

Digital Technologies in Monitoring and Supervision of The Financial Market by the Bank of Russia

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Abstract — An object of research is economic relations arising in the process of monitoring and supervision of the financial market and its participants by the Bank of Russia given the need to use modern digital technologies. A fundamental factor which determines the domestic financial market competitiveness is the optimal balance between costs for market participants with regard to ensuring of the conformity of laws, regulatory requirements and degree of freedom in entrepreneurial activity.

The number of professional participants of the financial market has been declining steadily, and in this, supervision of them increases every year. If there is such a trend, the development of business processes and activity of the market participants becomes difficult. The further expansion of foreign companies into the Russian financial market will entail the increase in monitoring and lack of development. It will be able to create the devastating situation in the financial sector of the country.

The Bank of Russia as a megaregulator (an integrated model of financial sector supervision) has to contribute to the development of activity of the domestic financial industry representatives through the optimization of supervision and creation of enabling environment for the Russian financial market participants' business.

Keywords – financial market, professional participants, megaregulator, supervision, digitalization.

I. INTRODUCTION

There is a position which was developed in theory and practices that proportionate regulation and optimization of the financial market participants' regulatory burden increases the financial market competitiveness and a number of new participants. It will contribute to limitation of redistribution of the important processes in the financial market to external resources belonging to foreign large companies.

The current state of the financial market will be able to radically change under the rapid technological development if global digital giants enter this competition. A payment system which has been owned by Facebook was licensed by the Central Bank of Ireland in autumn 2017. There were more than 500 million authorized users on Alipay payment system as a part of Alibaba Group who were offered different investment

products of the financial market at the end of 2017. Moreover, the service of more than 1 million sales outlets in Europe, including 100 thousand in Russia, is projected under a partnership with one of these banks.

Many experts are convinced that such the giants as Facebook, Google, Amazon, Baidu and other technological companies will give a start to the full-scale expansion in the Russian market of financial services in the foreseeable future. This tendency does not have to provoke a revitalization of protectionist policy on the foreign representatives of the financial market. Thus, the subject of the study is really relevant.

The aim of this article is to analyze the current toolkit (set of activities) and establish a new one which allows to decrease the financial market participants' regulatory burden and stimulates its development. And it would identify more optimal ration between regulation and degree of freedom in entrepreneurial activity.

That is why there is a number of challenges to be addressed:

- to consider foreign experience of regulation and supervision of the financial market and identification of the optimal ration between supervision and degree of freedom in entrepreneurial activity abroad;
- to review the domestic theory and practice of supervision by the Bank of Russia;
- to determine the main problems of supervision which hamper development of the financial market;
- to develop the toolkit (set of activities), whose implementation will address these problems.

II. METHODS OF RESEARCH

The theoretical and methodological basis of the research is domestic and foreign scientists' works dedicated to theoretical and practical aspects of supervision by both the Bank of Russia and foreign regulators and supervisory authorities with respect to supervision of the financial markets. The realization of the objectives is based on research methods such as statistical and comparative analysis, systematization and synthesis of

scientific knowledge, and method of expert estimates. The informational basis of the research is the legislation and regulations of the Russian Federation, normative and statistical materials of the Bank of Russia.

Financial market is a special, specific area of traditional and new financial institutions as its infrastructure. These institutions provide financial services through transaction with the financial instruments [8, p.85].

A direct correlation between a level of the economic entities development and State, in general, and development of the State financial markets was identified during the 1930s-1960s by Colin Clark, 1937; Kuznets, 1938; Goldsmith, 1969; Gerschenkron, 1962, in particular. The development of the financial market was considered in conjunction with economic growth during the 1980s-1990s. The works of such authors as Pagano, 1993; Roubini, Sala-i-Martin, 1992; King, Levine, 1993; Bencivenga, Smith, 1991; Greenwood, Smith, 1997; Sirri, Tufano, 1995 should be underlined.

