

THE EVOLUTION OF AGRICULTURAL INSURANCE MARKET

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Abstract: *Agricultural insurance helps to stabilise farming income and promote investment in agriculture. On the other hand, this products manages risks in the agricultural food value chain. Using agricultural insurance, the farmers in emerging markets can makes the jump from subsistence farming to sustainable farming. Subsidising agricultural insurance, in economic crisis, offers the benefit of encouraging farmers to access credit (seasonal loans) and invest in enhanced production and achieve increased yields. In many emerging markets where infrastructure is still underdeveloped, it can also be leveraged to encourage investment in storage and transportation, distribution and other logistics services. In the context of developed economies, the low and middle income countries, this article examines the evolution of agricultural insurance markets. The analysis of the agricultural insurance market highlighted the necessity of applying measures of improving the insurers' activity.*

Key words: *agriculture, insurance, market*

INTRODUCTION

Agricultural insurance plays an important role in promoting and attracting investments in agriculture industry and moreover in stabilizing revenue of farmers. But agricultural insurance by itself is a complex type of insurance. This type of insurance is very different from any other types of risk in non-life insurance because it is covering developing biological products.

Agricultural insurance originates in named peril products that were originally offered by private companies approximately two hundred years ago, first in Europe and then in the United States. Many countries have found it necessary to develop a legal framework and principles for agricultural insurance (considering the catastrophic events of the past years).

MATERIALS AND METHODS

The method consists in studying literature in the field and realizing an analysis at the market agricultural insurance in Romania and European Union. The analysis is done by comparing statistical data and characterizing agricultural insurance systems.

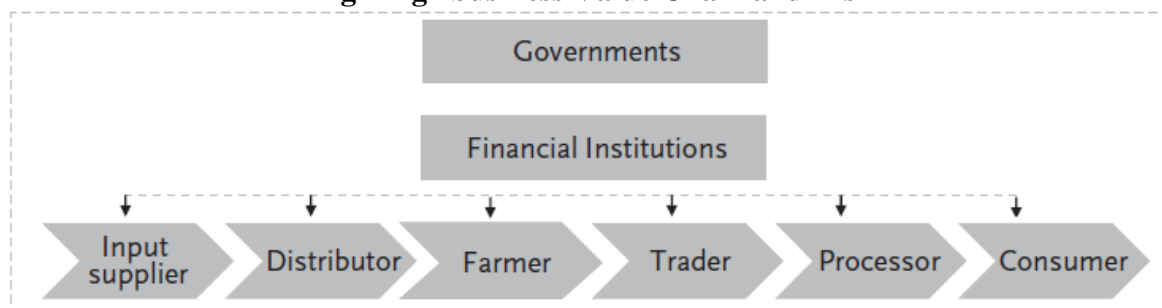
The main objectives for this study are:

- Description of the current situation of agricultural insurance in Romania and European Union;
- A study of the level of interest towards this type of insurance, based on the population living in the rural area;
- Establishing a consumer profile attached to this type of insurance product, in order to adapt the offer to the consumer needs, because today, many agricultural insurance products are offered, most of them heavily subsidized by governments;
- Overview of the agricultural insurance market.

RESEARCH RESULTS

Agricultural producers face a series of risks (production risks: related to: weather conditions, pests and diseases, market conditions etc.), affecting the income of their households and the whole agribusiness value chain.

Fig 1 Agribusiness Value Chain and Risk



Sources: Ramiro Iturrioz, Agricultural Insurance, Primer series on insurance issue 12, 2009, The World Bank, p.2, www.worldbank.org/nbfi

Agricultural risks can be identified as follows:

Table 1

Agricultural risks by stakeholders

Stakeholder	Risk
Governments	Budget Risk/Social Stability
Financial Institutions	Credit Risk
Input Supplier	Sales volume / Product enhancement
Distributor	Sales volume / Product enhancement
Farmer	Production Risk / Revenue risk
Trader	Production Risk
Processor	Lack of Raw Material / Business Interruption

For avoid this risks, the agricultural value chain participants can:

- to choose not to select a particular crop or crops which they consider of high risk for the area in which their farms are located;
- to plant crops only in very favourable conditions or developing further their infrastructure to improve irrigation or minimize the effects of frost;
- to create the emergency reserves from profits in good years—a form of self-insurance
- to transfer all or part of the risks to a third party through an insurance contract.

