Agricultural Sector Issues in the European Periphery

Productivity, Export and Development Challenges

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INTRODUCTION

The 8th International conference "The Economies of Balkan of Eastern Europe Countries" (EBEEC-2016) which was jointly organized by the Eastern Macedonia and Thrace Institute of Technology, Greece and the University of Split, Croatia in Split, Croatia, May 6-8, 2016 aimed to present research papers related to the wider domain of economic science with the match of events in the wider region of South-Eastern Europe being the point of discussing. This volume includes *the outcome of a collection of papers originally presented at the conference in the primary sector,* chosen according to a peer review process, making significant contributions to their investigation.

The economies of Balkans and Eastern Europe countries have almost completed a course of two decades with significant changes in their characteristics and their adaptation in the new economic environment. Agriculture and the processing, using and trading of agricultural products have an important role in the countries' economies. Primary sector is a vital sector for the economic development and growth of most countries. Several issues of primary sector are discussed in this volume, such as the framework of the common agricultural policy of the European Union, the identification of an opinion leader portrait in agriculture, the characteristics of using ICT tools in the partnerships and internal processes of enterprises throughout the whole agro-food supply chain, the increased need of small-scale artisanal food businesses to seek new markets abroad, the perceptions of Greek olive oil importers in the UK, the barriers that Greek yogurt entrepreneurs face during their export activities, the reasons for the differences in economic performance and the role of capitals or tangible and less tangible factors influencing development outcomes.

The first paper of Marietta Janowicz-Lomott and Krzysztof Łyskawa is entitled "The current situation and developments in the different member states on risk management in agriculture". The authors study the necessity to create a strong, effective and accepted by European farmers' insurance solutions for agriculture under the framework of the Common Agricultural Policy of the European Union.

Tsimitri Paraskevi, Michailidis Anastasios, Partalidou Maria, Belletti Matteo and Loizou Efstratios in the paper entitled "Looking for "the one": Who is the "real" opinion leader in an agricultural cooperative?" intend to answer a critical question: how do we identify an opinion leader portrait in agriculture (specifically in a cooperative). A key point of concern is the profile of these people in terms of the leading features and some other characteristics which will help policy makers and local stakeholders to identify and use them in the agricultural extension work. In order to achieve the above-mentioned aim a field -case study- research was carried out in a typical Greek agricultural cooperative.

János Felföldi, Szilvia Botos, Ádám Péntek, Róbert Szilágyi and László Várallyai in the paper entitled "Studying the ICT management of agri-food sector on supply chain level – the first stage: Analysis of agricultural ICT usage" study the characteristics of using ICT tools in the partnerships and internal processes of enterprises throughout the whole agro-food supply chain.

Liliana Almonte, Tyler Leighton, Sarah Rogers, Pabitra Saikee, Nicola Bulled and Robert Hersh in their paper entitled "Identifying market strategies for Greek specialty products in the United States" study the increased need of small-scale artisanal food businesses to seek new markets abroad. The study used a unique combination of research methods to identify key marketing strategies to direct the actions taken by Greek specialty food producers interested in entering the United States market.

Christos Soulios, Athanasios Bizmpiroulas and Konstantinos Rotsios in the paper entitled "Greek olive oil in the UK: Evidence on the perception of local importers on product characteristics" study the perceptions of Greek olive oil importers in the UK. It examines their perceptions on the characteristics and attributes olive oil consumers in the UK value the most. The findings are presented and analyzed, and their practical implications are discussed.

Zacharias Papanikolaou, Christos Karelakis and Konstadinos Mattas in the paper entitled "An analysis of export barriers perceptions by Greek yogurt exporters" investigate the barriers that Greek yogurt entrepreneurs face during their export activities. Primary data were collected from a survey of 104 Greek yogurt firms through in-depth interviews. The data were analyzed through the application of a series of multivariate methods.

