INCLUSIVE DISRUPTION: THE ROLE OF FINANCIAL TECHNOLOGIES IN FILLING FINANCIAL INCLUSION GAPS IN RUSSIA

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ABSTRACT

The Chapter discusses the important social-economic role of financial technologies in the emerging market which is Russia of today. While the issues of financial inclusion are of recognized importance for the developing markets, up to recently they were seen largely as areas of affirmative regulatory action, not of competitive play by private market actors. However, the advent of fintech companies changes the paradigm. Many fintech companies in Russia view the gaps in financial inclusion as the attractive market niches and formulate the relevant consumer offer. This Chapter reviews their strategic approaches based on the study of five business cases, and introduces an analytical matrix mapping the approaches to existing inclusivity gaps. The model strengthens the existing policy of developing financial inclusion as it allows a targeted cost-benefit analysis of market players' actions. As Russia demonstrates many of the financial inclusivity challenges seen in other countries, the findings of the Chapter have certain applicability in the context of both emerging and advanced economies.

Keywords: Emerging markets, Start-ups, Regulation and Policy, Financial Innovations, Case-Study, Business Strategy

INTRODUCTION

Financial inclusion arguably lies in the foundation of economic inclusion, as finance is recognized as a backbone of any modern economic system. The access to modern financial instruments like accounts, transfers, deposits and loans may not only bring immediate economic benefits to a consumer, but also largely define her capabilities to pursuit effective economic activity either through employment or through entrepreneurship. In this case financial services work as infrastructural systems like roads or communications networks, which are obvious public goods. What makes the modern financial services unique is that their suppliers can legally discriminate between the customers, refusing to provide services, either implicitly (through price barriers) or explicitly. Explicit discrimination is inherent in the current procedures of bank lending, where the supplier judges the ability of a customer to make certain future action (repayment of loan) through a proprietary process, which is largely non-transparent to the customers and the results of which are commonly irreversible for the affected customer. As was said, such discrimination is of broad consequences, as it not only precludes some customers from gaining immediate economic benefits, but limits their ability to operate as actors within the modern market economy. While the system of discrimination is absolutely necessary within the current approaches to risk management in financial systems, it has unwanted social side effects, which are especially manifest in lower income economies.

Within this context the issues of financial inclusion are largely viewed as being a key to the overall agenda of inclusive growth. According to Worldbank, financial inclusion is defined as the state, when *all interested individuals and businesses have access to useful and affordable financial products and services that meet their needs delivered in a responsible and sustainable way* (World Bank, 2013). Financial inclusion can be considered as the key enabler of reducing poverty, it is shown by several empirical research that it improves macroeconomic indicators including economic development and stability (Beck et al., 2007). However, as seen from the definition, financial inclusion (or its absence) is a complex phenomenon, which may include various combinations of barriers, like physical, social, economic, legal, etc.

Practically in every country of the world the traditional banks are not reaching the whole of financially active population, creating groups of “financial exclusion”. The size of these groups relative to the population and the reasons for exclusion widely differ mostly correlating with the overall state of economic development. For instance, in the low income developing countries up to 80% of the population can be excluded mostly due to poverty and lack of financial infrastructure. In the advanced countries the excluded groups would count approximately 10-15% of the population, and the reasons for exclusion would be more complex (Demirgüç-Kunt et al., 2015).

In any case solving the problem of exclusion usually was viewed as the one requiring the affirmative action stimulated by policies of national financial regulators. However, the advancement of the modern financial technologies companies, the so-called fintech, gave a new prospective to the issue, allowing for the forces of free market to fill many of the niches which were not covered by traditional banks. Such examples include, for instance, the Kenyan M-Pesa, AliPay in China, Digibank in India. Here is the arena of disruption in the financial services markets: providing products which cannot be profitable in case offered by the traditional banks to the customers against whom the traditional banks tend to discriminate. One can see obvious social benefits coming from such disruption (on top of the economic gains for the customers and suppliers), however, like in any disruption there are important risks. The worst-case scenario can be the degree of disruption of the overall

financial system, which will make unprofitable the operations of most of the incumbent players, after which the system will lose stability and trust of all participants. This scenario is unlikely to develop in full, however it is generally kept in mind by the relevant regulatory bodies, like national Central Banks and their international associations.

Thus, from a scholarly prospective the key question is: will the private actors of financial technology ("fintech") working in the generally free market environment create enough of social effects of financial inclusion without generating unacceptable social and economic risks? Finding the answers will advance out knowledge of how regulated markets work. It will also be of high practical importance for national and international decision making on the approaches to the issue of regulation of the new disruptive business models. Answering this question requires, among other things, the understanding of the possible motives and strategies of the entrepreneurs who provide the fintech products on the market. One efficacious way to obtain the understanding is by the method of case studies, verified and enriched by the desk analysis of some statistical data.

Russia is in a sense a model case for the development of inclusive disruptive financial technologies as it combines certain issues of financial inclusion of both developing and advanced economies. Russia is an upper-middle income country, with mostly urban population, almost compulsory primary literacy and high share of skilled employment (IMF, 2016b). The penetration of modern communication technologies like Internet and mobile is at the level above average, though the bandwidth is often lower than in the most digitally advanced countries. Russia commands a vast pool of talent in digital technologies, being one of the worlds' leading producers of students of mathematics, programming and engineering.

At the same time, the geography of the country creates certain pockets of population which are difficult or unprofitable to access with traditional banking infrastructure and the tightening of bank risk policies in the recent economic recession led to growing withdrawal of the banks from operations with the lower income strata. Also, due to the historic legacy of the Soviet era, when the consumer finance services in the country were rudimentary, the population has relatively low level of experience and understanding in the modern finance, especially in the middle- and older age strata.

This peculiar situation requires a country-specific model of financial non-inclusivity, which serves as the basis for analysis. The model outlines the segments of non-included population based on different barriers to inclusivity, like physical (remote areas, disabled persons), social (lower income strata, self-employed, migrant workers, etc.), competences and skills (elder ages, undereducated), SME (small and medium enterprises) financial services (especially for businesses in the early stages of development). Various issues of inclusion emerge in relation to different types of financial services: payments and transfers, loans, deposits, insurance, etc.

The resulting segments differ in number of participants, size of the opportunity and cost of action to overcome the barriers. Modelling by segment allows for targeted cost-benefit analysis for the possible measures of increasing financial inclusion. While in some segments the existing market actors are more or less effective with their current operations, other segments require strong affirmative actions. So, based on this overview, targeting the pockets of financial exclusion in Russia the topic of fintech is elaborated through analyzing some specific business cases.

It is important that fintech companies see filling the "inclusivity gaps" as one of the factors that shapes their business strategies, actually as a guidance for available market niches. From the prospective of fintech companies there are four primary domains of action, corresponding with the financial "mechanics" underlying the business model: (1) make payments more

accessible for customer-to-business (C2B), (2) facilitate payments in the business-to-business (B2B) segment, including the small business, (3) make credit more accessible, (4) mass-scale financial advice, including personal budgeting.