Agricultural insurance is a special line (because of the nature of the risk, asymmetries of information in underwriting, the geographical dispersion of agricultural production and the complexity of the biological processes of produc) of property insurance applied to agricultural firms for crop, ivestock, bloodstock, forestry, aquaculture, and greenhouses.

The level of development of the agricultural insurances in each country depends to two decisive factors:

- risk level (the needs faced by each country)
- the economical support to the insurance systems given by each Member State.

Today, the European Union is considering a possible integration of risk management in the Common Agricultural Policy and is analysing risk and crisis management strategies to provide an improved response to crises in the agricultural sector.

Today, many agricultural insurance products are offered, most of them heavily subsidized by some governments, while others provide aid ex-post given on an ad-hoc

basis, through compensation schemes, calamity funds, or futures markets existing in Europe, which can be partially financed by the agricultural stakeholders on a voluntary or compulsory basis.

According to some studies (Skees 1997, Skees and Barnett 1999), the risks are insurable, if certain conditions are fulfilled .

1. The insurer and the insured have the same information as regards the probability of a bad outcome (Symmetric information). This is normally not the case; the main problems are moral hazard and adverse selection.

2. Risks should be independent across insured individuals. If risks are systemic (dependent), special measures have to be taken in order to make insurance solutions viable.

3. Calculable: In order to fix the premium rates, the insurance company must be able to calculate the chance of loss so, the average frequency and the average severity of loss. Actual losses occurring must be determinable and measurable.

4. Premia must be affordable.

In Romania, agriculture has been and remains an important sector (both due to its contribution in the economy, as well as in terms of share of the employed population). Being continuously subjected to assessments and analyses, the performances of the Romanian agricultural sector remain relatively modest, in contrast to its natural potential and to the population's expectations that agriculture rapidly adjust its structures under the influence of the common agricultural policy by facilitating the financing system, including by providing the investments necessary for its growth, but also with the purpose of applying continuity and consistency in the measures taken by decision makers.

While in the early 2000s agriculture's contribution to GDP (the gross value added of the agriculture, forestry and fisheries, compared to the total gross value added) was almost 15%, its evolution is currently on a downtrend, for the first time dropping under 10% in 2005 and reaching a minimum of 6.5% in 2010 (Figure 1). Although we can also mention convergence here too, the share of the agricultural sector still remains double compared to the average of the former communist countries that joined the EU in 2003 (NSM-8, including Poland and Hungary recorded a contribution of agriculture in the economy of 3.5% in 2010) and even three times higher than the European average of EU-27 (1.7%).

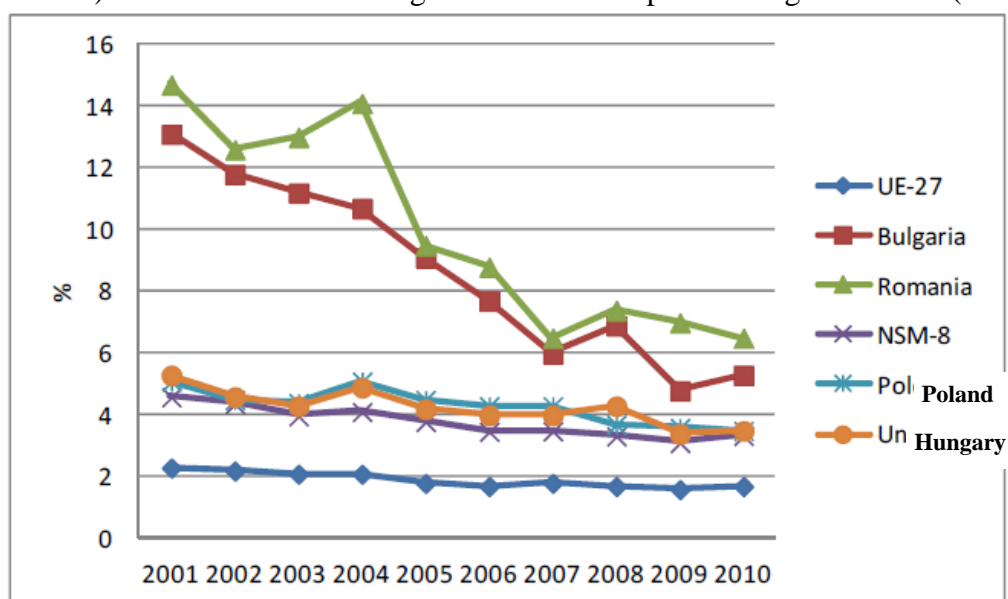


Figure 1 The share of gross value added in agriculture, hunting and fishing in the total GVA

