Man In India, 97 (9) : 37-42

ON THE METHODOLOGY FOR INTEGRATED ASSESSMENT OF INSURANCE COMPANIES' FINANCIAL STATUS

Sergey N. Yashin[1], Nadezhda I. Yashina[1], Marina V. Ogorodova[2], Zhanna V. Smirnova[2], Svetlana N. Kuznetsova[2], Irina N. Paradeeva[3]

Currently, Russia has favorable conditions for active development of a methodology for insurance sector monitoring. However, methodologies do not necessarily contain the possibility to build a rating model with an identification of the total normalized indicator which takes into account the significance of financial activity scores that characterizes all aspects of an insurance company's activity. Thus, the problems of methodology development for integrated assessment of insurance companies' financial status based on the analyses of the existing methodologies and considering the found drawbacks are pending. The methodology that the authors offer is based on the calculation of modified non-dimensional indicators of an insurance company's financial status which fall into four categories: capital assessment indicator, capital structure, liquidity and resources usage efficiency; the calculation of the total normalized indicator of an insurance company's financial status. With the use of the method of multi-criteria expert assessment based on the assessment system that includes risk indicators for financial activity and financial stability of an insurance company, there has been formed a group of Russian insurance companies which are characterized by efficient management and optimal financial policies. The Central Bank of Russia, as well as insurance companies themselves, can use this methodology to maintain financial stability of Russian insurance sector, minimize the probability of insurance system bankruptcy as a whole, and optimize administrative solutions, income increase of insurance.

Key words: insurance company, the methodology for assessment of financial status, integrated assessment, system of indicators, standardization, total normalized indicator, efficiency.

INTRODUCTION

Currently, Russia has favorable conditions for active development of a methodology for insurance sector monitoring. Different assessment systems of insurance companies are being developed by both the Central Bank of Russia and Russian and foreign rating agencies (Standart & Poor's, Moody's Investors Service, Moody's Interfax, A. M. Best, Dun & Bradstreet, Fitch Ratings, Expert-RA), banks and other companies which choose their insurance business partners, directly by the resources of insurance companies themselves and specialized magazines (Strakhovoye Delo, Strakhovoye Review and others) (Information on credit ratings; Rating scales).

[1] Lobachevsky State University of Nizhni Novgorod, Nizhni Novgorod, Russia. *E-mail: sitnicof@mail.ru*

[2] Minin Nizhny Novgorod State Pedagogical University, Nizhni Novgorod, Russia. *E-mail: U413@ya.ru*

[3] The Russian Presidential Academy of National Economy and Public Administration, Moscow, Russia. *E-mail: iren_in_@mail.ru*

METHODOLOGICAL FRAMEWORK

However, the information which is used to calculate the assessment indicators of an insurance company's financial status does not necessarily come from approved statements, which is a negative factor since all indicators must be calculated based on the integral statement approved by the Russian Federation. The integrated point-based rating of insurance companies' financial status is characterized by the discreteness of assessment (Gurmak, 2014; Nefedova & Volodicheva, 2015). Shcherbakova, 2015;). The introduced methodologies are based on the subjectivity of point allocation assessment which signals the necessity of special verbal and numeric scales development (Yashina & Ogorodova, 2010; Zanevskaya & Pugach, 2015; Ogorodova, Kuryleva & Kul, 2016; Kriventsova, 2015).

The methodologies lack the possibility to build a rating model with an identification of the total normalized indicator which takes into account the significance of financial activity scores that characterizes all aspects of an insurance company's activity using economical and mathematical methods which substantially minimizes the subjectivism when assessing financial stability of insurance companies and their comparison (Yashina, Ogorodova & Savinykh, 2014; Suslyakova, 2016).

RESULTS

The authors offer their own methodology for integrated assessment of insurance companies' financial status based on the analysis of the exisiting methodologies.

The essence of the method consists in calculating the modified non-dimensional indicators through the following formula:

$$K_i = \alpha_i K_i (x) + \beta_i \quad (1)$$

where α_i, β_i is constant coefficients the value of which is defined depending on whether the indicated K_i are minimized or maximized.