The existing inclusivity gaps and the view of fintech companies on the core domains of action form a sort of matrix mapping the Fintech effects on financial inclusion in Russia; this matrix can be adapted to other markets, both emerging and advanced.

Thus, the objectives of the Chapter are the following:

- Study the background for the role of technologies financial inclusion phenomenon with international experience
- Review the financial inclusion gaps and controversies in Russia
- Study five financial technologies business cases aiming to cover particular exclusivity pockets
- Build a specific business model based on dual-dimensional "inclusivity-gaps–business strategy" matrix
- Discuss business strategy and policy implications based on model developed

FINANCIAL TECHNOLOGIES AS A DRIVER FOR FINANCIAL INCLUSION: AN OVERVIEW

By the end of 20th century there came a common understanding that economic growth, as manifested in the increase of per capita GDP, cannot itself solve all the social goals of humanity. As the important gaps between the nations and even within the nations in terms of quality of life were expanding, a new concept of "inclusive" growth has been developed and adopted leading to a series of economic, social and political reforms. Involvement of population in financial services arose as important element of the new policy because it became clear that it might be a crucial element of successful growth of other spheres: the development of financial sector is associated not only with overall economic growth, but also with more equal distribution of its benefits in the society (Delis et al., 2013).

Following this idea, the "financial inclusion" phenomenon emerged as a political issue in 1997 in the United Kingdom and became discussed worldwide in 2010, when the Global Partnership for Financial Inclusion (GPFI) was created (Financial Inclusion Commission, 2017; GPFI, 2017). The latter has become an integrating platform for coordinating the efforts of all participating countries to improve financial accessibility as a factor of socio-economic development. The joint work of this group resulted in the development of comprehensive definition of financial inclusion, which goes beyond having the account in the bank, as well as its complex classification which includes access, quality, usage and welfare dimensions.

Additionally, number of policy papers and action plans in financial inclusion all over the world were introduced aiming at solving the problems in each dimension from the above classification (Arun & Kamath, 2015). Although practical actions towards financial inclusion do not have a long history yet, empirical research revealed a list of positive microeconomic[i] and macroeconomic[ii] effects in favor of the hypothesis that the growth of inclusive financial systems is a significant component of general development progress.

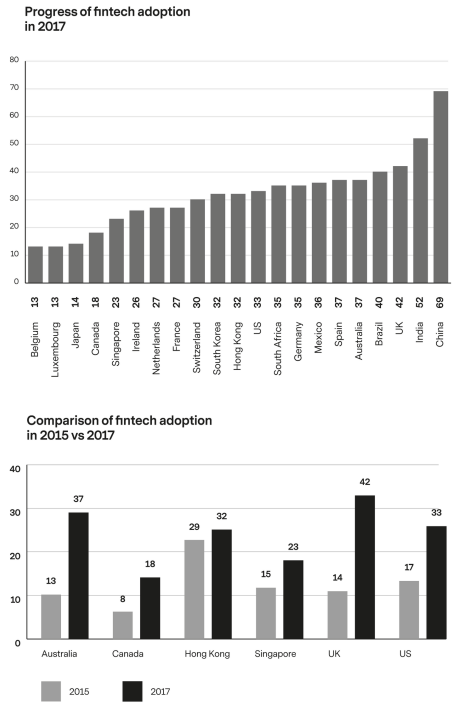
Among other drivers, such as proper regulation and policies, technology stands by as a clear enabler for financial inclusion because it can solve issues connected with it for all types of economies including low-income, advanced and developing. Traditionally, the technological development in the financial sector was led by the "licensed banks" as national regulators generally discouraged the financial intermediation on a large scale by other types of

institutions. However, in recent years the global phenomenon of fintech – innovative technological solutions in finance sphere – became prominent.

Actually, fintech in its early forms originated in 19th century, with the invention of telegraph in 1838 which became the fundament for financial globalization. Then, first credit cards (1950) and ATMs (1967) were introduced. This step is classified by Arner, Barberis & Buckley (2015) as "analogue-to-digital" stage. From 1967 to 2007 "development of traditional digital financial services" stage took place, with the establishment of Clearing House Interbank Payments System (1970), The Society for Worldwide Interbank Financial Telecommunications, or Swift (1973), online brokerage (1982) and ubiquitous penetration of Internet banking in major USA banks (1998). After almost 10-year period during which no sound financial innovations happened, the era of "democratizing digital financial services" began in 2008, and brought the fintech in its contemporary form: electronic money, mobile banking, blockchain, etc. (Arner, Barberis & Buckley, 2015).

So, in recent years the financial technology industry has been in a rapid development. There are several successful cases of an increased access to safe and affordable financial services through fintech solutions, expanded the diversity of products as well as lowering the costs connected with usage of financial services. As EY's Fintech adoption index shows, in 2017 the average percentage of digitally active consumers regularly using fintech services reached 33% across the surveyed 20 markets, compared to 16% in 2016 (EY, 2017).

Figure 1. Comparison of fintech adoption in 2015 vs 2017 and Progress of fintech adoption in 2017, measured as share of population regularly using fintech



Source: (EY, 2017)

This, in turn, leads to the disruptions of the traditional banking model. As shown by the PricewaterhouseCoopers survey (2016), 80% of respondents consider consumer banking is likely to be disrupted by fintech by 2020. Additionally, 60% and about 40% of respondents

also mentioned fund transfers/payments and investment/wealth management have high chanced to be disrupted as well.

In order to examine the role of digital channels and technologies in inclusivity in more details, several cases worldwide are examined, with division by the level of economy development and income levels.

High-income economies: overall the high-income economies serve as benchmarks of financial inclusion to other nations. Still, while financial inclusion in advanced economies has increased significantly over the past years and almost reached 100%, innovations in the financial industry help to build on these positive trends and allow consumers who already have bank accounts access innovative new products that can improve their overall financial health. For instance, the amount of fintech startups in the U.S. reached 2,000 in 2016, with a sufficient number cases of platforms working towards involving excluded segments of consumers (i.e. Autism Expressed, learning platform teaching marketable skills to empower individuals with disabilities like autism), reduce the cost of serving of low- and moderate-income users (like Benefit Kitchen, benefit screening and financial literacy tool that provides eligibility information to low-income families; PYT Funds, a debt reduction model for student loans), and expand access to safe and affordable products (for example, eCredable, platform for consumers without credit connecting them to affordable financial services). Moreover, there is a list of fintechs from advanced economies aimed at improving financial inclusion in low- and lower-middle income countries, like money transfer services SimbaPay from United Kingdom working with African countries; Lenddo based in Singapure, ascertaining financial stability of customers from Latin America, South Asia and South East Asia.