Source: Eurostat

The agricultural area used by efficient and competitive commercial farms is approximately equal to that in which a subsistence agriculture is practiced, as a result of the suppression of the agricultural production cooperatives from the Communist age, of the privatization of state-owned farms (the former state-owned agricultural enterprises) and of applying the post-1990 law on the agricultural real estate. Thus, a significant part of the population employed in the agriculture is very vulnerable from the social point of view, being old at the same time (44% of the farm holders in 2007 were over 64 years old) and with a very low level of education, which is why in certain rural areas in Romania real pockets of poverty can be found, given the limited capacity of rural communities to attract investments. The data of the European Commission for 2009 show that while 16% of the total EU population is at risk of poverty (defined as members of the households living with incomes under 60% of the median income value in the respective member state), the proportion of this population is particularly high in Latvia (26%), Romania (22%), Bulgaria (21%), Lithuania (21%), Greece (20%) and Spain (19%).

By analyzing the structure of agricultural holdings by age of the holder, the situation in Romania is similar to that of Bulgaria, where young farmers (under 35 years) owned only 3.1% of all farms (in Romania: 4.4%), while 70% of the farms have aged over 55 years (in Romania the corresponding figure is 67%). The situation is better in the new Member States that are more advanced from the economic point of view, where young farmers account for a more significant share (7.6% in Hungary, 12.2% in Poland), and elderly farmers are relatively less numerous (55% in Hungary, 36% in Poland) (Figure 2). The discrepancy in the age structure of the population employed in agriculture creates concerns in all Member States in terms of replacement capacity in the medium term, of the workforce in this sector. This is the reason why, in the post-2013 programming period, through Pillar 2, Member States will be provided with new incentives for young farmers, and also with tools allowing small farmers to quit agricultural activities.

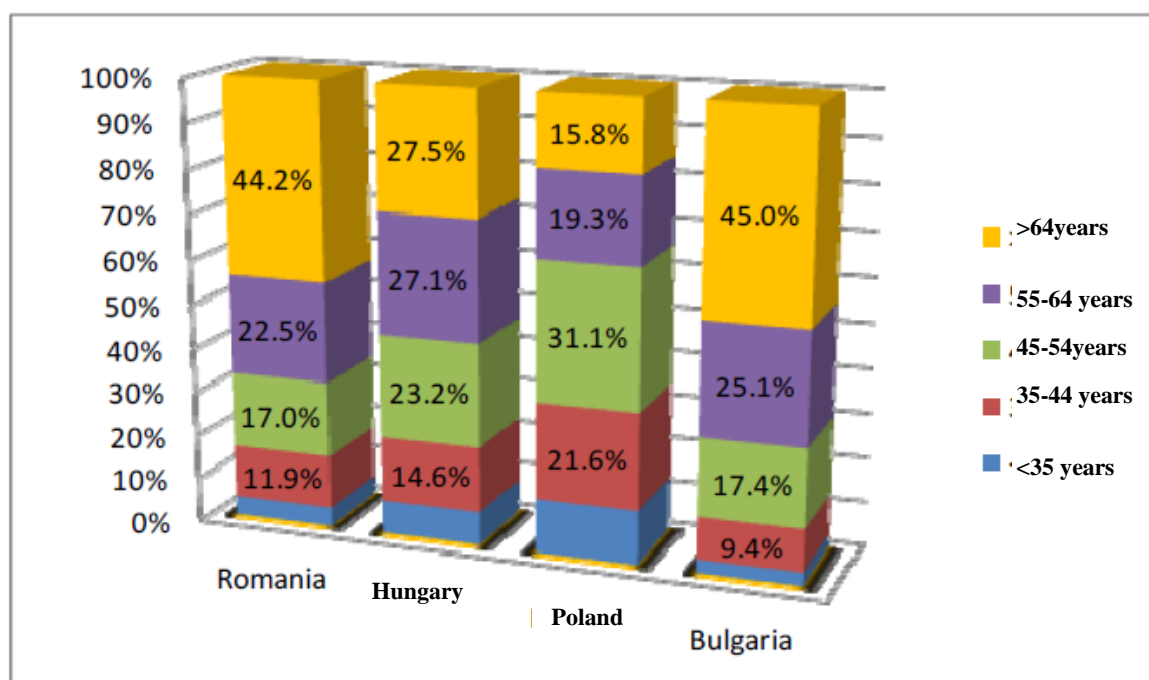


Figure 2 Structure of agricultural holdings by owner's age (2007)

Source: EC, DG Agri, Member States Factsheets, 2012.

