

IMPORTANCE AND CURRENT ISSUES IN AGRICULTURAL INSURANCE IN SERBIA

VLADIMIR NJEGOMIR, RADOVAN PEJANOVIĆ¹

SUMMARY: Plant production as well as livestock are exposed to numerous production risks that if transferred to insurance can improve agricultural results. We have determined the need for research of importance and issues in agricultural insurance in Serbia as the aim of the research. Research results suggest that agricultural insurance is undeveloped, because of uninterested farmers and insurers, although the increase in premiums and losses is marked during the observed period (2004-2009). Crop insurance has dominant share in premiums and losses. In future we expect that agricultural insurance premium subsidies will generate increased interest of farmers for insurance and consequently greater profitability and private insurance industry interest, resulting with multiple positive effects on favourable insurance conditions and better farmers' protection against production risks.

Key words: risk, risk management, agriculture, insurance, microinsurance, Serbia.

INTRODUCTION

Agricultural production is endangered by numerous risks such as hail, floods, droughts, price changes, fires, thefts and the likes. Climate changes, trade liberalisation, genetically modified and organic food production, which obligatory element is agroeconomic analysis (Pejanović et al., 2009), are the cause of new risk types that imperil not only individual farmers but all participants of agrobusiness value chain, including input suppliers, processors and consumers. The most papers that focus on risks in crops production have weather conditions and input and output prices as research topic while those that focus on risks in livestock are mainly oriented towards disease risk (see, Gramig et al., 2006 and Shaik et al. 2006). All agricultural risks can be divided into regulatory or institutional risks, trade or price risks and production risks. In order to minimise potentially negative influence of risk realisations, farmers can apply various measures at their farms or can apply risk dispersion measures (EC, 2001), one of which is insurance (Njegomir, 2008).

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¹Vladimir Njegomir, PhD, Assistant professor at Faculty of Legal and Business Studies, Novi Sad. Radovan Pejanović, PhD, Professor at Faculty of Agriculture, Novi Sad.

Corresponding author: Vladimir Njegomir, e-mail: njega@eunet.rs

According to American Risk and Insurance Association, insurance is the pooling of fortuitous losses by transfer of such risks to insurers, who agree to indemnify insurers for such losses, to provide other pecuniary benefits on their occurrence, or to render services connected with the risk (Rejda, 2005, 20). Observed from the perspective of farmers, in exchange for determined small amount of fixed expense, insurance as a risk management method provides protection against much larger loss, which appearance is uncertain but anticipated by contract conditions. Insurance provides pooling of agricultural risks such as losses from hail or fire, theft of farms' property, death or illness of animals as well as death or illness of farmers. Understanding the state and problems that appear in agricultural insurance is important having considered the importance of agricultural production as well as the fact that healthy agricultural sector can lessen negative implications of economic crises (FAO, 2009).

MATERIAL AND METHOD

Analysing available documentation on crop and livestock insurance provided by National bank of Serbia, we have acquired necessary information for research and economic analysis of the state and tendencies of premiums and losses of agricultural insurance in Serbia, with emphasis on the analysis of performance of agricultural insurance, separately for crop insurance and livestock insurance. We observed the data of all insurance companies operated in Serbia during the period from 2004 and 2009. The reason for the observed period is the fact that this period was influenced by many legal, political, social and economic developments that have influenced the development of domestic insurance market. We apply analytical method combined with model "desk research".

RESULTS AND DISCUSSION

The crucial role of insurance in agricultural production and society is indirect economic protection of property and life from the negative effects of natural forces and unfortunate events, thus making entrepreneur activities of farmers more stable and certain. The research done by World bank indicate that inadequate access to insurance is one of ten most crucial factors in food crisis problem solving and represents serious barrier to agricultural productivity, investments and marketing systems efficiency (World Bank, 2008, 40). Additionally, the importance of agricultural insurance is evident through the World trade organisation's elimination of state subsidies for insurance premium from free trade agreement in 1994, subject to condition that insurance provides indemnification for climatic and natural catastrophes (Baez and Wong, 2007).

Contrary to enormous importance that insurance has different studies demonstrate conflicting opinions regarding factors that positively affects farmers to sign insurance contracts. For example, Velandia *et al.* (2009) have determined that insurance contract acceptance is positively influenced by the level of risks faced by farmers while it is negatively affected by proportion of owned acres, off-farm income and education. However, Sherrick *et al.* (2004) have demonstrated that farmers are more willing to sign insurance contract if their perceived risk is greater and if they undertake production at properties that are larger, older and not in lease. Also, by analysing agricultural insurance

in France Enjolras and Sentis (2008) have determined that size and financial strength of the farm, more diversified production and catastrophic climate events positively affects farmers decisions for insurance protection.