Low- and lower-middle income developing economies: in these countries the financial and general economic exclusion is prevailing in the society for a number of reasons. There is a lack of physical infrastructure, on the one hand, and on the other hand large proportion of population cannot afford the costs of the traditional banking products. This stimulates the development of financial technologies which work across weak infrastructure and provide products at very low cost, the so called "microfinance" (Korovkin, 2014). Digital channels like mobile banking (m-banking) are likely to provide better coverage and more cost-effective services to the unbanked population of low- and lower-middle income economies. Conventional banking might not be cost-effective for low-ticket-size transactions; hence, financial inclusion might not be feasible. The most well-known example of m-banking solution is M-Pesa, a mobile payment service in Kenya, Tanzania and some other markets is operated through a private telecommunications provider with nationwide coverage independent of traditional banks. M-Pesa provides financial services to more than 75% of Kenyans (Sangeetha & Koushik, 2015). In India, for example, government pushes the development of a viable, large-scale digital ecosystem since 2009 through building Aadhaar, a unique biometric identification aimed at pushing state benefits through digital channels (Parussini, 2017).

Upper-medium income developing economies: as well as in the low- and lower-middle income economies, in upper-middle income developing economies (more often referred to as the "emerging markets[iii]"), the application field for financial technologies as a solution to financial inclusion issue is wide. Due to the big number of problems both from supply- and demand- side, fintech has huge opportunities to improve the situation. All sectors of financial services covered by inclusive fintech solutions, including Payments (for instance, e-money in Peru, cashless governmental benefits through South African Social Security Agency in South Africa), Merchant services, Insurance, Lending (for example, an Argentinian bitcoin and

digital payments startup BitPagos which has consumer credit product, enabing those with limited banking history to get credit through the use of its consumer wallet service), Personal finance/savings (like personal finance application GuiaBolso from Brazil), Money transfers, Tools for Financial Institutions (Association of Banks, 2016). The technologies under the solutions are also wide, including mobile and internet, contactless and NFC payments, electronic money, cloud systems, bitcoin, etc. (Bourreau & Valletti, 2015). Still, developing markets face the problems that the market players have strong incentives to focus on the relatively broad base of affluent population, and thus are less motivated to fill the pockets of financial exclusion, compared to the low-income markets. The combination of these opposite issues – a sufficient number of underserved groups of population and relatively high financial risks of working with them compared to serving the affluent population – makes these group of countries particularly interesting for more detailed analysis.

Summing up all the cases of inclusive fintech worldwide, four main advantages of fintech in promoting financial inclusion are notable:

1. As the review of international cases shows, fintech is penetrating into all types of traditional banking operations, using a number of technologies and innovations which gives financial technologies the advantage in covering the gaps in financial inclusion that are inaccessible to banks through developing access and usage of financial services, and improve their quality, suitability and welfare effect.
2. Interoperability and open application programming interfaces (APIs) of most solutions making inclusivity an intrinsic feature of fintech. Due to open APIs, it is possible to utilize the same technology to a list of inclusion problems in many countries because it allows small innovators to develop, test and refine services for consumers at a very low cost and come to some good solutions relevant for particular inclusivity issue based on shared technology or platform.
3. Compared to traditional financial services, fintech solutions provision is not limited by only ‘licensed’ operators as among fintech players may be parallel or alternative financial institutions which include fintech start-ups and digital companies. The latter drives innovation and boost financial inclusion in places where traditional financial institutions reached their potential which is often the case of advanced economies (Breloff & Parker, 2011) while in low-income economies, mobile operators take the role of financial institutes. At the same time, large banks still remain key players influencing financial inclusion development in emerging economies, however, their technologies often disrupt their traditional business models making them to place digitalization in a center of their strategy to stay profitable (Cheston et al., 2017).
4. Fintech easily adapts to existing infrastructure, as it utilizes a wide range of technologies, starting from mobile technologies, which are already developed even in most low-income countries, going to more sophisticated ones connected with blockchain. At the same time, it can drive the improvement of financial infrastructure through development and growth.

DIGITAL FINANCIAL INCLUSION BACKGROUND IN RUSSIA

The issue of economic inclusivity in Russia is one of the important issues of socio-economic development. The report by World Economic Forum on the overall economic inclusivity released in 2017 puts Russian Federation among the more inclusive of emerging economies (number 13 out of 78), yet labels it as “slowly advancing” (Samans et al., 2017). The report also notes that Russia’s inclusivity position is lower than its GDP ranking, suggesting that

there is significant room for improvement. As it was discussed hereinbefore, the financial inclusivity is an essential part of the overall inclusivity of socio-economic system and is currently of high priority in Russia.

As was said, there are basically two groups of barriers to financial inclusion, physical and socio-economic. The former depend largely on the size of the country and the density of its population, as it is definitely more effective economically to create infrastructure for the compact populations. The latter barriers are more manifest in the lower income countries. Thus, to understand the relative development of Russian financial services, the country – which is vast geographically and belongs to upper-middle income economies – should be compared to two sets of peers. First, the large-size countries with relatively low population density, like the USA, Argentina, Canada, Australia and Mongolia – for the comparison of the development of banking infrastructure like number of branches, ATMs or POS terminals for payment cards. Second, the countries which are close in per-capita GDP, like Israel, Portugal, Malaysia, Kazakhstan, Chile - for comparison of the penetration of banking services, like share of population having bank accounts and debit cards.

In general, survey results in 2015 show that from 26%[iv] to 66%[v] of population who are not included in formal financial services at all (National Agency for Financial Studies & BDO, *2016;* Central Bank of Russia, 2016). Nevertheless, the analysis of statistics on access points for banks branches, ATMs, payment terminals, client service standards and price of financial products and services shows that there are no general problems with accessibility of financial infrastructure. For example, in 2016, the number of financial organizations on Russia was about 17,000, including 834 banks with more than 44,000 branches with the average density of 38 bank branches per 100,000 people. While in Canada, Australia, Argentina, which are countries with large territory and uneven population density social demographic structure, this indicator is 23.6, 28.7 and 13.2 branches per 100,000 people, respectively (see Table 1). As one can see, there is no apparent correlation – either direct or inverse – between the size of the country and its density of population and the degree of development of its financial infrastructure.

Table 1. Data on access to financial infrastructure in 2016. Population density comparable countries

Country	Area, km^2	Population Density, by km^2	Branches, per 100,000 adults	ATMs, per 100,000 adults	POS-terminals, per 100,000 adults
Russia	17,098,242	8.33	38	187	1,117
USA	9,826,675	32.45	32.9	–	2,156*
Argentina	2,780,400	15.47	13.2	61	–
Canada	9,984,670	3.49	23.6	221	2,202*
Australia	7,741,220	2.91	28.7	165	3,939*
Mongolia	1,564,116	1.89	70.4	72.75	448*

*Latest available data is for 2009 year

Source: (The World Factbook, 2016; National Agency for Financial Studies & BDO, 2016; Central Bank of Russia, 2016; IMF Financial Access Survey, 2016a)

Analyzing countries comparable with Russia by GDP per capita level, one can note the tendency that based on penetration of bank accounts, Russia is closer to its less advanced comparables, with 67% penetration level compared to 54% and 63% in Kazakhstan and Chile,

respectively. In other countries listed in Table 2 more than 80% of population has bank account. As for the penetration of debit cards, there is a tendency for moderate to low levels, except for Portugal, which outstands with 67% rate compared to 32-54% in other countries.