In the Romanian rural environment, at microeconomic level, the former members of agricultural production cooperatives account for the largest part of the group that supplement their modest retirement pensions by income cultivating small areas of land for their own consumption (thus non-commercial relationships are perpetuated). The characteristics of these "old" agricultural production cooperatives are:

- Very poor facilities and low productivity, and they were not generally eligible for financing from the CAP funds for agriculture;

- They do not invest and do not generate consumer demand.

The lack of opportunities (alternative sources of income) able to determine them to leave the sector is the root cause for maintaining the large number of subsistence farms. Farmers' old age and sometimes very low education levels, characteristic to subsistence farms make more than 80% of agricultural insurance on the Romanian market targets large farms and agricultural associations (led by young people with a high educational level), while the remaining 20% are for medium farmers. Small producers who practice subsistence agriculture are not even included in the target and are not interested in such insurance products either. Once they pay in full or in installments, the annual premium of the insurance policy, farmers go to PIAA (the Paying and Intervention Agency for Agriculture) with the documentation and will obtain at least half of the annual premium. The State subsidizes, depending on the undertaken risk, up to 70%, but it should be noted that the minimum subsidy is 50%.

Table 2

Travelers' motivational status

<p>Insurable agricultural potential</p>	<ul style="list-style-type: none"> • Approximately 8.2 mil ha of arable land according to the data of the agricultural census 2010 – 2011 • The area decreased by 1.2 million ha, compared with the data from 2003. • 33.85 million agricultural holdings nationwide of which only 31,000 have legal personality • The average size of agricultural holdings is very small – 3.85 ha (out of the arable area of Romania, almost 53% are farms with sizes up to 10 ha, approximately 14% are farms with sizes between 10 ha and 100 ha, and 34% are farms owning arable land with an area exceeding 100 ha.) • Farms with legal personality own on average holdings with more than 190 ha • In the period 2005-2007, a percentage of only 15-18% of the total arable area was included in the insurance. • In the agricultural year 2007-2008, the percentage increased to 43%, 4.3 mil ha of arable land being insured. The explanation is the increase of subsidies granted by the government subject to the conclusion of an insurance. • With the elimination of subsidies in 2009, the insured arable land area dropped to approximately 2.8 million ha. • agricultural insurance represents less than 1% of the gross written premiums on the total market, the gross written premiums level was of approximately 100 million RON yearly, and the annual growth rate is approximately 10%. • More than 90% of the insurance policy holders are big agricultural associations (farms), with more than 100 ha under their management.
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<p>Legislation for agricultural insurance</p>	<p>- <i>at national level:</i></p> <ul style="list-style-type: none"> • Law no. 381/2002 – on granting compensation for natural disasters in agriculture (no longer effective) • G.D. on 756/2010 – on granting state aid in agriculture for the payment of insurance premiums (in force since 12 august 2010): Subsidizing insurance premiums through state aid in the period 2010 – 2013 for: covering losses caused by adverse weather events which can be assimilated to natural disasters; moreover, covering other losses caused by adverse weather phenomena and/or losses caused by animal or plant diseases or pest infestation; the adverse weather phenomena that can be assimilated to natural disasters are: hail, ice, rain or drought acting under certain conditions. • Law no. 32/2000 on insurance companies and insurance supervision • Law no. 136/1995 on insurance and reinsurance in Romania <p>- <i>at international level:</i></p> <ul style="list-style-type: none"> • Regulation no. 1857/2006 of the European Commission providing: aids for losses caused by adverse meteorological phenomena that can be assimilated to natural disasters and aids for the payment of insurance premiums <p>From 1 January 2011, the aids for losses caused by drought may only be paid by a Member State that has implemented Directive 2000/60 EC of the European Parliament and of the Council in terms of agriculture.</p>
<p>Insurable risks in the insurance of crops</p>	<ul style="list-style-type: none"> • late frosts in spring. • early frosts in autumn. • Hail (no longer occurred in small areas, it has become a general phenomenon). • Heavy rains/tornadoes (which are phenomena much more present nowadays than 20-30 years ago). • Fires (caused by excessive drought, causing damage to increasingly big areas) • storms/tempests • cultivated landslides/land collapses <p><i>70-80% of the damages are caused by hail and storm</i></p>
<p>Excluded risks</p>	<ul style="list-style-type: none"> • the risk of drought, the flood risk and the winter cold (which are insurable by the state, by granting subsidies, in the period 2002-2009), phenomena occurring in big areas, leading to big loss and that cannot be controlled.
<p>Products of the agricultural insurance market</p>	<p><i>1. Insurances for crops:</i></p> <ul style="list-style-type: none"> • Insurable assets: cereals, industrial crops, leguminous plants, vines and fruit tree crops, bush fruit trees, crops in greenhouses and solariums, herbs, etc. • Risks covered: heavy rain, storm, hail, early and late frost, fire, landslides, etc. • Compensations: compensation determined when the insurance policy is concluded, for each of the insured risks <p><i>2. Livestock insurance:</i></p> <ul style="list-style-type: none"> • insurable animal species: cattle, sheep, pigs, pure-breed horses and dogs, beehives, poultry, farm fish.

