Identification and analysis of the risk of reducing the stability of the Russian agricultural insurance system

1. Introduction

Agricultural insurance is definitely an important financial infrastructure component which facilitates the development of modern agriculture. The USSR had compulsory agricultural insurance; this can be found today in Switzerland (for livestock), Israel (crops), Kazakhstan (crops); Belarus (agricultural crops and livestock) and other countries. However, the overwhelming majority of countries, including modern Russia, uses voluntary insurance.

Many countries, both with developing and developed economies, currently use voluntary subsidized agricultural insurance. Nevertheless, the observed financial losses of farmers in these countries reveal inefficiency of national agricultural insurance systems. This also refers to the Russian agricultural insurance system as it turned out to be ineffective. The relevance of this problem is both due to systemic risks in insurance [Systemic Risk in Insurance, 2010] and the lack of a unified approach to the development of the national agricultural insurance system, including combined agricultural insurance [Bielza Díaz-Caneja, Garrido, 2009]. This study aims to increase the effectiveness of the national agricultural insurance system through identification, analysis and regulation of systemic risk – the risk of reducing the stability of the national agricultural insurance system. The paper presents the results of identification and analysis of the risk of instability of the Russian agricultural insurance system caused by the conflict of interests of parties in subsidized agricultural insurance.

2. Literature review

According to the theory and practice of agricultural insurance [Cole, Xiong, 2017; Finger, Lehmann, 2012; Mewissen et al., 2013; Mahul, Stutley, 2010; Bielza et al., 2008; Di Falco et al., 2014], there are three basic models of the development of the national agricultural insurance system regarding the position of the insurance object: the insurance of crops and/or livestock losses; the insurance of incomes of agricultural enterprises that guarantees compensation for losses from shortage of crops and/or loss of livestock, as well as for falling prices for agricultural products; combined insurance of the farmer’s activities – insurance of crop yields or livestock loss and the incomes of the agricultural enterprise, with the involvement of private insurers. Russia, as in many developing countries, currently uses the first model only, i.e. insurance of crops and/or livestock.

The specifics of Russian agricultural insurance include, firstly, insufficient information and comparatively limited data on insurance risks (insurance cases). Second, there is a strong correlation between risk factors (insured event) for insured objects in the same natural and climatic zone. Third, there is a growing impact of the human factor on the work of the agricultural insurers and their operating activities. Fourth, there are not two (as in customary insurance), but three parties in the agricultural insurance operation, including the state. For instance, "in the current system of agricultural insurance in Mexico, the interested parties include the state, the private sector and rural producers operating through so-called mutual insurance funds" [Agricultural Insurance in Latin America, 2013]. In different countries, the conflict of interests of these parties of agricultural insurance is manifested in different degrees. In countries with dominating subsidized agricultural insurance, one can observe the strongest conflict of interest.

Originality and novelty of the study is determined by the fact that it considers the conflict of interests in subsidized agricultural insurance as the main insurance systemic risk – the risk of reducing the stability of the national agricultural insurance system. This risk depends on the level of economic development of the country and may vary, being less destructive in developed economies, whereas in developing countries it has greater consequences for the national economy. In the USA, for example, the possibility of the conflict of interest between parties in subsidized insurance has been minimized by the Federal Crops Insurance Corporation (FCIC), which takes rapid action to improve the actuarial sustainability of multi-profile crop insurance and provides the agricultural insurance system to all farmers on an equitable and consistent basis. [Federal Crops Insurance Corporation]. In the USA, the Federal Crop Insurance Program provides for subsidies in the amount of 114 billion dollars and covers 262 million acres [Goodwin, Smith, 2013]. We would also like to note the positive impact the Federal program of crop insurance on land use, farming and environmental quality in the United States [Claassen et al., 2017]. In Canada, the stability of the national agricultural insurance system is guaranteed by the national insurance company and the level of subsidies estimates 60% of the amount of insurance premiums. However, one may see negative correlation between production efficiency and the level of program payments, including subsidizing insurance premiums [Hailu, Poon, 2017]. In developing countries, for example, Serbia, as researchers note, "the state should provide general conditions for more effective use of subsidized insurance" [Zarkovic, 2014].

Having studied the scientific papers of SCOPUS and Web of Science available to us, we have not found a special study on the risk of reducing stability of the national agricultural insurance system. Meanwhile, the development of all products, groups, models and systems of agricultural insurance regarding their theoretical and practical issues are aimed at neutralizing this systemic risk.

