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C O N T E N T S

THE IMPACT OF PRICE VOLATILITY ON THE VEGETABLE CHAIN FRAGMENTATION IN ROMANIA

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Abstract

The paper studies the impact of price volatility on business activities in the Romanian vegetable supply chain. The analysis reveals that a high volatility is reflected in a fragmented production and distribution chains. This situation leads to increased uncertainty in terms of what vegetable to produce and where to sell and it negatively impacts the farmers' revenues and investment decision. The paper employs a quantitative and a qualitative analysis using the coefficient of variation in order to assess the impact of price volatility on vegetable commercialization channels including vegetable processing companies. The data regarding vegetable prices are retrieved from the tempo on line data base and the analysis is also based on interviews with the main stakeholders of the vegetable chain. The results reveal a high coefficient of variation at the farm gate stage which is further transmitted at the level of distribution and commercialization stage. The analysis is carried out also at the processing level, the results indicating also a quite high coefficient of variation.

Keywords **:** *vegetable, price volatility, commercialization, supply chain*

INTRODUCTION

The vegetables sector in Romania is characterized by high risk and uncertainty. Owing to the great climate variations from one year to another, the total productions and the average yields have great variations. As a result, price volatility is extremely high. As a rule, prices decrease in the years with good yields and total productions, and they increase in the years with low productions. It seems that Romania's integration into the European Union did not contribute either to the diminution of vegetables price volatility.

The evolution of prices and price volatility calculation has been investigated in many studies worldwide and at EU level. DG Agri conducted a study on price volatility for the main products produced at the EU and world level, and the conclusions of this study are that the world prices are more volatile than those in EU [1]. The variation coefficients and the study of production and price volatility were also used in order to determine the areas with the highest risk in Europe from the point of view of risk calculation and risk insurance

in agriculture [2]. The integration into the world trade, and mainly along the chain of products with high value added such as the vegetable chain, is considered as a promoter of growth and poverty alleviation [3], even though the subject remains quite controversial. Thus, the horticultural products proved to generate high incomes per hectare unit [4] and they are known as products that need intensive labour [5]. In spite of this, the incomes are very much conditioned by price volatility in this sector [6].

MATERIAL AND METHOD

In this paper, time series have been used with regard to the evolution of vegetable prices from Tempo on line database. The study of production, yields and price variations in the vegetables sector was based on the variation coefficient. A simple modality to determine this coefficient is the calculation of standard deviation and of the average evolution of certain data series on vegetable production and prices. The standard deviation is given by the following formula:

Standard Dev. $= \sqrt{\dfrac{1}{n-1} * \sum_{t}(y_t - \bar{y})^2}$

Y_t = considered time series

$\bar{y}_t$ = Average of considered series

The variation coefficient is calculated as ratio of standard deviation to the mean as measure of data dispersion as against mean. The volatility is higher when the variation coefficient is higher.

RESULTS AND DISCUSSIONS

This section presents the evolution of variation coefficients calculated on the basis of the methodology presented above. Price variation is very important in the production decision as well as in the calculation of vegetable farmers' incomes. Table 1 presents the values of variation coefficients of the monthly procurement prices by development regions and by types of vegetables.

Table 1: Variation coefficient of farm gate prices by regions %

Macroregions and development regions	Variation coefficient of farm gate prices 2004-2010				
	Tomatoes	Cucumbers	Pimiento peppers	Green peppers	Red peppers
TOTAL	89	75	22	40	24
Region North-East	65	45	31	36	30
Region South-West	69	35	30	38	18
Region North-West	na	31	23	23	na
Region Bucharest - Ilfov	28	28	na	18	18

Source: own calculation on the basis of data from Tempo on line data base 2004-2010, NIS

Owing to the high variability of total productions and average yields, the variability of procurement prices is even higher. The tomatoes have the highest price volatility in all the 6 investigated regions (Table 1).
The vegetables have a very high seasonality as these are mainly grown in open field and
Table 2 presents the evolution of variation coefficients of average prices for field tomatoes, white cabbages and green peppers.

