Tomasz Rokicki

Warsaw University of Life Sciences – SGGW

THE AGRICULTURAL INSURANCE MARKET IN POLAND

RYNEK UBEZPIECZEŃ ROLNYCH W POLSCE

Abstract. The paper presents issues related to the agricultural insurance market in Poland. The research period concerned the years 2006-2015. The market on the supply side was quite stable, there were no sudden changes in the number of companies and its structure. The paper analyzes changes in the number, value of agricultural insurance, as well as their share in insurance from the second section. A very strong positive correlation between the insurance and the value of GDP as well as a smaller one in relation to the value of global agricultural production was found. In turn, the strength of the relationship between economic and agricultural parameters with compensation from agricultural insurance was lower. For compensation from insurance of buildings in farms, the dependencies were even more insignificant. This was a result of the unpredictable actions of natural forces and other extraordinary events.

Introduction

The concept of insurance is defined in a variety of ways. According to Jan Łozowski [1948], it is an economic device ensuring coverage of future property needs, which are caused by random events that are characterized by a certain regularity. Property needs are covered by many individuals who are threatened by the same events. In turn, Antoni Banasiński [1997] defines insurance as a multi-regulator of economic development processes of the national economy disturbed by random events (natural disasters, unfortunate accidents). The cost of this regulation is distributed directly or indirectly to predetermined units (legal or physical) using this regulator. According to Wacław Šmida [2012], insurance is an economic function aimed at paying compensation for damages caused to property or caused to people as a result of, for example, unfortunate accidents. The right to compensation results from the contract concluded between the insurer and the policyholder and is purchased after paying the fee, called the insurance premium. Pursuant to Article 805 of the Civil Code, through the insurance contract, the insurer undertakes, within the scope of its business, to perform a specified benefit in the event of the accident provided for in the contract, and the policyholder undertakes to pay the premium. The insurer›s benefit consists in payment of a specific compensation for property damage as a result of an accident provided for in the contract, and in the case of personal insurance, payment of an agreed sum of money, pension or other benefit in the event of the accident provided for in the contract in the life of the insured person [Dz.U. 2014, poz. 121, 827, Dz.U. 2015, poz. 4, 397, 539]. In Poland, the division into two sections is applied. In the first section there are life, dowry and children›s maintenance insurance, life, if they are related to the insurance capital fund, disability insurance, accident insurance and sickness insurance, if they supplement the previously mentioned insurance. This group is therefore composed of life insurances. In the second section, there are other personal and property insurance (accident insurance and diseases). According to Polish law, the same insurer cannot offer property and life insurance to clients at the same time [Dz.U. 2017. poz. 1170, 1089, 1926, 2102, www.piu.org.pl].

In the case of insurance used in agriculture, voluntary and compulsory insurance should be distinguished. The article focuses on compulsory insurance, which, despite its compulsory nature, has not always been used by farmers. Their financial situation often resulted from lack of insurance for farms and property. A separate group is crop, animal insurance, which in a sense is voluntary [Kołosowska, Walczak 2011, Enjolras, Sentis 2011, Nurmet et al. 2016]. In the case of collecting direct subsidies, from 1st of July 2008 farmers were obliged to insure at least 50% of the area under cultivation. However, the penalty for non-compliance was small, as it amounted to only EUR 2 per hectare [Kaczała, Łyskawa 2008, Szymecka 2008]. Subsidized crop insurance was offered from the beginning only by three insurance companies (out of 34 companies operating in the field of property insurance) [Dz.U.50.1249]. In 2017, it was only 5 companies [www.krus.gov.pl]. The small number of included companies was caused, among other things, by numerous difficulties in the construction of the product, lack of experience in the settlement of damages and the imposed method of determining its price (setting maximum price levels at which the farmer is entitled to a premium payment). To a limited extent, this reduced the claims and scale of state aid in the area of loss phenomena [Janowicz-Lomott, Łyskawa 2009, Sikorska 2008].

Material and methods

The aim of the research was to determine the importance of agricultural insurance in main sectors of insurance in Poland. The detailed aims are to show changes in the importance of agricultural insurance in Poland, to present the relationship between changes in the economic situation measured by the value of GDP and changes in agricultural insurance measured by the number and value of policies. The paper involved the following research hypothesis: The importance of agricultural insurance in Poland depends on the economic situation. The period covered by the study is between 2006 and 2015. The sources of materials include literature, data from the GUS (Central Statistical Office). The following methods have been used in this paper: descriptive, tabular and the Pearson linear correlation coefficient.

