

AGRICULTURAL INSURANCE – EXPERIENCES OF THE REPUBLIC OF SERBIA AND THE REPUBLIC OF Srpska

Gordana Radović¹, Radovan Pejanović², Jonel Subić³

¹ "Dnevnik-Poljoprivrednik", Novi Sad, Serbia

² Faculty of Agriculture, University of Novi Sad, Serbia

³ Institute for Agricultural Economics, Belgrade, Serbia

Corresponding author: gordana.radovic09@gmail.com

Abstract

Agricultural insurance, in the current conditions of increasingly pronounced climate changes, can be considered a necessary agrotechnical measure. The aim of the paper is to analyze the current development of agricultural insurance in the Republic of Serbia and in the Republic of Srpska. For this purpose, a statistical, descriptive, as well as analysis and synthesis method is used. The authors conclude that both in the Republic of Serbia and in the Republic of Srpska, agricultural insurance is insufficiently developed, despite significant financial support from the state, as well as satisfactory offers on the agricultural insurance market. In both countries, the subjective need of agricultural farms for insurance is insufficiently expressed due to the fact that most farmers do not have a developed awareness of the importance of economic protection of their production or have bad experiences with insurers, related to inadequate damage assessment.

Key words: Agricultural insurance, agricultural holdings, development, Republic of Serbia, Republic of Srpska.

Introduction

Agricultural production is exposed to numerous risks, and is considered one of the riskiest economic activities. Plant production is particularly exposed to risks and they primarily relate to the risks of unfavorable weather conditions, which are increasing in conditions of increasingly pronounced climate changes. Risks in livestock production primarily relate to animal diseases and accidents. However, there are numerous other risks to which agricultural production is exposed.

The authors (Radović and Pejanović, 2015) divide agricultural risks into operational, financial, and market risks, but also include the potential risk of terrorism. In addition to production risks, the mentioned authors also include a drop in product quality due to inadequate storage conditions, transportation, lack of technical infrastructure, inadequate advisory services, and the input market. The cited authors also mention the most significant financial risks, namely: insufficient subsidies and agricultural loans, sudden changes in agricultural policy, untimely payments for sold products, etc. Market risks include sudden

changes in prices of raw materials or finished products, unfair competition, lack of demand for certain products, as well as non-compliance with signed contracts by contractors. Also, the quoted authors warn that in the future, the risk of terrorism directed against the environment, as well as agro-terrorism, as one of the forms of terrorist activity, must not be ignored.

There are points of view in the literature (Vasiljević et al, 2020), which especially point out that in agriculture there is also a risk that the agricultural holding will not be able to settle its financial obligations within the required period due to the specifics of the production cycle and the slow turnover of capital. The group of authors (Jeločnik et al, 2019) believes that in agricultural production, the risk related to the labor force is increasingly present. This risk arises due to the fact that agricultural work must be done in a short time frame, which is optimal for that type of work, and that the lack of labor can cause a significant risk to agricultural production.

Bearing in mind the mentioned risks, it is clear that in order to realize agricultural production, especially in conditions of climate change, special attention must be focused on the development of the risk management system. At the global level, the most widespread system of risk management in agriculture is agricultural insurance. Therefore, the objective need for agricultural insurance is great. When analyzing the subjective need of farmers for the economic protection of their production, they most often emphasize the lack of financial resources as the reason for its insufficient application.

Based on the opinion of many authors, the costs of agricultural insurance are negligible in relation to the benefits it provides to the insured - agricultural producers. According to research results, (Počuča et al, 2013), insurance costs are very low and on average participate from 1.5% to 2% in the total costs of agricultural production. Older and more educated farmers more often decide to conclude an insurance contract (Finger, Lehmann, 2012).

Methodology

The aim of the paper is the analysis of current opportunities for development, as well as the analysis of the development of agricultural insurance in the Republic of Serbia and the Republic of Srpska. The authors start from the fact that agriculture is of great economic importance for both countries. The authors analyze the representation of agricultural insurance among agricultural holdings, bearing in mind that in both countries, they are the most numerous in the structure of agricultural entities. The research uses a statistical method, descriptive, as well as the method of analysis and synthesis.

The sources of data used in the research are legislative regulations, data from the Ministries of Agriculture, conditions for agricultural insurance of insurance companies, statistical data, as well as reports on the results of agricultural insurance in the Republic of Serbia and the Republic of Srpska.

