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Fintech as Accelerating Factor of Inclusive, Sustainable Development

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ABSTRACT

This article focuses on the impact of the financial sector on inclusive, sustainable development. The paper aims to study the impact of the fintech industry and financial inclusion on the development of the financial system to achieve the UN SDGs. We discussed various approaches to the content of the "fintech" and "ecosystem" terms and offered an interpretation of the term "financial inclusion". We used comparative and system analysis methods to study the publications of many authors who found that a developed and inclusive financial system affects the reduction of poverty and inequality, welfare and employment, consumer market, economic growth, sustainable development, etc. At the same time, we showed variants of the relationship between increased access to financial services and financial stability, which can both be positive and negative. The state of the financial services market in Russia, which ranks high in various ratings in terms of financial inclusion, is described in detail. Further, we considered the barriers to the growth of financial inclusion in Russia and ways to overcome them. The practical significance of the work lies in the possibility of its use in the development of key areas of financial market development. Next, more attention needs to be paid to regulatory influences on consumer behaviour in selecting services and their providers.

Keywords: sustainable development; UN SDGs; fintech; ecosystem; financial services; financial inclusion; financial accessibility; conditions and barriers to growth; ESG principles; responsible finance; SupTech and RegTech

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INTRODUCTION

The concept of sustainable development became the subject of international discussions in the 1970s and 1980s. Initially, social and environmental components was given important role. Human progress is not only measured by the quantity of economic growth traditionally measured by GDP, but also sustainable development that guarantees an equal opportunity to satisfy essential needs, both for all living people and for future generations. This requires society to limit population growth and the use of energy and minerals to solve environmental problems and preserve the biosphere.

The concept also included social components on shared prosperity, reduction of inequality and poverty, more equitable distribution of income, quality education, etc. After many years of work with international organizations, especially all the UN and the World Bank, improved understanding of sustainable development, formulated its indicators, overcome serious differences and found compromises.

As a result, on 25 September 2015 at the 70[th] session of the UN General Assembly, the leaders of 193 countries adopted a resolution "Transforming our world: Sustainable Development Agenda 2030", which includes 17 sustainable development goals (SDG), 169 targets and 232 indicators for all countries of the world for 2016–2030. It sets goals and targets on issues such as growth of prosperity and employment, fight against poverty, increase of level of education, improvement of health, protection of nature, preservation of climate, improvement of institutional conditions of development of economy, innovations, etc.[1]

UN SDG is provided on principles such as universality, interconnectivity and indivisibility, multi-stakeholder partnership and inclusiveness, which should ensure a balance in the pursuit of economic, environmental and social objectives.

Organisation for Economic Co-operation and Development (OECD) notes the important role of business in the implementation of SDG UN, which through its investments contributes to the creation of jobs, raising living standards, the development of competences and technologies.[2]

From the point of view of businessmen and managers, the concept of sustainable development has led to a significant expansion of the principles of corporate social responsibility (CSR), which formed in the 1970s last century and compared to the UN SDG contained far fewer social, environmental and climatic requirements for public and private companies.

In recent years, major investors, corporations, central banks and governments of developed countries, as well as international economic organizations of the UN have been actively implementing ESG-principles in business practices:

- responsible attitude to the environment (Environmental);
- high-social responsibility (Social);
- high-quality corporate governance (Governance).

To ensure sustained growth of the financial sector, developed countries have begun to promote the concept of responsible financing at the global and national levels, based on ESG-principles. Besides them, responsible financing (RF) includes concepts such as disclosure, inclusiveness, fair pricing, respectful and dignified treatment of customers, provision of quality products and services.

RF is focused on the needs of customers and implies responsible (accountable), transparent and ethical provision of financial services. It is developing along three main directions: consumer protection, self-regulation of financial institutions and improvement of financial literacy of clients. In fact, it is about responsible financial inclusion (affordability in the broad sense).

Integrating UN SDG and ESG-principles requirements into company business processes, especially oriented towards international markets, requires significant strategy changes, managements and unforeseen cost increases in environmental, social and management policy expenditures. This additional burden will affect consumers through higher prices for goods and services.

At the same time, following the UN SDG and ESG-principles promises some benefits in the future, as it increases competitiveness, investment attractiveness and strengthens the image in the eyes of stakeholders. On the contrary, ignoring them dramatically reduces and in some cases eliminates the chances of attracting investors, partners and customers.

At the same time, the business agenda of sustainable development — it is not only increased environmental and social responsibility requirements for companies and banks, but also an incentive to introduce new patterns of production and consumption, that change the structure of demand and supply, increase the efficiency of work. Dictated by developed countries, this agenda became mandatory, including for Russia, where the number of companies and banks following ESG-principles is growing rapidly.

Ministry of Economic Development of the Russian Federation expects the emergence of

[1] Resolution adopted by the UN General Assembly on 25 September 2015 “Transforming our world: Sustainable Development Agenda 2030”. URL: https://unctad.org/system/files/official-document/ares70 d1_ru.pdf

[2] OECD (2016), Development Co-operation Report 2016: The Sustainable Development Goals as Business Opportunities, OECD Publishing, Paris. 320 p. URL: https://www.oecd.org/dac/development-co-operation-report-2016.htm.

new and growing existing highly competitive niches of goods and services in different industries due to the trend towards sustainable development. According to their estimate, the total global volume of such industries in 2020 was 6.5 trillion USD or 7.5% world GDP). This amount will increase to 16.3 trillion USD by 2030. This information is collected from various sources, according to the Ministry's review, so the amount is fictitious and aims to demonstrate the order of numbers and high growth rates in this industry. Ministry of Economic Development of the Russian Federation monitors financial services (products and tools) among other industries related to the implementation of the UN SDG.[3]

One such industry — financial technology, or short for FinTech. They are defined by the Financial Stability Board (FSB) "financial innovation of technology-based, which may lead to new business models, applications, processes or products with corresponding material impacts on financial markets, institutions and the provision of financial services".[4]

Basel Committee on Banking Supervision defines FinTech as "technology-induced financial innovation leading to new business models, applications, processes or products that will subsequently affect financial markets, institutions or the production of financial services".[5]

The Bank of Russia defines financial technology as "the provision of financial services and services using innovative technologies, such as Big Data, artificial intelligence and machine learning, robotization, blockchain, cloud technology, biometrics and others".[6]

The authors interpret FinTech as innovative technologies in the financial sector that change, break, replace, support or develop the established value chain (or parts), offering more simple and cost-effective solution for business and consumers.