Table 2: Annual variation coefficient

Year	Variation coefficient of annual average prices %			
	Field tomatoes	Winter white cabbages	Onions	Green peppers
2004	21	42	21	27
2005	19	27	7	19
2006	42	56	11	36
2007	19	24	7	19
2008	19	39	5	13
2009	28	27	4	27
2010	9	6	11	11

Source: own calculation on the basis of data from Tempo on line data base 2004-2010, NIS

It can be noticed that the tomatoes and winter cabbage had the highest price volatility in the year 2006, i.e. 42% and 56% respectively. Throughout the investigated period, onions had the lowest price volatility. The green pepper prices were also less volatile compared to the tomato and cabbage prices.
The impact of price volatility on primary sector
The land area under vegetables accounted for 3.3% of total cultivated arable area in the year 2007. At the European Union level, the share of area under vegetables is quite similar; the difference is that currently in Romania the consumption needs are not fully covered by the domestic resources. In the year 2010, the main cultivated vegetables were the following: tomatoes 18%, cabbage 17.7%, and dry onion 14%. The individual holdings have the highest share of the cultivated areas in the vegetables sector (over 95%) (Fig. 1).
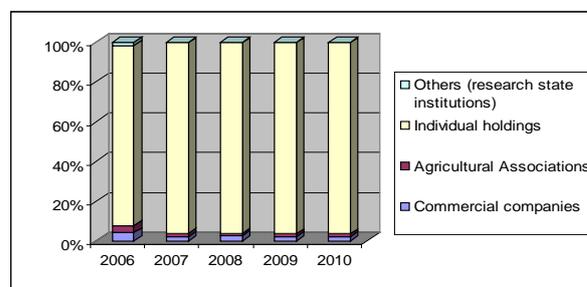
Fig.1. Share of the cultivated areas in the vegetables sector

The main problem farmers are facing is the non-execution of concluded contracts. Another problem is represented by imports,

the quality of which is not rigorously checked at present. In many vegetables, production has a seasonal nature, and the products have to be consumed immediately after harvesting. That is why the prices greatly fluctuate throughout the year and as we already showed the variation coefficient is very high. In general, immediately after harvesting begins, prices go down fast. For example, the prices of tomatoes, eggplants and peppers may decrease by up to 50% in 2 weeks.

As long as the area under heated glasshouses is low, the producers cannot benefit from the high prices during the winter; in this period of the year most of vegetables come from imports, mainly from Greece, Netherlands and Turkey.

Storage

The former vegetables and fruit enterprises were considered very important, but these are spaces to rent at present. The storage is very difficult and there are few storage premises. At present there are only a few storage units, which are not sufficient to cover the needs. The coefficient variation remains high because of insufficient storage facilities which cannot contribute to a decrease in price volatility.

Distribution and marketing

The sale of production is the most difficult problem as no specific markets for the sale of vegetables production have been established. The vegetable farmers who produce low quantities of vegetables are obliged to lower the prices very much, which represents a disadvantage for those whose main activity is vegetable farming and earn a living from the sale of their production. The production sale is directly at the market place or directly at the farm gate through intermediaries.

The vegetable farmers are threatened by the great hypermarkets as well as by the massive imports. On one hand, the great chain stores refuse to buy the products at a correct price, and on the other hand the imports represent an unjustified competition for the domestic production. "In the hypermarket networks we can see many fresh fruit and vegetables. Just imagine how many of these products come from other countries and include the financial support that the respective countries provide to producers in their selling price".

Intermediaries also contribute to increase price variation instead of contributing to less volatility.

The impact of price volatility on the processing sector

There were about 450 companies in the fruit and vegetables industry in the year 2000 (NIS, 2001) [7].

