measures, it is important to take into account the experience and practices introduced by other jurisdictions, since the key task is to maintain a favourable business climate for the implementation of innovation-driven platform projects in Russia.

Topics for discussion:

13. Which of the listed measures should be deemed the most important to be applied in Russia? What other regulatory tools and measures can be used? How can a balance be achieved between the development and regulation of ecosystems, between creating opportunities for multiplying positive effects and limiting risks; to what extent is it especially important to maintain such a balance?
14. What criteria for the size of a platform (ecosystem) can be applied in Russia to set additional requirements for their activities?
15. What is your assessment of the future prospects for the development of platforms and ecosystems in Russia and globally? What factors may be crucial in this regard? Can such factors be taken into account when designing regulation pursuant to the proactive approach?

TOPICS FOR PUBLIC DISCUSSION

1. In addition to those listed in section 2, what other positive impacts can the development of platforms and ecosystems bring to the society?
2. Should there be a regulatory requirement for a mandatory open model for large ecosystems? Should such a requirement apply to all market segments in which such an ecosystem is represented, or only to those segments in which such an ecosystem has a significant share?
3. Should there be regulatory requirements for exclusive providers when dealing with large ecosystems? Is such a provider obliged to offer the opportunity for cooperation to all interested parties in the event of a unique product or service being sold through one of the large ecosystems?
4. Should a single subscription to all services of a large ecosystem be prohibited if this is the only way to fix tariffs for its services? Should there be mandatory separate tariffs for ecosystem services in different market segments?
5. Which of the risks listed in section 5 are to be considered the most significant for Russia? Can we already observe the consequences of such risks? Which ones?
6. What other risks can the activities of platforms and ecosystems pose to the Russian market?
7. What global trends and experience in the development of ecosystems and approaches to their regulation can be most relevant for Russia? Are there specific factors in the development of Russian platforms and ecosystems that need to be taken into account in regulatory matters?
8. What structure of the Russian market can be considered optimal in terms of the functioning of platforms and ecosystems?
9. If the platform itself acts as a provider of goods and services purchased thereon, what practices can be considered discriminatory towards other providers? Is it possible to prove similarity with the rules that apply to large retail chains selling goods under their own brand?
10. New platforms' customer acquisition strategies may involve setting prices and fees well below market averages, allowing them to quickly gain a significant market share and launch network effects. Can such a practice be regarded as fair if the further monetisation of the accumulated customer base is not built on the anti-competition behaviour of such a platform? Should such strategy be regarded as dumping if it is used by a large platform to enter new geographic regions or new market segments?
11. What is the role of the government in the development of platforms and ecosystems, in addition to being a regulator? In what cases is the development of infrastructure solutions required by the government by creating equally accessible independent technological infrastructures?
12. What other challenges that Russian regulators face should be considered significant?
13. Which of the measures listed in section 8 appear to be the most effective to apply in Russia? What other regulatory tools and measures can be used? How can a balance be achieved between the development and regulation of ecosystems, between creating opportunities for multiplying positive effects and limiting risks; to what extent is it especially important to maintain such a balance?
14. What criteria for the size of a platform (ecosystem) can be applied in Russia to set additional requirements for their activities?
15. What is your assessment of the future prospects for the development of platforms and ecosystems in Russia and globally? What factors may be crucial in this regard? Can such factors be taken into account when designing regulation pursuant to the proactive approach?