The main finding of our study is, first, the conclusion that Russia’s agriculture currently applies the imputed form of insurance (although the law claims
The reasons for reducing SRAIS that occur due to agricultural insurers (insurance and reinsurance companies) include: a decrease in supply by knowledge of various insurance issues farmers have. The following factors aggravate the financial situation of farmers: weak financial stability; low agricultural insurance contracts; distrust to agricultural insurers; low efficiency of state financial support for agricultural insurance; insufficient enterprises when determining the cost of insurance and calculating insurance compensation; rigid requirements for agricultural producers regarding obtaining subsidies and the conclusion of an agricultural insurance contract; ignoring the level of technical and technological development of agricultural conflict of interest and financial and economic situation of the farmer. The following factors influence the farmer's lower demand for insurance due to instability of the Russian agricultural insurance system (hereinafter, the risk of reducing the SRAIS).

Russian budget system, was the reason for transforming the subsidies to agriculture from January 1, 2017 to the "unified" subsidy regime. Therefore, on loans and subsidies for compensation of farmers' losses in the event of an emergency, etc.). And this, in the context of increasing imbalances in the optimize insurance subsidies for insurance rates as the country pays other subsidies (green box subsidies, subsidies for reimbursement of interest rates which have a conflict of interest due to objective reasons. For instance, the insurant aims to obtain the maximum insurance coverage of the costs agricultural insurance system subsidized agricultural insurance in 2017 was performed only by 20% as of September 1, 2017 (with only 815,000 hectares insured compared to the amount of insurance premiums under contracts with individuals decreased by 4.6 times, and those with sole entrepreneurs – by 6.6 times. The Calculations performed according to Rosstat data for the period of 2014-2016 [Finmarket. Insurance, 2017] demonstrate that agricultural insurance has material and financial losses of these farms are significantly minimized. However, many Russian agricultural enterprises did not receive insurance compensation for their losses not only in the extremely difficult year of 2010, but also in less complicated periods due to the risk of reducing the stability of the Russian agricultural insurance system.

As part of property insurance, agricultural insurance in Russia is currently implemented both according to the market model of agricultural insurance (fully commercial insurance, without state support) and the model of subsidized agricultural insurance (involving state support). Subsidized agricultural insurance in Russia is done in the form of voluntary insurance and some of its principles imply a 50% subsidy of the insurance premium from the state budget (with up to 10% from the regional budget) [Federal Law No. 260-FZ:...]. It should be noted that in the US and Canada, state support for agriculture is carried out by subsidizing the insurance premium of 73.0%, in Asia – 50.0%, in Latin America – 36.0%, in the countries of the European Union – 37.0%, in Africa – 3.0%, in Australia and New Zealand – 0.0%, that is, there is no subsidized agricultural insurance (like in Germany, the United Kingdom, Belgium, the Netherlands, Finland, etc.) [Sandmark et al., 2013].

Calculations performed according to Rosstat data for the period of 2014-2016 [Finmarket. Insurance, 2017] demonstrate that agricultural insurance has a lower payout ratio (40.5% in 2016) compared with the whole Russian insurance market (43.2% in 2016). In the structure of agricultural insurance, the share of the life insurance premiums under contracts with individuals decreased by 4.6 times, and those with sole entrepreneurs – by 6.6 times. The coefficient of payments under agricultural insurance agreements with solo entrepreneurs decreased from 60.9% to 3.8%, that is, by 16 times. Over 2014-2016 there was a sharp decline in insurance premiums and payments in Russian agricultural insurance. In addition, the program of Russian subsidized agricultural insurance in 2017 was performed only by 20% as of September 1, 2017 (with only 815,000 hectares insured compared to the planned 4.1 million hectares). Besides, insurance premiums and the number of insurance contracts in 2017 fell by 73% and 52%, respectively, compared to 2010. All this is due to the fact that in recent years, in the countries where this system is implemented, the instability of the Russian agricultural insurance system within which a model of subsidized agricultural insurance is implemented. Subsidized agricultural insurance implies that three parties take part in the implementation of an insurance operation (insurer, insurer and the state) which have a conflict of interest due to objective reasons. For instance, the insurer aims to obtain the maximum insurance coverage of the costs invested money incurred per hectare, while the Russian agricultural insurance models provide for insurance of business risks only (based on average prices, crop yields and agricultural productivity) and do not stimulate to insure the whole harvest and all livestock. The insurer pursues to gain maximum profit, achieving lower underwriting costs through reduced insurance coverage and higher insurance premiums, while the absence of general methods for underwriting and setting of losses makes it possible to significantly influence the quality of the insurance protection provided. Russia aims to optimize insurance subsidies for insurance rates as the country pays other subsidies (green box subsidies, subsidies for reimbursement of interest rates on loans and subsidies for compensation of farmers' losses in the event of an emergency, etc.). And this, in the context of increasing imbalances in the Russian budget system, was the reason for transforming the subsidies to agriculture from January 1, 2017 to the "unified" subsidy regime. Therefore, the conflict of interests the parties of agricultural insurance have is certainly the "Achilles' heel" which generates such a systemic risk as the risk of reducing the stability of the Russian agricultural insurance system.

