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Structure of the Investment Portfolio of the Insurance Sector in the Republic of Serbia

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Abstract: *Thanks to the time gap between the collection of premiums and the payment of compensation for claims, insurance companies collect and invest temporarily free funds of technical reserves and thus become one of the important institutional investors. This paper analyzes the structure of the investment portfolio of the insurance sector in Serbia within framework of the existing regulatory constraints that insurance companies must adhere to regarding their investments. The research indicates that quantitative restrictions investments reduce the set of investment options available to insurers. The conclusion of this paper is that technical reserves in the Serbian insurance sector were fully invested in the prescribed types of assets across non-life and life insurance companies.*

Keywords: *Investment portfolio, insurance sector, the Republic of Serbia.*

JEL Classification*: G11, G22*

1. Introduction

Insurers are among the top three institutional investors worldwide, along with pension funds and investment funds. In most countries, insurers invest the largest proportion of their portfolio in government bonds and fixed-income private bonds. Insurers' investment strategies and risk management practices permit them to invest in shares, real estate, other instruments such as loans, as well as more complex financial instruments. The portfolio mix varies across countries depending mainly on the nature of insurers' liabilities, insurers' risk appetite, and the risk profile of insurers within the industry. In the life industry, the share of bonds in insurers' investment portfolios is typically higher than the share in the

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non-life industry, due to the fact that investment in long-term bonds allows for a better matching of assets with their long-term liabilities (OECD, 2011:16). In non-life insurance, the assets and liabilities per insurance policy are short-term, while in life insurance they are long-term, which is a consequence of the nature of the insurance contract. Namely, in non-life insurance, contracts are up to one year, with the possibility of renewal if the need of the insured exists. On the other hand, the main characteristic of life insurance is long-term, because the contracts are concluded for a period of at least 10 years.

2. Literature Review

The issue of optimal investment for an insurance company has increased attention in recent years. Traditional portfolio choice theory is generally based on the model of expected utility maximization (EUM). The model is premised upon the assumption that decision makers are rational and risk averse when facing uncertainty (Guo, 2014:17).

Hipp and Plum (2000) presented a model for the optimal investment strategy of insurers. They demonstrated that insurers optimal portfolio is a function of their solvency status, risk aversion, and the correlation between the assets and the liabilities. Kočović et al. (2015) analyzed investment possibilities of insurance companies in Serbia in terms of the existing regulatory constraints and the financial market development level. They confirmed that investment constraints adopted by the regulator lead to a narrowing of the efficient set of investment opportunities and to a worsening of risk-return trade-off for insurance companies in Serbia.

For reasons of security and liquidity, insurance companies prefer to invest in debt securities. The choice of securities does not depend only on the goals that are to be achieved. Jakšić and Todorović (2018) pointed out that to a large extent, legal regulations limit the investment policy of insurers. According to them, the most pronounced restrictions are in life insurance.

Insurers mobilize financial resources from the premiums paid by policyholders and allocate apportion of these funds for investments after settling claims. At all times, an insurance company must be able to respond to clients' needs and have different types of investments to maximize benefits from those investments. Investing temporarily free technical reserve funds is usually strictly regulated by state, as policy, who receive compensation from these reserves in the event of insured realization, are deprived of the opportunity to control how and safely insurance companies invest these funds. As institutional investors, insurance company invest in government securities, loans, housing, real estate development, and other areas.

Insurance companies are considered as financial intermediaries by Piljan and others (2015) because insurance companies take resources from one sector and invest them in another sector. These institutions invest their clients' assets in a series of investments designed to generate returns.

Although in 2022 the insurance industry experienced negative real rates of return, positive trends in financial markets have allowed insurers to improve their investment performance in 2023. (OECD, 2024:31)

3. Materials, Methods, and Results

Investment of technical reserves in Serbia

The National Bank of Serbia (NBS) is the main regulator of the insurance market, so it has proclaimed the creation and maintenance of a safe and stable insurance market in order to protect the interests of policyholders and insurance users, as well as to provide insurance services and products in a quality and transparent manner.

The Insurance Law (Article 131) classify the forms of assets that can be acquired with the funds of technical reserves. In addition to prescribing the form of assets, specific rules relating to investment activities have also been adopted. Thus, the insurance company is obliged to invest the funds of technical reserves in accordance with the rules relating to the types of insurance for which it is registered, which arise from the nature of the risks covered by that type of insurance, i.e. from the structure of the related obligations. The objectives that an investment portfolio, created with the funds of technical reserves, should meet are as follows: (Insurance Law, Article 132):

- provide liquidity, security and profitability of the insurance company;
- settlement of insurance company's future liabilities and
- risk dispersion.