According to some foreign researchers, such as Beck T. and Levine R., the experience often determines a correlation between the development of the financial system and economic growth.

There are two main models of financial markets. The first model is a financial system targeting bank financing – bank based system, the so-called continental model. And the second one is a financial model targeting stock market and system of institutional investors (insurance companies, investment and pension funds) – market based financial system, the so-called Anglo-American model [7, p. 146]. That is why there are different approaches to the regulation of the financial market.

The regulation of the financial market is a streamlining of its participants' activities and transactions between them on the part of organizations authorized by the society for these activities [3, p. 34]. The financial regulation must establish a balance between different challenges which are addressed by the regulation and prudential supervision. It is estimated that institutional investors start focusing on short-termist interests because of the excessive prudential requirements increase. This is reflected in the reduction the durations of financial assets ownership and increase in the turnover of an investment portfolio. According to the Green Paper on Long-Term Financing of the European Economy as part of the Europe

2020 strategy implementation, there is the need to monitor the prudential reforms to minimize the negative impact on long-term investment. In particular, the regulation and supervision systems have to support the competition between banks and institutional investors [9, p. 135].

Clearly, there is not an optimal model of the regulation and supervision organization.

Table 1 shows the models of regulation and supervision in foreign countries.

Since the end of the 1990s, attempts have been made to introduce the unified rules of the European financial market game. But the real unification of legislation occurred only 2007 when the Markets in Financial Instruments Directive (MiFID) came into play. The requirements of the directives apply to 27 members of the EU and 3 countries of the European Economic Area (Iceland, Norway and Liechtenstein).

One characteristic of at least the majority of developed markets can be identified as the primacy of investors' capital security, taking into account all the features of the financial markets in different countries [3, p.151].

A direction of the supervisory bodies' control development is determined by the development of both domestic and external markets in many countries.

Market conjuncture arouses the interest of different directions of economic entities' activities, forcing supervisory bodies to determine 'the rules of that game' for new areas of economic relations and update these rules in the occupied markets, depending on changing conditions, for example, new toolkit, technologies or participants.

III. RESULTS OF RESEARCH

The development of the financial market of the Russian federation is one of the most important directions of professional participants' activities in the securities market of the Bank of Russia. That financial market developed by professional participants of the securities market provides workability of the monetary policy transmission mechanism and defines the effectiveness of measures of the Bank of Russia of achievement of the inflation targets [1].

TABLE I. A REVIEW OF THE FOREIGN EXPERIENCE IN REGULATION AND SUPERVISION OF THE FINANCIAL MARKETS IN DIFFERENT COUNTRIES

Name of a model	Legal framework	Regulatory authorities	Features	Deficiencies
American model	<ul style="list-style-type: none"> - Sarbanes-Oxley Act of 2002; - Glass-Steagall Act of 1933; - The Gramm-Leach-Bliley Act 	<ul style="list-style-type: none"> - the Securities and Exchange Commission; - The Federal Reserve; - The National Association of Insurance Commissioners 	<ul style="list-style-type: none"> - conservatism and minimum intervention into the market processes; - strict separation between the stock market and banking sector; - regulation of the market both at the Federal and state levels 	<ul style="list-style-type: none"> - excessive conservatism leads to a number of irrelevant measures in legislation which hinders development of the system; - too little state intervention into the financial market processes does not allow to halt development of economic fatal processes
German experience	<ul style="list-style-type: none"> - the Act Establishing the Federal Financial Supervisory Authority; -the German Banking Act 	<ul style="list-style-type: none"> - The German Federal Financial Supervisory Authority (BaFin) 	<ul style="list-style-type: none"> - the rigorous monitoring system of market participants' activities; - criminal prosecution of insider operations 	<ul style="list-style-type: none"> - a slow development of financial market with respect to the toolkit and market participants
Experience of Great	<ul style="list-style-type: none"> - The Financial 	<ul style="list-style-type: none"> - Prudential Regulation 	<ul style="list-style-type: none"> - a high degree of 	<ul style="list-style-type: none"> - a lack of implementation of