REFERENCES RELATED TO THE PLATFORM AND ECOSYSTEM REGULATION

1. Abadi, Brunnermeier (2018). Blockchain economics.
2. Acemoglu (2016). Innovation Network.
3. Acemoglu (2017). Endogenous production networks.
4. Acemoglu (2019). Too much data: prices and inefficiencies in data markets.
5. Acemoglu et al (2015). Networks and the macroeconomy, an empirical exploration.
6. Allcott et al (2019). The welfare effects of social media.
7. Barro, Wheaton (2019). Taxes, incorporation, and productivity.
8. Bartlett et al (2019). Consumer-lending discrimination in the fintech era.
9. Bellon (2011). Industrial Competition as a limit to banking market power.
10. Berlingieri et al (2019). Organising global supply chains: input cost shares and vertical integration.
11. Bernard et al (2019). The origins of firm heterogeneity: a production network approach.
12. Berry et al (2019). Do increasing markups matter? Lessons from empirical industrial organisation.
13. Bharadwai et al (2019). Fintech and household resilience to shocks: evidence from digital loans in Kenya.
14. Blonigen et al (2019). Evidence for the effect of monitoring costs on FDI.
15. Bremus et al (2013). Big banks and macro outcomes: theory and cross-country evidence of granularity.
16. Buchak et al (2018). The limits of shadow banks.
17. Budish et al (2019). Will the market fix the market.
18. Cao et al (2018). Market expanding or market stealing? Competition with network effects in bikesharing.
19. Covarrubias et al (2019). From good to bad concentration? US industries over the past 30 years.
20. Delis et al (2015). Bank market power and firm performance.
21. Evans, Schmalensee (2013). The antitrust analysis of multi-sided businesses.
22. Evans, Schmalensee (2018). Debunking the networks effects bogeyman, regulation.
23. Fan et al (2019). Quality, variable markups, and welfare: a quantitative general equilibrium analysis of export prices.
24. Farboodi et al (2019). Big data and firm dynamics.
25. Farboodi et al (2019). Antitrust and innovation: welcoming and protecting disruption.
26. Gross (2019). Collusive investments in technological compatibility: lessons from US railroads in the late 19th century.
27. Gutierrez et al (2019). Entry costs and the macroeconomy.
28. Gutierrez, Philippon (2019). The failure of free entry.
29. Karlan et al (2016). Research and impacts of digital financial services.
30. Levine et al (2019). Communication within banking organisations and small business lending.
31. Lexology (2019). Competition issues in fintech.
32. Maudos Fernandez (2006). The cost of market power in banking: social welfare loss vs. inefficiency cost.
33. Philippon (2016). The fintech opportunity.
34. Shearman-sterling (2019). Antitrust-annual-report-2019.
35. The Economist (Feb 2021). Tech's big dust-up.
36. Tucker (2018). Network effects and market power: what have we learned in the last decade?
37. Vezzoso (2019). Fintech access to data and the role of competition policy.
38. Wilson, Wolak (2018). Benchmark regulation of multiproduct firms: an application to the rail industry.
39. Winson and Strawn (2019). The Second Coming of FinTech — Regulatory and Antitrust Considerations with Artificial Intelligence and Blockchain.
40. *Digital Services Act*
41. *Digital Markets Act*
42. Guidelines for Anti-monopoly in the Platform Economy

APPENDIX

Measures adopted by foreign regulators

China

Regulation of data processing by BigTech companies

The Cybersecurity Law was adopted in 2017 and has since then been in force. Pursuant thereto, increased control has been ensured over the activities of both Chinese and foreign companies on the Internet as follows:

- special supervision regime has been established over operators of critical information infrastructure (CII). The law has introduced requirements for equipment certification and tests, and the obligation to file information about the equipment used to regulators. CII operators include services providers in telecommunications, financial sector, and public infrastructure, whose functionality, if disrupted, may pose risks of national security, public interest and national welfare (including foreign companies);
- the regulators have been vested with a right to decide on freezing the assets of foreign companies, organisations and individuals if they are suspected of arranging for and being involved in an attack, hacking, interference, or damaging China's critical information infrastructure. Such a measure results in unpredictable restrictions of foreign companies' access to the Chinese market;
- a ban has been introduced on the export of data on Chinese citizens, which leads to higher profits for Chinese cloud providers (when the draft law was discussed in 2016, Alibaba almost doubled its revenue from cloud services) and significant expenses on investing in new local data servers;
- a requirement has been set for mandatory IT equipment tests and certification to prove its safety and reliability in terms of protecting user data. Such a measure facilitates unrestricted access by Chinese government authorities to source code, encryption, and other confidential information.

In order to implement the above measures, the People's Bank of China published the Measures for the Deposit of Customer Payment Reserves by Non-banking Payment Institutions on 19 January 2021, which:

- require to deposit any customers' money (100% thereof) to a designated bank account at the People's Bank of China (PBOC) or any commercial bank authorised by the PBOC;
- require to transfer any customers' money reserved for payment transactions through an eligible clearing company meeting the PBOC requirements;
- clarify the procedure for custodian storage in payment institutions;
- establish penalties due to violations of the procedure for centralised depositing any customers' reserved funds;
- strengthen the supervision over any customers' reserved funds, including the possible application of administrative measures in order to protect customers' rights and interests.

