DOI 10.20544/HORIZONS.A.31.2.22.P12
UDC 368.03:658.155].01
368.03:658.153].01

THE IMPORTANCE OF THE APPLICATION OF ECONOMIC PRINCIPLES IN INSURANCE[1]

Vladimir Njegomir, PhD
Faculty of Law and Business Studies, Novi Sad,
vnjegomir@gmail.com

Dragan Stojić, PhD
Faculty of Economics, University of Novi Sad,
dragan.stojic@ef.uns.ac.rs

ABSTRACT

Insurance companies are exposed to a number of risks. They financially compensate the damages by indirectly protecting the insured from the realization of risks. The whole process is based on economic principles in accordance with which insurance premiums and fees must correspond to accepted risks, while maintaining compliance with regulatory requirements, maintaining the trust of policyholders and other stakeholders. The aim of this paper is to provide an overview of the most important economic principles that insurance and reinsurance companies must apply if they want to survive and develop, to maintain the trust of policyholders, the state, reinsurers and other stakeholders.

KEY WORDS: insurance, economic principles, solvency, profitability, reinsurance.

INTRODUCTION

The success and development of insurance is based, above all, on the application of economic business principles. These principles depend on many factors, but in each case they are based on the size and strength of the insurance portfolio. Given their economic goals, there is no significant difference between the different types of insurance. All insurances provide

[1] original research paper

fundamental services and it is only a matter of applying the special type of economic value under consideration. The entire insurance deals with four basic services: compensation for loss of value, scientific treatment of risk bearing, fair distribution of the cost of damages between the insured and simultaneous avoidance of damages through systematic prevention and protection of value.

The aim of this paper is to provide an overview of the most important economic principles that insurance and reinsurance companies must apply if they want to survive and develop, to maintain the trust of policyholders, the state, reinsurers and other stakeholders. In order to achieve the set goal, we will point out the most important economic principles that affect the business policy and performance of insurance companies and include solvency, liquidity, cost efficiency, profitability, asset management adequacy, reinsurance implementation adequacy and management structure adequacy.

SOLVENCY

Solvency implies the long-term ability to settle all due obligations on time. Solvent insurance company means its long-term ability to compensate all damages in number and amount without difficulty to policyholders, but also to meet all financial obligations to the state, employees, other insurers and reinsurers and others, within their maturity. From the regulatory aspect, solvency was also defined as an additional reserve (Directive 73/239/EEC)or as protection against negative fluctuations in business (Directive 2002/13/EC).

The principle of solvency is the most important economic principle of insurance companies‘ businesses both in risk management when the insurance company takes over the risk from the insured and in the field of placement of free funds on the financial market. Solvency is a key indicator of the safety of an insurance company's operations. Insured persons are most interested in solvency. Since individual insured persons are not in a position to independently assess the solvency of insurers, it is subject to supervision by regulatory authorities and subject to rating agencies.

Capital adequacy indicators include the following (Carmel indicators):

1) retention premium / total capital, (1)

an indicator that reflects the ability of the insurance company to absorb the inadequate price level of premiums and possible unforeseen damages covered by insurance, ie indicator that measures insurance risk;

2) total capital minus total loss / total assets, (2)
an indicator that reflects the ability of the insurance company to absorb the realization of market, investment and credit risk;

3) total capital minus total loss / technical reserves, (3)
an indicator that reflects the ability of the insurance company engaged in life insurance business to absorb the assumed risks, ie measure the insurance risk;

4) guarantee reserve / solvency margin, (4)
the provisions of the valid Insurance Law stipulate that the guarantee reserve of the insurance company must always be higher than the calculated solvency margin.

The solvency of insurance companies is significant for the following reasons(Njegomir, 2011a):

1. First, premiums are paid in advance and the insurance coverage period extends into the future. If the insurance company ceases to exist (goes bankrupt) and if future damages are not paid to the insured, the payment for insurance protection in advance will have been worthless, while the insurance protection itself, as a consequence of the insured's desire to insure against risk and aims to transfer risk to insurance society, loses meaning.
2. Second reason for emphasizing solvency is the fact that in the event that the insurance company does not pay damages, the insured will be exposed to great financial uncertainty.
3. Finally, in the event that an insurance company becomes insolvent, certain social and economic costs are incurred.