Britain	Services Act (1986); – The Securities Act (1985); – the Companies Act (1986); – the Financial Service Act (1988)	Authority, PRA; – Financial Conduct Authority, FCA	conservatism; – customs regulate some processes of financial market; – a high degree of supervision by the state; – the multi-level system of control inside the regulator	innovative products for investment and of technology means for optimization
European model	– The Markets in Financial Instruments Directive, MiFID	– European Securities Market Agency, ESMA established in 2011	- an investment through debt instruments and not through equity ones; - the primary role of banks	– a low level of market diversification; – a lack of innovative component; – the market bureaucratization

The features of the Russian established structure of the financial system relate to a number of factors, including quite low involvement of the population in the financial market, shift the preferences of the population to services in credit organizations which provide not only banking services but services on stock market, and also relate to a lack of confidence of the population in non-lending financial organizations because of the abuse in the industry with a lack of supervision and impact on unscrupulous participants. The Bank of Russia considers that it is important to ensure access of economic entities to the advanced technologies of the financial market, taking into account development of information technologies and its use in the modern financial industry. The Bank of Russia, together with interested authorities, implies to pay increased attention to the quality of financial intermediaries' operating systems and cybercrime-fighting [4, p.167].

The Standard for Supervision by the Bank of Russia was approved by the Bank of Russia in 2017 in which with respect to professional participants

- the goals, objectives, principles were identified;
- the supervision procedures were established;
- the procedure for establishing supervision depending on the company risk profile and its category in accordance with the template of supervision was also identified.

The methodology and toolkit, comprising an assessment of the financial status, performance indicators and behavioral aspects of organizations' activities were developed and introduced by the Bank of Russia to determine the supervised organizations risk-profile as part of risk oriented supervision.

The project 'The signal indicators – triggers' which allowed to carry out the important reorganization of supervision was implemented by the Bank of Russia, subject to the supervision of professional participants of the financial market. It optimized key workers' activities and provided the possibility of a rapid response to accountability. The triggers are one of the main resources of supervision facts. Moreover, they focus on the meaningful changes of indicators and problem areas of an organization [65].

This process is presented schematically in Figure 1.