Currently, China has adopted and applied the following macroprudential regulation measures and requirements for BigTech companies aimed at reducing systemic financial risks:

- supervision over the financial transactions by BigTech companies has been increased, with due regard to unfair competition practices;

- a requirement has been set for the mandatory implementation of centralised payments clearing. Such measures have served to eliminate the direct interaction between BigTech companies and commercial banks when making interbank transfers. In 2017, a centralised online platform was built. NetsUnion Clearing Corporation infrastructure is responsible for clearing services related to settlements of all third-party payment service providers, including WeChat Pay and Alipay. The payments themselves are made through the payment system of the People's Bank of China (PBOC);
- since 2017, the PBOC has implemented a centralised depository reserve system (managed by the PBOC). In January 2017, an obligation was established for non-bank payment service providers to deposit 20% of customer funds in a custodial account without accruing interest in a commercial bank authorised by the PBOC. In April 2018, the reserve-funds ratio was increased to 50%, and in January 2019, to 100%. Thus, BigTech companies were deprived of the opportunity to use customers' funds for their commercial purposes, including for lending. Such requirements have actually led to a complete restriction of BigTech companies' activities related to opening deposits for clients with interest accrual;
- Baihang consumer credit reporting platform has been implemented, which collects and stores personal credit information of (retail) customers of financial institutions and financial platforms of BigTech companies, and provides credit reports and scores. The obligation has been established for BigTech companies to provide information about their customers in order to form credit scores of citizens (such information also helps determine credit history of customers who have never been granted loans by traditional financial institutions);
- new rules have been introduced for BigTech companies' platforms offering microcredits. A capital adequacy requirement has been set for BigTech companies offering loans, and an obligation has been fixed for companies to finance at least 30% of any loan they provide jointly with banks.

In 2019, The State Council of the People's Republic of China adopted the Basic Principles for the Development of the Platform Economy, which include the following:

- the need to simplify the licensing and registration processes for market entities involved in the platform economy;
- development of FinTech entrepreneurship;
- facilitating the data exchange between government agencies and platform companies;
- promoting fair competition.

In September 2020, the People's Bank of China issued Trial Measure for the Supervision and Regulation of Financial Holding Companies (FHCs). Pursuant to the new rules, companies engaged in at least two types of financial activities will have to apply for a licence of a financial holding company and maintain authorised capital of at least $72.7 billion. In addition, to prevent cross-sectoral risks, a ban has been introduced on non-financial activities and investments in financial institutions.

Since 2020, draft amendments to the 2008 Anti-monopoly Law of the PRC have been prepared, which establish the principles and rules for the online market, in particular:

- the liability of violating parties has been increased, more severe penalties have been introduced, including criminal liability for monopoly behaviour;
- the liability has been fixed for operators who help other operators to conclude monopoly agreements;
- the concept of abuse due to a dominant position in the online service sector has been clarified.

In late 2020, China's State Administration for Market Regulation (SAMR) has released the Antitrust Guidelines for the Platform Economy (6 chapters, 24 articles) to be publicly discussed and commented on, which:

- develop approaches to determine the anticompetitive behaviour of a company as a whole in the general market, which can be ascertained without any reference to the field of activity or to a specific market;
- introduce the prohibition of monopoly agreements for online platforms, which contain conditions for fixing prices, market segmentation, limiting production (sales), limiting the use of new technologies (products), and which can be achieved, including through advanced technical methods and algorithmic conspiracy;
- provide for new criteria for the dominant position of BigTech companies: it is proposed to take into account network effects, the scale of a company's activities and the volume of big data processing;
- introduce cooperation with law enforcement authorities: business operators must extensively report any horizontal monopoly agreement, provide appropriate evidence, and prevent any violations. In such cases, the regulator can mitigate or remove penalties for business operators.

