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POSSIBLE RISK COVERAGE IN AGRICULTURE THROUGH AGRICULTURAL INSURANCES

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Abstract. This article describes a variety of management techniques farm operators use to survive swings in weather, markets, and the economy. As in any industry, risk is a part of the business of agriculture. Although farms vary widely with respect to enterprise mix, financial situation, and other business and household characteristics, many sources of risk are common to all farmers, ranging from price and yield risk to personal injury or poor health. After looking at the agricultural tools applied in different countries from Europe, we underline the importance of the public-private relation in sustaining of agricultural insurance. In Romania, the insurer compensates the agricultural producers who concluded insurance contracts for agricultural cultures and animals damages caused by the a large variety of risks. Taking into account that agricultural activity is done under risk and uncertainty circumstances as a result of natural factors influence whose unfavorable evolution can cause significant damages to the agricultural producers, insurance is an aspect that every agricultural producer should consider. Weather whims turned agricultural insurances into a necessity.

INTRODUCTION

The agricultural sector is characterised by a strong exposure to risk. Decision-making takes place in an environment of imperfect knowledge of the future - uncertainty - and is associated with **risk** which is normally defined as "uncertainty of outcomes" resulting in losses negatively affecting an individual's welfare (Hardaker, Huirne and Anderson, 1997; Meuwissen, Huirne and Hardaker, 1999a).

Some risks farmers have in common with other businesses, others are unique to farming. The most important risks can be classified as follows (Hardaker, Huirne and Anderson, 1997; USDA 1999):

- **human or personal risks** relate to death, illness or injury of the farm operator and/or its labour force. These risks are common to all business operators and employees. In the European Union, basic coverage for personal risk is normally provided by sector specific or general social security systems. Additional coverage is available on insurance markets;

- **asset risks** are those associated with theft, fire and other loss or damage of equipment, buildings and other agricultural assets used for production. Losses are normally covered by insurance or, in case of catastrophic events, public disaster aid may contribute to reduce asset losses;

- **production or yield risks** are often related to weather (excessive or insufficient rainfall, hail, extreme temperatures), but also include risks like plant and animal diseases. Yield risk is measured by yield variability, the randomness relative to the mean value in a yield series. Yield variability for a given *crop* differs considerably from region to region depending on climate, soil type and production method. It can be measured at farm, regional or country level. Aggregate data can, to a considerable extent, mask variability at lower levels of aggregation or at the individual farm level. “Yield” risk is smaller in the *livestock sector* for most producers, as weather has a smaller influence. The risks mainly stem from disease, mechanical failure in confinement operations and variability in weight gain;

- **price risks** is the risk of falling output and/or rising input prices after a production decision has been taken. Price risk is measured by price randomness. As opposed to yields, prices do not follow clear trends. Price volatility, of course, is for many products mitigated by measures of price support. In open markets, prices are generally more highly correlated across different regions than yields;

- **institutional risk** is the risk associated with changes in the policy framework (agricultural and other policies) which intervene with production and/or marketing decisions and in the end negatively affect the financial result of a farm. Institutional risks also include contracting risk, e.g. the risk of breach of contract;

- **financial risks** include rising cost of capital, exchange rate risk, insufficient liquidity and loss of equity.

The various risks are often interrelated. For example, the institutional risk of a change in price support has an influence on price risk. Likewise, imposing environmental restrictions has an impact on yield risk. Risks of all categories have an effect on the income situation of a farm household.

MATERIAL AND METHOD

Agricultural insurance in Europe

As Europe reviews recent changes in agricultural policies and markets and looks to the future, its producers, policymakers and others are considering the need for and the availability of risk management instruments for agricultural commodities.

Thus, two types of **risk management strategies** are normally distinguished: (1) strategies concerning on-farm measures and (2) risk-sharing with others (Meuwissen, Huirne and Hardaker 1999a). **On-farm strategies** concern farm management and include selecting products with low risk exposure (e.g. products benefiting from public intervention), choosing products with short production cycles, diversifying production programmes or holding sufficient liquidity. **Risk-sharing strategies** include marketing contracts, production contracts, vertical integration, hedging on futures markets, participation in mutual funds and insurance.

Proeminent among the risk management tools receiving attention is **agricultural insurance.** Insurance programs and products vary from country to country in levels of government support and in the specific production perils covered, reflecting the variety of crops grown and growing conditions in the various countries.

Spain and Portugal_have “public-private partnership”- systems, where the state plays a key role, providing both premium subsidies and re-insurance. The private insurance industry is integrated into the system; it takes care of programme administration and contributes to covering a share of the risk (European Commission, Risk Management Tools for EU Agriculture, p. 6).

Greece has a predominantly public system. The state, through its public insurance organisation, collects compulsory contributions, administers the programme and guarantees coverage of losses. By virtue of this, the role of the private sector is limited (system under reform).

Italy, France, Austria and Germany_have systems of agricultural insurance, which are predominantly private. The four countries differ considerably with respect to subsidies for insurance premia. While Germany is not providing any premia subsidies, Italy grants considerable amounts.