Results

In the years 2006-2015, the number of insurance companies authorized to conduct operations in Poland decreased from 67 to 57. At the same time, the share of domestic entities decreased from 31% in 2006 to 28% in 2015. Slightly less than 50% of entities dealt with life insurance, and a little over 50% of companies dealt with other personal and property insurance. In the years 2006-2015, the market share of companies by specialization was similar. Most enterprises, around 86-87% had the form of a joint-stock company. In the sector, the share of foreign capital was high, as around 70% of companies had a dominant share. Except for one company, all of them operated in the private sector. Employment in the entire insurance sector dropped from 29,437 people in 2006 to 25,968 people in 2015. On the basis of the presented findings, it can be concluded that there were no rapid changes in the number of companies and its structure on the market.

Universal compulsory insurance refers to the civil liability insurance of farmers for owning a farm and insurance of buildings comprising a farm from fire and other fortuitous events [Dz.U.124.1152]. In the article, the number and value of policies were adopted as a unit of measurement. One policy covers one or several types of insurance, e.g. liability insurance for farmers, agricultural buildings, crops and animals. Similarly, in the case of payment of compensation, their number and value were assumed as a unit. Each event was counted separately, and damages were reported in gross value, i.e. before consideration of the reinsurers' share [GUS 2016].

Agricultural insurance is assigned to the second section covering other personal and property insurances. In this group, one can distinguish compulsory insurance of buildings on farms, which are recorded as part of the insurance subgroup caused by the elements. On the other hand, the subgroup of general third party liability insurance includes mandatory farmers' liability insurance. The share of these two types of insurance in the non-life insurance section was compared

in terms of the number of policies and gross premiums. The number of insurance policies for buildings on farms grew steadily from 2.69% in all of the insurances of the second section in 2006 to 4.71% in 2015. However, this increase in the number of policies did not increase the share of gross premiums in insurance in the second section, as in 2006-2015 it amounted to around 1.80-1.90%. A similar situation was with compulsory insurance of farmers. Their share in the number of insurance policies in the second section in the years 2006-2015 increased from 2.69 to 3.29%, while in terms of gross value of rates it was still 0.24% of the sum of rates from the second section of insurance. In the analyzed period, the average value of premiums in compulsory insurance for buildings in agricultural holdings increased from PLN 209 to PLN 229, and for compulsory TPL insurance of farmers from PLN 27 to PLN 41.

In the years 2006-2015, the number of policies in individual agricultural insurance increased (tab. 1). There were about 49% more policies related to insurance of buildings on farms. At the same time, the value of gross premiums in this group increased by 63%. On the other hand, a small increase in the number of policies was recorded in farmers' TPL insurance, by 3%, while the largest in terms of their gross premiums, by as much as 61%. The economic crisis resulted in a reduction in the number of policies for all agricultural insurance in 2009-2010. At that time, however, the total amount of gross premiums did not drop.

In the years 2006-2016, the number of compensations paid out of agricultural insurance of farm buildings increased by 74%, and of farmers by 75%. At the same time, the changes in the number of compensation payments for damaged buildings were very diverse. The extraordinary events in the form of, for example, violent thunderstorms or hailstorms had a significant impact. In turn, the gross value of compensations paid was also very diversified. There were both periods of decline and growth. It was difficult to determine the occurring regularities precisely due to the forces of nature and extraordinary events.

Table 1. Dynamics of changes in the number of insurance policies and the value of premiums in agricultural insurance in 2006-2015
Tabela 1. Dynamika zmian liczby polis i wartości składek w ubezpieczeniach rolnych w latach 2006-2015

