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Regional insurance market: to be or not to be?

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***Abstract* — This article is devoted to topical issues of the development of regional insurance markets in the face of changing regulatory requirements and the structure of the national insurance system. The main subject of discussion is the future of regional insurance, being squeezed out of the regional economy due to the increasing concentration processes of the domestic insurance market. The authors present the results of assessing the level of development of the insurance market in the North-West Federal District in the context of regional and federal insurers, who demonstrate a threatening trend of a sharp decline in regional insurance volumes, starting in 2010. In the research environment, there was an opinion that the main reason for the withdrawal of regional insurance companies is the increase in the volume of supervisory measures to small and medium-sized insurance organizations, which require a non-proportional increase in management costs compared to large business structures. Based on multiple regression models, the authors complement the analysis of the impact of current regulatory changes by the new regressor — the high volatility of the national currency exchange rate. Based on the ARIMA class models, four scenarios are presented for the potential reduction in the number of regional insurers in the North-West Federal District, who with a high probability predict the disappearance of their own regional insurance market in the near future. The article also analyzes the qualitative parameters of the regional insurance market, proving its necessity and financial soundness in terms of using proportional or commensurate regulation. Measures of differentiated regulation of insurance companies depending on their capital, fees and types of insurance have already been approved as part of the European practice of Solvency II as verification criteria.**

Keywords — *regional insurance market, concept of proportional regulation, regional insurers, risk-based approach, Solvency II.*

I. INTRODUCTION

The insurance market is one of the key sectors of the financial system of all developed economies of the world, acting as a stabilizer in the management of socio-economic risks. The specific inversion nature of insurance ensures the leading positions of insurance companies in the role of institutional investors. It is necessary to recognize that this dual nature of the insurance market determines both its main advantages and its significant limitations in comparison with other financial intermediaries and is always in the focus of close attention of regulatory authority. If any financial business carries with it substantial solvency risks, the insurance business operates not only with its own risks, but also with the risks assumed by other economic entities.

Currently, the state insurance regulation system follows the path of thoroughly detailing and expanding prudential supervision standards, which is manifested in the tightening of requirements for the main parameters of the insurers' financial condition and transition to risk-oriented supervision [1, 2]. In this regard, there are serious problems in the development of individual insurance segments, and in the first place, those where medium and small insurance companies operate, i.e. regional insurance markets [3, 4, 5]. The analyzed issues of the regional insurance field can be united into three groups. First, important studies have been conducted to determine the position and role of the regional insurance market in organizing the national insurance market [6, 7]. Secondly, attempts have been made to assess the development of the insurance market as an important segment of the regional economy despite the current dynamics of reducing the number of regional insurers [8, 9, 10]. And thirdly, of particular importance are the works, which indicate the discriminatory nature of modern regulation in relation to regional insurance [11, 12]. Foreign analysis of regional aspects of insurance more affects the uneven distribution of insurance services between developed and developing economies, and also determines the current drivers of the presence of outstripping insurance growth in certain regions of the world, such as China, Russia or Eastern Europe [13, 14, 15].

In this study the task is set to analyze the insurance market in the North-West Federal District. Based on the data of the market structure in the context of regional and federal affiliation of insurers, a forecast calculation of the most likely scenarios for the development of a regional insurance portfolio has been made. The proposed models are based on taking into account the dynamics of withdrawal from the market of regional insurers under the influence of economic and regulatory factors and taking into account the results of compulsory recapitalization of insurance companies and the tightening of oversight standards in recent years. The quantitative analysis is supplemented with an assessment of the potential qualitative consequences of reducing the role of regional insurance companies in the development of individual sectors of the regional economy and the financial market.

II. Materials and Methods (Model)

An analysis of the development of the regional insurance market should be based on a wide range of its quantitative and qualitative parameters. Data used in the article are from insurance statistics reporting from 2004 to 2017, officially published by the regulator in the context of federal districts and insurance organizations. The main comparable indicator, which makes it possible in general to assess the level and potential of the insurance market in the regional economy, was the gross regional product (GRP). Measuring the share of insurance premiums, payments and other indicators of the insurance industry in relation to the GRP also made it possible to compare its development both in comparison with all-Russian tendencies and in the context of regional and federal insurers. The indicators characterizing the level of insurance coverage of the regional economy are calculated on the basis of statistical data [16, 17] and are presented in Table 1. The ARIMA class models were selected as the main method of quantitative analysis and forecasting, the simulation was carried out using IBM SPSS software.