The Insurance Law emphasizes the security of settlement of obligations to the insured, i.e. the compliance of investment activities with the upcoming obligations. The insurance company is obliged to align the assets acquired with the funds of technical reserves with the nature of the insurance liabilities, in order to minimize the risk of changes in interest rates, exchange rates and other market parameters.

The NBS also prescribes the restrictions that must be respected when investing technical reserves funds in prescribed forms of investment. The conditions relating to these restrictions are specified in a document known as the Decision on Investment of Insurance Funds.

The provisions of the Insurance Law have created investment alternatives for making decisions on the placement of insurance funds, emphasizing that the funds are allocated separately for life and non-life insurance. However, insurers do not have complete freedom to invest, because their investment is additionally and more closely regulated by the Decision on Investment of Insurance Funds (Table 1).

Table 1. Quantitative limits on the investment of technical reserve funds in Serbia

Type of assets	*Quantitative limits (% of technical rezerve)*
Debt securities issued by autonomous provinces and local self-government units, as well as debt securities underwritten by any of the above	35% * in securities of the same issuer – 10%
Debt securities traded in the securities market in compliance with law, and issued by a legal person having the head office in the Republic of Serbia	35% * in securities of the same issuer – 5%
Debt securities not traded in the securities market if issued by a legal person having the head office in the Republic of Serbia	3% * in securities of the same issuer – 0,5%
Shares traded in the securities market in compliance with law	25% * in securities of the same issuer – 5%
Shares not traded in the securities market if issued by a legal person whose head office is in the Republic of Serbia	5% * in securities of the same issuer – 1%
Equity interests of undertakings having the head office in the Republic of Serbia	5% * in securities of the same issuer – 1%
Investment units of investment funds	- up to the level of technical reserve calculated for a class of life insurance referred and * in investment units of a single investment fund – up to 50% of those technical reserve
Immovable property and other proprietary rights on immovable property – if entered in the land registry or other public register in the Republic of Serbia, if they bring income, if their purchase price is determined in accordance with valuation by a certified appraiser and if they are not encumbered by a lien	- up to 30% of technical provisions of life insurance, and/or 20% of technical provisions of non-life insurance, provided that not more than 10% of technical provisions of life insurance and/or 7% of technical provisions of non-life insurance is invested in one and/or several spatially connected immovable properties which make up one whole
Bank deposits	- up to 20% of technical provisions of life and or non-life insurance may be deposited with banks having a head office in the Republic of Serbia, provided that no more than 5% of those technical provisions are deposited with a single bank.
Cash	- up to 7% of technical provisions of life insurance and/or 10% of technical provisions of

	non-life insurance, provided that the sum of deposits and funds in the accounts of one bank does not exceed 5% of technical provisions of life and/or non-life insurance

Source: Author's presentation based on the Insurance Law and the Decision on Investment of Insurance Funds

The investment portfolio of the insurance sector in Serbia

To protect interests of the insured and third damaged parties and to ensure timely payment of damage claims, insurance companies must allocate adequate technical reserves and invest these assets to maintain and increase their real value. This approach ensures that the undertaken obligations are fully and timely met, both now and in the future. To meet its liabilities, company must invest its assets by considering the risk profile and risk tolerance limits (qualitative and quantitative) while pursuing its investment policy. (NBS, 2024:16)
Below are the investment portfolios of the insurance sector that were formed by the funds of technical reserves, separately for life and non-life insurance, on an annual basis, for the period 2018-2023.

Table 2. Structure of the investment portfolio of the life insurance sector in Serbia (%)

Year	Government securities	Real estate	Bank deposits and cash	Other	Total
2018	91,9	/	5,8	2,3	100,0
2019	92,8	/	3,5	3,7	100,0
2020	91,9	3,2	3,4	1,5	100,0
2021	92,1	3,1	3,2	1,6	100,0
2022	89,7	3,4	5,0	1,9	100,0
2023	90,9	3,4	4,2	1,5	100,0

Source: Author's calculation based on the NBS Annual Reports for 2018, 2019, 2020, 2021, 2022, 2023.