Research results - opportunities for the development of agricultural insurance

Possibilities for the development of agricultural insurance in both countries are analyzed from the aspect of supply on the agricultural insurance market, as well as from the aspect of financial support of the state in terms of allocation from the agricultural budget for agricultural insurance premium regressions.

Possibilities for the development of agricultural insurance in the Republic of Serbia

In recent years, agricultural insurance is increasingly present in the offers of insurance companies operating on the insurance market in the Republic of Serbia. However, four insurance companies have a dominant share in this market segment. They are: Dunav osiguranje a. d. o, Belgrade, Đenerali osiguranje a. d. o, Belgrade, Triglav osiguranje a. d. o, Belgrade and DDOR Novi Sad a. d. o, Novi Sad.

By analyzing the legal regulations, it can be concluded that farmers can insure their plant production, i.e. crops and fruits, against basic and supplementary risks. The basic risks include: hail, fire and lightning, and the additional ones include: storm, flood, spring and autumn frost (Rule, 2017, 2018). According to the results of the research (Radović, 2018a), there is a satisfactory offer on the market for crop production insurance. The shortcoming is the non-coverage of the risk of drought, which, although it is officially represented in the offer of one insurer, is not applied in practice. Regarding the insurance of domestic animals, there is an adequate offer on the market for insurance against the most significant risks of livestock production. The limitation for the development of this type of insurance is a small livestock fund (Radović, 2018b).

Regression of the agricultural insurance premium from the agricultural budget has been in effect since 2006. Recourses for insurance premiums for crops, fruits, perennial plants, nurseries and animals are defined by the Law on Agriculture and Rural Development (Law, 2009, 2013, 2016) and the Law on Incentives in Agriculture and Rural Development (Law, 2013-2016). In accordance with the current legislation, recourses are paid in the amount of 40% of the paid agricultural insurance premium. Farmers who work in difficult business conditions have the right from 2019 to rebates in the amount of 45%, and those whose production is located in the area of the district where agricultural production is particularly threatened by bad weather, have the right to rebates of the insurance premium of 70%. These are: Moravički, Zlatiborski, Kolubarski, Šumadijski and Podunavski districts. Local self-governments can also participate in the co-financing of the costs of agricultural insurance premiums, with the possibility of cumulatively adding percentages, which reduces the amount of insurance costs to be paid by agricultural entities.

The right to agricultural insurance premium rebates, in accordance with the current Rulebook on the conditions, method and form of requests for exercising the right to incentives for insurance premiums for crops, fruits, perennial plants,

nurseries and animals, have only registered agricultural holdings, which during the year can submit only one request. The request may include regressions of insurance premiums on several grounds, but in total, during one-year, agricultural subjects can collect a maximum of 2.5 million dinars from the agricultural budget, on this basis (Regulations, 2017, 2018). The Regulation on the distribution of incentives in agriculture and rural development defines the amount of funds reserved in the agricultural budget for agricultural insurance premium rebates every year. In the period from 2016 to 2021, on average, less than 1% of the agricultural budget was allocated for agricultural insurance premium regressions (Radović, Pejanović, 2022).

Possibilities for the development of agricultural insurance in the Republic of Srpska

According to the data of the Insurance Agency of the Republic of Srpska, four insurance companies based in the Republic of Srpska and four branches of insurance companies from the Federation of Bosnia and Herzegovina were active on the agricultural insurance market in the Republic of Srpska in 2021. Insurance companies based in the Republic of Srpska. the court. D. "Brčko-gas osiguranje", "Drina osiguranje" a.d., "Dunav osiguranje" a.d. and "Wiener Insurance" a.d. Branches of insurance companies from the Federation of Bosnia and Herzegovina are: "Asa osiguranje" d.d., "Adriatic osiguranje" d.d., "Croatia osiguranje" d.d. and "Sarajevo Insurance" d.d. (www.azors.rs.ba).

Based on the analysis of the general and special insurance conditions of the mentioned insurers, it can be concluded that they have satisfactory coverage of basic and supplementary insurable risks in agricultural production. Also, it can be concluded that "on the market of agricultural insurance in the Republic of Srpska there are conditions for development, viewed from the aspect of the size and assortment of the offer" (Radović, 2022).