Most popular financial technologies include payments (transfers, peer-to-peer or P2P payments), credits and loans (crowdfunding, peer-to-peer credit), insurance, personal finance, blockchain (cryptocurrency), asset management.

According to the International Telecommunication Union (ITU), information and communication technologies (ICT) can accelerate the achievement of all 17 UN SDG.[7]

First of all, new digital technologies help to integrate the poorest countries into the financial system (SDG No. 1 "Poverty eradication"). Also, FinTech-industry to the achievement of SDG No.9 "Building resilient infrastructure, promoting inclusive and sustainable industrialization and innovation". FinTech also plays essential role in solving task 9.3: "Increase access for small-scale industry and other enterprises, especially in developing countries, to financial services, including low-cost credit, and to enhance their integration into supply chains and markets" and task 9: "Increased access to information and communication technologies and strive to achieve universal and affordable Internet access in the least developed countries by 2020". Financial technologies also contribute to achieving SDG No. 8 "Decent Work and Economic Growth".

In Russia, FinTech-industry contributes the most to the achievement UN SDG No.9 "Industrialization, innovation and infrastructure". Significant work is

[3] Global Sustainable Development Trend: business opportunities. review of new niches emerging in relation to the un sustainable development goals. Department of Multilateral Economic Cooperation of the Ministry of Economic Development of Russia. December 2020. URL: https://www.economy.gov.ru/material/file/45e459dca8acad4ecdd396aef4448e10/38526748.pdf

[4] URL: https://www.fsb.org/wp-content/uploads/R 270617.pdf

[5] Rational practice: Implications of fintech development for banks and banking supervisors: Advisory document. Basel Committee on Banking Supervision. 2017. URL: https://www.bis.org/bcbs/publ/d415.pdf/

[6] Bank of Russia. Development of financial technologies. URL: https://cbr.ru/fintech

[7] MSE website: "ICT for achieving of the United Nations Sustainable Development Goals". URL: https://www.itu.int/ru/mediacentre/backgrounders/Pages/icts-to-achieve-the-united-nations-sustainable-development-goals.aspx.

also under way to achieve SDG No. 8 “Decent work and economic growth” and SDG No.1 “Poverty eradication”. FinTech products, such as e-wallet, online payment service, e-commerce, online loans, P2P-lending and crowdfunding, contribute most to achieving UN SDG No.1, No.8 и No.9.[8]

To achieve the UN SDG FinTech-industry as part of the financial system works in the following directions:

- financial inclusion: access to financial services, real-time customer service in remote areas;
- sustainable supply chains: services that reduce the number of intermediaries between producer and end user, as well as services that provide buyers with transparent data on supply chain transactions;
- resource conservation: transfer of business-operations to online-space, remote monitoring of resource usage;
- investment in sustainable development: investment transparency.

United Nations Environment Programme (UNEP) experts consider that the progress of FinTech has a significant impact on the financial sector within the UN SDG:

1. Contributes to decentralization of the financial system;
2. Increases speed and transparency of transactions;
3. Improves risk management;
4. Reduces business costs;
5. Multiplies the effectiveness of business models;
6. Increases competition;
7. Stimulates innovation, creating FinTech-startups.

Thus, FinTech-industry has shared and contributed to sustainable development. Their relationship is reflected in the term introduced by Mark Carney, who from 2013 to 2020 headed the Bank of England: “FinTech for sustainable development” — FT4SD. It is also evidence of the effort to integrate the UN SDG into the structure of the financial system.[9]

DEMOCRATIZATION OF DIGITAL FINANCIAL SERVICES

The global financial crisis of 2008–2009 gave powerful incentive to the development of FinTech-companies, whose transaction costs were much lower than those of traditional market players. FinTech-companies gradually began to seriously compete with banks and various financial intermediaries, which accelerated the process of innovation due to the emergence of many FinTech-startups.

Thanks to the rapid development of FinTech based on breakthrough digital technologies, new services are emerging in the field of finance, and the traditional ones become faster, convenient, efficient and less costly and more accessible. FinTech-startups have significantly accelerated the process of democratization of digital financial services; they are literally bursting into this high-yield market, successfully move competitors using traditional technologies, thanks to more preferred solutions for customers. FinTech not only forms new business models, but also performs an important function — expands the access of the population and firms to financial services, which is called “financial inclusion”.

The first financial technology may be thought to have come with the invention of the telephone and telegraph in the mid-19th century; a century later, credit cards, ATMs and computers, Internet and mobile communications provided massive remote access to financial services.

Increased price competition has provided to greater consumer access in a number of financial market sectors (first of all, payments,

[8] Private financial technologies as a tool for sustainable business development in Russia and Kazakhstan. Trends in the market of financial technologies. Research Center of the company “Deloitte” in CIS, 2018. URL: https://www2.deloitte.com/ru/ru/pages/research-center/articles/chastnye-finansovye-tekhNº logii-kak-instrument-ustojchivogo-razvitiya-biznesa-rossii-kazahstane.html

[9] Fintech and Sustainable Development: Assessing the Implications. The UNEP Inquiry. 2017. URL: https://www.unep.org/resources/report/fintech-and-sustainable-development-assessing-implications-summary

transfers, microloans, etc.), that spurred the technology race even further. As a result, of the unprecedented acceleration of the pace of development and introduction of new technologies, the FinTech-industry became the fastest growing industry, the leader of innovation.