LIQUIDITY

Liquidity is the short-term ability of an insurance company to settle all liabilities on time and in full. That is, liquidity is the degree to which the assets (assets) of the insurance company are liquid, which allows the company to pay its liabilities on maturity and also to embark on new

investment opportunities (A dictionary of business, 1996) Insurance companies always strive to be liquid, given that a liquid insurance company represents security for the insured and strengthens the trust of the insured in both the insurance company and the insurance institution. The insurance company achieves successful liquidity primarily by properly collecting insurance premiums, but also by collecting claims from co-insurance and reinsurance, and by placing and increasing free funds on the financial market.

According to the current regulations in Serbia, the insurance company is obliged to provide liquidity and timely pay the damages and other obligations of the company. In this sense, the insurance company may deposit and invest free funds. The free funds of technical reserves are determined by the insurance company by reducing the total funds of technical reserves on the day of determination by due liabilities from those funds, and the manner of determining free funds of technical reserves and the manner of determining and monitoring the company's liquidity is prescribed by the NBS.

The key liquidity indicators include the following (Carmel indicators):

L1 = cash and cash equivalents / short-term liabilities, first tier liquidity ratio; (5)

L2 = (current assets - inventories) / short-term liabilities, second tier liquidity ratio;
(6)

L3 = liquid assets / short-term liabilities (7)

Liquid assets consist of shares traded on a regulated market (participations in the capital of other legal entities), other available-for-sale securities traded on a regulated market, securities issued by government, central bank, international financial institution, as well as securities guaranteed by some of the listed entities and cash equivalents and cash.

L4 = liquid assets 1 / short-term liabilities; (8)

Liquid assets 1, in addition to the liquid assets of indicator L3, also consist of part of long-term deposits and investments maturing in one year,

securities held to maturity (part maturing in one year) and other short-term financial investments.

Insurance companies should strive to achieve liquidity, ie high values of these liquidity indicators. However, it is necessary to take into account the limitations of too high values of these indicators, given that the high share of liquid assets indicates the lack of opportunities for their profitable engagement. The biggest problem for liquidity is inflation. To counter inflation, insurance companies resort to various models such as indexation or limiting their total liabilities.

PROFITABILITY

The main business goal of insurance companies is to make a profit. The exception is mutual insurance companies whose primary goal is not to make a profit but surplus is desirable (Njegomir, 2011a). In order to achieve this goal, insurance companies provide insurance services, invest funds in financial markets and perform other activities related to insurance and investment activities. Therefore, insurance companies perform all business activities they carry out with the aim of making a profit. Profit maximization is in the interest of the owners of insurance companies, but it must be achieved with respect for the protection of the insured.

The profitability of insurance companiescan be determined as the difference between total revenues and total expenses. The degree of success of insurance is usually measured by ratio indicators, namely the ratio of claims, the ratio of costs and the combined ratio. The combined ratio is calculated by summing the damage ratio and the cost ratio. The ratio of claims is determined by comparing the total claims and the associated costs of settling claims with the realized premium. The cost ratio is determined by dividing the total costs, except for the costs related to compensation for damages, by the gross assigned premium. The combined ratio monitors the profitability of one insurance contract, an insurance line, or the entire portfolio of insurers. Total profitability is also measured by investment returns, which the combined ratio does not take into account, which is why the combined ratio essentially represents the profitability of the insurance business.

There are two basic forms of technical result - the current technical result (CTR) and the relevant technical result (RTR). The analysis of the technical result essentially analyzes the ratio of claims to premiums. The calculation

of the technical result is applied to non-life insurance.The current technical result is calculated by dividing the amount of settled claims in the current year by the amount of invoiced technical premium in the current year and multiplying the amount obtained by 100. The calculated percentage shows the achieved technical result. The generally accepted formula for calculating the current technical result is:

$$CTR = \frac{settled \quad claims}{invoiced \quad technical \quad premium} \cdot 100 \tag{9}$$

The CTR result indicates how much of the invoiced technical premium goes to liquidated claims in the current year. If this indicator is above 100, it means that the insurer operates with losses either in a certain branch of insurance, by type of insurance or by the insured.

We emphasize that the calculation of the CTR does not take into account paid, but only liquidated damages. Also, the collected, but only the invoiced premium is not taken into account. Therefore, it is more important to determine the amount of the relevant technical result, which is obtained when the amount of relevant claims is divided by the amount of the relevant technical premium in self-retention and multiplied by 100. The insurance company is obliged to form technical reserves in the amount sufficient to cover all obligations from the contract and to show technical reserves in the total amount in the business books, before deductions based on co-insurance and reinsurance (Decision on technical reserves). The generally accepted formula for calculating the relevant technical result is:

$$RTR = \frac{relevant \quad claims}{relevant \quad technical \quad premium} \cdot 100 \tag{10}$$

Technical premium in self-retention is the technical premium of own portfolio, increased by the technical premium related to the premium received in co-insurance and reduced by the technical premium transferred to co-insurance and reinsurance.