Nataša Tandir and Zafer Konakli in the paper entitled "Exploring the differences in the development of rural areas in Bosnia and Herzegovina" study the reasons for the differences in economic performance and the role of capitals or tangible and less tangible factors influencing development outcomes. Additional aim is to draw lessons from examples of successful communities and to propose measures for policy makers in order to improve socio-economic status of less successful communities.

Chapter 1

THE CURRENT SITUATION AND DEVELOPMENTS IN THE DIFFERENT MEMBER STATES ON RISK MANAGEMENT IN AGRICULTURE

Marietta Janowicz-Lomott[1] and Krzysztof Łyskawa[2]

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ABSTRACT

In the framework of the Common Agricultural Policy provides the ability of using a variety of instruments supporting agriculture in emergency and crisis: subsidies for crop insurance and livestock, conducting mutual fund or to organize a fund stabilization of an income. A great number of Member States decided to use such instruments, but they also showed significant restrictions in daily use. Although these instruments can be funded by the EU, many countries decided to use their own, funded by the country's arrangements for risk management in agriculture. In the next 3-4 years, it is necessary to build a strong, effective and accepted by European farmers insurance solutions for agriculture. If Transatlantic Trade and Investment Partnership (TTIP) sign the farmers, there will be in Europe a lot of poor protection as compared to farmers in the United States in case of a sudden weather phenomena, but also the damage caused by pests or falling price levels. The article is an attempt to indicate the necessary direction of these changes.

KEYWORDS

Risk management, subsidies for crop insurance and livestock, aquiculture insurance, mutual, European Common Agricultural Policy.

JEL CLASSIFICATION CODES

Q18, G22, D81

1. INTRODUCTION

There are no uniform solutions for insurance in the agricultural industry in the EU countries, since every state has its own geographical and climatic specificity and, as a result, the scope and frequency of damages vary. In France, Italy and Spain the agricultural natural disasters results insurance systems have been functioning for more than 40 years, with an active participation of the state. In some countries (like Greece) there have been attempts to introduce compulsory insurance. For many years in Scandinavia there has been a notion of so-called regional solidarity, which means that all purchased policies participate in gathering funds for natural disaster compensations. The objective of this article is to find out what risk management instruments are used in the particular EU countries and what types of insurance can be used in this scope. This paper is based on research conducted among the member states of Copa-Cogeca.

2. THE REASONS FOR INCREASE OF INTEREST IN RISK MANAGEMENT IN AGRICULTURE IN THE EU AGRICULTURAL POLICY

Activity connected to plant production and, indirectly, also to animal husbandry, depends largely on the natural seasons cycle and weather phenomena. There are several industries that – as in the case of agriculture – must consider the influence of weather in the scope of their business (e.g. food industry, heating industry, some types of services), although their impact on the functioning of the economy as a whole is not that significant. The variability of weather and its consequences are the factors that introduce constant uncertainty concerning the assumed amount and quality of crops into the lives of farmers. Losses in cultivation caused by adverse climatic and weather conditions at a given stage of growth cannot be compensated as in normal production processes, like for example in factories by using additional human capital and greater use of machines, and are carried over to further stages of production bringing an inevitable loss of profitability. Even the plant growth itself is closely limited by photosynthesis, which is why the production cycle in agriculture cannot be conducted with such methods as the ones used in other branches of national economy, where production can be conducted in shifts even 24 hours a day.