FinTech-companies develop new software, mobile internet applications, business processes and business models. They are moving from single-product development to the creation of hybrid products that provide multiple solutions for consumers of financial services.

In the early 2010s, commercial banks and other traditional financial market players began to not only compete, but also cooperate with FinTech-companies in various forms of partnership. Began the stage of development of the industry, which is called FinTech 2.0.

Many large banks — major consumers of products FinTech — decided to engage themselves in a new process of creation and implementation FinTech-innovation, have become very interested in FinTech-startups. Banks started selling FinTech-products and related services to their customers, by implementing a financial supermarket model based on digital platforms and applications, which have emerged as "markets" (marketplaces), where sellers and buyers of goods and services communicate remotely and without intermediaries. At the same time, banks began to acquire existing or maintain new start-ups, acting as venture investors, incubators or accelerators.

At the same time, large telecommunications companies have begun to perform some banking functions — issue bankcards and provide a range of financial services. Also appeared virtual online banks (neo-banks) based on digital, for example, Tinkoff Bank, Modulbank, Bank "Tochka" and others.

In the 2010s, consumer service companies (marketplace), Internet service providers, telecom operators increasingly embraced the financial supermarket model, that resulting in an emergence of large and small digital ecosystems.

As defined by the Bank of Russia, "ecosystem (digital ecosystem) — a set of services, including platform solutions, a group of companies or companies and partners, allowing users to obtain a wide range of products and services in a single seamless integrated process. An ecosystem may include closed and open platforms. The range of services offered by the ecosystem satisfy most of the customer's daily needs or is built around one or more of his basic needs (ecosystems at an early stage of their formation or niche ecosystems)".[10]

In our time, digital ecosystems offer not only financial services, delivery of consumer and food products, but also online services in the field of health, education, employment, construction, real estate, tourism, telecommunications, entertainment, lifestyle, B 2B and others.

For example, in Russia on this way went Sberbank (from 2021 — "Sber") and began building an ecosystem that included more than 50 companies on a single digital platform in 2017. Own ecosystems are also created by VTB, "Alfa-bank", "Tinkoff Bank", "Yandex", "VK Group" (early — "Mail.ru Group"), Rostelecom, MTS etc. They are sometimes called "BigTech" because these technology giants dominate consumer markets. It is they who are acquire the most startups in competition with competitors.

The most promising technologies in the FinTech market authors consider: Big Data analysis, artificial intelligence, blockchain, mobile and cloud technologies, biometrics, robotization, Internet of things, virtual/augmented reality and 3D modeling.

At the same time, the rapid development of FinTech increases cybersecurity risks. In Russia, as in advanced countries, innovative regulatory technologies (RegTech) were used to detect

[10] Ecosystems: approaches to regulation. Report for public consultations. Bank of Russia — 2021. URL: https://www.cbr.ru/Content/Document/File/119960/Consultation_Paper_02042021.pdf/

regulatory requirements and manage risks. They are used to identify customers, detect suspicious transactions and attempts of fraud, compliance control, etc.

The financial supermarket model has been transformed into an unbridable marketplace model, when a business is not established on selling goods and services, but depends on the ability of the ecosystem to quickly and qualitatively satisfy the maximum number of everyday needs of customers through a single technological platform.

According to consulting company McKinsey, 12 large-scale ecosystems could emerge around the fundamental needs of humanity by 2025, which could be about 30% of global GDP (60 trillion USD). Already now digital ecosystems Alibaba, Google, Amazon, Apple, Facebook, Microsoft and Tencent are among the 12 largest global corporations by market capitalization.[11]

The ecosystem business model is not built around products or services, but around the customer. The task of artificial intelligence is to accurately determine the full range of everyday needs of the client, his tastes and preferences, lifestyle and lifestyle. This will allow you to remotely offer customers the necessary products or services on acceptable payment terms with a choice of convenient place and time of delivery. This task is still far from being solved, and customers continue to receive a lot of unnecessary advertising. Nevertheless, ecosystems allow for faster and more efficient implementation of one of FinTech's main functions — expansion of financial inclusion.

The emergence of digital platforms and ecosystems can create risks of monopolization of markets, as warned by the Bank of Russia, which began to develop common rules for competition and business for them. Other issues that must be addressed included cybersecurity, privacy and personal data; there is a move towards FinTech 3.0.

[11] URL: https://www.mckinsey.com/industries/financial-services/our-insights/insurance-beyond-digital-the-rise-of-ecosystems-and-platforms

Using Artificial Intelligence (AI) and Digital Platforms, FinTech-companies multiply expand customer base, as well as being able to influence consumers of financial services not only through advertising, but also through business analytics, robot-consultation and other tools.

TERMINOLOGICAL AND CONCEPTUAL PROGRESS

In parallel with the development of the concept of sustainable development among scientists and policymakers at the national and international levels, the whole human idea of influence inclusion (it is inclusiveness, comprehensiveness, accessibility etc.) was widely discussed (as an important resource for development in all spheres of activity, from politics and economy to education and psychology.

Official documents of various countries, including Russia, increasingly mention the inclusive character of globalization, international cooperation and dialogue, the political process, economic growth and development, prosperity, distribution of the benefits, investment, the multilateral trading system, etc. All these types of inclusion appear in one document — Johannesburg Declaration X of the BRICS Summit of 26 July 2018. To this should be added the inclusive education, the practice of which is enshrined in the Federal Law of 29 December 2012 No.273 "On Education in the Russian Federation".[12]

The world's debate about an era of inclusive capitalism is grow. Given the rate spreading the message of involvement, we can assume that an inclusive future awaits us.

In the economic paradigm, there has been a growing recognition that one of the main goals is to develop human capital and to ensure welfare and well-being for all, i.e., development and growth must be sustainable and inclusive. Inclusion implies equal opportunities for

[12] Johannesburg Declaration X of the BRICS Summit of 26 July 2018. URL: http://www.kremlin.ru/supplement/5323

people to contribute to and benefit from economic growth.