In late 2020, a draft law on data protection in China (similar to the European GDPR directive) was issued to be publicly discussed and commented on, which:

- sets the general principles of data protection similar to the European GDPR;
- is expected to apply new rules to any legal entity that processes the data of Chinese citizens as part of the provision of services, including outside the country;
- introduces the obligation of operators to send notifications to data subjects, including information about the data processing (operator data, data category, purposes, methods, and storage periods);
- establishes the right of data subjects to access, correct and, in certain circumstances, object to the processing or request the deletion of personal information;
- provides for the informed and voluntary consent of an individual to the processing of personal data;
- regulates the issues of cross-border transfer of personal information from China, including procedures for informing and obtaining appropriate consent from citizens;
- regulates the procedure for notification of data breaches, as well as the processing of personal information by government authorities.

On 20 January 2021, the People's Bank of China proposed to impose tougher anti-monopoly measures on companies in the non-bank payments market. The draft law proposed by the regulator provides for the following:

- The People's Bank of China will be able to recommend the Anti-monopoly Committee of the State Council of the People's Republic of China to reorganise the company if its activities hinder the development of the payment services market.
- Companies in this sector are to comply with the AML/FT requirements of the regulator, and in the event of a serious violation, the regulator can revoke their licence.
- The People's Bank of China will hold negotiations with companies if the market share of non-bank payment services reaches:
  - 33.3% for one company;
  - 50% for two companies;
  - 60% for three companies.
- Non-bank payment institutions will be subject to antitrust checks if the market share of non-bank payment services reaches:
  - 50% for one company;

- 66.6% for two companies;
- 75% for three companies.
- The People's Bank of China is also to develop a legal framework to identify and regulate systemically important non-bank payment institutions.

The European Union

Antitrust regulation

The regulation is associated with antitrust investigations carried out by the European Commission mainly in relation to the US BigTech companies based on the following acts:

- Council Regulation (EC) No. 1/2003: this act provided the European Commission with broad powers in antitrust regulation, in particular with the right to conduct investigations in various sectors of the economy. At the request of the Commission, companies are to submit all necessary information. During an investigation, the Commission may interview both individuals and representatives of a legal entity.
- Council Regulation (EC) No. 139/2004: for the first time in the EU, a ban has been introduced on mergers and acquisitions of companies that contribute to monopolies. If companies fail to notify the Commission of or perform a merger transaction contrary to the Commission's decision, the participating companies may be imposed a penalty of up to 10% of the total turnover.
- Treaty on European Union, 2007 (articles 101, 102 and 107): prohibits abuse of dominance and inter-company conspiracy through written and oral agreements, including electronic communications. At the same time, a dominant position in itself is not a violation (however, an enterprise bears a special responsibility in such a position and should not allow the weakening of competition in the relevant market). The EU also controls other distortions in the competitive environment, for example, caused by government subsidies. Additionally, the EU jurisdiction includes companies located in non-EU states but influencing trade between EU member states.

In February 2019, the German antitrust authority (Bundeskartellamt) banned Facebook from systematically combining user data from different sources (including other Facebook services, such as WhatsApp and Instagram).

In 2019, France also introduced a tax on large foreign tech companies that provide services to French citizens. Companies with revenues of at least €25 million in France and €750 million globally are required to pay a tax of 3% on the revenues from the provision of digital services to French citizens.

Regulation of data processing by BigTech companies

Data processing is governed by the General Data Protection Regulation (EU), 2016 (GDPR) (entered into force in 2018).

The GDPR strengthens the protection of data of the EU citizens and persons located in the EU in terms of their processing and is extraterritorial in nature, meaning it applies to companies registered outside the EU.

The GDPR sets forth:

- the right to data portability, which implies the ability to request the upload of personal data provided by the data subject under a service agreement or under a dedicated data processing agreement. The GDPR provides for the possibility to request the transfer of personal data to the address of a competing organisation when changing a service provider, similar to the mobile number portability scheme in the telecommunications industry. Such measure prevents unfair customer retention due to the risk of losing the accumulated history, which reduces the barrier to the customer transition from one goods and services provider to another and increases the level of competition, and

contributes to the development of new business models and services;
- the levels of responsibility for data processing: the data controller determines the purposes and means of processing, and the operator processes them in accordance with the controller's written instructions. The controller can only transfer data to a third party if such a third party ensures full compliance with the GDPR and is willing to enter into an eligible agreement with the controller. The operator does not have the right to transfer data to a third party without the explicit permission of the controller, and both parties are obliged to keep records of such transactions. Such GDPR provisions are intended to demotivate non-transparent data transmission schemes in the telecommunications and digital marketing sectors. Accordingly, controllers are subject to broader range of requirements than operators.