The relevant technical premium in self-retention, in each type of non-life insurance and in total for all types, is the technical premium in self-retention realized in the current year, increased by the amount of technical premium in self-retention calculated at the end of the previous year and reduced by the amount of technical unearned premium calculated at the end of the current year.

Relevant claims in self-retention, in each type of non-life insurance and in total for all types, are total resolved claims in self-retention during the current year, increased by the amount of total reserved claims in self-retention at the end of the current year and reduced by the amount of reserved claims in retention at the end of the previous year and for the amount of recourses collected during the current year. Relevant claims also include costs related to resolving and paying those claims.

The return on capital (ROC) is most often used as a measure of the total profitability of insurance companies, with the following formula:

$$ROC = \frac{net \quad result}{average \quad total \quad capital} \tag{11}$$

The ROC indicator is the most important indicator for the shareholderssince it shows how much profit was made on their invested capital. It is often used by investors as a reference measure of the profitability of investments in insurance companies. The following most commonly used indicator of the performance of insurance companies is the indicator of return on assets (ROA):

$$ROA = \frac{net \quad result}{total \quad assets} \tag{12}$$

The ROA shows what percentage of the increase in total assets of the insurance company was realized during the observed accounting period. As in the case of ROC, it is desirable that this indicator is as high as possible..

ASSET MANAGEMENT ADEQUACY

For a long time, the business of insurance companies was viewed exclusively from the aspect of providing insurance protection services and managing liabilities based on concluded insurance contract (Njegomir, 2016b) Asset and liability management allows decisions to be made in a coordinated manner. The main goal of coordinated asset and liability management is to assess risk and develop optimal investment strategies that will enable maximization of returns at a given level of risk, ie to minimize risk at a given level of return. Namely, we need to find the optimal risk /

return ratio which is achieved when at a given level of risk it is not possible to further increase the return without increasing the level of risk (Davis and Steil, 2011). In recent times, the thesis of the need for integrated or holistic management of all risks to which insurance companies are exposed has been increasingly advocated.

The basic indicators used by insurance companies in assessing the quality of asset management are following (Carmel indicators):

1) (intangible assets + real estate + placements in securities not traded on the market + receivables) / total assets. (13)

Relatively high values of this indicator may suggest problems in settling obligations;

2) receivables for premium / total contracted premium, (14)

The indicator measures the degree to which the insurance company credits its policyholders, agents, intermediaries and reinsurers;

3) participation in equity / total assets, (15)

the indicator measures the ratio of equity participation of other legal entities and total assets of the insurance company, where poorer asset management occurs in conditions of underdeveloped trading in shares on organized stock exchanges, given that underdevelopment of asset trading also implies limited marketability of these positions, which can implicitly increase business risk, ie reduce the quality of asset management. Hence, it is necessary to distinguish between the types of insurance business that the insurance company deals with, given that eg life insurance companies is a lesser need for liquid assets compared to non-life insurance;

4) coverage of technical reserves by prescribed forms of assets,

the indicator measures the ratio of investment of technical reserves in the forms prescribed by the Law on Insurance and technical reserves and if it is below 100% indicates non-coverage of technical reserves by adequate forms of investment which can lead to problems. insurance contracts;

5) coverage of technical reserves by prescribed forms of assets 1,

this indicator, like the previous one, measures the ratio of investments of technical reserves in the forms prescribed by the Insurance Act and technical reserves, taking into account percentage restrictions in certain forms of investment.

REINSURANCE IMPLEMENTATION ADEQUACY

Reinsurance provides insurers with protection against unforeseen or extreme damages, such as catastrophic fires in industrial plants. By properly assessing their own capacities and transferring to reinsurance parts or risks in their entirety that they cannot bear on their own without significant negative consequences and insolvency risk, insurance companies will provide maximum security and will never run into problems of inability to pay claims.However, the transfer of insurance risk to reinsurance has certain limitations. This refers primarily to the cyclical movements of reinsurance premiums, limited coverage for the usual period of one year and the consequent need to renew it every year, the presence of credit risk and limited capacity to accept risk in new conditions to increase the likelihood and intensity of harmful consequences (Njegomir, 2011b).