Table 2. Data on penetration of financial services in 2014. GDP per Capita comparable countries

	GDP per Capita, in USD dollars	**% of population with bank account**	**% of population with debit card**
Russia	26,100	67%	44%
Israel	34,800	90%	32%
Portugal	28,500	87%	67%
Malaysia	27,200	80%	41%
Kazakhstan	25,700	54%	32%
Chile	24,000	63%	54%

Source: (Factbook, 2016; Demirgüç-Kunt et al., 2015)

Despite the fact that general level of financial inclusion is moderate and even relatively high compared to emerging countries level, at least 26% of population is still unbanked. This figure is broken down into small groups of excluded, so-called "exclusivity pockets" or "inclusivity gaps", due to several barriers that might arise due to potential problems with knowledge about financial services, unreadiness to use them, distrust to formal banking system or failure of banks to serve the needs of particular groups of population.

Physical barriers: Although, on average, Russia outperforms most of its comparable countries based on the level of bank branches accessibility, the statistics on distribution of credit organizations by size of the settlement shows that while there are more than 412 organizations per city with more than 1m inhabitants, with this number decreasing to 8.5 in cities with population below 100,000 people, and many small towns and villages – even with several thousands inhabitants – have no branches at all. This connected with special features of demographics in Russia as 68.3% of Russians lives in the European part of Russia, which is 20.66% of the territory. The density of the population of European part of Russia is 27 h/km², and the Asian one is 3 h/km². Urban population is 74.27 % (Rosstat, 2016; Rosstat, 2017).

Moreover, there are infrastructural barriers in Internet and mobile penetration which have a sufficient role for digital financial services availability. In 2016 the Ministry of Telecommunications in Russia reported 27m subscribers of fixed broad band Internet and over 100m subscribers of mobile Internet (Ministry of Telecommunications in Russia, 2017). As confirmed by consumer research only 70% of total population of Russia has the possibility to go on-line (FOM, 2017). These special features of territorial and urbanistic structure in Russia lead to the difficulties in provision of financial services by traditional financial institutions, often making it impossible to set up a contact with potential users.

Social barriers: There is a list of socially unsecured groups of population due to income or education level, age or disabilities. Population structure in Russia is characterized by a huge disparity in access to social benefits and income inequality. However, situation is getting better over time, the wealth level of Russian population is growing and so the demand for appropriate financial services. For example, in Russia, there are 20m of people (over 14% of population) living at the border of poverty line, for most of them traditional financial services are too expensive or inaccessible, i.e. they do not have appropriate credit history to be

eligible for a credit from a bank. This group is mostly a subject to the price discrimination barrier, being unable to bare the costs of using traditional financial services.

Another big group of excluded are retired people, who both have lower level of income – less than 15,000Rub (approx. 250$) a month on average – as well as lack of information about financial products, together with gaps in financial competences and skills. Additionally, there are about 10 million working migrants in Russia, who remit their salaries to their families. The volume of remittances to neighboring countries (e.g. Azerbaijan, Kyrgyzstan, Tajikistan) from Russia reaches 20 billion$, while the transaction costs from traditional providers are very high, including fee, accessibility and safety of remittances. Social barriers also prevent such groups as students (due to financial instability) and long-term ill or disabled people (because of low accessibility of financial services) from inclusion to financial services. This forms the second type of social barriers which is discrimination by banks based on high operational risks expectations. This is connected with the fact that most banks' operational strategy often evaluates services for low-income social classes as both commercially unfeasible (i.e. the costs of maintenance of deposit account with lower than average amount are hire than potential return of using the deposited amount) and risky (for instance, high possibility of loan default).

Competences and skills: Although, in Russia the level of education is high with 99.7% general literacy rate (measured as the percentage of the population ages 15 and older that can, with understanding, both read and write a short simple statement on everyday life) (UNESCO Institute for Statistics, 2016); 2015 financial literacy survey shows that 57% of respondents consider themselves financially literate, while only about half of questions were answered correctly by these respondents (measured as the proportion of correct answers in the test for knowledge of basic financial concepts like inflation, interest rate, etc.) (National Agency for Financial Studies & BDO, 2016). Additionally, about a half of population may be considered financially dependent – based on the same survey, 43% of population gets a bank card to receive salary automatically from employer and due to low financial literacy, they might not understand the nature of the card, for example, that it is linked to the banking account. Thus, this people mostly use the card to withdraw cash and not able to make independent decisions regarding financial services and products (National Agency for Financial Studies & BDO, 2016).

Moreover, based on the law and regulation in Russia, children over 6 years old are able to make small transactions, and adolescents aged 14 to 18 years can independently manage their income (earnings, scholarships, etc.). So, this makes up a group of more than 22 million school children who need proper financial services in order to make necessary operations with money and at the same time accumulate knowledge and experience to be prepared for modern financial market when they come of age.

Small and medium enterprises (SME) financial services: Last, but not least, there are also exclusivity issues connected not only with personal finance, but also with access to financial services for *small and medium businesses*. For example, there are 5,523,765 entrepreneurs (Resource center of small business, 2016) running small and medium businesses in Russia which do not easily fulfill the requirements of the formal financial sector, mainly when it comes to credit, especially in the early stages of development.

Table 3. Inclusivity gaps in Russia. Summary table

Barrier type	Exclusivity pocket type	Causes	Estimated size of pocket	
			in % of total population*	in million people
Physical	Demographic features	Uneven distribution of population. Large disparity between development of urban and village territories	26%	38
	Infrastructural problems	Uneven penetration of mobile and internet network among territories	30%	44
Social	Price discrimination	Disparity in access to social benefits and income inequality	14%**	20
	Discrimination by banks based on high operational risks expectations	Migrant workers using remittance services with high transaction costs	_	10
		Students lacking proper services and experience	5%	7
		Eldery lacking proper services and experience	29%	42
		Long-term ill or Disabled people lacking proper services and experience	8%	12
Competences and skills	Financial independency	Large share of those who got the account in bank are through salary card from employee	43%	63
	Financial Literacy	Disparity of general level of education versus financial literacy, children aged 6-18 years old lacking proper services and experience	43%	63
SME Financial Services	Small and medium businesses	Lack of financial services for small and medium businesses, especially in the early stages of development	4%	6

* Total population is 146,804,372 people

**Measured as people having less then living wage monthly income which is 9,828 Rub (160 USD) as of 2016 (160 USD)

Source: (Rosstat, 2015; Rosstat, 2016; Rosstat, 2017; Ministry of Education, 2014; FOM, 2017; National Agency for Financial Studies & BDO, 2016; Central Bank of Russia, 2016; IMF Financial Access Survey, 2016a)

Summing up Table 3 estimations and taking into account the intersection of inclusivity gaps, approximately up to 43% of population (62m adults) in Russia are limited in their access to modern financial services for one or more reasons. At the same time, the "pockets of exclusion" happen for a number of reasons and are relatively isolated, thus, no single straightforward measure can be offered to deal with the problem, and the possible impact of affirmative action policy by authorities is limited. On the other hand, private market players may find it an attractive business idea to fill in the existing market gaps. Further analysis will focus on the examples of such cases.