The portfolio of the life insurance sector gots simple structure. Between the two dominant investment alternatives, is a significant disparity in shares, indicating that confidence in government (government securities) outweighs confidence in the banking sector.

In 2023, the share of government securities is about 91%, and with banks deposits and cash, it reaches up to 95-96% of the value of the portfolio. Since government securities can be invested without restrictions, this category achieves absolute dominance in the portfolio structure. On the other hand, up to 20% of the technical reserves for life and non-life insurance may be deposited with banks headquartered in Serbia, provided that no more than 5% of these technical reserves are deposited a single bank (Decision on Investment of Insurance Funds, Section 3). During the review period, the share of this alternative is well below the legal maximum. Since 2020, real estate investments have appeared in the portfolio structure of life insurers (Table 2).

Table 3. Structure of the investment portfolio of the non-life insurance sector in Serbia (%)

Year	Government securities	Real estate	Bank deposits and cash	Technical provisions charged to coinsurer, reinsurer and retrocessionaire	Unearned premium receivables	Other	Total
2018	60,4	4,5	10,9	21,4	1,6	1,2	100,0
2019	66,2	4,1	13,0	14,1	0,8	1,8	100,0
2020	74,1	3,0	10,4	9,8	1,1	1,6	100,0
2021	76,0	3,8	8,1	9,2	1,2	1,7	100,0
2022	67,2	3,7	15,0	9,9	3,6	0,6	100,0
2023	64,7	2,5	17,3	12,0	2,9	0,6	100,0

Source: Author's calculation based on the NBS Annual Reports for 2018, 2019, 2020, 2021, 2022, 2023.

In 2023, the technical reserves for non-life insurance of all insurance companies in Serbia were predominantly covered by government securities (64,7%), followed by bank deposits cash (17,3%), technical provisions charged to coinsurers, reinsurers, and retrocessionaires (12,0%), unearned premium receivables (2,9%), and real estate (2,5%).

The structure of the non-life insurance investment portfolio is dominated by the share of government securities. Investing in this form of property has had an upward trend. In 2019, government securities accounted for more than two-thirds of the portfolio, and in 2021 they reached over three-quarters. In the observed period, the maximum share of government securities was in 2021 (76%), and then a downward trend during 2022 and 2023, with an increase in the share of deposits with banks. The share of real estate investments and unearned premium receivables is decreasing. Technical provisions charged to coinsurers, reinsurers and retrocessors recorded growth in 2023 after a long downward trend. (Table 3.)

4. Conclusion

The investment portfolio of insurance, derived from insurance premium funds, is used to cover risks and constitutes a major part of these companies' assets. Its volume and structure limited by regulatory requirements and opportunities in the financial, capital, and real estate markets.

Thanks to the forming and investing of technical reserve on the financial market, insurance companies appear in the role of institutional investors in countries. By investing the temporarily available funds, insurance companies are trying to obtain an adequate return in the form of interest and capital gain with possible little risk. The structure of their investment portfolio is conditioned by the purpose of insurance business, the level of development of the financial market, the types of insurance and the current legislation.

Considering the objectives and limitations required when forming an investment portfolio of insurance companies in Serbia, it can be said that insurers meet these criteria, given that both the life and non-life insurance sectors respect the regulatory framework. However, there is a need to diversify the portfolio for both sectors.

A key element in ensuring the financial stability of insurer the selection of optimal insurance portfolio structure that guarantees profit maximization based on acceptable risk levels.

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Struktura investicionog portfolija sektora osiguranja u Republici Srbiji

Anđelka Aničić

Apstrakt: *Zahvaljujući vremenskoj nepodudarnosti između naplate premija i isplate naknade za štete, osiguravajuća društva formiraju i ulažu privremeno slobodna sredstva tehničkih rezervi i na taj način postaju jedan od važnih institucionalnih investitora. U radu se analizira struktura investicionog portfolija sektora osiguranja u Srbiji u okviru postojećih regulatornih ograničenja kojih se osiguravajuća društva moraju pridržavati pri investiranju sredstava tehničkih rezervi. Istraživanje ukazuju na to da kvantitativna ograničenja ulaganja smanjuju skup investicionih opcija koja su na raspolaganju osiguravačima. Zaključak ovog rada je da su tehničke rezerve u sektoru osiguranja Srbije u potpunosti uložene u propisane vrste sredstava u društvima za neživotno osiguranje i životno osiguranje.*

Ključne reči: *investicioni portfolio, sektor osiguranja, Srbija*