TABLE I. Main level indicators of the development of the insurance market of the North-West Federal District

Year	Number of regional insurers	Volume of insurance premiums to GRP, total, %	Volume of insurance premiums to GRP, regional insurers, %	The level of payments for the NWFD as a whole,%	The level of payments to regional insurers NWFD, %
2004	31	-	1.05	-	56.89
2005	34	1.87	0.87	45.76	42.92
2006	34	1.35	0.75	39.31	42.74
2007	35	1.37	0.65	42.45	44.77
2008	35	1.44	0.74	45.39	64.51
2009	35	1.23	0.60	64.57	50.32
2010	35	1.47	0.25	61.97	44.47
2011	27	1.40	0.22	56.13	40.39
2012	24	1.53	0.24	50.29	40.10
2013	24	1.59	0.28	54.67	43.47
2014	24	1.63	0.31	56.29	49.77
2015	17	1.47	0.25	50.81	42.05
2016	15	1.49	0.24	43.31	39.94
2017	15	-	-	39.08	46.72

At the same time, to assess the changes that are of high quality for the development of the insurance market, we used an analysis of the ongoing regulatory arrangements, supervisory requirements, changes in the structure and content of insurance services.

III. Results and Discussion

A. *Possible scenarios for the development of a regional insurance market in the North-West Federal District*

The process of development of the market of regional insurance companies (IC) contains 2 distinct phases: until 2010 and after. In phase I, a steady slowdown is observed, while in phase II a sharp drop is observed, differentiated in dynamics at different periods of time. In accordance with this dynamic, it is possible to predict the complete disappearance of regional ICs. In this study, it is advisable to build a group of models that differ in the number and nature of the regressors used. In accordance with the hypothesis put forward earlier, it can be concluded that the growth dynamics of regional ICs may depend on 3 potential regressors:

1. Retrospective growth dynamics of the number of regional IC;
2. Legislative activity in terms of regulation of authorized capital standards;
3. Dynamics of the national currency exchange rate against the US dollar (a sharp drop in the exchange rate in 2014).

In accordance with the selected regressors, it is advisable to build 4 possible prediction models:

Y_n (AR (p); MA (q); X_n; Z_n) (1) Y_n (AR (p); MA (q); Z_n) (2)

Y_n (AR (p); MA (q); X_n) (3) Y_n (AR (p); MA (q)) (4)

where: Y_n - the number of regional IC for the period n;

AR (p) – autoregressive order model components p;

MA (q) – the moving average component q;

X_n - legislative activity in terms of regulation of authorized capital stock (nominal indicator: 1 - increase in authorized capital; -1 - decrease in authorized capital; 0 - absence of any legislative activity) for the period n;

Z_n – rate of national currency against the US dollar for the period n.

For the purpose of forecasting the dynamics of withdrawal for regional ICs, the authors use models of the ARIMA class (modeling is carried out using the IBM SPSS software product). Forecasting is done until 2030. An increase in the authorized capital of the insurance company is expected to be 2.5 times gradually from January 1, 2019 to January 1, 2022; other predicted values of the variable X take on zero. For the purpose of predicting the future values of the variable Y, the ARIMA model (1, 1, 1) was used; its results make it possible to predict a steady depreciation of the national currency against the US dollar. Consequently, the external environment of the regional IC will become very tense.

In accordance with the analysis, the model (1) will take the following form:

$$Y_n=3{,}771 - 0{,}203 \times Y_{n-1} + 0{,}999 \times CC_{Yn-1} - 4{,}368 \times X_n - 0{,}115 \times Z_n \quad (1)$$

where: Y_{n-1} – the number of regional IC for the period n-1;

CC_{Yn-1} – forecast error Y_n for the period n-1.

The coefficient of determination of this model is 0.954, which is a fairly high indicator of the quality of the model. The average error is 4.8%, which also allows to state the high quality of the model.

While maintaining the corresponding dynamics of development of the environment in 2020, the number of regional CS will reach 0. For the purpose of understanding the prime causes of this dynamics, it is necessary to compare the results obtained by consistently eliminating the regressors of the model (for which it is necessary to build models (2), (3) and (4)) .