Table 1. Extreme Events in Europe 1999-2015

December 1999	Winter storms in western and central Europe.
	Heavy precipitation and extremely high wind speed.
August 2002	Heavy precipitation and floods along central European rivers.
	Economic losses exceeded 15 billion EURO
Summer 2003	Heat wave in central and western Europe.
	Extremely high temperatures for weeks led to more than 30.000 deaths and extreme drought across Europe. More than 25.000 fires burnt 650.000 hectares
Summer 2005	Heat and drought in southern Europe.
	Extremely high temperatures. Significantly less precipitation than average
Winter 2006	Extreme cold in eastern and central Europe.
	Minimum temperature was 4-12°C colder than the 1961-1990 mean
Mild winter 2007	Winter of 2007 ranked among the warmest ever recorded in large part of Europe.
	Average temperature anomalies were more than 4°C
May 2008	Flash floods in central Europe
Summer 2008	Floods across eastern Europe river.
	Nearly 50.000 homes were submerged, more than 30.000 hectares of farmland was destroyed.
Winter 2009	The winter of 2009 was colder than usual in central and western Europe
Spring 2010	Flooding in Poland and Eastern Europe. In May 2009, the precipitation amount was 100 mm above the long-term mean across vast regions of eastern Europe. Total flood damage exceeded 2,5 billion Euro
Winter 2010	Unusually cold, snowy winter in Europe. Most areas of Europe saw between 10 and 20 additional ice days than normal from December through February. Due to the prolonged cold temperatures and the frequency of snow storms, the number of days with more than 1 cm of snow on the ground was significantly greater than normal across Europe
February 2010	Severe winter storms in Europe. Tropical storm Xyntia passed through Portugal, Spain, France, Belgium, the Netherlands and Germany, causing heavy rainfall and high wind speed

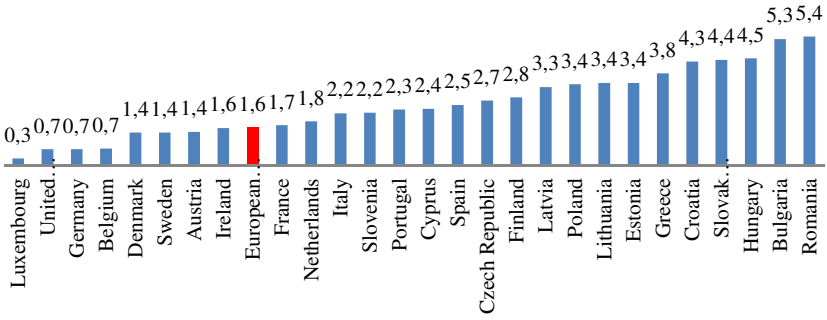
Summer 2010	Heat and drought in eastern Europe. This region was hit by record temperatures; very low rainfall amounts resulted in crop losses, peat and forest fires. Mean temperature was between 4 and 8°C higher than the long-term average during July and August. For many regions, there were at least 10 and up to 30 more summer days than normal during July 2010
Summer 2011	Widespread drought in Europe
Winter 2013	Extreme rainfall and flooding in Europe
Summer 2014	Extreme rainfall and flooding in Europe affecting Bosnia-Herzegovina
Summer 2015	Drought in Europe "extreme weather belt" linked to worst drought since 2003. Severe droughts that stretched across a central European band this summer are consistent with climate models for a warming continent
Summer 2015	Flooding in southern France caused by heavy rain killed at list 15 people and left 12 missing near France's Mediterranean coast. More than 350 mm of rain fell on the Var department in southern France in a few hours, triggering flooding that surged in some places to two meters over normal levels
Autumn 2015	Heavy rain and flooding Italy (Pisa, Florence), Croatia, Serbia, Bosnia (5-deaths)

Source: (van der Linden et al., 2015)

The key parameters for assessment of production significance of agriculture for the EU economy differ in various member states, however, all of them indicate that this sector is important not only from the perspective of satisfying nutrition needs of the EU citizens, but it is also a significant element of the EU economy.

The share of agriculture in generation of GDP depends on the level of economic development of individual countries. In 2014 for UE-28 it amounted to 1.6%. The largest share of agriculture in GDP was noted in the “young” member states: Romania (5.4%) and Bulgaria (5.3%). (Chart 1).

Chart 1. The share of agriculture in generation of GDP in EU countries



Source: World Bank

The size of agricultural production in UE-28 in 2014 amounted to 415 691 million EURO and an increase has been noted since 2005 (apart from a decrease in 2009) (Table 2). The largest food manufacturers in EU are France, Italy, Germany, Spain and the United Kingdom. In 2014 Poland was 7th in this ranking.