Years/ Lata	Dynamics of changes/*Dynamika zmian*							
	number of police for insurance/ liczby polis dla ubezpieczeń				gross written premium for insurance/ *składki brutto dla ubezpieczeń*			
	of farm buildings/ *budynków gospodarskich*		third part liability of insurance farmers/ *ubezpieczeń OC rolników*		of farm buildings/ *budynków gospodarskich*		third part liability insurance of farmers/ *ubezpieczeń OC rolników*	
	2006 = 100	previous year = 100/*rok poprzedni =100*	2006 = 100	previous year = 100/*rok poprzedni =100*	2006 = 100	previous year = 100/*rok poprzedni =100*	2006 = 100	previous year = 100/*rok poprzedni =100*
2006	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
2007	110.05	110.05	97.58	97.58	106.16	106.16	110.45	110.45
2008	103.34	113.72	103.12	100.62	110.12	116.91	111.06	122.67
2009	98.96	112.54	99.11	99.72	106.83	124.89	104.79	128.54
2010	99.26	111.71	98.61	98.34	103.35	129.08	103.00	132.39
2011	104.84	117.12	106.33	104.57	108.44	139.97	106.41	140.87
2012	89.35	104.64	98.74	103.25	99.33	139.03	98.41	138.63
2013	127.88	133.82	98.19	101.38	103.66	144.12	109.08	151.22
2014	95.75	128.14	99.39	100.76	103.04	148.50	98.27	148.61
2015	116.12	148.79	103.02	103.81	109.80	163.06	108.64	161.45

Source/*Źródło:* [GUS 2016]

Table 2. Dynamics of changes in the number and value of compensation payments in agricultural insurance in 2006-2015
Tabela 2. Dynamika zmian liczby i wartości wypłat odszkodowań w ubezpieczeniach rolnych w latach 2006-2015

Years/ Lata	Dynamics of changes/*Dynamika zmian*							
	number of compensations payments for insurance/liczby wypłat odszkodowań dla ubezpieczeń				gross value of compensations for insurance/*wartości brutto odszkodowań dla ubezpieczeń*			
	of farm buildings/ *budynków gospodarskich*		third part liability insurance of farmers/ *OC rolników*		of farm buildings/ *budynków gospodarskich*		third part liability insurance of farmers/ *OC rolników*	
	2006 = 100	previous year = 100/*rok poprzedni =100*	2006 = 100	previous year = 100/*rok poprzedni =100*	2006 = 100	previous year = 100/*rok poprzedni =100*	2006 = 100	previous year = 100/*rok poprzedni =100*
2006	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
2007	365.22	365.22	100.00	100.00	159.74	159.74	165.02	165.02
2008	41.67	152.17	100.00	100.00	73.87	117.99	107.05	176.65
2009	68.57	104.35	100.00	100.00	90.45	106.72	86.13	152.15
2010	375.00	391.30	100.00	100.00	428.57	457.37	103.01	156.74
2011	36.67	143.48	125.00	125.00	39.26	179.59	109.51	171.64
2012	72.73	104.35	100.00	125.00	71.19	127.85	112.61	193.28
2013	150.00	156.52	100.00	125.00	102.54	131.10	95.05	183.71
2014	88.89	139.13	140.00	175.00	80.10	105.01	131.99	242.48
2015	125.00	173.91	100.00	175.00	131.53	138.11	101.80	246.85

Source/*Źródło:* [GUS 2016]

In this article, in order to specify the relationship between agricultural insurances and certain measures of the economic situations, the Pearson linear correlation coefficient was used. The economic situation was determined by the value of GDP and the situation of agriculture by the value of its global production.

Table 3 summarizes the results of correlation, provides the p value, p = 0.05 assumed as the limit value of the importance level. Important dependencies were marked with grey background is the text. The correlation coefficients were calculated for the period 2006-2015. A strong positive correlation was found between the value of GDP and the number and value of insurance policies for agricultural insurance. In the case of insurance rates, the dependencies were very strong. Together with the increase in GDP in the economy, the sum of contributions for agricultural insurance increased proportionally. A similar tendency was observed in the relation between the value of global production in agriculture and the number and value of policies. The dependencies were weaker than in the case of GDP. In the case of the number of farmers' civil liability policies, the correlation was not significant. The value of global production in agriculture increased more slowly than GDP. Therefore, the rates and number of policies were more dependent on the economic situation in the economy than in agriculture. They were, to a larger extent, shaped by insurance companies than by the demand of farmers.

For compensations for damages from agricultural insurance, strong positive relationships were found in the case of the relation between the value of GDP and the number of payments and their value for the farmers' insurance. The same was true when comparing the value of global production in agriculture. However, no significant relationship was found between the parameters of the economy and agriculture and compensation for insurance of farm buildings.