Agricultural insurance is special type of insurance that belong to property insurance group. The separation of agricultural insurance as a special type of insurance is the result of its characteristics, mainly the reduced ability or complete inability for diversification application and great correlation among risks. For example, crops in same geographic areas are under threat of the same kind of risks, which translates into greater possibility for loss generation either by one large or many smaller losses caused by the one event. Miranda and Glauber (1997) have determined that exposure to losses of risks portfolios of agricultural insurers is ten times greater than that of auto hull or fire insurers. Also, they have found that portfolios of crop insurers in the USA are twenty to fifty times riskier than the total exposure to risk would be if yields of individual farmers were stochastically independent. The high correlation among individual risks of agricultural production as well as the need to determine risk exposures of each individual farm, often geographically dispersed, causes high operational and administrative expenses, much higher than in other types of insurance.

The development of insurance industry in Serbia has followed the economic development (Njegomir and Stojic, 2010). Although the insurance existed before the World War II, it has gained in importance only after 1990 thanks to the law changes that facilitated business development based on market principles. However, regulation and supervision of insurers have not been adequate. This is confirmed with the fact that almost all of reserves have been eliminated from balance sheets of insurance companies during the hyperinflation of 1993 and the fact that many insurers have been established, often with inadequate management practices, such as incompleteness of business books, insurance reserves transfers to affiliated non-insurance companies and irregular payments of obligations to insureds. Such developments have generated loss of public trust in insurance, including agricultural insurance. The turning point in the development of Serbian insurance industry has been the introduction of the new insurance law in 2004 and assigning supervisory role to National bank of Serbia (NBS). These changes have contributed to the establishment of the rule of law and market discipline. These developments positively affected public trust in insurance industry (see Table 1).

Gross insurance industry premium has increased by around 230% during the observed period. The growth of agricultural insurance premium was somewhat slower, if the observed period is till 2008 the growth was 192% a year while if the whole period is taken into consideration the growth was approximately 134%. However, while gross premium of the whole insurance industry grew continuously, agricultural insurance premium movements were more variable. The economic crisis has dramatically affected agricultural insurance and premium growth declined for both crop and livestock insurance. During the observed period the share of agricultural insurance in non-life insurance has moved in a range between 4% and 2.4% in area of premiums and in a range between 7.8% and 4.2% in an area of losses. These data emphasise the fact that agricultural insurance in Serbia is in a unenviable state as they show that it negatively affects productivity of insurance industry as a whole and indicate insufficient development of this type of insurance. During the observed period loss ratio, the index that is calculated by dividing losses with premiums, vary in the case of crop insurance but is relatively stable in the case of livestock insurance. However, the excesses of premiums

over paid losses are rarely above 10%, which indicates low profitability. The existence of low profitability is emphasised with the fact that because of unattainable data administrative expenditures have not been taken into consideration. Also, when compared average loss ratio of 78.38% with European average loss ratios in agricultural insurance that ranges from 60% to 70% it is obvious that insurers in Serbia have achieved much poorer results than average European insurer.

Traditionally only products that provide indemnification for losses on crops or livestock are offered in Serbian agricultural insurance market. The dominant type of agricultural insurance is crop insurance, which share in total agricultural insurance premium has been in a range between 60% and 69%, the rest being livestock insurance. These two types of agricultural insurance is offered by eight of total 22 insurers in Serbia (Globos, Milenijum insurance, Sava insurance, Takovo insurance, Triglav Kopaonik insurance, DDOR Novi Sad, Dunav insurance and Delta Generali insurance) which total insurance market share is 80%.

Table 1. Agricultural insurance in Serbia during the period 2004-2009 (in 000 dinars)

Tabela 1. Osiguranje poljoprivrede u Srbiji u periodu od 2004 do 2009 (u 000 dinara)

			2004	2005	2006	2007	2008	2009
Premium	Crop insurance	Premium	578262	611733	611691	751461	1105208	746736
		Yearly growth	1	5.79%	-0.01%	22.85%	47.07%	-32.43%
		Number of policies	10396	9418	9351	10305	15186	10165
	Livestock insurance	Premium	259748	328554	409737	516619	511247	377500
		Yearly growth	1	26.49%	24.71%	26.09%	-1.04%	-26.16%
		Number of policies	2299	2396	2278	2582	2250	1807
	The share of crop insurance in total agricultural insurance		69.00%	65.06%	59.89%	59.26%	68.37%	66.42%
	The share of agricultural insurance in non-life insurance		4.00%	3.00%	2.98%	3.18%	3.53%	2.46%
	Gross insurance industry premium		22636133	34689787	38328614	44780018	52186631	53534646
	The share of agricultural insurance in gross insurance industry premium		3.70%	2.71%	2.66%	2.83%	3.10%	2.10%
Losses (accounted)	Crop insurance	Amount	411888	349786	542323	702677	569745	536290
		Yearly growth	1	-15.08%	55.04%	29.57%	-18.92%	-5.87%
		Number of losses	2198	2449	2429	3575	2358	3228
	Livestock insurance	Amount	253970	285655	376068	470998	451801	336123
		Yearly growth	1	12.48%	31.65%	25.24%	-4.08%	-25.60%
		Number of losses	6387	6886	8691	10573	9407	6022
	The share of crop insurance in total agricultural insurance		61.86%	55.05%	59.05%	59.87%	55.77%	61.47%
	The share of agricultural insurance in non-life insurance		7.80%	5.62%	6.27%	7.03%	5.21%	4.24%
	Total insurance industry losses		8794061	11724710	15423471	17675831	20936826	22436002
	The share of agricultural insurance in total insurance industry losses		7.57%	5.42%	5.95%	6.64%	4.88%	3.89%
	Loss ratio in crop insurance		71.23%	57.18%	88.66%	93.51%	51.55%	71.82%
	Loss ratio in livestock insurance		97.78%	86.94%	91.78%	91.17%	88.37%	89.04%
	Loss ratio in agricultural insurance		79.46%	67.58%	89.91%	92.56%	63.20%	77.60%