Regression of the agricultural insurance premium from the agricultural budget has been in effect since 2010. Insurance premiums were subsidized in the amount of up to 30%, with a maximum of 30,000 KM per beneficiary (www.poljoprivredaiselo.com). In 2013, the Ministry of Agriculture, Forestry and Water Management of the Republic of Srpska canceled the subsidization of the agricultural insurance premium, although the Regulation on Incentives for 2013 provided for these subsidies. According to some points of view, the reason for the Government's decision to abolish agricultural insurance premium subsidies was the weak interest of farmers in the economic protection of their production. On the other hand, farmers believed that insurers are to blame for the poor representation of agricultural insurance, that is, that the insurance conditions are unfavorable in the poor agricultural insurance market (www.capital.ba).

Table 1. Agricultural insurance premium returns and their participation in the agricultural budget in the Republic of Srpska in the period 2018-2021.

Year	Paid for recourse to agricultural insurance premiums (in KM)	Agrarian budget (in KM)	Participation of agricultural insurance recourse in the agricultural budget (in %)
2018	217,750.93	71,000,000	0.3
2019	261,705.60	71,000,000	0.4
2020	466,443.14	75,000,000	0.6
2021	391,155.74	75,000,000	0.5
Average participation in the agricultural budget:			0.4

Source: Agency for Agrarian Payments of the Republic of Srpska. Author's calculation.

In recent years, the relevant ministry renewed the subsidization of the agricultural insurance premium. Subsidies are paid in the amount of up to 50% of the agricultural insurance premium, and the amount of the subsidy per beneficiary cannot exceed 25,000 KM. According to the data shown in **table number 1**, it can be stated that in the analyzed period, the share of funds paid for agricultural insurance premium regressions in the agricultural budget varied from 0.3 to 0.6%, but the average was only 0.4%.

Research results - development of agricultural insurance

The development of agricultural insurance in the Republic of Serbia and Republic of Srpska is analyzed from the aspect of trends in the number and structure of agricultural insurance policies in the analyzed period, as well as the share of agricultural insurance premiums in total non-life insurance premiums. Also, the number of agricultural holdings that applied for agricultural insurance premium rebates in the observed period and the participation of this number in the total number of registered agricultural holdings are analyzed.

Development of agricultural insurance in the Republic of Serbia

Records on the number of agricultural insurance policies, as well as other types of insurance, are kept by the National Bank of Serbia.

Based on the data shown in table number 2, it can be concluded that the number of plant production insurance policies recorded growth, with slight fluctuations, in the entire analyzed period. The number of animal insurance policies had significant fluctuations, and in the last four years of the observed period, a continuous decline was recorded. In the structure of the total number of agricultural insurance policies, in the entire analyzed period, as well as the average, crop production insurance policies have a dominant share.

Table 2. Number of agricultural insurance policies 2006-2021.

Year	Number of crop production insurance policies	Number of animal insurance policies	Share of the number of plant production insurance policies in the total number of agricultural insurance policies (%)	Share of the number of animal insurance policies in the total number of agricultural insurance policies (%)	Total number of agricultural insurance policies
2006	9,351	2,278	80	20	11,629
2007	10,305	2,582	80	20	12,887
2008	15,186	2,250	87	13	17,436
2009	10,165	1,807	85	15	11,972
2010	11,172	1,212	90	10	12,384
2011	11,548	1,487	89	11	13,035
2012	14,871	5,259	74	26	20,130
2013	18,658	4,167	82	18	22,825
2014	19,768	5,466	78	22	25,234
2015	27,652	5,564	83	17	33,216
2016	28,749	5,313	84	16	34,062
2017	30,346	3,642	89	11	33,988
2018	39,212	4,506	90	10	43,718
2019	45,093	4,472	91	9	49,565
2020	42,603	3,376	93	7	45,979
2021	45,297	3,280	93	7	48,577
Total:	379,976	56,661	87	13	436,637

Source: National Bank of Serbia. Author's calculation.

Analyzing the data shown in table number 3, it can be concluded that in the observed period, with minor fluctuations, there was an increase in the share of the total agricultural insurance premium in the total non-life insurance premiums. The average participation, for the period 2006-2021, was 3.91%.