Table 2. The share of Member States in the EU's agricultural production in 2014

Country	Total production (mln EURO)	Shared of EU - 28 (%)
EU - 28	415 055,00	100
France	73 994,40	17,8
Germany	57 637,00	13,9
Italy	53 793,90	13,0
Spain	42 116,00	10,1
United Kingdom	31 678,50	7,6
Netherlands	27 134,90	6,5
Poland	22 730,50	5,5
Romania	16 770,80	4,0
Denmark	11 009,60	2,7
Greece	10 394,40	2,5
Belgium	8 045,30	1,9

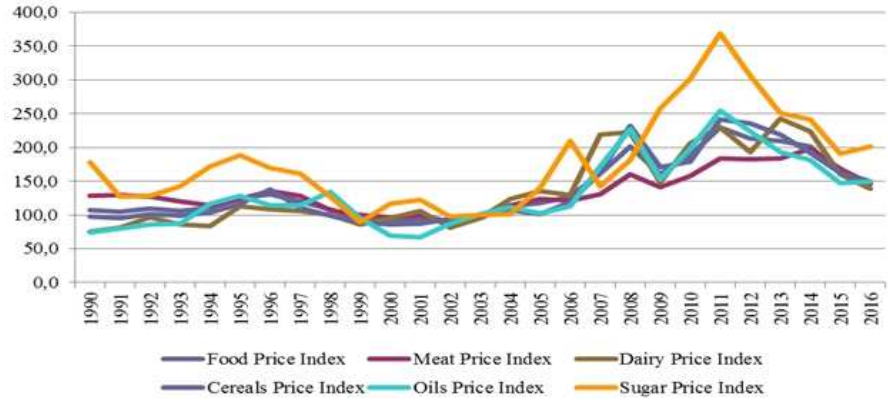
Hungary	7 812,30	1,9
Ireland	7 367,00	1,8
Austria	6 951,20	1,7
Portugal	6 526,50	1,6
Sweden	6 201,40	1,5
Czech Republic	4 936,40	1,2
Bulgaria	4 159,30	1,0
Finland	4 197,60	1,0
Lithuania	2 575,60	0,6
Slovakia	2 385,90	0,6
Croatia	2 008,50	0,5
Latvia	1 216,70	0,3
Slovenia	1 249,50	0,3
Estonia	896,3	0,2
Cyprus	694,2	0,2
Luxembourg	447,9	0,1
Malta	124,1	0,0

Source: own work on the basis of EUROSTAT data http://ec.europa.eu/eurostat/statistics-explained/index.php/Agricultural_accounts_and_prices

The situation on the market of agricultural products has changed significantly in recent years. Nowadays agricultural activity is characterized by greater market orientation. Agriculture is not only a food production it is a business which gives more opportunities, but also vulnerabilities. We can also observe growing role of factors outside agricultural demand and supply - agricultural policy, technological changes, restrictions (Fan, 1991).

Agricultural markets are also characterized by significant price volatility. A certain amount of volatility on the agricultural markets is normal, because agriculture is subject to good and bad years. But at the same time agriculture is a sector in which adaptation to the markets often takes longer, partly because of the characteristics of the production cycle. In the last few years, volatility has increased and has become a constant source of risk for farmers (Chart 2).

Chart 2. Annual food price indices[1]



Source: own work on the basis of FAO data

When we looked at in the long term there is little evidence that volatility in international agricultural commodity prices, as measured using standard statistical measures is increasing and this finding applies to both nominal and real prices (Price..., 2011). Volatility has, however, been higher during the decade since 2000 than during the previous decade. Another conclusion that emerges from the study of long-term trends in volatility is that periods of high and volatile prices are often followed by long periods of relatively low and stable prices (OECD-FAO, 2010). Finally, it is well established that agricultural markets are intrinsically subject to greater price variation than other markets. However, as prices become volatile they have a negative impact on the food security of customers, farmers and entire countries (C.L. Glibert&C.W. Morgan 2010).

In the last years, we can also note a large number of extreme climatic events (table 2), connected with climate changes.