Hence the calculation of the normalized indicators is done with the help of the following formulas:

Maximization of indicators

$$C_i = (C_{max}\text{-}C_i (x))/(C_{max}\text{-}C_{min}) \quad (2)$$

Minimization of indicators

$$C_i = (C_i (x)\text{-}C_{min}) /(C_{max}\text{-}C_{min}) \quad (3)$$

where C_i is normalized indicator; $C_i (x)$ is indicator value; C_{max} is the maximum indicator value from the total of insurance companies; C_{min} is the minimum indicator value from the total of insurance companies.

The total normalized indicator of an insurance company's financial status, considering the significance of all four groups of indicators is calculated according to the formula:

$$I=0,1*C_I+0,2*L_I+0,3*E_I+0,4*Q_I \quad (4)$$

where C_I is the mean value of capital assessment group indicators; L_I is the mean value of liquidity assessment indicators; E_I is the mean value of insurance company's efficiency assessment indicators; Q_I is the mean value of quality and capital structure indicators.

The less the value of the total normalized indicator, the more efficient the insurance company.

This kind of approach is applicable not only to financial status assessment for just one company but to the insurance sector as a whole.

Every insurance company possesses its own level of financial durability.

Numerically, the financial stability of an insurance company can be identified based on the comparison of factual results of its activity to the possible maximum.

To assess the financial stability of an insurance company in the conditions of financial and economic crisis, there have been used coefficients included in the capital assessment indicators group, capital structure indicators, liquidity indicators and resources usage efficiency indicators.

Financial stability of the insurance company is defined as the value of the total normalized stability coefficient according to the data of the given insurance company and is compared to the appropriate value of the normalized total coefficient of financial stability reflecting the standard value for insurance companies which belong to the groups of high, satisfactory and los financial stability.

The insurance company is financially stable if the value of the coefficient of financial stability is better than the value of the standard total coefficient of stability for groups of insurance companies having the status of financially stable ones.

As a rule, the factual results are higher than the standard coefficient of financial stability correspondent to a better value of financial durability, and the bigger the difference between them, the smaller the number of this financial durability indicator which is in the interval between 0 and 1, according to all indicators and groups.

It is important to calculate the combined total assessment the insurance company's financial stability as a whole and not only in separate groups. The average indicator value in each group as a whole by regions is not enough as it can distort the actual picture. Financial stability implies the minimum level of dispersion between the coefficient values which belong to the financial stability assessment indicator groups for insurance companies. The closer they are, the higher the level of financial durability of an insurance company as a whole.

The following methodology is suggested for financial stability assessment of an insurance company.

1. It is necessary to calculate the mean value of every normalized coefficient in all indicator groups for assessment of insurance companies' financial stability. The mean value of the indicator is defined as the ratio of the sum of the normalized

indicator values in every insurance company and the number of indicators comprising the financial stability assessment system.

$$C_j = \sum_{i=1}^{N} C_{ij} / n \quad (5)$$

where C_j is the mean value of the j-indicator in an insurance company; C_{ij} is the normalized indicator value in every insurance company, n is the number of indicators comprising the financial stability assessment system.

2. The total standardized indicator of an insurance company's financial stability value is calculated. The calculation is carried out according to the following formula:

$$C_{nfc} = \sum_{j=1}^{m} C_j / m \quad (6)$$

where C_{nfc} is the total standardized indicator of an insurance company's financial stability value, C_j is the mean value of the j-indicator in every insurance company, m is the number of insurance companies.

3. The coefficient of financial stability in every insurance company is calculated according to the following formula:

$$C_{fc} = P1 - C_i / C_{nfc} P * 100\% \quad (7)$$

The formula P1- C_i/ C_{nfc}P is in module because, for the purposes of the study, the sign is not significant, but the fact of the amount of their difference.

Based on the developed methodology, financial stability level can be assessed for different insurance companies. According to the analysis of the numeric values of financial stability level of insurance companies, the following scale is advised.

If the integrated indicator of financial stability of the insurance company under analysis is lower than 0,04, its condition can be characterized as having high financial durability. If the integrated value is between 0,04 and 0,12, the condition of the insurance company has satisfactory financial stability.

This method does not allows assessing only the actual results of the insurance company's activity but the tendencies of their appearance and emerging processes of economic agents development.

CONCLUSION

The method of multi-criteria expert assessment based on the assessment system which includes risk indicators for financial activity and financial stability of an insurance company, gives an opportunity to choose the group of insurance companies characterized by efficient management and optimal financial policies.