The above data points to the fact that agricultural insurance does not have a significant position on the non-life insurance market in the Republic of Serbia. When the data is analyzed by individual years, we notice that in 2021 the stated share was the highest, but also that since 2015, a continuous increase in the share of total agricultural insurance premiums in total non-life insurance premiums has been recorded. This leads to the conclusion that in the last seven years of the analyzed period, the growth of the agricultural insurance market in the Republic of Serbia was recorded.

Table 3. Share of agricultural insurance premium in total on-life insurance premiums 2006-2021.

Year	Total agricultural insurance premium (in 000 RSD)	Total non-life insurance premium (in 000 RSD)	Share of the total agricultural insurance premium in the total non-life insurance premium (in %)
2006	1,021,428	34,283,087	2.98
2007	1,268,080	39,840,510	3.18
2008	1,616,455	45,839,596	3.53
2009	1,124,236	45,653,453	2.46
2010	1,077,053	47,168,218	2.28
2011	1,238,126	47,321,292	2.62
2012	1,564,760	49,608,308	3.15
2013	1,909,174	49,976,051	3.82
2014	2,044,639	53,399,931	3.83
2015	2,194,861	61,561,494	3.56
2016	2,653,992	66,010,278	4.02
2017	2,970,456	70,336,633	4.22
2018	3,371,427	76,121,610	4.43
2019	3,791,729	82,385,409	4.60
2020	4,166,001	83,753,833	4.97
2021	5,042,558	92,297,462	5.46
Total:	37,054,975	945,557,165	3.91

Source: National Bank of Serbia. Author's calculation.

The total number of paid claims of agricultural holdings for agricultural insurance premium rebates, by year, in the period 2016-2021. it is shown in table number 4.

Table 4. Number and amounts of paid subsidy requests agricultural insurance premiums 2016-2021.

Year	Number of claims paid	Total disbursed funds (in RSD)
2016	20,112	580,220,156.22
2017	22,171	603,349,470.96
2018	22,475	683,040,250.63
2019	16,303	609,933,174.90
2020	28,100	1,252,880,000.00
2021	28,738	1,218,904,661.45

Source: Directorate for Agrarian Payments of the Ministry of Agriculture, of Forestry and Water Management of the Republic of Serbia.

Analyzing the data presented in table number 4, we observe the illogicality that in 2019, when the percentage of agricultural insurance premium recourse was significantly increased (from 40% to 70% in five administrative districts), the

number of requests for agricultural insurance premium recourse was reduced by 27%.

Bearing in mind that according to the current regulations, an agricultural holding registered in the Republic of Serbia has the right to submit only one request for recourse during the calendar year, the number of paid requests is equal to the number of agricultural holdings that have exercised the right to recourse to the agricultural insurance premium in certain years of the analyzed period. If we start from the logical belief that all agricultural farms that ensure their production used the right to recourse, we can conclude that in 2021, as the last analyzed year, only 9.5% of the total number of registered agricultural farms insured their production. The above conclusion is based on the latest published data of the Republic Institute of Statistics, according to which there are 301,028 registered agricultural farms in the Republic of Serbia (Group of authors, 2018).

Development of agricultural insurance in the Republic of Srpska

The Insurance Agency of the Republic of Srpska keeps records of the number of policies of all types of insurance, including agriculture. The data presented in tables number 5, 6 and 7 include the overall data on agricultural insurance for the insurance market of the Republic of Srpska. The data includes the number of agricultural insurance policies and the calculated premium of agricultural insurance and insurance companies based in the Republic of Srpska and branches of insurance companies whose headquarters are in the Federation of Bosnia and Herzegovina and which operate on the market of agricultural insurance in the Republic of Srpska.

The movement of the total number of agricultural insurance policies and their structure, in the period 2014-2021, are shown in table number 5. Based on the data presented, it can be concluded that the total number of crop production policies and insurance, and especially animal insurance, recorded significant fluctuations in the analyzed period. When their total average participation is analyzed, it is stated that the number of animal insurance policies has more than twice the participation in the total number of agricultural insurance policies in the Republic of Srpska in the analyzed period.

Table 5. Number of agricultural insurance policies 2014-2021.