World Economic Forum (WEF) experts started publishing inclusive development index (IDI) in 2017, which rated 107 countries on the criteria of growth, justice and sustainability. Its authors considered that existing development estimates, such as per capita GDP, did not fully characterize it. Comparative studies show, that countries with a more inclusive socio-economic system have greater economic sustainability. Russia ranked 13th out of 78 developing countries in this index, between Argentina, Thailand (11th and 12th, respectively) and Peru and China (14th and 15th).[13]

UN SDG No.8 supports the promotion "sustained, inclusive and sustainable economic growth". Economic inclusion has been recognized as essential to the sustainability of economic growth in order to create an enabling environment for improving the quality of life and ensuring equality of opportunity for all groups of the population.

Financial inclusion became one of the priorities for achieving the goals of sustainable and inclusive growth at the beginning of the zero years — public and business involvement in financial services.

Access to modern financial instruments may not only directly benefit the consumer, but also, to a large extent, determine its capacity to carry out effective economic activities, either through employment or through entrepreneurship. Financial services operate as infrastructure systems, such as roads or communication networks, which are obvious public goods. [1]

In the last decade, a lot of research has appeared in the world economic science, analysing the impact of the quantity and quality of total financial services consumption in different countries on various socio-economic indicators of sustainable inclusive development.

[13] URL: https://www.vedomosti.ru/economics/articles/2017/01/16/673218-rossiya

However, in Russia the interest in this issue is noticeably lower. This may be due to terminological uncertainty and difficulty in translating the term "financial inclusion" from English into Russian. In English, "inclusion" means the incorporation of someone or something in the general agenda (or some set). May select synonyms to the word "inclusion": involvement, complicity, joining, interpolation, affiliation, etc.

Initially we have established two variants of translation: "financial inclusiveness" and "financial affordability". The first is inaccurate, as inclusiveness in English — "inclusivity", but not "inclusion". The second no longer covers the full scope of the term, in which new elements of the term are added over time. Versions such as "financial involvement" and "financial inclusion" have been introduced, but they are still less popular.

It is possible to agree with Yu.A. Danilov and D.A. Pivovarov that the translation of the term "inclusion" as "инклюзия" (in Russian) does not contribute to understanding its meaning. They consider the most acceptable option of "involvement in financial transactions" or simply "involvement in finance". [2]

In our view, versions can be added to this: "inclusiveness of the population with financial services", "financial inclusiveness", "financial affiliation", "prevalence of financial services", etc. The term "financial inclusion" (FI) is often used in scientific literature to avoid different interpretations.

Its importance for the global sustainable development agenda is demonstrated by the fact that the leaders of the "Group of 20" (G20) in 2010 approved "Roadmap for achieving affordability".[14] Thus, an international consensus was reached on financial inclusion, which the World Bank has recognized as a key factor in improving overall well-being in the fight against extreme poverty.

[14] Global Partnership for Financial Inclusion (GPFI). Action Plan for Financial Inclusion. July 2017. URL: https://www.gpfi.org/sites/gpfi/files/documents/2017%20G20%20Financial%20Inclusion%20Action%20Plan%20final.pdf

Leaders of the "Group of 20" (G20) created of the Global Partnership for Financial Inclusion (GPFI), which includes representatives of national regulators, monetary and supervisory authorities from 94 countries, including the Bank of Russia. In GPFI exchanging of best practices on situations management, risk-related policies, their concentration, regulatory measures that can help the poor to gain access to financial services. The Partnership also addresses financial literacy, financial consumer protection, and collects information and statistics on national affordability strategies.[15]

As defined by the World Bank, FI means that financial services that are widely available to retail consumers and that can contribute to the welfare of both individual users and the general population.[16]

To date, there is no universally accepted concept of financial inclusion (FI), it is being continuously updated and refined. Thus, the Bank of Russia in 2015 gave a broader definition of "financial availability" and, in addition to physical access to financial services ("proximity of infrastructure"), included such components as price, mental and assortment demand, as well as ultimate utility and security.

In 2018, the Bank of Russia developed and approved "Strategy for increasing affordability in the Russian Federation for 2018–2020", which defines the main goals and objectives for improving the availability of financial services, namely:

- increasing the level of availability and quality of financial services for consumers of financial services in remote, sparsely populated or inaccessible areas, subjects Small and Medium-Sized Businesses (SMB) and groups with limited access to financial services (low income, persons with disabilities, older persons and other people with limited mobility);
- improving the speed and quality of access to financial services for people with Internet access.

Since April 2020, ensuring the availability of financial services in the territory of the Russian Federation is enshrined in law among the main functions of the Bank of Russia. Bank of Russia's financial inclusion activity is aimed at creating conditions and rules in the financial market, where every citizen, regardless of his or her place of residence, income or health status, can obtain the financial services he or she requires.[17]

Yu.A. Danilov and D.A. Pivovarov give this definition of financial inclusion: "This involves economic agents (primarily households and firms) in financial transactions". Accordingly, increasing financial inclusion means increasing the involvement of economic agents in financial transactions. In the case of a specific type of economic agents involving (involved) in financial transactions, the term "financial inclusion" applies to this type of economic agents, for example "financial inclusion of households" or "financial inclusion of firms". [2]

Within the framework of this article, the authors define FI as the involvement of a significant part of the population and business in the sphere of financial services, characterized by equal opportunities of access to the market and resources. In a number of cases "financial inclusion" is replaced by "financial availability", since such translation of the term is widely distributed in the domestic literature and is used by the Bank of Russia.

In foreign literature there is the term "FinTech Adoption", which is used in comparing the level of distribution (consumption) of financial services of different countries. This term, in our view, can be translated more precisely: "FinTech implementation", "adoption of FinTech", "diffusion of FinTech", "consumption of FinTech services", etc.