In late 2020, the European Commission also submitted two draft laws to the European Parliament to regulate the services of tech companies, including digital platforms and marketplaces operating in the EU: Digital Services Act and Digital Markets Act. The reform is aimed at protecting consumer rights in the digital environment, stimulating the development of innovation, protecting competition, supporting small and medium-sized businesses, and preventing users and goods (services) providers from becoming trapped in one ecosystem.

Key provisions of the Digital Services draft law

Regulated entities are obliged to:
- file a report containing the disclosures on the activities of the platform;
- comply with the requirements for service agreements;
- have a representative office in the EU (in the case of foreign organisations);
- provide users with detailed information about the operation of the platform;
- ensure feedback and pre-trial and judicial tools to appeal the activities of the platform;
- provide users with the opportunity to complain about the distribution of illegal goods, services or dissemination of prohibited information by the platform, including infringement of intellectual property rights;
- enable users to opt out of pop-up ads;
- ensure platform verification of goods and services providers (similar to Know Your Customer procedure);
- send notifications to state authorities if they become aware of any criminal offences.

Systemically important digital platforms covering more than 10% of the EU households (about 45 million users) shall be additionally obliged to:
- have and maintain risk management system;
- ensure the position of Chief Compliance Officer (CCO), whose responsibilities shall include reducing the company's compliance risks and make sure the company's internal regulations and policies are compliant with the EU laws;
- arrange for an external (independent) audit of the company's risks and public disclosure of information about the company's activities and audit results;
- disclose information regarding the distribution of online advertising and the algorithms used to recommend them to specific users (in order to prevent abuse of user data by platforms in case of contextual advertising).

Control and supervision

The draft law provides for the establishment of a special-purpose regulator, being the Digital Services Council, consisting of representatives of the EU member states.

Systemically important digital platforms will be overseen by the European Commission with special investigative powers and direct administrative sanctions.

Key provisions of the Digital Markets draft law

Pursuant to the draft law, a digital platform can be classified as a large or systemically important one if it:

- operates in most EU states;
- has a significant impact on the domestic market;
- connects a large number of users with a large number of goods/services providers;
- has a strong economic position and a stable income from intermediary services rendered in the EU.

Systemically important platforms shall:

- provide third parties with an opportunity to interact with a systemically important platform under agreement (implementation of the principles of an open ecosystem that ensure internal competition between goods or services providers);
- inform the goods/services providers about the data bank used in the activities of the digital platform;
- provide advertisers with all the necessary tools and information to conduct an independent verification (statistics analysis) of advertising placed on a digital platform;
- allow their goods/services providers to promote goods/services and enter into agreements with customers outside the digital platform.

Systemically important platforms shall not:

- give priority to the promotion of goods/services of the ecosystem as compared to goods/services of third parties;
- prevent consumers from entering into agreements with goods/services providers outside the digital platform;
- prevent users from removing pre-installed software or applications.

The European Commission will be responsible for the supervision over systemically important digital platforms and the assessment of breaches and investigations.

In case of any violations of digital markets laws, the following sanctions are imposed:

- administrative fine of up to 10% of the company's total global annual turnover;
- regular penalty payments of up to 5% of the company's average daily turnover;
- suspension or termination of all or part of the company's activities (in case any systematic violations are detected during any investigation by the European Commission).

The US

Antitrust regulation

The regulators exercise close control over mergers and acquisitions, which significantly reduce competition and creates conditions for a monopoly.

The US Federal Trade Commission is responsible for analysing such transactions (such as the takeover of Android, YouTube, AdMob by Google) and issuing special orders for BigTech companies.