FINANCIAL INCLUSION CONTROVERSIES IN RUSSIA

Though usually classified as an "emerging market" Russian Federation faces the inclusivity challenges which are more associated with the advanced economies. The population is mostly urban, with almost 100% basic literacy, one of the highest tertiary education enrollment ratios in the world, with high share of skilled employment and relatively low unemployment. At the same time, due to the historic legacy of the Soviet era, when the consumer finance services in the country were rudimentary, the population has relatively low level of experience and understanding in the modern finance, especially in the middle- and older age strata.

This raises the question on how wide financial services access to give financially illiterate and low-income population in order to overcome social risks. The main problem lies in the expanding availability of credit as the key strategy for increasing banks' revenues, which in situation of financial illiteracy can lead to the terrible consequences. For example, the subprime crisis in 2008 in the USA as well as India's 2010 Andhra Pradesh microfinance crisis can be referred to as the crisis of financial inclusion: when uncontrolled growth in access to financial services can contribute to financial disturbances and social discontent (Hannig & Jansen, 2010; Raghuram, 2010). Russia is now facing the similar problem, with annual growth of 'bad' debts achieving 32% in 2016 (United Credit Bureau, 2016).

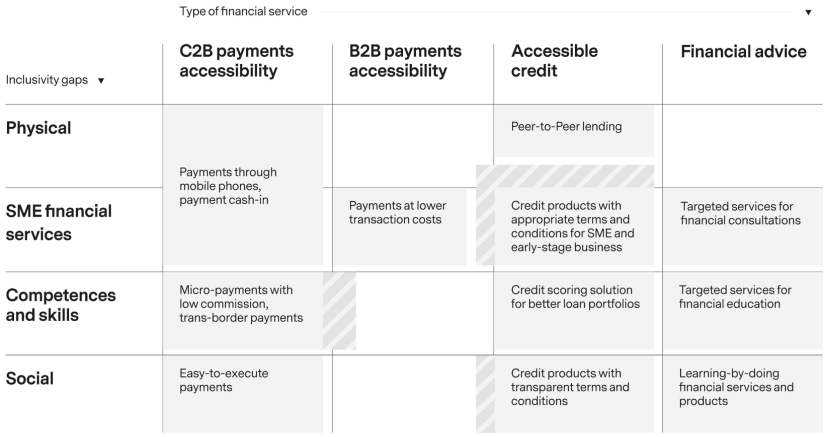
Moreover, additional financial inclusion controversy in Russia is that while survey results are ambiguous and indicate the low level of financial services penetration, for example, two surveys conducted by in Russia in the end of 2015 show different results on "bank account" possession – 44% versus 74% of respondents (National Agency for Financial Studies & BDO, 2016; Central Bank of Russia, 2016). At the same time, the indicator of the number of cards per capita is much higher, counting at almost 2 per person, that is, people do not recognize the relationship between possession of the card and banking account.

Overall the financial non-inclusion in Russia has the traits of both advanced economies (relatively rare and separated cases of non-inclusion in specific social groups) and in the emerging economies (strong disparities between regions in term of development). It is important that in relation of the modern infrastructure like telecommunications Russia definitely belongs to the advanced economies. This peculiar situation requires development of a country-specific model of financial non-inclusivity based on financial technologies solution which serves as the basis for analysis and strategic planning.

FINTECH MARKET PLAYERS FILLING THE INCLUSIVITY GAPS IN RUSSIA

Online semi-formalized questionnaire interviews of 37 fintech companies shows that 82% of fintech start-ups surveyed self-attributed their services as having positive effect on financial inclusion, with 54% claiming this effect to be high which shows that the fintech market players are on the one hand aware of the existing gaps in availability of financial services (SKOLKOVO School of Management, 2016). At the same time in their business strategy planning these companies take a different approach, usually starting from the possible technological solution and then developing a financial service, i.e. an offer to the customers. In many cases these offers fill the existing gaps in financial inclusivity. This duality brings up to Figure 2 represented below.

Figure 2. Some ways in which the fintech companies fill the inclusivity gaps



Source: Authors' analysis

Here are five short case-studies of fintech solutions from Russia trying to fill in the niches of financial inclusivity.

Financial Technologies for Cash to Non-Cash Transfers for Remote Areas Underserved by Bank Branches: QIWI Terminals and Wallets[vi]

Inclusivity pocket: Physical barriers

History of problem

As by 2000s Russian traditional banking system was still developing, it had no resources to provide population with proper financial services to cover their needs for payments operations. For example, with a wide-spread pre-paid mobile phone tariff plans, people searched for an easy and cheap way to recharge their phone balance. Although several solutions emerged, including so-called 'scratch'-cards distributed by retail chains, they were unable to provide the complete coverage, particularly in the remote areas due to territorial barriers. Solution was hidden in the dealing with small individual shops as agents, which could build a wide network, however, telecoms were unenthusiastic due to concerns connected with receiving the payments.

Technical solution and business model

In search for the good solution of the problem, in 2004 QIWI, a company founded through the merger of a 'scratch'-card producer and instant payments provider, introduced the network of cash-in machines (QIWI, 2017). Any small shop has an opportunity to install these machines, or terminals, while operated by the QIWI which acts as an intermediary in money-collection for telecoms and other partners, including utilities and communal services and other. Each payment is subject to commission from 0% to 5% depending on the sum. Although not being a pioneer in the business of cash-in terminals, the main advantage of QIWI over competitors is a convenient user interface and the fact that company took a risk to expanse its the network to work in distant geographic locations which led to success. In 2017, company operates more than 160,000 cash-in terminals with 56mln users monthly, making QIWI terminals network comparable with ATMs network.

In 2008, as a response to the need of even more convenient payment service, QIWI launched e-wallets with extended functionality compared to the terminals like easy access from any device connected to the Internet, payments to any merchant or P2P transactions, lower fees. The commission of QIWI for transactions of from 0% to 0.75% based on the sum and bank issued the card which is linked to wallet. After acquiring full a license, company went even further and launched QIWI Visa Plastic, enabling the usage of e-money offline. The card's price includes the commission for the issue of 2.5% (but not less than 25 rubles or at least $1 when buying the card in US dollars). Payments using the card are without commission. In 2017, there are about 17mln users of QIWI Wallet service.