[15] "Group of 20". Official website of World Bank. URL: https://cbr.ru/about_br/ip/momo/g20

[16] World Bank. 2014. Global Financial Development Report 2014: Financial Inclusion. Washington, DC. URL: https://openknowledge.worldbank.org/handle/10986/16238; jsessionid=555D 5C 09FF1EE 4E 8E 01CF49B 610395F4

[17] Official website of the Bank of Russia. URL: https://www.cbr.ru/develop/development_affor /

The main (basic) financial services are savings, credit, payments and transfers, insurance (insurtech).

The most commonly used indicators of financial inclusion in international studies on the relationship between financial inclusion and financial stability and economic growth are the following:

- number of units of operating commercial banks and ATMs per 100 thous. people adult population;
- percentage of adult population holding an account and/or using a credit/loan for the last year in a formal financial institution;
- the share of active loans for SMB in the total portfolio of active loans.

Financial inclusion is not only measured by the extent of people's access to financial services, but also their quality, convenience, efficiency, safety, and also their impact on reducing poverty and inequality, (including gender) welfare and employment, consumer market, economic growth, sustainable development, etc.

Therefore, FI is also measured by the following parameters:

- access — physical accessibility of service points, the number of accounts opened in financial institutions, the proportion of the population with an account;
- quality– range of financial services, level of consumer understanding of affordable financial services;
- use — regularity, frequency and duration of consumption of various financial products;
- impact — changes in consumer living standards through the use of financial services.

Physical, price, mental and assortment components of FI are also evaluated.

In the literature you can find other characteristics of FI, namely:

- uniform availability;
- regular use;
- good quality;
- welfare potential.

Although policies and actions to enhance financial inclusion have no long history, many foreign empirical research have revealed a range of macro- and microeconomic indicators that support the hypothesis that the growth of inclusive financial systems has become an important component of sustainable socio-economic development.[3]

Other studies show that FI development can play a key role in reducing poverty and improving macroeconomic indicators, including economic development and stability. Thus, analysis of macroeconomic data shows that a developed and inclusive financial system reduces information and transaction costs and at the same time stimulates investment decisions, technological innovation and long-term growth. [4]

Conversely, a lack or low level of access to financial services (financial exclusion) can lead to a "poverty trap", exacerbate income inequality and stunt economic growth.

Advanced FinTech-companies find gaps in financial availability and free market niches, create attractive consumer offers. They respond more flexibly and quickly to market needs, actively develop and implement new services and products, get rid of unnecessary intermediaries.

Moscow School of Management SKOLKOVO cites a number of studies on the positive impact of financial inclusion, which is measured, for example, by an index of the density of ATMs and bank branches, the growth of consumption, savings, productive investment, and the dynamics of women's empowerment. The benefits to SMB from increased access to credit and insurance schemes, for example for farmers, are assessed.

For example, surveys and longitudinal studies have found statistically significant improvements in people's mental health, financial advice and access to various financial services, which shows the positive impact of FI on health.[18]

[18] Financial inclusion beyond accessibility. Center for Financial Innovation and Cashless Economy of the Moscow School of Management SKOLKOVO. 2018. URL: https://finance.skolkovo.ru/ru/sfice/research-reports/1810–2018–11–15

Financial inclusion has become a public good that benefits citizens and businesses in a variety of ways. Thus, the transition to non-cash payments not only increases the efficiency and speed of cash flows, but also their transparency and security, which contributes to the fight against corruption and increase the security of citizens and firms.

Many researchers, participants and regulators of financial markets, as shown in a review of the Bank of Russia, consider that the desired direction of financial market development — such that financial affordability contributes to financial stability, and financial stability in turn has a positive impact on long-term affordability. At a minimum, financial accessibility and financial stability should be consistent. Moreover, there is a need for positive linkages between different financial policy objectives — financial accessibility, financial stability, financial integrity/crime prevention, consumer protection of financial services, financial literacy, etc.

However, the relationship between improved access to financial services and financial stability, for example, can be positive — as a result of the growth of savings and insurance services, and negative — with excessive access to credit.[19]

A number of papers show a non-linear relationship between economic growth and financial depth — the saturation of the economy with monetary resources and financial instruments, with the complexity and sophistication of the financial and monetary system.

The OECD report "Finance and inclusive growth" shows that the sign of dependence (positive or negative) economic growth on the level of development of the financial sector is determined by the level of financial depth. Faced with the limits of the beneficial growth of financial depth, the researchers asked that in these circumstances it would be possible to continue to positively influence the economic performance of the financial sector. Increased financial depth creates greater opportunities for economic development, but the realization of these opportunities depends on the rest of the financial system, which is called efficiency, stability and affordability. [5]

More recent research has shown that the increasing depth of the financial sector may not always lead to faster economic growth. On the one hand, the development of financial markets has contributed to economic growth by creating opportunities for economic investment, reducing information asymmetries and allowing economic agents to diversify sources of finance. On the other hand — when a threshold is reached, the level of development of the financial sector is excessive in terms of rapid accumulation in a system of various risks. The latter, in turn, reduce stability and economic growth and increase its volatility.

The aforementioned circumstance is particularly relevant for countries with weak regulation and supervision of financial markets. Consequently, it can be argued that the relationship between financial and economic development is not linear. In other words, there is supposed to be a saturation point in the development of financial markets in terms of opportunities to stimulate balanced economic growth, what is called the effect of "too much finance". Overheated financial markets act as a catalyst for slowing down the economy as a result of accumulation of significant risks, high probability of financial crises and increased volatility of the economy. [6]

In this sense, greater attention should be paid to all kinds of risks at too high a level of financial inclusion, when there are no barriers to entering the market of services for anyone, including fraudsters, hackers and all sorts of asocial personalities. So far, such studies are insufficient, they are "not in trend", so they are less in demand, than those that demonstrate the highly positive impact of rapid financial inclusion.