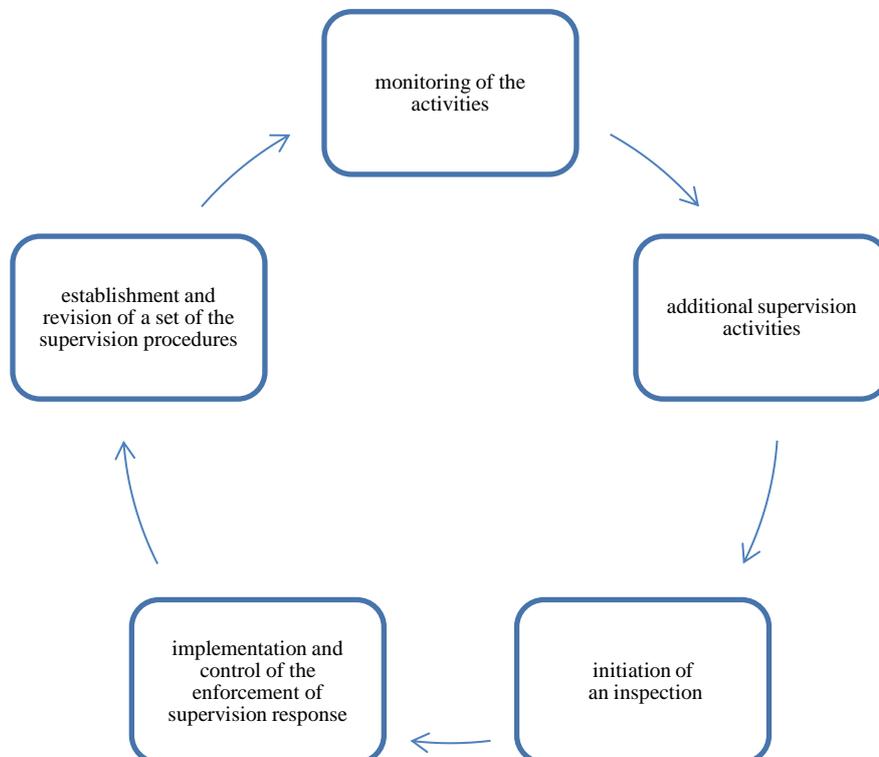


Fig. 1 – A sketch of supervision of the financial market professional participants by the Bank of Russia

There were 1545 regulations of the Bank of Russia on prevention and addressing violations against professional participants of the financial market in 2017, compared with 60 regulations in 2016, and against infrastructure organizations of the financial market – 6. There were 3652 information requests, including in the form of a regulation, for professional participants of the financial market, compared with 912 requests in 2016, and for infrastructure organizations of the financial market – 90. There were 283 reports on administrative offence with regard to professional participants of the financial market, compared with 64 reports the previous year, and with regard to infrastructure organizations of the financial market – 19.

The main parameter determining measures of supervision response which should be applied to professional participants of the financial market if there is an irregularity in the activities is the gravity of the breach [10].

IV. DISCUSSION OF THE RESULTS

Development and implementation of new technologies in the financial market are the most striking trend of recent years. New technologies imply the use of digital delivery channels of the financial service and interaction with supervisory authorities, including the Bank of Russia.

Digitalization is a long-overdue process of qualitative transformation of the financial market methods and technologies because now the financial area uses forms of accounting and storage of information which is readily converted, accumulated, and processed with the help of the more powerful computer aids instead of the physical flow of assets.

It is necessary to adopt a series of measures, in order to create an enabling environment for digitalization of the financial market. These measures are represented in Table 2.

TABLE II. MEASURES FOR THE SUCCESSFUL IMPLEMENTATION OF NEW TECHNOLOGIES IN THE FINANCIAL MARKET PARTICIPANTS' ACTIVITIES

The proposed measure	The expected outcome		
	For the Bank of Russia	For a professional participant of the financial market	For a client of the financial market professional participants
The establishment of piloting innovation financial technologies, products and services (the regulatory 'sandbox' of the Bank of Russia), the outcome of which is an assessment of the feasibility of the implementation of an innovation financial technology or service, and	<ul style="list-style-type: none"> – a stimulation of development of the new principles and technologies for the securities market without fear of violation of the rights of market participants; – a possibility to conduct experiments with respect to innovation financial services which go beyond the current regulation in the financial market, 	<ul style="list-style-type: none"> – a testing of new technologies with an extensive range of areas of parameters, according to these technologies and instruments reliability, to the conformity of rules of law of the Russian Federation, to the Bank of Russia and etc. – a possibility of piloting innovation financial technologies and 	<ul style="list-style-type: none"> – the emergence of new investment products and new technologies of the financial market which were tested and are reliable; – an extending the range of financial products.
The development of electronic workflows between the bank of Russia, the financial market participants, individuals and entities, with respect to a possibility implementation of notification to the Bank of Russia and providing extracts from the registries (database) of the Bank	<ul style="list-style-type: none"> – an acceleration of obtaining the necessary information for the procedures of prudential supervision; – a unification of forms and methods of reporting and necessary information; – a comfort information processing. 	<ul style="list-style-type: none"> – an acceleration of interaction with supervisory bodies; – a possibility to avoid duplication of a direction of the information in case requests were received from some supervisory bodies or units of the Bank of Russia because of the database, containing information to the financial market 	<ul style="list-style-type: none"> – an acceleration of electronic requests processing for increase in reliability of the financial market professional participants to improve mechanisms of supervision of a financial intermediary.
The development and assistance for the implementation of the International Standard on interaction and communication of information ISO 20022, including transactions.	<ul style="list-style-type: none"> – a unification of forms and methods of information provision to the unified database; – a possibility of constant information technologies updating; – a simplification and acceleration of international interaction with supervisory and regulate bodies and the foreign financial markets participants. 	<ul style="list-style-type: none"> – a reduction costs of the financial market participants and acceleration of financial transactions both domestically and internationally; – a simplification of the foreign financial market entry; – a reducing supervision burden because of increase in 	<ul style="list-style-type: none"> – N acceleration of an information exchange with financial intermediaries; – an increased reliability of a financial intermediary; – a possibility of the foreign market entry; – a price reduction of the services of financial