In accordance with the analysis, the model (2) takes the following form:

$$Y_n = 1{,}77 - 0{,}814 \times Y_{n-1} - 0{,}999 \times CC_{Yn-1} - 0{,}082 \times Z_n \quad (2)$$

The coefficient of determination of this model is 0.873, which is worse than the previous one, but it is still enough to treat the model as qualitative. The average forecast error is 7.3%, which is also an acceptable value.

The exclusion of the influence of legislative activity in terms of regulation of authorized capital ratios makes it possible to predict the disappearance of regional insurance companies as a category by the end of 2021, which indicates the significance of this regressor.

In accordance with the analysis, the model (3) takes the following form:

$$Y_n = -0{,}512 + 0{,}016 \times Y_{n-1} + 0{,}101 \times CC_{Yn-1} - 3{,}0224 \times X_n \quad (3)$$

The coefficient of determination of this model is 0.879, which is slightly higher than in the previous model, but still lower than in model (1). The average forecast error is 7.5%, which is still quite small.

Taking into account exclusively the influence of legislative activity in terms of regulation of authorized capital ratios allows forecasting the withdrawal from the market of regional insurance companies by the end of 2022.

In conclusion, we consider the ARIMA model (2, 1, 2) not containing external regressors. In accordance with the analysis, the model (4) will take the following form:

$$Y_n = -1{,}375 - 0{,}051 \times Y_{n-1} - 0{,}989 \times Y_{n-2} - 0{,}158 \times CC_{yn-1} - 0{,}997 \times CC_{yn-2} \quad (4)$$

The coefficient of determination of this model was 0.876, which is comparable with previous models. The average forecast error is 7.5%, which is identical to the previous model.

According to this model, with the exclusion of the influence of external regressors, the current market development dynamics will lead to the departure of regional ICs from the market by 2027. The consolidated forecast result is presented in Figure 1.

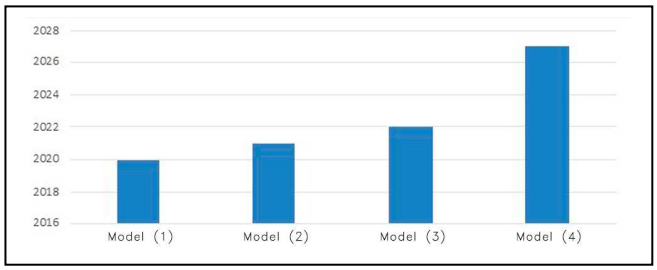

Figure 1 - The projected period of withdrawal of the regional IC from the market in accordance with the proposed models

As you can see, the dynamics of the national currency and the increase in the requirements for the authorized capital of the IC have a multiplicative effect. Therefore, in order to preserve the market of regional ICs, it is necessary to exert a complex influence on both factors. Otherwise, the withdrawal of regional IC from the market is unavoidable in the next 2-3 years.

B. Analysis of risk-oriented and proportional regulation and supervision of the insurance sector

The modern system of strategic actions that determine how to improve the reliability and sustainable development of the Russian insurance market is presented by the Bank of Russia in two documents - the Concept of introducing a risk-based approach to regulating the insurance sector in the Russian Federation [1] (CROP) (adopted in 2017), Concepts of proportional regulation and risk-oriented supervision for NFO [18] (CRC) (adopted in 2018). The system is based on European practices of regulation and supervision and, above all, Solvency II, which, as a result of a long development period (since 2001), coordination with the insurance community, quantitative research and testing, has actually spread to the EU insurance market in 2016.

Under the conditions of a dynamic insurance market, control by insurance supervisors of insurance and other operations themselves is not considered as a condition sufficient to ensure the continued and stable operation of the insurance organization. The main goal of the risk-based approach (RBA) is to increase the attention and understanding of the insurance contracts and their own risks taken separately by the insurer and on the assurance that it has the tools necessary to manage and control such risks. In accordance with Solvency II, if in a separate insurance organization, due to risk management, it is not possible to limit the development of risk, to reduce its impact, then capital is needed to cover the financial losses that have occurred. The greater the cumulative risk in the activities of an insurance organization, the greater the amount of capital that must be provided by management and shareholders. The central part of Solvency II is the insurer's solvency assessment. The mechanism for ensuring solvency is established through the requirements for capital adequacy as the determination of the amount of available free (non-liabilities) capital, which the insurer must have in addition to insurance reserves, taking into account the nature and complexity of the risks of its activities. At the same time, Solvency II specifies the economic feasibility of the entire