The calculations based on the data from accounting statements on the sample of insurance companies of Russia dd. 01.01.2016 showed the following results.

The following companies possess the greatest financial stability: Open Joint-Stock Insurance Company Ingosstrakh (0,041), Kapital Strakhvaniye (0,018), Russki strakhovoy tsentr (0,010), Yugoriya (0,035), , Afes (0,036), Rosno (0,013).

Satisfactory financial stability is characteristic of: Pari (0,042), Alfa Strakhovaniye (0,048), Surgutneftegaz (0,060), Avikos (0,108), Ekspres garant (0,109), Gaide (0,044), Sogaz (0,046), Rosgosstrakh (0,046).

Low financial stability is observs in the activity of: Naski (0,181), Gelios (0,24).

The Central Bank of Russia, as well as insurance companies themselves, can use this methodology to maintain financial stability of Russian insurance sector, minimize the probability of insurance system bankruptcy as a whole, and optimize administrative solutions, income increase of insurance companies by carrying out less risky operations when managing risks of the insurance sector.

References

Gurmak, O.V. (2014). Analiz finansovogo sostoyaniya strakhovoy kompanii [Analysis of the financial condition of the insurance company]. *Ekonomika i sotsium*, 1-1(10): 457-463.

Informatsiya o kreditnykh reytingakh [Information on credit ratings]. *Standard and poors*. URL: https://www.standardandpoors.com/ru_RU/web/guest/resources/definitions-and-faqs.

Kriventsova, A. (2015). Metodical aspects of financial position of insurance companies. *Wschodnioeuropejskie Czasopismo Naukowe*, 4(1): 35-41.

Nefedova, S.V. & Volodicheva, M.O. (2015). Finansovye riski i strakhovoy biznes.modeli i metody otsenki [Financial risks and insurance business models and methods of evaluation]. *Vestnik tul'skogo filiala finuniversiteta*, 1: 49-51.

Ogorodova, M.V, Kuryleva, O.I. & Kul, T.N. (2016). About contemporary issues compulsory insurance system in the Russian Federation. *Bulletin of the Minin University*, 1. URL: http:// vestnik.mininuniver.ru/reader/search/o-sovremennykh-problemakh-sistemy-obyazatelnogo-st.

Reytingovye shkaly [Rating scales]. *Moodys*. URL: https://www.moodys.com/pages/ default_ee.aspx.

Shcherbakova, T.N. (2015). Voprosy analiza i otsenki finansovogo sostoyaniya strakhovoy organizatsii [Questions of the analysis and an estimation of a financial condition of the insurance organization]. *Tendentsii razvitiya bukhgalterskogo ucheta: vyzovy i sovremennost'*. Materialy raboty vserossiyskoy nauchno-prakticheskoy konferentsii (364-368). Voronezh.

Suslyakova, O.N. (2016). Analiz finansovoy ustoychivosti kak metod kontrolya za deyatel'nost'yu strakhovshchika [Financial stability analysis as a method of controlling the insurer activities]. V sbornike: *oblik, ekonomika, menedzhment: naukovi notatki mizhnarodniy zbirnik naukovikh prats'* (140-146). Luts'k.

Yashina, N.I. & Ogorodova, M.V. (2010). Opredelenie ustoychivosti strakhovogo sektora s uchetom riska finansovoy deyatel'nosti strakhovykh organizatsiy [Determining the sustainability of the insurance sector, taking into account the risk of financial activity of insurance organizations]. *Finansy i kredit*, 10: 25-32.

Yashina, N.I., Ogorodova, M.V. & Savinykh, L.A. (2014). Primenenie metoda otsenki finansovogo sostoyaniya strakhovykh organizatsiy na osnove opredeleniya koeffitsienta

finansovoy stabil'nosti [Application of the method of assessing the financial condition of insurance companies on the basis of determining the coefficient of financial stability]. *Gumanitarnye nauki v XXI veke*, 21: 83-86.

Zanevskaya, V.P. & Pugach, Yu.R. (2015). Analiz finansovogo sostoyaniya strakhovoy organizatsii i effektivnosti ee deyatel'nosti [Analysis of the financial condition of the insurance organization and the effectiveness of its activities]. *Vvzaimodeystvie nauki i obshchestva: problemy i perspektivy*. Sbornik statey mezhdunarodnoy nauchno-prakticheskoy konferentsii (116-119). Ufa.