[19] The relationship between affordability, financial stability and economic growth: a review of publications. Consumer Protection and Financial Services Service of the Bank of Russia. Moscow. 2018. URL: https://cbr.ru/Content/Document/File/44100/publ_15022018.pdf

Many attempts are made to determine the optimal level of development of the financial system, which would simultaneously ensure both economic growth and stability. The increase in financial depth has a positive impact on growth to a certain limit, as its excessive or too rapid development can cause the negative effect of "too much finance".

In order to reduce the volatility of economic growth, it is necessary to achieve a balanced development of the main parameters of the financial system, as described above. [7]

The level of FI prevalence has the greatest impact on the financial system than such indicators as:

- depth;
- physical and price availability;
- efficiency;
- stabillity.

World Bank experts have concluded that firm inclusion is the most important contributor to long-term growth and is much more likely to demonstrate synergy with stability than household inclusion. In addition, it contributes to greater prosperity for all, alongside household inclusion. [8]

Another example: if in most countries the increased availability of financial services has been accompanied by increases in payments and savings, that in some countries the increasing proportion of the population with bank accounts has reduced their use, except for online services.

Cases of neutral or negative impact of FI expansion on different parameters of the financial sphere are due to peculiarities of financial systems of different countries and/or irrational behavior of regulators, government and non-profit organizations implementing policies to improve access to financial services. For example, in one African country, the ill-conceived organization of a financial assistance programmer has not only benefited microbusinesses, but also to shadow financial service providers.

A feature of modern financial services is that their providers may discriminate against customers by denying them services, both implicitly (through price barriers) and explicitly, for example, when banks assess the ability of a potential borrower to repay a loan through their own scoring process, which is largely opaque and usually irreversible to the customer. It is understandable that such a system of discrimination is absolutely necessary from the point of view of credit risk management, but it may erroneously limit the ability of legal and physical persons to act as subjects of the modern market economy.

In this way "financial exclusion" groups can be created by combining different barriers: physical, social, economic, legal, etc. For example, in low-income developing countries, up to 80% of the population may be excluded from financial services, mainly because of poverty and lack of financial infrastructure. In developed countries, "financial exclusion" groups account for 10 to 15% of the population for more complex reasons of exclusion.[20]

FINANCIAL MARKET OF RUSSIA: IDENTITY OF GROWTH

Although the World Bank classifies Russia as a developing market, our country faces problems of financial inclusiveness, more typical for countries with developed economies. In Russia, the urban population is predominant with almost 100% basic literacy, one of the highest rates of enrolment in higher education in the world, with an income above the average. In addition, Russia has a high rate of skilled employment and a relatively low unemployment rate. Russia has a huge reserve of talents in the sphere of information and communication technologies (ICT) and is one of the world's leading suppliers of mathematicians, programmers and engineers to other countries.

At the same time, middle-aged and older people born during the USSR, where the range

[20] World Bank. 2020. "Financial Inclusion" Europe and Central Asia Economic Update (Spring), Washington, DC: World Bank. DOI: 10.1596/978–1–4648–1409–9. URL: https://openknowledge.worldbank.org/handle/10986/31501

of financial services was very small, do not have sufficient knowledge of modern finance and experience in its use.

The development of financial technology in our country has been significant but uneven.

On the one hand, there is a noticeable lag of Russia from many countries of the world in the creation of new technologies, venture investments, including FinTech-startups. For example, in the rating World Intellectual Property Organization (WIPO) "Global Innovation Index 2021" Russia ranked 45th in the comparative analysis of innovation systems and innovation development of 132 countries.[21] On the other hand, Russia ranks high in various ratings on the level of availability, distribution and consumption of financial services, mainly due to the massive use of online payments and money transfers.

Thus, the share of non-cash payments in retail payment turnover from 2013 to 2020 increased almost 5 times and by 01 January 2021 exceeded 70%. The use of payment cards is also growing rapidly: share of payments for goods (works, services), committed by using payment cards on the territory of Russia, in the total volume of retail trade, public catering and paid services to the population increased by 10.6 p.p., up to 67.6%.

The total number of payment cards issued by Russian credit organizations on 01 January 2021 was 305.6 million units (an increase of 6.9%) with a population of 146 171 015 people.

According to adult surveys and subjects of small and medium business (SMB), commissioned by the Bank of Russia in May 2019, 93.7% of adults used the account for the past 12 months (an increase of 6.2 p.p. compared to the May 2019 survey), with 74.8% — intensively (3 or more operations per month, increase of 20.8 p.p.).[22]

Research of auditing and consulting company Ernst & Young (EY) "FinTech Adoption Index 2019" shows that 82% of citizens use different services. China and India led the ranking, with FinTech-services used by 87% of residents, followed by South Africa and Colombia. EY conducted a similar study in 2017, since then the leaders remained the same, with FinTech-services penetration in China increased by 18, in India by 35, and in Russia by 39 p.p.— almost twice. During the research, EY analysts surveyed about 27 thous. people in 27 markets on five continents. Respondents were asked to assess how much they use FinTech-services.

The most popular services in Russia were P2P remittances and payments, to a lesser extent — budgeting and financial planning, savings and investment, credit and insurance. At the same time, some FinTech-services, for example investment in securities, use less than 1% of Russians, while in the US — about 50% of citizens.[23]

However, this high position of Russia in the rating of financial services coverage is partly due to the fact that Ernst & Young experts conducted surveys only in Moscow and Saint Petersburg, where the level of development of the FinTech sector is much higher than the average in Russia.

In various world ratings the level of penetration of financial technologies in Russia is estimated in the range of 40 to 80%. [9]

Russia achieved quite high values for some indicators of financial development: ratio of capitalization and turnover of the stock market to GDP, number of ATMs per 100 thous. adult population, etc. However, the average depth of the insurance sector (ratio to GDP of premiums collected in insurance), as well as the scale of the mortgage market and the ratio of assets of mutual and pension funds to GDP is lower.