complex of requirements of this methodology, which is expressed in the comparison of the costs of their implementation and the possible effect. So for small and medium-sized insurance organizations, which traditionally are widely represented on the European insurance market, Solvency II does not extend its action while simultaneously fulfilling the following interrelated conditions [2]:

a) annual gross premium does not exceed 5 million euros;

b) the total amount of insurance reserves, taking into account the share of reinsurers, does not exceed 25 million euros;

c) refers to a group whose total reserves, taking into account the share of reinsurers, also do not exceed 25 million euros;

d) not engaged in insurance liability risk, credit risk and the risk of financial losses related to the abuse of the company's employees, except in cases where such risks are optional;

e) does not conduct reinsurance transactions in excess of 0.5 million euros from its gross premium or 2.5 million euros from its insurance reserves, taking into account the share of reinsurers.

Thus, small insurance companies should not bear too high costs for calculating risks when assessing their solvency.

In the Concept of proportional regulation, as well as in Solvency II, the principle of proportional regulation makes the methods used by supervision dependent on the level of risk characteristic of a particular insurance organization.

According to the Concept of proportional regulation, the requirements for insurance organizations will be differentiated based on the level of risk that is characteristic of a particular organization and its activities. The goal of proportional regulation is to optimize the regulatory burden on financial market participants based on a selective approach to regulating and supervising financial organizations, depending on the level of development of the sector, the specifics of operations and risks, and more efficient use of supervisory resources.

The criteria for assigning insurance organizations to a specific group (large, medium, small), as well as differentiated requirements for companies from a specific group have not yet been approved and will be discussed with the business community and experts.

The foundation of Solvency II is a high-quality and highly detailed information database and, accordingly, new business technologies. Preparation of the Russian insurance market for Solvency II began in 2012: implementation of IFRS; Unified Chart of Accounts; requirements for actuarial substantiation and calculation of insurance rates and assessment of insurance reserves; creation of internal control and risk management systems; introduction of a single electronic XBRL format for the collection and processing of insurers' reports. These and a number of other areas required significant capital investments, costs, both for large and small insurance organizations. At the same time, small insurers, given their much smaller volumes of operations, incurred the same costs of meeting regulatory requirements as large companies. In this context, there was no talk about the proportionality of requirements, since most insurers understand the need for continuous technological re-equipment of operating activities to develop business processes and improve competitiveness.

In accordance with the Federal Law of July 29, 2018 № 251-FL “On Amendments to the Law of the Russian Federation“ On the Organization of Insurance Business in the Russian Federation” from January 1, 2019, new requirements for the authorized capital of insurers came into force. For universal insurers, including small insurance companies, the minimum amount of the authorized capital will be 300 million rubles. A phased transition to new requirements for the implementation of additional capitalization is envisaged: in 2020 - 180 million rubles; 2021 - 249 million rubles; 2022 - 300 million rubles.

In the Analytical review of key performance indicators of insurers for the first half of 2018 [19] The Central Bank of Russia notes profit growth by 44.0% compared with the value for the same period in 2017, to 110.4 billion rubles, capital by 17.5% for the second quarter of 2018 and an increase in the profitability of capital to 25.1 % per year. The actual size of the solvency margin increased significantly (by 15.6% over the year), the standard margin increased by 4.5%; the deviation of the actual size of the solvency margin from the standard amounted to 1.62 at the end of the second quarter of 2018 (1.36 at the end of the second quarter of 2017). It is concluded that, in general, in the insurance market the level of capitalization is at a sufficiently high level, there is a stock of capital free from insurance liabilities.

Annex 3 of the CRC has the same requirements for the authorized capital of 300 million rubles. to universal insurers (insurance other than life insurance), both non-performing and performing mandatory and socially important types of insurance, without delimiting the requirements for groups - large, medium, small insurance organizations. Thus, this requirement is completely unified and does not comply with the principle of proportionality. The risk profile of the insurers, which is determined by the type of operations performed by the organization (qualitative criterion), and the volume of such operations (quantitative criterion) is not taken into account. From which it is logical to assume that the solvency supervision regime for universal insurers regardless of types of insurance will be the same.