3. Financing risk management on agricultural farms from the EU funds

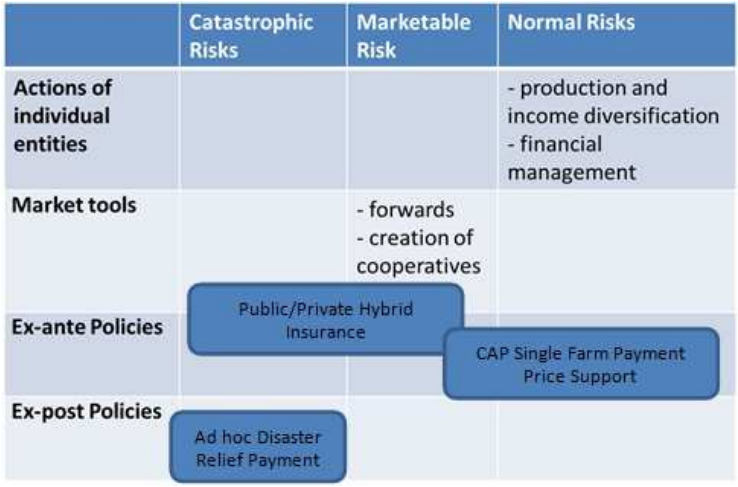
At the EU level, there are various initiatives undertaken that are aimed at mitigating results of events adverse for agriculture. Already in the Resolution of 14 April 2005 on the drought in Portugal the European Commission was called to

[1] The FAO Food Price Index is a measure of the monthly change in international prices of a basket of food commodities. It consists of the average of five commodity group price indices, weighted with the average export shares of each of the groups for 2002-2004.See more http://www.fao.org/worldfoodsituation/foodpricesindex/en/

analyse the causes of repeatability of droughts and to check if they are connected to the climatic changes. In other resolutions, the European Parliament is asked to accelerate the introduction of a pilot project concerning EU insurance or compensation system, as well as introduction of changes in the rules of UE solidarity fund in a way that would include help for people suffering from natural disasters. In the Resolution of 18 May 2006 on natural disasters in agriculture the Parliament included arguments pointing to the need for greater financial involvement of the EU in countering and remedying of consequences of natural disasters. In one of the latest documents of 16 April 2013 the European Commission presented a package of activities that included two parts: the EU strategy concerning adaptation to climate change that specifies the scope and mechanisms enabling improvement of the EU readiness for current and future climate change consequences, and the green book connected thereto, which concerns insurance against natural and human-caused disasters. These social consultations open a broad discussion concerning the adequacy and availability of the existing insurance options. They have become a reference point for actions which can be implemented by various sectors (such as agriculture) or by the particular member states in the scope of already permitted activities.

Entities can deal with numerous hazards without a significant external intervention. However, the whole idea of the Common Agricultural Policy is based on a farm functioning stabilisation mechanism [OECD 2011 p. 230].

Chart 3. Division of hazards and ways of coping with their effects in Spain (as an example)



Source: [OECD 2011 p. 231]

Member states undertook numerous actions aimed at financing the effects of fortuitous events in agriculture, however almost every document created in this scope it was noted that making use of the actions allowed by law is possible only in the case of a natural disaster (loss above 30% in a specific farm) that is formally recognised by public authorities. In 2009 (Council Regulation 2009) member states were for the first time allowed to co-finance the insurance premiums paid by the farmers for insurance of their crops, animals and plants and co-financing of compensations for some losses suffered as a result of animal or plant diseases and environmental incidents, in view of the growing significance of effective risk management in agriculture. In reference to crops this may also include losses caused by pests, which provides the opportunity to introduce new products which had not been offered before. It was also established that the contribution to the premium that might be offered by a member state should be about 65% of the due payment. The contribution should be directed at the insurance company operating within the Community and offering the solutions mentioned above. The resolution 73/2009 also introduced a special financial and organizational solution allowing for the payment of compensations to farmers who suffered economic losses as a result of animal or plant diseases and as a result of the so-called environmental incidents. The aim of this solution is to enable the granting of financial contribution in mutual funds.