According to the sub-index of financial services coverage, Russia is close to such

[21] World Intellectual Property Organization (WIPO). "Global Innovation Index (GII) 2021". URL: https://www.globalinnovationindex.org/gii-2021-report

[22] Analytical summary of indicators of financial availability for 2020 (based on the results of the 2021 measurement). Bank of Russia. July 2021. URL: http://www.cbr.ru/Content/Document/File/124646/acc_indicators_29072021.pdf

[23] Global Fintech adoption index 2019. EY report. URL: https://www.ey.com/en_gl/ey-global-fintech-adoption-index

countries as Colombia, Romania and Peru; by sub-index of the depth of financial institutions — to Philippines, Romania and Uruguay; by sub-index of the depth of financial markets — to Pakistan, Indonesia and the Philippines. Along with these countries, Russia is among the leaders among the states of its cluster on these three sub-indexes.

Judging by the average values of sub-indexes for 2004–2014 for the countries belonging to the cluster "Junior partners", the lag of Russia does not seem dramatic. In sub-index of financial services coverage Russia is close to such countries as Croatia and Slovenia. [6]

Bank of Russia annually publishes results of monitoring of financial availability indicators,[24] and reviews of financial inclusion for adult population and subjects of SMB.[25]

At the same time, Russia is creating favorable conditions for the development of the financial services market. Penetration of modern ICT, such as the Internet and mobile communications, in Russia is above the world average, However, the capacity of information is often lower than in the most developed countries in this respect, although it is much more affordable for consumers.

Experts note the high saturation of the Russian mobile market. At the begging 2021, the number of users exceeded 228 million people, that is 1.5 times more than the population. At the same time, the use of services continues to grow. According to the Ministry of Digital Development, Communications and Mass Communications of the Russian Federation, in the Q1 of 2021, fixed Internet traffic in Russia added almost 43% compared to the same period of the previous year. The volume of mobile traffic in the same period increased by 37% — up to 6.7 billion Gb.

In the rating of quality and availability of the Internet Russia takes the 9th place out of 131 countries and territories, by the level of availability of mobile Internet — 2nd place among the 50 countries with the largest GDP. According to the Content-Review company, 1 Gb of data in 2020 cost Russians only 24.6 rubles. Cheaper mobile Internet only in India: 9.2 rubles for 1 Gb.[26]

At the same time, Russia has barriers to increasing financial inclusion for some population groups:

- physical (remote areas, persons with disabilities);
- social (low-income groups, self-employed, migrant workers, etc.);
- lack of competence and skills (elderly and poorly educated);
- SMB subjects (especially in the early stages of development).

Overcoming these barriers requires further development of adequate infrastructure, channels of access to digital financial services, also regulatory and technical measures to protect against operational risks of money, maintain the privacy and security of users, ensure their rights.

The leading role in this is played by regulators and financial market participants who develop and implement technology SupTech (Supervisory Technology) for monitor and supervise the financial market and detect misconduct, unfair sales practices and market manipulation, and RegTech technology (Regulatory Technology) for monitor fraud and money laundering and terrorist financing, assess and manage risk.[27]

In the field of cybersecurity, SupTech and RegTech technologies carry out automatic multi-factor identification according to the rules "knew your customer" (KYC) and compliance control, tracking the data transfer process, conducting analysis of the actions and

[24] URL: https://cbr.ru/Content/Document/File/124646/acc_indicators_29072021.pdf.

[25] URL: https://cbr.ru/Collection/Collection/File/25684/review_24122019.pdf.

[26] RBC. Russia entered the top ten rating of quality and availability of the Internet. URL: https://trends.rbc.ru/trends/social/cmrm/613eea0f9a7947a3178b11b.

[27] The main directions to development of technologies SupTech and RegTech for the period 2021–2023. URL: https://cbr.ru/Content/Document/File/120709/SupTech_RegTech_2021–2023.pdf

behavior of employees, as well as cyber training attacks to detect vulnerabilities.

In Russia, as in other countries, artificial intelligence, big data, neural networks, cloud computing, machine learning, robotic business processes and blockchain are used for this purpose.

Despite the fact that these technologies are actively used, their legislative implementation is too slow. In 2018, the Bank of Russia launched a special regulatory "sandbox" to test innovative financial technologies, products and services before establishing rules for the regulation of relations related to their application in the financial market. However, the legislative and executive authorities have a clear preference for regulation of banking and financial derivatives markets. It is important that legislators do not limit themselves to prohibitions, because of the cross-border nature of financial and regulatory technologies, there is a risk of offshoring the market for FinTech- and RegTech-services, which could lead to the loss of possible tax revenues to the country.[10]

In September 2021, the Bank of Russia developed a draft of priority directions for improving the availability of financial services in the Russian Federation for the period 2022–2024 to improve the physical and affordability of financial services for the public and business in a balanced manner, to improve their quality and to broaden their range, taking into account the digital transformation of the financial market. The following key tasks are identified:

- improving the physical and diversified availability of financial services through the development of online service channels for the public and business while reducing the risks of digital inequality and enhancing cybersecurity;
- expanding the opportunities to attract debt and equity financing for business.

To achieve these objectives, the Bank of Russia considers it necessary to focus separately on the following consumer groups:

- residents of remote, sparsely populated and inaccessible areas;
- persons with disabilities, older persons and other people with limited mobility;
- citizens with relatively low income;
- SMB subjects.[28]

In Russia, as in many other countries, developing based on ESG-principles responsible financing (RF), in particular become popular ESG bonds — sustainable bonds, social bonds and green bonds, as well as alternative and ethical investment. In our country 2–3 years ago the stage of transformation of ESG-principles into more specific requirements, indicators and regulatory standards began, for example, the Bank of Russia are developing a unified approach to assessment of ESG-risks in the financial market in 2021.