Benefits and results

The network of cash-in terminals which are spread even in furthest and smallest settlements still remains the important solution to social and physical inclusivity gaps in Russia. At the same time, QIWI's e-money solutions may be integrated by small online retailers' payments, who usually cannot afford expensive and sophisticated traditional services provided by banks allowing them to expand customer base. Moreover, both terminals and e-wallets are easy to use and either do not require special competences and skill or characterized by learning-by-doing feature.

Alternative Credit Scoring for Boosting the Quality of Microfinance Portfolios: Axicredit.ru

Inclusivity pocket: Barriers for SME financial services (microcredit organizations), price discrimination social barriers

History of problem

Microcredit plays dramatically important role in providing underprivileged social groups and remote geographies of Russia with credit. In 1st quarter of 2017, there were about 900,000 microcredits issued (half of the amount of loans in banks issued at the same period) and the demand shows positive dynamics compared to the same period last year – the growth is 8% (United Credit Bureau, 2017). However, recently microcredit faced regulatory issues as two laws were introduced: one limiting the interest accrual and second is "anti-collection law", limiting the hard methods of debt collection. This raised the question of profitability, as MFOs are in need of moderate quality loan portfolio together with less formal compared to banking procedures credit management to maintain inclusivity of credit – to remain profitable. In order to be sustainable, the model should not base on higher risk tolerance, so that credit scoring is often managed manually which is flexible, but expensive, compared to computer-based scoring systems installed in banks.

Technical solution and business model

Axiomatica, a Russian start-up company launched in 2012, introduced a "cloud technology" approach as a solution to dilemma. Microfinancial companies get access to the platform called AxiCredit (www.axicredit.ru) providing all the processes of credit management and, in particular, scoring. FICO Origination Manager Decision Module is a foundation of Axicredit's credit risk evaluation model. As a centre of company's solution is architectural innovation introduced a separation of the Scoring Strategy module. This allowed to make the module decision rules transparent and easy to manage directly by clients. By 2017, AxiCredit client list included no less than 10 MFOs and banks, getting revenues from taking a fee from application processing (about 1$ per application).

Benefits and results

Despite the fact that technology is fairly novel to the market, company has already managed to form a base of highly enthusiastic clients both from microcredit sector and small banks. The benefits are numerous. Firstly, the system can be easily installed and gives high-quality decisions in a short time because of its cloud architecture. Secondly, the platform uses transparent rules, allowing client companies to change their credit acceptance and interest rate criteria in response to market situation. This allows maintain the equilibrium of the liquidity supply and cost and market demand. So, the service is beneficial for small financial companies as well as its potential clients.

Financial Technologies to Manage the Risks of Cash Handled by Children: "Ladoshki" project

Inclusivity pocket: Competences and skills – school children

History of problem

In Russia, like elsewhere, parents should either regularly (weekly or monthly) pay or pass cash to their children for nutrition at school in advance or provide child with cash for every-day purchase of food at the child's choice in the school cafeteria as well as pocket money for small every-day transactions. Additionally, school children often use public transport to reach the school, so, they have to pay for transport by cash as well. However, this obviously has risks for children, often unexperienced in financial services: loss, theft/extortion with associated psychological consequences, incorrect cash management.

In 2014, the "School Card", a pre-paid card or bracelet with NFC technology used for payments or pass, identification information and photo of the student, connected to parents' internet bank account and SMS alerts was piloted in some regions. It bundles the permit/crossing pass, cashless nutrition and other school payments, cashless transport payments as well as cashless out of school "pocket money" transactions. Although it showed some benefits and used by more than 200,000 schoolchildren in 2017, there is a sufficient disadvantage as parents are claiming that children either lose or damage the cards, so that parents should pay for the re-issuing. So, much easier instrument for child's identification for financial transactions was needed.

Technical solution and business model

In 2015, the project "Ladoshki" based on the biometric technology of payment with the hand palm was introduced by a collaboration of pioneers in innovative finance in Russia – government, a big state bank, international payments system in partnership with a Yandex.Money (company's case discussed further in the Chapter) – with a goal to help schools and parents to overcome the risk of cash handled by school children.

To pay, a child needs to enter the amount and just put a palm to the sensor. It analyzes the individual drawing of the palm capillaries, and a special optical system integrated in the

sensor identifies the payer, after which the amount is automatically deducted from the parent's account. So, the solution is based on the sharing the bank account with a child. The account, in turn, may be replenished without commission in a variety of ways: by attaching the bank card to the child's hand and the account will be replenished automatically, via the Internet bank and bank's mobile application as well as at ATMs.

This instrument is also free of fraud as the storage of biometric data is not carried out: palms' scans are converted into a digital code, which is transmitted to the data center via secure communication channels.

Benefits and results

So, by 2017, "Ladoshki" project is successfully introduced in at least 150 schools, including schools in cities with population with less than 500,000.

Parents point at benefits of this projects due to better control over attendance, control over the expenses of the child, convenience in replenishing the card and the possibility of transferring money to the child, and even more, ability to pay for child nutrition in credit. Schoolchildren are, in turn, got the ability to use modern payment systems and manage personal finances which increases the level of their financial culture and literacy as well as increased security due to decrease in the use of cash. Bank service providers also claim that parents whose children are involved in these projects also started to use financial products and services more often and with better understanding. Local authorities have the opportunity to control the funds allocated from the budget for schoolchildren. Nutrition organizations and educational institutions, in turn, reduce the turnover of cash, reduce the cost of collection and fraud risk, and have the instrument which helps to plan a nutrition menu.

Financial Technologies for Fundraising/Crowdfunding of "Micro-Causes" in P2P and P2B: Yandex.Money

Inclusivity pocket: Social, physical, competences and skills barriers

History of problem

The ways of peer-to-peer (P2P) money remittances offered by traditional providers often are pricy and/or difficult to access. E-wallets overcome these two major disadvantages allowing to send and receive money fast and at lower fees. Moreover, the digital revolution in P2P products had a number of significant social effects, for example, crowdfunding: collection of funds from a large number of people for a business project or a cause. Although money contributions from public using various channels has always been the center of charity organizations' operation mode, the process used to be connected with excessive management costs. Due to these costs, small organizations and private civil volunteers often gave up fundraising campaigns. Compared to international practice in crowdfunding, where, for example, there are more than 125,000 projects collected more than 3b USD on the biggest crowdfunding platform Kickstarter.com (popular American funding platform). Russian public is not eager to contribute much to early-stage, 'would-be' projects. So, there is a need for a service, which allows to collect funds in parts and to show the project progress in order to raise money for development.