Many other European countries, in contrast, have systems of agricultural insurance that receive less government subsidization and cover fewer crops than Spain. Perils covered are usually limited to a few named perils, such as hail and frost only, or coverage is limited to specific product qualities, such as sugar content for sugarbeets and starch content for potatoes.

General conditions of agricultural insurance in Romania

Agriculture, field with a highly developed potential triggered by EU accession, made most of the Romanian insurance operators include insurance policies in their offers.

Having similar clauses, insurers conclude crop insurance (cereals, technical plants, vegetables and potatoes, medicinal and fragrant plants, fodder plants, vineyards, fruit trees and hop) as well as animal insurance (cattle, bubaline, horses, sheep, pigs and goats). There are also special clauses according to which greenhouses, greenhouses cultures, vine cultures, strawberries plantations, fruit bushes, ornamental and decorative plants as well as other animals than the ones mentioned above are covered by the insurance.

The insurer's responsibility for the insured crops relates only to technological expenses paid for the main production of the insured crop; as for cultures producing several crops a year, technological expenses are insured for the whole annual production.

The insurer compensates the agricultural producers who concluded insurance contracts for agricultural cultures damages caused by the following ***risks***: frost effects on fall crops; late spring frost; flood caused by water overflowing; hail; direct effects of pouring rainfalls and storms; excessive and long persistent dryness; fire caused by thunders; landslides of cultivated fields; early fall frost. There are covered only damages caused by quantitative crop losses and not qualitative damages (except for the case of tobacco where qualitative damages are also covered).

When establishing ***insurance coverage,*** there are several factors to consider such as geographical localization of cultivated fields, crops structures and technological expenses necessary for each crop in view of production. Likewise, the insurance is available for the agricultural year under way (the whole period from sowing to harvest), its periodical update being possible.

The ***insurance premium*** – the amount the insured must pay to insurer at fixed terms – represents a percentage of the insured amount determined by the culture specificity, its sensitivity level at insured risk factors, damages evolution caused by these factors effect in the named area (on a 30-100 year period), insurance type and insured risks. If an insured lot is free of charges for one year, the total insurance premium afferent to that lot crops reduces by a tenth to maximum seven tenths of the total premium starting with the second and the following years free of charge.

Taking into account the principle according to which a large number of insured pay the insurance premiums and there are covered only those who experience insured risk damages, certain insurance companies set out a new product on the agricultural insurance market, that is, the ***fixed insurance coverage ticket*** that stipulates a fixed amount per hectare; the culture hectare can be insured at a lower cost. Although it is named ticket, in fact, it is an insurance policy with clear contracting clauses and regular financial administration for any type of policy. The name ticket originates from its form and layout. The product is specially designed for small producers, that is, for holders of 0.1 to 6 ha; the ticket's defining elements are the following: the maximum insured area on each ticket is of 1 ha; any type of culture can be insured even if there are several types on the same hectare (the insured amount and the stated damage percentage are the factors determining the amount of compensation indemnity); the insured can make his option and choose a coverage variant of 200, 300, 400 or 500 RON for a 1 ha surface for which a fixed insurance premium of 5, 7.5, 10, respectively 15 RON is set up. The ticket is a model for agricultural insurances optimization.

Animals can be covered only on the basis of an optional insurance contract; there are two types of ***animal optional insurance***: animal annual regular insurance and animal total optional insurance.

The insurer ***optionally insures*** the animals belonging to physical or juridical persons with address, head office or residence in Romania for the following risks: surgical, obstetrical or internal diseases causing animal death, needed sacrifice imposed by the veterinary surgeon and various animal accidents.

The insurance covers the following animal categories on insurable ages: between 6 months to 7 years for cattle and bubaline; over 1 year for sheep and goats; over 6 months or at least 40 kg to 140 kg for pigs and between 1 to 15 years for horses.

The animal total optional insurance covers animals of the same species that reached the age covered by the insurance and that belong to trading companies producing, industrializing and marketing agricultural and zoo-technical products, to agricultural companies and independent administrations of animal breed sectors.

The relation state - agricultural producer - insurer for a better optimization of agricultural risks coverage

So as to support agricultural producers, the state adopted in 2002 Law no. 381/2002 according to which, starting with 2006, it is granted a subsidy of 50% of the premium value paid to physical or juridical persons that contract insurances with companies approved by the Ministry of Agriculture and the Insurance Supervising Commission (ISC). During 2003-2005 the state covered the insurance premium in a 20% proportion. This aid covers risks such as excessive dryness, hail, spring frost, flood or storm provided that the insurance premium is totally paid off until December 15 in case of fall crops and May 31 in case of spring crops.

In case of damages caused by natural catastrophic events, agricultural producers have to bear 30% of production expenses justified by legal documents, while the state covers the rest, which, in case of total damages can be of maximum 70% out of which possible subsidies are deducted. Moreover, qualitative losses were not taken into account when establishing the damages as they are 100% in the agricultural producers` charge. In the case of animals, birds, bees' families and fish the coverage represents 80% maximum of the insurance value diminished by the value of outcome sub-products that can be capitalized in accordance with legal provisions. As for animals, the insurance is paid in case of striking or injuries, sunstroke, drowning, wild animal attack, sudden intoxication caused by herbs, toxic or medicinal substances. Birds infected with avian influenza do not fall under the agricultural insurance list. In this case the coverage is done according to the International Epizooties Law.