One of the eight key directions of financial market development for 2022 and 2023 and 2024. The Bank of Russia considers "expansion of the contribution of the financial market to the achievement of the goals of sustainable development and ESG-transformation of the Russian business". Motivates it so: "Movement of economies towards sustainable development and ESG-factors becomes a global trend, which needs to be adjusted and the Russian financial market". The Bank of Russia will raise awareness of sustainable development financing.

At the stage of launching the market of sustainable financing, the Government of the Russian Federation together with the Bank of Russia will develop proposals to stimulate it and increase the interest of participants, including through the provision of tax incentives, subsidies and State guarantees. The Bank of Russia will also promote the integration of ESG-factors into business-strategies and risk management of financial and non-financial organizations.[29]

[28] Priority directions for improving the availability of financial services in the Russian Federation for the period 2022–2024. Bank of Russia. 2021. URL: https://cbr.ru/Content/Document/File/126471/project_pnpdfu.pdf

[29] The main directions of development of the financial market of the Russian Federation for 2022 and the period 2023 and 2024. URL: https://cbr.ru/Content/Document/File/131005/onrfr_project_2021–11–19_key_messages.pdf

ESG-principles have become a new reality, their impact on business, especially financial services and investment decisions is growing rapidly and steadily Thus, by 2025, global assets of ESG, Bloomberg projecting, should exceed 53 trillion USD, which is more than a third of the 140.5 trillion USD in the projected global "assets under management" (AUM) — amount of assets managed on behalf of investors by various foundations, companies, brokers and individuals).[30]

In these circumstances, many Russian banks and companies are forced to implement ESG-principles that should guide their actions. This implies business model re-engineering, increased non-financial reporting, additional organizational and financial burden. Moscow Stock Exchange together with Russian Union of Industrialists and Entrepreneurs (RUIE), are calculated daily sustainability indices "Responsibility and Openness" and "Sustainability Vector" according to ten basic indicators since 2019.[31] On 1 December 2021, the heads of the 28 largest Russian companies formed the National ESG Alliance to promote the transition to a sustainable model of economic development.

An important role in the development of FI is played by improving financial literacy, which is now complemented by financial awareness — the ability to make informed financial decisions.

Among the essential prerequisites for the successful development of FinTech-industry and financial inclusion in our country can be noted the high level of penetration of the Internet and financial services, their accessibility to broad categories of the population, the growing financial literacy of the country's residents, as well as the creation of digital ecosystems and the presence of high-class IT-professionals in the labor market.

All this increases the scale of financial inclusion, increases demand, provides stable profitability and attractiveness of FinTech-industry. For our part, this increases the appetite for risky venture capital investments, leads to the emergence of new technologies and increases growth over the long term. Thus, the linking of the financial sector to the real economy for inclusive sustainable development is strengthened.

CONCLUSION

In view of the above, it may be noted that FinTech and financial inclusion have a significant impact on the development of the financial sector, which contributes to the implementation UN SDGs. Development of financial inclusion is recognized as a public good, as it benefits citizens and businesses in a variety of areas, it became a priority for achieving sustainable and inclusive growth at the beginning of the zero years.

At the same time, various parameters of financial inclusion may have different effects on sustained economic growth. Research shows that not all financial-sector deepening leads to faster economic growth. Overheated financial markets significantly increase risks and increase the probability of crises, for example, in a situation of "too much finance".

Avoiding such overheating requires a balanced development of the basic parameters of the financial system, and also regular assessment of the optimal level of development of the financial system, which can simultaneously provide both economic growth and stability.

At the same time, there should be regular monitoring of all possible risks to ensure that financial inclusion is too high at low entry barriers. Research to date, in which the exceptionally positive effects of rapid expansion of financial inclusion are shown, much more has been published than those that contain critical assessments of negative impacts and analysis of possible risks. The latter are still in little demand as they remain outside the mainstream.

The advent of digital platforms and ecosystems calls for new solutions to

[30] URL: https://www.bloomberg.com/professional/blog/esg-assets-may-hit-53-trillion-by-2025-a-third-of-global-aum

[31] URL: https://fs.moex.com/f/15022/esg.pdf

the challenges of cybersecurity, privacy and personal data protection. The rapid development of FinTech increases cybersecurity risks. To solve these problems, need to be accelerated technology development and deployment SupTech and RegTech.

Russian authorities understand the importance of legal regulation of financial and regulatory technologies, which are already actively used by market participants. Strategy and plans are in place, but the pace of rulemaking is not in the interest of financial market participants. Balancing the interests of both financial service providers and consumers.

At the international level, the exchange of experience with the participation of Russia continues to improve financial systems and reduce the incidence of misbehavior by regulators, public and non-profit organizations in the implementation of the policy to improve access to financial services. There are still topical issues of development and optimization of the structure of the market of financial services and improvement of the system of FI indicators.

When developing a policy to implement UN SDGs and ESG-principles, the Government and the Bank of Russia should be paid attention to the shortage of specialists on sustainable development and ESG issues, as well as to the shortcomings of the Rosstat indicator system on this issue. There is also a need to ensure balanced development of responsible financing across the three directions: consumer protection, self-regulation of financial institutions and improvement of financial literacy of customers. It is very useful to accelerate the development of common rules of competition and business initiated by the Bank of Russia in order to reduce the risks of the process of monopolization of markets.

Further research may be related to the research of consumer behavior affecting the choice of services and financial institutions, as well as establishing a system of regular risk assessments as a result of the excessive increase in financial inclusion.

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A.V. Lopukhin — analysis of the Fintech industry impact on the achievement of inclusive sustainable growth and the implementation of ESG principles of responsible financing.
E.A. Plaksenkov — study of the relationship between financial inclusion and the level of the financial sector development in Russia and the world; assessment of the financial services market and barriers to its growth.
S.N. Silvestrov — development of the concept and general management of the writing of the article; formulation of the goals and objectives of the study.

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