Technical solution and business model

Yandex.Money company, which is a big financial innovations market player in Russia since 2002, has introduced a number of products for crowdfunding management of both individuals and professional organizations, based on e-money and other digital instruments. The fundamental idea is that fundraising is, in its nature, a social activity, putting communication management on the same level of importance as the transfer of money is. Therefore, the

services are integrated into popular social network platforms like Facebook and VKontakte (Popular analogue of Facebook in Russia and CIS) with posts promoting the cause and eye-catching instruments like instantaneous reporting of the sum collected or progress achieved.

In 2014, company launched a platform for personal money collection vmeste.yandex.ru ("vmeste" means "together" in Russian), which in 2016 was relaunched as yasobe.ru (original way of saying "I will raise"). The service allows to raise funds for a business project, for an art or musical project, for extracurricular activities in a school class or even for a civil urbanist initiative. About 200,000 people visit yasobe.ru the web-site monthly.

Moreover, the core Yandex.Money activities, its B2B solution Yandex.Kassa (translated as Cashbox) and Yandex.Wallet also play an important role in crowdfunding. The main goal of Yandex.Kassa is to integrate all possible means of payment in one stream providing single-source accounting statements. By 2017, it gathered more than 86,000 retailers, both majors online market players and the small and micro- businesses including charity organizations. So that one can easily contribute to charity organization using Yandex services. Yandex.Wallet service enables the remmitances of e-money to any private person or a business, connected to Yandex.Kassa.

Benefits and results

A digital crowdfunding service adapted by Russian realities introduced by Yandex.Money allows to get group financing for small, but important, activities, like microbusinesses, art projects and so-called "microcauses" – private initiatives aimed at contributing for the society. The analysis of the Yandex.Money service shows, in general, the Russians invested in crowdfunding projects 70% more funds in 2016 compared to 2015. At the same time, the number of those who transfer money to projects through the service doubled - 290 million rubles were collected through Yandex.Kassa and yasobe.ru.

Financial Technologies in Personal Finance Budgeting: Easyfinance.ru

Inclusivity pocket: Competences and skills

History of problem

As it was previously mentioned, in Russia there is an issue with financial literacy which leads to the problems with personal budgeting, low level of skills connected with usage of financial services and even such severe problems as over-crediting. Based on the expert opinion, only 10 to 20% of population is interested to become financially educated and skilled, and 20% are getting involved, including those who want to possess personal budgeting skills.

Since correlation between financial literacy and usage of financial services is positive and significant, there is a possibility to increase financial inclusion through providing appropriate solutions for this demand.

Technical solution and business model

Following this idea, in 2009 the service easyfinance.ru was launched. Easyfinance.ru combines a personal finance budgeting interface with financial consultation service based on the expenses and gains listed by the user. In contrast to other personal budgeting solutions, this project is developing as a platform, not just application. It allows other applications, such as internet-bank applications or other financial services to connect, it has open APIs, and promotes integration with ecosystem.

At the beginning the project was adapted to Russian realities of cash economy, providing the instruments to easily keep records not only for cashless transactions by cards, for which there is a SMS or Internet-bank reporting, but also for money flows in cash, compared to existing

solutions in other countries where cashless transactions were more developed. Currently, Easyfinance.ru combines the control of both cash and cashless flows and inter-connected with information from more than 200 banks for 300,000 clients. There are 4 types of accounts: Free (with no fee), Light Pro, Medium Pro, Full Pro, which differ in price (from 1 to 2.5$) number of available services, like expanded budget, advanced reports, the ability to synchronize with a mobile application, online backup. About 4% of users used paid accounts in the end of 2015.

Service also covers the B2B-segment, providing the banks with financial management solutions, meeting the demand of banks to give value to the clients and deepen the usage of their services by clients, compared to current situation when loans and deposits are the most popular products.

Benefits and results

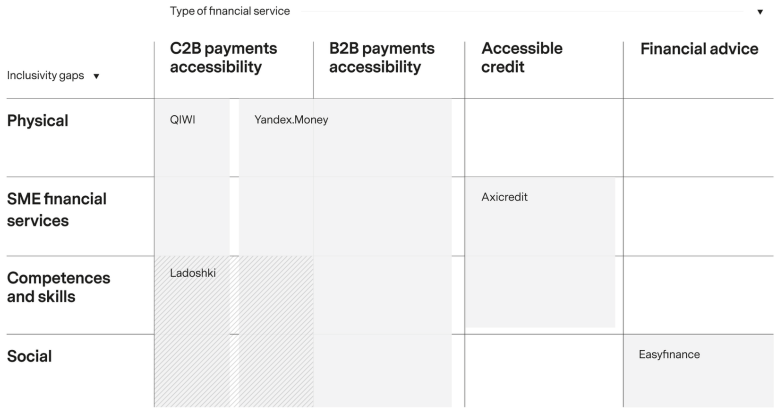
Analysis of service users shows that 55% noticeably improves their financial condition, 25% gets rid of debts, 22% of users achieves their goals within a year of use. Moreover, the clients of Easyfinance.ru show the tendency to increase the share of cashless transactions to 80% compared to cash (20%). Ability to collect such statistics allows financial services providers to better understand the behavior of users.

Summing up the presentation of successful case-studies of digital financial products, a specific model of business is arising. Such a model is two-dimensional:

- Dimension of "Inclusivity gaps" outlines the segments of non-included population based on different barriers to inclusivity, like physical, social, competences and skills, institutional discussed before
- Type of financial service dimension is the basis on which the fintech solution is built

Case-studies also show that different market actors are working in each segment to the effect of financial inclusion through technological solution: smaller and regional banks, government-owned banks with explicit mandate for inclusivity, MFOs and credit cooperatives, telecom operators, fintech companies.

Figure 3. Cases of fintech solutions filling the inclusivity gaps



Source: Authors' analysis

SOLUTIONS AND RECOMMENDATIONS

In general, despite its significant role, fintech is only part of the financial sector development. There is also a sufficient change in traditional banks' strategies, because of fintech's disruptive role as one of the reasons. For banks that incorporate financial inclusion into operations, digital payments become an important gateway to new customers, so that they get involved into technological advancement. This leads to the phenomenon that, for example, in Russia, the main consumers of fintech are banks competing among themselves for the level of service. Moreover, big new players are emerging as Internet companies and telecom players are becoming banks to a certain extent, issuing bank cards and providing financial services.

Thus, with all these developing technologies and innovations together with the growing number of agents involved in financial markets, it is necessary to develop regulatory approaches that will stimulate the offering of market products that close niches in inclusiveness: physical, social, competences and skills as well as SME financial services barriers, without creating unacceptable risks. The regulation is needed to protect customer funds held inside the digital transactional platforms, support privacy and security of users' financial data, ensure transparency of financial products and services, guarantee proper customer rights as well as provide protection of financial market players against operational risks (CGAP, 2014). One effective solution might be the development of risk-proportional regulatory initiatives in order to manage the disruption consequences or potential effects on the financial market. Additionally, governments can support the penetration of fintech solutions by introducing them in G2C (government-to-consumer) and G2B (government-to-business) payments (like Aadhaar program in India).