Digitalization of the financial market necessitates of the cybersecurity of financial organizations and their clients build-up. The Bank of Russia develops the national standards on information security, the application of which will entail a rising level of market confidence in new financial technologies.

The operation of the new platform 'The investor exchange' (hereinafter referred to as Platform), which will include the following participants:

- The Central Bank of Russia (The Bank of Russia);
- The Federal Antimonopoly Service of the Russian Federation;

- The Ministry of Communications and Mass Communications of the Russian Federation;
- The Ministry of Economic Development of the Russian Federation;
- commercial banks;
- The National Payment Card System (NPCS);
- professional participants of the financial market;
- investors.

This platform will allow to link investors and professional participants of the financial market who offer their services to a wide range of actors. The Bank of Russia analyzes the reliability and compliance with requirements of the Russian legislation of the financial market professional participants'

product range. Moreover, the Bank of Russia provides the information support of the Platform, service capacity which ensuring storage and handling, input and output of information, and the data validation that must be in the responsibility area of the Bank of Russia. The Federal Antimonopoly Service of the Russian Federation aims to analyze the pricing in this market.

The Ministry of Communications and Mass Communications and the Ministry of Economic Development of the Russian Federation take part in the Platform as providers of information on investors (individuals) from the Public Services Portal in the role of an operator of the Portal and authorized body for the information resource of the federal register.

The commercial banks are called upon to provide necessary transactions which investors will conduct through the Platform. Their participation will allow to minimize time of these transactions in the Platform because the applications for such operations are received directly from the service of the Platform.

The challenge of the National Payment Card System is to provide transactions between participants of the Platform as an operator of the MIR National Payment System.

Professional participants of the financial market place information on the investment product range, treaty parameters, and specification of instruments and methods of investment on the Platform.

Investors, in turn, gain access through registration for the Public Services Portal, by providing the necessary set of documents, verifying their identity through visiting to any department of the Multifunctional center (MFC) of state and municipal services, and documenting personal data through the Unified Biometric System in Russia (the collection of fingerprint).

The development of electronic workflows does not address these problems in isolation. However, the necessity of this measure is due to increasing the proportion of electronic workflows in the overall process of interaction in the Bank of Russia, and in conjunction with banks and professional participants of the financial market. According to Brett King, this is not about knowledge in the digital age, but rather how a bank plans to use them to involve clients. In this case an involving is an ability to support a comprehensive communication with clients, providing the effect of presence through different channels and digital technologies [5, p.366].

V. CONCLUSIONS

According to the outcome of theoretical approaches to the models and principles of supervision, the chosen supervision model of the Russian Federation cannot be considered as really effective one.

It was determined that each of the foreign models of the financial market regulation has advantages and disadvantages which may manifest themselves, depending on the development and features of the financial system of the country and current economic situation.

The set of measures whose implementation will allow to remove the balance between supervision and development towards the market development was developed. The Bank of Russia supervision will intensify, in terms of its prudence, enabling prevention of risks and their consequences through the operational acquisition of data. The competition will increase because of implementation the Platform, which allows the regional market participants to provide their products and services on an equal basis with the large federal market representatives.

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