Year	Number of crop production insurance policies	Number of animal insurance policies	Share of the number of plant production insurance policies in the total number of agricultural insurance policies (%)	Share of the number of animal insurance policies in the total number of agricultural insurance policies (%)	Total number of agricultural insurance policies
2014	53	103	34	66	156
2015	131	96	58	42	227
2016	335	1,056	24	76	1,391
2017	245	1,174	17	83	1,419
2018	330	1,445	19	81	1,775
2019	253	83	76	24	336
2020	288	53	84	16	341
2021	256	35	88	12	291
Total:	1,891	4,045	32	68	5,936

Source: Insurance Agency of the Republic of Srpska. Author's calculation.

Based on the data presented in table number 6, the data on the total premiums of agricultural insurance and their participation in the total premiums of non-life insurance are presented.

Table 6. Share of agricultural insurance premiums in total non-life insurance premiums 2014-2021.

Year	Total agricultural insurance premium (in KM)	Total non-life insurance premium (in KM)	Share of the total agricultural insurance premium in the total non-life insurance premium (in %)
2014	593,083	144,101,451	0.4
2015	555,416	152,208,722	0.4
2016	1,302,413	165,468,861	0.8
2017	1,117,321	178,431,097	0.6
2018	1,218,939	188,306,600	0.6
2019	825,178	193,200,598	0.4
2020	1,342,529	192,658,164	0.7
2021	1,085,081	204,830,704	0.5
Total:	8,039,960	1,419,206,197	0.6

Source: Insurance Agency of the Republic of Srpska. Author's calculation.

Based on the analysis of the data presented in table number 6, it can be stated that in the analyzed period the average share of total agricultural insurance premiums in total non-life insurance premiums was only 0.6%. The mentioned data testifies to the very small participation of agricultural insurance in the

insurance market of insurance companies operating in the territory of the Republic of Srpska.

Table 7. Number of agricultural holdings that have obtained the right to agricultural insurance premium rebates in 2018-2021.

Year	Number of agricultural of the farms that exercised the right to the premium rebates of the Farm. Insurance	Total number of registered agricultural holdings	The participation of the number of farmers which have exercised the right to recourse in the total number of reg.agric.holdings (%)
2018	195	42,829	0.5
2019	119	40,502	0.3
2020	153	41,085	0.4
2021	132	40,305	0.3

Source: Agency for Agrarian Payments of the Republic of Srpska. Author's calculation.

In the analysis of the representation of agricultural insurance among agricultural farms, we start from the fact that all agricultural farms, which insured their production and used the right to recourse to agricultural insurance premiums. Based on the data, whose source is the Agency for Agrarian Payments of the Republic of Srpska, and which are shown in table number 7, it can be stated that there was a decline in the number of agricultural farms that insured their production in the total number of registered agricultural farms in the last, in relation to the first year of the analyzed period. Therefore, neither the significant regressions of the agricultural insurance premium, nor the solid conditions for agricultural insurance, offered by insurers, had a significant impact on the interest of farmers in the economic protection of their production.

Conclusion

Based on the conducted research, it can be concluded that both in the Republic of Serbia and in the Republic of Srpska there are conditions for the development of agricultural insurance, but that it is insufficiently developed.

There is an adequate offer on the agricultural insurance market, and the state regresses insurance premiums, up to 50% in the Republic of Srpska, and from 40% to 70% in the Republic of Serbia. Despite the above, a small number, in relation to the total number of registered agricultural farms, ensures its production, and the total premium of agricultural insurance has a small share in the total premiums of non-life insurance. Specifically, in the Republic of Serbia, agricultural holdings that ensure their production make up 9.5%, and in the Republika Srpska, 0.3% of the total number of registered agricultural holdings. The share of the total premium of agricultural insurance in the total premium of non-life insurance in the Republic of Serbia is about 4%, and in the Republic of Srpska 0.6%. Based on the results of the research, it can be concluded that there

is a difference in the structure of agricultural insurance policies. In the Republic of Serbia, crop production insurance policies have a dominant share (about 90%), and in the Republic of Srpska animal insurance policies (about 70%).

In order to further develop agricultural insurance in both countries, it is necessary to influence the development of demand on the agricultural insurance market. In order to achieve this, continuous education of farmers is needed, through which the development of their awareness of the importance of agricultural insurance, which in the current conditions of climate change, takes on the importance of a regular agrotechnical measure, would be influenced. On the other hand, a correct attitude of the insurer is needed, in terms of timely intervention when the insured event occurs, objective assessment and compensation of damages, because this is also a significant cause that leads to mistrust of farmers and insufficient application of agricultural insurance.

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