Moreover, currently, there exists an under-estimated feature that technology requires the development of distribution channels. To access digital financial services, access to a mobile connection is important, but it is equally important to be able to convert cash to digital money and, at least for now, back into cash again. So mobile phones have been important in places like Kenya, but the real game changer has been the emergence of large and well-functioning agent networks. So, there is an increasing role of the government policies and other market players actions in promoting financial technologies through providing proper infrastructure.

Additionally, following the Russian experience, often fintech entrepreneurs from emerging markets, although having brilliant ideas on how to cover the particular financial inclusion gap lack proper competences and skills. For example, IT skills, which is a barrier for product prototype realization, experience in the legal field, which is necessary for the product to comply with laws and regulations or business modelling, essential for economical success. Moreover, there is no unified approach to access fintech projects’ success and value as these projects are totally different from traditional projects and companies. As a result, it is hard for emerging countries investors to choose projects with potential. Thus, it is necessary that big market players like governments, banks and other financial institutes, large business, experienced practitioners and even academia, support fintech entrepreneurs.

FUTURE RESEARCH DIRECTIONS

As current Chapter is one of the first attempts in academic sphere to make an overview of the fintech and its (disruptive) role in financial markets and, in particular, in financial inclusion, there is still space for future research in the topic.

Firstly, the analysis may deepen by introducing additional case-studies of fintech projects aimed at inclusivity gaps mentioned before. This will allow for generalizations and representativeness, which are essential for the developing of grounded theory on the issue. Alternatively, in order to get more quantitative data on the role of fintech projects on financial inclusion and financial market as a whole, the survey might be conducted, which gives possibility of statistical and econometric analysis. Secondly, as some comparable countries were mentioned in current research, the analysis could go wider and study the situation in other countries and regions, with the special attention paid to their peculiarities and similarities in terms of fintech disruptive and inclusive roles.

The additional direction of further research is to go deeper in studies of consumer behavior and analyze how consumers combine the services of different types of financial organizations or choose between them. For example, to get more qualitative data, financial diaries as a survey instrument may be applied in each particular country or region. Financial diaries are already introduced in South Africa, India and the U.S. (Collins, 2008; Kamath, Mukherji & Ramanathan, 2010; Hannagan & Morduch, 2015). As a result of such research, both market players and national and international regulators get information on the ways of effective introduction of financial products and services which will be responding to the existing challenges of financial inclusion at acceptable levels of risks and costs.

CONCLUSION

As was shown, financial inclusion is increasingly seen in the world as an important driver of socio-economic development. In the advanced economies meeting the challenges of inclusion are viewed as an important contribution to the creation of the just society of equal opportunities. In the context of developing markets, financial inclusion is also a powerful lever of economic growth that allows to institutionalize many of the existing informal financial practices, and thus make them more effective.

Up to recently it was widely believed that financial inclusion challenges should be solved primarily through affirmative actions of governments, including the policies of the national financial regulators: establishing the rules and incentives for licensed banks and other traditional financial players to work with the “excluded” population. However, the modern digital financial technologies make working with the “bottom of the pyramid” consumers effective for private market players. This advancement disrupts the established paradigm and offers important new class of solutions to the problem.

As the Chapter demonstrates, the private market players are capable of filling any of the existing gaps in financial inclusivity in the market like Russia, which is characterized by a very complex models of “exclusion”. Though this solution is not universal – the gaps are not fully filled – it deserves paying attention of both researchers and policy makers. The proposed analytical approach allows to outline a prioritized set of targeted actions for the possible measures of increasing financial inclusion based on cost-benefit analysis. This analysis provides for effective combination of actions by market players and strong affirmative regulatory actions. Such actions should aim at developing the means of non-direct market participation - regulatory environment and targeted operational stimuli to the private and public market players.

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KEY TERMS AND DEFINITIONS

1. **Crowdfunding**: collection of money from a large group for a business or a cause

2. **Electronic Money**: electronic store of monetary value on a technical device that may be widely used for making payments to entities other than the e-money issuer.

3. **Financial Inclusion**: The situation, when everyone is provided with full suite of high-quality financial services and is able to use them, while there exists appropriate infrastructure and ecosystem of financial market, which together enable these services to improve the personal and social welfare

4. **Financial Literacy**: The knowledge and understanding of financial concepts (i.e. interest rates, credit and insurance, discounting), ability to use financial services and products, competences in private financial decisions

5. **Financial Technologies**: An innovative technology in the financial industry that changes, breaks, substitutes, supports or evolves the parts of/the whole value chain of the traditional players through offering easier and cost-efficient solutions to businesses or consumers.

6. **Inclusive Growth**: A phenomenon that advances fair opportunities for economic participants during economic growth with benefits sustained in each sphere of society.

7. **Inclusivity gap/Exclusivity pocket**: The sector of population not covered by financial services due to particular reasons

8. **Mobile Banking**: An access to financial services through mobile phone allowing to execute transactions like payments, remittances, etc.

9. **Online Banking**: An access to financial services through any device connected to the Internet allowing to execute transactions like payments, remittances, etc.

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[i] Microeconomically, access to finance influences both individuals and firms. Firstly, the lack of access to financial services may lead to poverty traps and inequality (Beck, Demirg-Kunt & Levine, 2007). Moreover, a growing literature focuses on the positive consequences of access to financial services which are savings increase, productive investment growth (Dupas & Robinson, 2013a), consumption stimulation (Dupas & Robinson, 2013b) and female empowerment (Sanyal, 2014). As for the firms, it was shown by empirical research that small businesses have advantages from access to credit products (Banerjee et al., 2013).

[ii] Number of research also shows positive effects of financial inclusion on macroeconomic indicators (Sahay et al., 2015): economic stability, measured by aggregate consumption volatility (Mehrotra & Yetman, 2015), growth (Dabla-Norris et al., 2015), consumption and output (Buera, Kaboski, & Shin, 2012).

[iii] Such economies are often called the "emerging markets", which is a complex phenomenon. The latter is more than just an amalgam of well-established metrics including GDP per capita or growth rate, it includes the combination of opportunities and risks for trade and investment in those markets.

The concept arose in the late 1980s, reflecting the unprecedented scale of business opportunities in the countries around the globe that were opening to international trade (Goetzmann & Jorion, 1999). The main characteristics of such countries were industrialization, with higher level of human capital, substantial technology potential and the ambitions to competitive (Kalinin et al., 2016).

[iv] The share of adult respondents who answered positively to the question of using at least one open account in credit organization, survey of 5,000 users

[v] The share of adult respondents who answered positively to the question of using at least one open account in credit organization, survey of 1,589 respondents

[vi] This and the latter, Axicredit and Yandex.Money cases are based on the results of a case-study conducted by authors of Chapter in 2016 as part of Digital platforms and the ecosystems of financial inclusion. The Russian experience report (Kabakova, Korovkin & Plaksenkov, 2015)