The key indicator related to the assessment of the adequacy of reinsurance implementation is the ratio of the applicable premium in self-retention and the relevant total premium. This indicator essentially measures the degree of risk transfer to reinsurance, ie reflects the reinsurance policy.If reinsurance is viewed as a form of "borrowed" capital, the cost of that capital will depend on the ratio of the cost of obtaining reinsurance coverage to the reduction in the size of required capital. It is considered that the optimum is reached when the level of retention is established at a given total price of reinsurance (risk transfer) so that the remaining variance of the actual losses in relation to the expected losses cannot be further reduced by additional risk transfer (Schmitter, 2003). Reinsurance can create value when the total cost to the insurer is lower than other sources of capital.

ADEQUACY OF MANAGEMENT STRUCTURE

Insurance activity is a typical example of an activity whose success depends on the quality of staff, ie employed people, both in sales, ie the so-called

front office jobs as well as in business support activities, ie the so-called back office jobs.Therefore, issues of adequacy of the management structure, ie members of management and supervisory boards, are subject to legal regulation and regulation of rating agencies. The practice has over time produced several indicators that can be used as indicators of early warning of the adequacy of the management structure and they include the following (Carmel indicators):

1) total contracted premium in thousands RSD / number of employees,
2) total assets in thousands RSD / number of employees
3) costs of wages / premiums in self-retention.

The main aspiration expressed in the above indicators is the realization of the most favorable ratio of total premiums and assets to the number of employees, ie wage costs in relation to the premium in self-retention. The first two indicators, however, should be viewed in the context of the overall complexity of conducting insurance business.

CONCLUSION

Respect for economic principles is the basis of business success and development of insurance companies. Insurance companies base their policy on economic principles, which include the above mentioned solvency, liquidity, economy and profitability, as well as other indicators, of which we singled out the adequacy of asset management, adequacy of reinsurance and adequacy of management structure.

Solvency is the most important economic principle in insurance. As with any other business entity, profitability is the basis of development and it is extremely important. Solvency is crucial from the perspective of the protection of the insured and the long-term survival of the insurance company. Profitability and solvency are relatively opposed, given that the more reserves an insurance company holds to ensure solvency, the lower its profitability will be.

It is necessary to take into account the adequacy of asset management, especially in the context of liabilities to policyholders but also other liabilities, adequacy of reinsurance, especially in the context of solvency and risk management and adequacy of management structure that guarantees

application of other economic principles as well as success and further development of insurance business.

REFERENCES:

1. A Dictionary of Business, second edition, Oxford University Press, 1996
2. Carmel pokazatelji poslovanja društava za osiguranje sa okvirnim uputstvima za njihovo tumačenje, Narodna banka Srbije, Beograd.
3. E. Philip Davis and Benn Steil, Institutional Investors, The MIT Press Cambridge, MA, 2001
4. Directive 2002/13/EC of the European Parliament and of the Council of 5 March 2002 amending Council Directive 73/239/EEC as regards the solvency margin requirements for non-life insurance undertakings. Official Journal of the European Communities L 077, 20/03/2002, str. 17-22
5. Directive 73/239/EEC of 24 July 1973 on the coordination of laws, regulations and administrative provisions relating to the taking-up and pursuit of the business of direct insurance other than life assurance, OJ L 228, 16.8.1973., str. 3-19
6. Boris Marović, B., Radenko Purić i Vladimir Njegomir, Reosiguranje, Precision, Čačak, 2012.
7. Vladimir Njegomir, Upravljanjeimovinomiobavezamaosiguravajućihdruštava, Računovodstvo, Vol. 50, Br. 5-6, 2006b, str. 94-103.
8. Vladimir Njegomir, Osiguranje i reosiguranje: tradicionalni i alternativni pristupi, Tectus, Zagreb, 2011
9. Vladimir Njegomir, Osiguranje, Ortomedicbook, NoviSad, 2011a
10. Vladimir Njegomir, Specifičnosti upravljanja kapitalom u osiguravajućim društvima, Računovodstvo, Vol. 50, Br. 7-8, 2006a, str. 59-68.
11. Odlukao tehničkim rezervama, SlužbeniglasnikRS, br. 42/2015 i 36/2017
12. Hans Schmitter, Setting optimal reinsurance retentions, Swiss Re, Zurich, 2003
13. Zakon o osiguranju, "Sl. glasnik RS", br. 139/2014 i 44/2021