Every year there are settled down insurance companies that can conclude agricultural insurances in accordance with the above mentioned law. These conditions refer to the following aspects: ISC notice for covering catastrophic risks that are granted as a result of verifying the existence of the re-insurance program, of re-insurance contracts copies, brokers` coverage notes as well as calculating the possible maximum damage; practicing agricultural insurance on agricultural cultures and animal species on a minimum 3 year period; the companies' solvency level shall be over 1.5. For 2006 ten companies were selected to contract agricultural insurance policies (animals, agricultural cultures insurances, birds, bees' families and fish). The insurance companies list includes companies such as Agras, Allianz-Tiriac Asigurari, Ardaf, Asiban, Asirom, Astra, Carpatica Asig, Generali Asigurari, Omniasig and Unita.

The insurance companies bear damages caused by general risks (storm, hail, early frost and landslide) and the state intervenes and pays damages in case of calamities (excessive dryness, flood or great frost).

The insurance coverage for crops is represented by the direct production expenses up to the harvest and in case of animals by their acquisition, inventory or market value. For instance, for a non-irrigated wheat hectare the insured sum amounts to about 1.200 RON, consume vegetables to 7.000 RON/ha, noble vineyard to 6.000 RON/ha and suckling cows to 3.000 RON.

The process of stating the damages and settling down the compensations level is made in the presence of the affected agricultural producer by a commission appointed by the county perfect consisting of the mayor of the locality where the calamity took place, one or two specialists from the agricultural centre, a delegate of the ministry county councils and the insurance company representative with whom the agricultural producer concluded the insurance.

RESULTS AND DISCUSSIONS

According to official data specific to this field, about 550.000 hectares were affected by the six flood waves during April-September 2005 and the damages registered by agricultural sector outran 200 million Euro. In 2005, there were paid about 1.000 billion RON compensations by the Ministry of Agriculture in accordance with Law no. 381/2002. As a result, it is looked for new law modification alternatives and the insurers` greater implication in paying up compensations.

The Ministry of Agriculture issued two modification drafts of Law no. 381/2002, neither of which was approved. The first alternative proposed setting up an extra budgetary fund supplied by the state, insurance companies and agricultures which would help paying off damages in case of calamities. This variant was rejected as IMF (International Monetary Fund) does not allow using extra budgetary funds in such cases. The other variant of changing the law aimed at eliminating conditioning the damages by the existence of a standard insurance that does not cover calamity risk.

This law changing divided the insurance world: one group of insurers admits that the state, all by itself, cannot face covering all the damages, while the other group thinks that, if it were for a both side interest in paying the damages, this would certainly lead to bankruptcy.

It is the farmers who are the most discontent with Law no. 381/2002 because, although the state covers theoretically 70% of the expenditure value for setting up and upkeep of the destroyed area, the real percentage is of 40%. This contribution deduction takes place because the ministry decides a standard value of the expenses concerning the culture care until the moment of the disaster; this standard value is reduced by the subsidies offered and its level is adjusted according to the culture calamity grade. Farmers are also dissatisfied with the fact that insurance companies do not intervene financially in covering the damage because insurers consider that cashing in the insurance premium should lead to their implication in covering the damage, such a variant implying for farmers to support 10%, the insurers 20% and the state 70%.

However, in the Romanian agriculture nearly half of the cultivated areas are organized in different types of trade exploitations, most of them being juridical entities. Normally, these exploitations should fall under production insurance systems taking into account that, in one way or another, they dispose of financial resources to insure at least basic cultures. In spite of the great damages the agriculture has to face, farmers barely insure 800.000 and 900.000 hectares. The state financial aid did not make the farmers change their outlook on agricultural production insurance, although, in practice, almost every Romanian insurance company is looking for agricultural clients. Among the 10 companies in subject, the highly implicated one is AGRAS Company, holder of over 60% of agricultural insurance market.

Unlike other developed countries from the European Union where the insured area is quite large – in France 60% of the agricultural area is insured, while in Germany the ratio is of 50% in the case of big agricultural associations and 30% in the case of small farmers - in Romania only 10% of the cultivated area is insured.

CONCLUSIONS

Taking into account that agricultural activity is done under risk and uncertainty circumstances as a result of natural factors influence whose unfavorable evolution can cause significant damages to the agricultural producers, insurance is an aspect that every agricultural producer should consider. Weather whims turned agricultural insurances into a necessity. The Romanian insurance market is in progress; it stands for a proof the fact that five-six years ago there were three companies that contracted insurance policies and presently there are ten of such companies.

Starting with 2003 when the law concerning the Romanian state's effective taking over of catastrophic risks, every year experienced calamities - winter frost, dryness, abundant and long-period rainfalls – the damages were covered only to the individuals who had insurances.

The lack of money, caused mainly by the lower price of the production capitalization, represents the main hindrance in local producers' growth. Actually, the year 2005 was, financially speaking, a step behind for most farmers.

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