Source: author calculations, National bank of Serbia

Izvor: kalkulacije autora, Narodna banka Srbije

Serbian agricultural insurance market has passed through continuous changes. New types of insurance coverage has been introduced recently. One of new product offerings are insurance packages for village, which combine crop and livestock insurance with other property and liability insurance types in order to provide „umbrella“ coverage for farmers. It is especially worth to mention insurance based on index, innovation in agricultural insurance done in 2010 by Delta Generali. This type of insurance provide cover against drought, the risk that has previously been excluded from insurance. It is now possible to obtain coverage for mercantile and corn seed but more crops will be possible to insure in the future. The reference index used is determined by meteorological reports of Republic Hydrometeorological Service of Serbia and represents reduction in yields based on reduction in rainfall during reference time period in comparison with perennial average.

Agricultural insurance market in Serbia is still undeveloped when compared with other countries. For example, in 2008 the insurance premium per hectare of land has been US\$ 60 in USA, US\$ 13.38 in China and only US\$ 3.45 in Serbia. We consider that the crucial causes for such undevelopment has been low purchasing power, insufficient consciousness of the need and possibilities of risk management as well as exaggerated orientation to everyday risks, that is risks characterised by relatively low loss intensity but great probability of realisation. The existence of government subsidies in majority of countries have been confirmed as a positive mean of agricultural insurance promotion. They positively influenced farmers interest in agricultural insurance protection. With increased interest of farmers as insureds for insurance protection it is possible to expect positive developments in loss ratios, which will then motivate more insurers to offer insurance protection to farmers. Although the government subsidies in Serbia are 40% of insurance premium, which might be considered as high government involvement, they are still much behind of those in the region (for example, government subsidies amount to 75% of agricultural insurance premium in Croatia and 60% in FYR Macedonia). We assume that their existence and expansion of the amount in the forthcoming years can be critical in agricultural development promotion in future.

CONCLUSION

Insurance is the most important and the type of farmers production risk management technique that is most widely and most often used. Insurance protection against risks that imperil agricultural production should be primarily provided by private insurance industry. We consider that the role of government should be limited to the creation of favorable regulatory and institutional environment for the development of private initiative. Direct government intervention should be limited to catastrophic events and situations when private initiative fails. However, in the early stages of the agricultural insurance development, as is the current situation with Serbian agricultural insurance, when insurance companies achieve low profitability that are often even negative, the government intervention through subsidies is necessary. As government subsidies for insurance premiums are exempted from the rules that forbid direct government intervention set out by World Trade Organisation, they are the only form by which government can influence the development of domestic agricultural insurance.

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ZNAČAJ I PROBLEMI OSIGURANJA POLJOPRIVREDE

VLADIMIR NJEGOMIR, RADOVAN PEJANOVIĆ

Izvod

Biljna proizvodnja i stočni fond izloženi su brojnim rizicima čijim transferom u osiguranje se mogu unaprediti rezultati poljoprivrede. Za cilj rada smo odredili potrebu istraživanja značaja i problema u osiguranju poljoprivrede Srbije. Rezultati istraživanja sugerišu da osiguranje poljoprivrede nije dovoljno razvijeno, zbog nezainteresovanosti poljoprivrednih proizvođača i osiguravača, iako je tokom posmatranog perioda (2004-2009) došlo do značajnog rasta premija ali i šteta. Osiguranje useva ima dominantno učešće i u premijama i u štetama. U budućem periodu očekujemo da subvencionisanje osiguranja poljoprivrednih proizvođača generiše veću zainteresovanost poljoprivrednika za osiguranjem i posledično veću rentabilnost i veću zainteresovanost privatnog osiguravajućeg sektora, što će se multiplikativno pozitivno odraziti na povoljnije uslove osiguranja i bolju zaštitu poljoprivrednika od proizvodnih rizika.

Ključne reči: rizik, upravljanje rizikom, poljoprivreda, osiguranje, mikroosiguranje, Srbija.

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