Table 3. Pearson correlation coefficients between the value of GDP, the value of agricultural production and the parameters of agricultural insurance

Tabela 3. Współczynniki korelacji liniowej Pearsona między wartością PKB oraz wartością produkcji rolnej a parametrami ubezpieczeń rolnych

Pearson correlation coefficients between/*Współczynniki korelacji liniowej Pearsona między*				
Paramets/*Parametry*	value of GDP/ *wartością PKB a*		value of global agricultural production and/a *wartością produkcji globalnej rolnictwa a*	
	correlation/ *korelacją*	p-value	correlation/ *korelacją*	p-value
Policies of insurance of farm buildings/*Liczbą polis na ubezpieczenie budynków w gospodarstwach rolnych*	0.786	0.007	0.751	0.012
Policies of third party liability insurance of farmers/ *Liczbą polis OC rolników*	0.647	0.043	0.395	0.259
Gross written premium for insurance of farm buildings/ *Wartością składek brutto dla ubezpieczeń budynków w gospodarstwach rolnych*	0.992	0.001	0.862	0.001
Gross written premium for third party liability insurance of farmers/*Wartością składek brutto dla ubezpieczeń OC rolników*	0.984	0.001	0.883	0.001
Number of compensation payments for insurance of farm buildings/*Liczbą wypłat odszkodowań z tytułu ubezpiecze*ń budynków w gospodarstwach rolnych	-0.170	0.638	-0.183	0.613
Number of compensation payments for third party liability insurance of farmers/*Liczbą wypłat odszkodowań z tytułu ubezpieczeń OC rolników*	0.846	0.002	0.786	0.007
Gross value of compensations for insurance of farm buildings/*Wartością odszkodowań z tytułu ubezpieczeń budynków w gospodarstwach rolnych*	0.003	0.993	-0.115	0.751
Gross value of compensations for third party liability insurance of farmers/*Wartością odszkodowań z tytułu ubezpieczeń OC rolników*	0.879	0.001	0.881	0.001

Source: own calculations
Źródło: obliczenia własne

This type of compensation resulted from the occurrence of extraordinary events that were difficult to predict.

Conclusions

The insurance market was subject to slow changes in its structure and in the number of companies. Agricultural insurance is a form of securing the farm against the effects of extraordinary events. Their significance gradually increased in terms of the number of policies, while it persisted in the case of gross premiums. A significant positive correlation was found between agricultural insurance and the economic situation determined by the value of GDP. Very strong relationships occurred in the number of policies, and in the value of insurance rates. Thus, the hypothesis given in the paper was confirmed. Smaller dependencies occurred in the case of the relationship between agricultural insurance and the value of production of this sector of the economy. Even weaker correlations were found between the parameters of the economy and agriculture and the farmers' civil liability compensation. There was no significant relationship in the case of compensation from insurance of farm buildings, as they were dependent on extraordinary events.

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Streszczenie

Przedstawiono zagadnienia związane z rynkiem ubezpieczeń rolnych w Polsce. Okres badań dotyczył lat 2006-2015. Rynek po stronie podażowej był dosyć stabilny, nie było gwałtownych zmian w liczbie firm i jego strukturze. W pracy dokonano analizy zmian w liczbie, wartości ubezpieczeń rolnych, a także ich udziału w ubezpieczeniach z działu II. Stwierdzono bardzo silną dodatnią korelację między ubezpieczeniami a wartością PKB oraz mniejszą w odniesieniu do wartości produkcji globalnej rolnictwa. Z kolei mniejsza była siła związku parametrów gospodarki i rolnictwa z odszkodowaniami od ubezpieczeń rolnych. Dla odszkodowań od ubezpieczeń budynków w gospodarstwach rolnych zależności te były nieistotne. Wynikało to z nieprzewidywalnego działania sił przyrody i innych zdarzeń nadzwyczajnych.

Correspondence address
Tomasz Rokicki, PhD (orcid.org/0000-0003-3356-2643)
Warsaw University of Life Sciences – SGGW
Department of Logistics
Nowoursynowska Str. 166, 02-787 Warsaw
tel. +48 22 593 42 59
e-mail: tomaszrokicki@op.pl