The minimum capital requirements established in Solvency II (Appendix 5.2 of the concept of proportional regulation) range from 2.5 million to 3.7 million euros (175–259 million rubles) depending on the types of insurance activity. Increasing the minimum size of the authorized capital of universal insurance organizations by 2.5 times, from 120 million to 300 million rubles. Currently, the authorized capital of large insurance organizations exceeds the requirements of the Central Bank. However, in the top 100 you can meet insurance organizations that will have to increase capital.

The requirement of additional capitalization of the insurance market will contribute to the departure of insurance companies from the market, which cannot increase the

authorized capital to 300 million rubles. Because of this, small insurance organizations that responsibly fulfill the requirements of the regulator for solvency and provide insurance services to the population and entrepreneurs, and not only in areas remote from large centers, can stop their activities. This state of affairs will lead to even greater concentration of business in the market and, as a result, will reduce the level of availability of insurance services. At the same time, against the background of the current crisis in the economy of the Russian Federation and, as the practice of previous changes in authorized capital (2006, 2012) has already proved, a simple technical increase in the authorized capital of insurers will not bring the desired effect.

Small and medium-sized insurance organizations are associated with the regional insurance market, many of which in practice prove the viability and high socio-economic efficiency of insurance instruments. The mission of regional insurance organizations is to provide each client with high-quality and affordable insurance protection, as well as to attract investment in the region's economy. Regional insurance organizations are directly close to potential customers, provide flexibility and mobility in relation to their services. Regional insurance organizations load regional medical institutions, service stations, construction, repair and other enterprises of the regional services sector. As a result of the merging of the insurance business with the banking business in life insurance, the problem of reducing competition arises: there remain federal banks that prefer to work with their subsidiary insurance companies, which leads to the imposition of insurance products and prices on the population.

In our opinion, the financial potential of the regional insurance market is undervalued, the subjective opinion prevails that small insurance organizations are a priori weak for financial business. Analysis of the value of capital of regional insurers in the North-West Federal District [20] showed that at the moment, out of 15 companies, only 3 of them have new authorized capital. In two - it is above 200 million rubles. and, perhaps, for the allotted three-year period, they will reach the required level. The rest will have to intensify the search for an acceptable option to merge with big business.

In the Concept of proportional regulation, the principle of proportionality is taken into account only in terms of the frequency of reporting: small and medium-sized insurance organizations - on a quarterly basis; large, as it was before, on a monthly basis. The content of the data in the reporting for small and medium-sized insurance organizations has been ignored so far.

The Central Bank of the Russian Federation, at the same time being an institution of development and a regulator, has the necessary rights and competencies to create a modern balanced form of problem solving and the development of the insurance market, including the regional one.

It was expected that the basis for the decision could be proportional regulation based on the adaptation of European standards of Solvency II for the Russian insurance market, but the accepted requirements for the authorized capital do not leave any hope for a balanced and loyal approach to the regional insurance business.

IV. Conclusion

The development of a risk-oriented approach and proportional regulation is aimed at increasing the competitiveness and investment attractiveness of the insurance sector in Russia, and increasing the confidence of insurance services consumers in the activities of insurance organizations.

Consideration of the current state of the regional market, taking into account the planned strategic actions of the Bank of Russia, showed that the principles of proportionality for this segment of the insurance market, where small insurance organizations mainly operate, are not clearly formulated by types and forms of insurance, volumes of insurance operations and risks assumed . The requirement of the regulator on authorized capital to regional insurance organizations in the amount of 300 million rubles. excessively and difficultly realizable in modern economic conditions of Russia.

Directions of actions of the regulator are focused on systemically important insurance organizations, the economic feasibility of retaining regional insurers as a “customer-oriented” sector with a flexible, individual, careful and trusting relationship with policyholders, fast service, is ignored. The financial potential of regional insurance organizations in the regional economy is not taken into account.

In world practice, small and medium insurance businesses actively create a competitive insurance market. In the Russian insurance market there is a clear tendency to reduce the number of insurance organizations and, above all, regional ones in the status of small and medium insurers, as a result of rigidly formalized regulatory approaches.

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