An agricultural insurer (agricultural enterprise, sole entrepreneur, or an individual) is considered by us as the most significant cause of reducing the stability of the Russian agricultural insurance system (hereinafter, the risk of reducing the SRAIS).

The causes for the risk of reducing SRAIS the agricultural insurer is responsible for are: a decrease in the farmer's demand for insurance due to a conflict of interest and financial and economic situation of the farmer. The following factors influence the farmer's lower demand for insurance due to the conflict of interests: limited coverage of agricultural insurance with state support; high cost of agricultural insurance; complex procedure for obtaining subsidies and the conclusion of an agricultural insurance contract; ignoring the level of technical and technological development of agricultural enterprises; rigidity of requirements for agricultural producers concerning the use of advanced technology, agrochemicals, seeds; non-compliance with agricultural technology, harvesting at the optimum time; receiving subsidies in case of emergency and without concluding agricultural insurance contracts; distrust to agricultural insurers; low efficiency of state financial support for agricultural insurance; insufficient knowledge of various insurance issues farmers have. The following factors aggravate the financial situation of farmers: weak financial stability; low liquidity of farmers' assets; permanent insolvency of most farmers.

The reasons for reducing SRAIS that occur due to agricultural insurers (insurance and reinsurance companies) include: a decrease in supply by knowledge of various insurance issues farmers have. The following factors aggravate the financial situation of farmers: weak financial stability; low agricultural insurance contracts; distrust to agricultural insurers; low efficiency of state financial support for agricultural insurance; insufficient enterprises when determining the cost of insurance and calculating insurance compensation; rigid requirements for agricultural producers regarding obtaining subsidies and the conclusion of an agricultural insurance contract; ignoring the level of technical and technological development of agricultural conflict of interest and financial and economic situation of the farmer. The following factors influence the farmer's lower demand for insurance due to instability of the Russian agricultural insurance system (hereinafter, the risk of reducing the SRAIS).

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5. Discussion

Stability and growth of agricultural insurance markets require appropriate conditions that are grounded on effective legal and regulatory procedures. The state is definitely obliged to find balance between the protection of insurers and the stability of the financial sector aiming at the development of the agricultural sector of the national economy. Regulation of agriculture based on microinsurance or “measures to increase market levels” can reduce entry barriers and to improve the situation with insurers competition. However, excessive or erroneous intervention of the state in the market of agricultural products can prevent growth and stability of agricultural insurance. Government intervention can distort price signals, drive out private sector efforts to maintain stability, and prevent farmers from adapting to the risks of crop yield or livestock and the risk of reduction in income. Modern agricultural insurance uses indices [Sandmark et al., 2013; Müller et al., 2014] which provide farmers with payments based on the index (for example, rainfall). The drawback of index insurance of crop yields is using a basic

The combined application of Ishikawa diagrams, the Pareto principle and the analytic hierarchy process (AHP) allows, first, to identify the origins, reasons and root causes (factors) of the risk of reducing the stability of the national agricultural insurance system, and second, to rank them by their impact on further development and the choice of adequate solutions (preventive measures) to deal with the conflict of interests of parties in subsidized agricultural insurance.

We believe countries with a large haul distance and risk farming, including Russia, should create and develop the potential for combined agricultural insurance as one of the most promising preventive measures for stabilizing the national agricultural insurance system.

6. Conclusion

It can be stated that Russian agricultural insurance system has transformed into the imputed insurance one, and in the long term, due to the exceptional importance of the task of ensuring food security in the country, one can expect a transfer to compulsory insurance. To ensure the effectiveness of the national agricultural insurance system, including the Russian one, a country should adopt a systematic approach to agricultural insurance, which makes it possible to identify systemic risks. The main systemic risk in Russia’s agriculture is the risk of reducing the stability of the national agricultural insurance system, and for this being the conflict of interests of parties in subsidized agricultural insurance (including the state).

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