Mutual fund is a system accredited by a member country according to its national law, which enables affiliated farmers to have joint insurance and owing to which compensation are paid to the farmers affiliated in the fund who suffered economic losses. Therefore, it is a simple instrument (fund), based on the principle of mutuality, though formally speaking it is not an insurance company.[2]

The objective of these actions was to decrease the influence of weather and market phenomena on the functioning of agricultural producers, yet by using the public-private partnership in the form of heavily subsidised and state-regulated insurance. Were it not for these undertakings, those threats would have been considered as non-indemnifiable due to high frequency of their occurrence and lack of reliable information concerning the damages caused [OECD 2011 pp. 230-231].

Another objective of development of subsidised insurance is to limit the help provided after a hazard has taken place. Instead, ex-ante activities have been introduced, their direct financial cost being born not only by the state, but also by the potential victims who pay some part of the insurance premium. The effects could be clearly seen in the case of Spain, where in the period between 2000 and 2005, agricultural producers were paid 22 million euro of ad-hoc aid (after implementation of agricultural production insurance system). Therefore, about

[2] This solution was applied in Europe by farmers' associations or agricultural organizations in France, the Netherlands or Italy. See more. (Janowicz-Lomott-Łyskawa, 2013)

3.7 million euro was paid in a year as a result of damages caused by frost, drought and excessive rains. It can be stated that the Spanish government achieved its goal, comparing the 680 million euro that was paid as ad-hoc aid payments in Italy in the period 2001-2006, which gives an average of more than 113 million euro per year [Diaz-Caneja et al. 2009 p. 15]. Disaster support is paid out in Spain if compensation payments are not enough to fulfil the needs arising after the occurrence of disaster hazards.

At the time when the European Union is moving on to another funding period (2014-2020), numerous consultations have been conducted in the scope of ways of financing the effects of fortuitous event in agriculture, which resulted in the preparation of the GREEN PAPER on the insurance of natural and man-made disaster (COM/2013/0213). The main objective was to improve the readiness of Europe in case of natural and man-made disasters, and insurance was to be a special tool in this scope. Michel Barnier, commissioner for internal market and services, stated that natural and man-made disasters are getting more and more frequent, while the ability of the insurance industry to guarantee security in case of such occurrences is not fully utilised. He pointed out that solutions at the European level that would allow to fill this gap on the insurance market need to be found.

Despite the awareness of some drawbacks which concern insurance services (non-indemnifiability of some occurrences, limited financial capacity of the insurer, the possibility of refusal of providing an insurance cover), it is emphasised in literature[3] that it is one of the most effective ways of financing the effects of fortuitous events present in agriculture, commonly used in risk management. When defining the benefits of agricultural producers utilizing insurance, the following should be mentioned in the first place (OECD 2000, p. 108):

- income stabilisation – the compensation paid, especially for losses in crops, allows to stay in the production cycle, without the need to search for additional sources of financing (disaster loan);
- improvement of agricultural producer's credibility when applying for a loan improves his solvency or becomes an additional security;
- the possibility to become involved in new production specialisations, without the consequences of bearing the risk realisation effects individually;
- the certainty of compensations in the scope of concluded agreements (no need to pressure the government *ad hoc* in the face of every individual event).