	<ul style="list-style-type: none"> • Risks covered: surgical or obstetrical diseases, internal diseases affecting the animals' health condition, the animal death or slaughter due to necessity, accidents due to various reasons, animal poisoning or intoxication • Compensations: compensation determined when the insurance policy is concluded, for each of the insured risks <p><i>3. Insuring agricultural machinery (damage and theft):</i></p> <ul style="list-style-type: none"> • Insurable assets: agricultural machinery that cannot be registered. <p>Risks covered: theft or damage to the equipment due to attempted theft, collision, hit, crashes with other vehicles or objects, fire, lightning, explosion, flood, earthquake, landslides, etc.</p> <ul style="list-style-type: none"> • Compensations: indemnities determined when the insurance policy is concluded, for each of the insured risks <p><i>The share of insurances according too the season is approximately 60% for autumn crops and 40% for spring crops</i></p>
<p>Agricultural insurance price</p>	<p><i>1. crop insurance</i></p> <p>The insurance average rate is between 3-3.5% of the insured value. By comparison, in European developed countries this share increases by at least 8%, despite the fact that we are talking about countries less exposed than Romania. if we also add the state subsidy, the result is a level of approximately 1.5% of the insured value. In an example that takes into account the actual data in the market, for a wheat crop, , the annual premium would be somewhere around 36 euros per hectare for an insured value of 1200 euros (we took into account a production of 6 tonnes of wheat per hectare at the current average price of 200 euros per tonne). For one hectare of rapeseed, the cost would be approximately 60 euros per hectare for a production of 2 tonnes per hectare and an average price of 500 euros per tonne. As with any insurance, the customer is allowed to undertake a certain franchise which would reduce the annual premium. other words, the client may ensure only a certain percentage of the production but in this case the undertaken risks increase significantly if, in case of damage, the compensation is calculated using a formula that takes into account the insured production, not the real one. Thus, the amount of compensation / hectare = the insured production/hectare X the insured amount/kilogram.</p> <p><i>2. insurances for livestock</i></p> <p>These policies are less accessed, due to the fact that they are rather expensive and become advantageous only for the farmers who own substantial livestock. The price of these policies varies according to species, breed, age and gender of the animal, and according to the number of animals owned by the farmer. For 100 Holstein cows, for example, the annual premium can reach as much as 15% of the purchase value of the respective animals. Insurance rates are at least two times lower than in developed countries of Europe.</p>
<p>Agricultural insurance market companies</p>	<p>In Romania there are 9 active companies in agricultural insurance, out of which two, namely Fata Asigurări and Generali Asigurări, have shareholders with significant experience in the field outside Romania. Generali (which is also the main shareholder of the company that owns Fata Asigurări) is the most important player in Italy, for example.</p>

	Besides those two, in Romania, Allianz-Țiriac, Astra Asigurări, Asirom, Groupama, Euroins, Carpatica Asig and Omniasig also sell agricultural insurance policies.
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CONCLUSIONS

The trends on the agricultural insurance market are developing in the coming years due to investments in agriculture, rural development which generate potential customers and the possibility of accessing loans for investments in agriculture will stimulate the positive evolution of insurance in agriculture.

The financing projects, many of which are conditioned by the protection of investments, whether they are made in equipment, storage spaces, agricultural holdings or animal farms, lead to the boost of agricultural insurances. The main risks in agriculture are the financial, market, institutional, natural specific risks. From the financial risks, the change in the interest rates and also the changes in the foreign exchange rate, in the leasing rate have a very high impact, and the market risks have a low elasticity of the demand and the offer. Institutional risks are due to implementation of food safety measures and environmental regulations.

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