At the same time, the protection of competition in the market is regulated by the following acts:

- The Sherman Act of 1980. The first antitrust law in the US is against explicit restrictions on free trade and prohibits anti-competitive actions. The law directly indicates the possibility of linear division of the company's production. However, the prohibition on abuse due to dominant market position does not apply to actions to exercise exclusive rights (such as the integration of the main platform with other utilities and applications). Monopoly agreements that have a positive impact on the economy and consumers (resulting in lower prices, variety of choice, and ease of use) are also not subject to prohibition.
- The Clayton Act of 1914. This law limits the practice of mergers and acquisitions, which significantly reduce competition and create conditions for a monopoly. This act was allegedly violated when BigTech companies acquired new platforms. Such instances include Facebook's acquisition of WhatsApp and Instagram; Google's takeover of Android, YouTube, and AdMob.
- The Federal Trade Commission Act of 1914. It also regulates consumer protection by prohibiting unfair or deceptive business practices.
- The Bank Holding Company Act of 1956. This law sets limits for banks to acquire or own non-bank or financial companies.

Regulation of data processing by BigTech companies

- There is no uniform US federal personal data law. Regulation is ensured through state or US Supreme Court decisions.
- At the same time, there are industry-specific acts, such as the Children's Online Privacy Protection Act of 1998. This law regulates the fundamental principles to protect the privacy of children and includes the requirement for informed parental consent to process the information of the data subjects under 13.
- In 2016, the EU-US Privacy Shield Act introduced a special data processing oversight regime by the Federal Trade Commission that allows US companies to voluntarily implement European data protection regulations under the Commission's oversight, making it easier for US companies to process data in European markets.
- In 2018, the California Consumer Privacy Act (CCPA) was adopted, which states that all California residents have the right to be aware of what information companies collect about them and refuse to share it. If companies fail to take appropriate measures to ensure the security of data collection, consumers have the right to appeal their actions.
- In February 2020, US Senator K. Gillibrand introduced a draft law to create an independent Federal Data Protection Agency, which will be vested with control and oversight functions in relation to the processing of personal data. The draft law aims to protect the personal data of US citizens on the Internet from abuses committed primarily by BigTech companies (Google, Facebook, and others). Pursuant to the draft law, data subjects will be able to file complaints about violations of confidentiality conditions directly to the agency, which will be able to take administrative measures (for example, impose a fine).

Regulation of ecosystems and BigTech companies rendering financial services

Platforms and ecosystems are subject to general rules for regulating financial services. Typically, BigTech companies provide financial services in the US in partnership with traditional financial institutions. It is worth mentioning that the GAFA companies, which are the dominant ecosystems in the US market, have no traditional financial licences in any market — banking, insurance, brokerage or otherwise. The payment services, which are

critical to creating a seamless customer journey within the ecosystem, are the only exception: BigTech companies obtain relevant approvals from state regulators to render them.

The formation of ecosystems at the bank level is difficult due to the ban on investing in non-financial companies. Banks can only invest under the merchant banking model but they apply it quite rarely.

GLOSSARY

Platform (digital platform) means an information system operating via the Internet, which ensures interaction between platform participants, allowing them to create and exchange values. This paper focuses primarily on two-sided (multi-sided) transaction platforms, where users have interests different from other users and can be grouped accordingly (classified to different sides of the platform). Thus, one group will include goods and services providers, and the other will comprise consumers of such goods and services (individuals and legal entities)[1].

Closed platform means a platform, which admits participants pursuant to non-public criteria.

Open platform means a platform, which admits participants pursuant to public non-discriminatory criteria disclosed by the platform.

Network effect means additional benefits for platform users from a larger number of platform participants.

Ecosystem (digital ecosystem) means a set of services, including platform solutions, of one group of companies or a company and partners allowing users to obtain a wide range of goods and services within a single seamless integrated process. An ecosystem may include open and closed platforms. The range of services offered by the ecosystem satisfies most of the daily clients' needs or is built around one or more of their essential needs (ecosystems at the initial stage of their formation or niche ecosystems).

Economies of scale means a decrease in money or time spent on an item of goods/services due to an increase in the size of the business (the number of buyers/consumers).

---

[1] *There are also one-way platforms, where users are not divided into groups in terms of the purpose of using the platform and its services (for example, a messenger without additional services). In addition to transactional platforms, the platform types include attention platforms that provide consumers with free information services such as search engines and social media, cross-subsidised by other user groups (advertisers). See also OECD (2018) overview of approaches to defining multi-sided markets.*