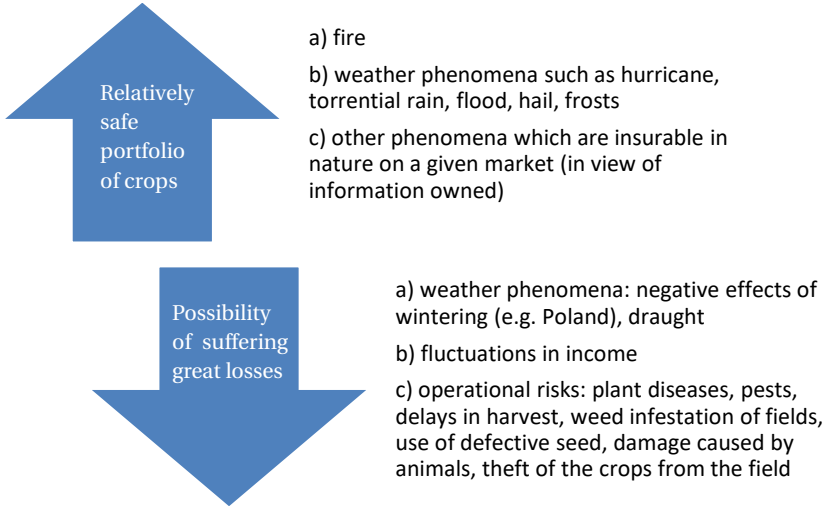
[3]Instead of many: (Hazell et al., 1986, p. 4 and following)

It should be stressed that the governments of individual countries can also benefit from the functioning of an appropriate insurance system in agriculture. The benefits include:

- assurance of stability in functioning of individual entities and, as a result, achievement of objectives stated in *Rural Development Programme*;
- achievement of political or budget objectives (no need to have large reserves for possible *ad hoc* help, financial involvement is known already at the beginning of the budget year);
- complementation of social benefits system resulting in lack of farm abandonment phenomenon or intensive demographical changes in rural areas (intensive ageing of society);
- lesser uncertainty in the functioning of agricultural producers can also limit the inflation pressure in the scope of food prices.

However, the variety of events in the environment, their intensity and most of all the requirements placed before insurance companies in the scope of solvency result in not all incidents being accepted by underwriters. The figure below is an attempt to divide the phenomena concerning agriculture in the assessment of insurance companies. It should be stressed that the same phenomena will be treated in a different way depending on the geographic area. A draught or the effects of poor wintering will not always be treated as unacceptable by the insurance market.

Chart 4. Classification of incidents according to insurance companies from the point of view of their insurability



Source: own work

In literature on the subject six characteristics that the insured risk should have are mentioned:

- the insurer as well as the insured should have the same amount of information on the possibility of occurrence of the insured risk;
- there cannot be a positive correlation of the risk of losses between the insured entities;
- the number of insured should be large enough;
- the probability of realization of the risk specified in the policy must be measurable;
- losses suffered by the entities should be clearly defined and easy to estimate;
- possible loss should be significant and the insurance price established at a level accessible for the potential purchaser (Pawłowska-Tyszko et al. 2015, p.118)

As a result of these considerations, the existing risk management tools have been enhanced in the new financial perspective of the Common Agricultural Policy (2014-2020). The first instrument is the subsidy to insurance but with a preferred form of contract execution based on indexes[4]. **Insurance based on an index** is to be understood as a contract in which the amount of the benefit/compensation depends on how the value of a certain determined index (parameter) is shaped, which represents the impact of a given factor on financial results and/or the value of the farmer's crop. If the index is based on weather factors, then the payment from the insurance company is based on how the values of the amount of rainfall, temperature or wind are shaped, and not in reference to the actual crop loss (Łyskawa, Zimowski, 2009, p.286). It is to be emphasised that the adopted calculation method should allow for the reflection of losses suffered individually, by each farmer in a given year. *Mutual funds* are to operate under the current rules, while the scope of mutual funds' operation has been expanded by the effects of harmful organisms and adverse climatic phenomena. Apart from the tools established in 2009 (insurance and mutual funds), there has also appeared an opportunity for a member country to launch an optional tool for the stabilization of agricultural income. Compensation will be paid from the income stabilization fund[5] if the drop in **income exceeds 30%** of the

[4] Art. 37 of the Regulation of the European Parliament and of the Council (EU) No 1305/2013 of 17 December 2013 on the support of rural areas development by the European Agricultural Fund for Rural Development (EFRROW) and repealing the Regulation of the Council (EC) No 1698/2005

[5] It must be based on the idea of the mutual fund.

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