A few foreign investments emerged in recent years. Despite this domestic and foreign private capital flow, the processed volume is very low. Certain processing plants (Contec, Tecuci) prefer to take tomato paste from China, which is not sufficiently controlled for its quality. At present, among the processing firms, 27 are recognized as prime-processors. 60 mil. euro has been invested so far in processing plants. The main problems these are facing are the following: Lack of an adequate supply of raw materials, in due time and under safe conditions. The percentage of ensuring raw materials in the case of vegetables is 60% in summer time and 15% in winter time, and the deliveries are under decline. At the same time, the share of vegetables sold for processing is very low. In most cases, the farmers supply the vegetables directly to the processing industry, with no intermediaries or traders.

The impact of price volatility on the marketing sector

Besides the processing sector, the distribution of fresh vegetables also implies the fruit and vegetables stores, the distribution activities of the private processors, a great number of private traders (intermediaries) as well as the supermarkets, to which unfortunately the producers declare that they do not have any access.

Referring to the products traded through different channels, no accurate measurement can be made of the volume of commodities that are operated through different channels. The verbal information can only indicate certain approximate estimates. It is appreciated that more than half of the traded quantity of vegetables is sold to a great number of intermediaries. In general there are

two ways: farm gate sales (that is mostly common) and the sale by the road side (street trade).

Another marketing modality is the direct sale to stores and supermarkets. This marketing modality is based upon the daily demand from the retail stores. No formal contracts are concluded with the stores and supermarkets (e.g.Mega Image). As regards the supermarkets, very few farmers can sell their products through this channel. It is estimated that less than 5% of the traded vegetables are sold in this way. The supermarkets ask for quality products in large quantities. Even when the farmers comply with these conditions, the supermarkets refuse to conclude contracts. "We even signed the contract with the French, accepting all their terms and conditions, and we have been waiting for a year to have this contract back. There is a slavery type of relation between the farmer and supermarket" (farmer Braila). Most of the active traders in vegetables sell vegetables on the local markets themselves. Others act as intermediaries between the farmers and the sellers on the local markets. As a result, the marketing structure is highly fragmented.

CONCLUSIONS

Using the variation coefficient for comparing the price volatility of vegetables, we can draw the conclusion that tomato price had the highest volatility in the period 2004-2010. Yet it is worth noticing that tomato price had a maximum level in June 2006 in the region N-E, which overall contributed to an extremely high volatility in the respective year. Onion lies at the opposite pole, with a lower and more constant variation coefficient, which reached 4% in 2009.

The prices of green peppers are also less volatile compared to the tomato and cabbage prices. However, it can be concluded that throughout the investigated period, the prices had an increasing trend.

This sector lacked a coherent strategy in the last two decades, being characterized by the diminution of the capacity to face the competition market. At the same time, as a result of Romania joining the EU, its competitors from the EU both in the production and processing sector are testing the Romanian market; in case the Romanian sector is not able to get reorganized and benefit from the established intervention measures, it will not be able to face the strong competition coming from the Single Market and not only.

The price volatility is reflected at all chin stages level and especially at the production stage and to a lesser degree at the marketing and processing levels.

ACKNOWLEDGMENTS

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THE ARGUMENTATION OF SWINE GROWING ACTIVITY IN THE REPUBLIC OF MOLDOVA THROUGH THE SUPPLYING PROCESS OF POPULATION WITH THE DOMESTIC NATIONAL FOOD

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Abstract

Swine growing is a traditional activity of the national economy of the Republic of Moldova, having a high potential in assuring the population with meat products. In the period 1970-1990, it was registered a dynamic constant growth of the pork production (of aprox. 2.6 times), the advantageousness of the selling of the pork being of 36 %. Under the influence of the technique and scientific progress in the country was created a genetic and economic potential, on the base of the efficient development of this activity in the frame of the national economy. By the 1992nd year, the situation in this branch was suddenly changed. The number of animals is reduced and the productivity decreases, in 1999 having only 41-44% of the productivity of 1990 year. Which are the main factors that negatively influenced the development of the pork production? These may be the lack of circulating means, the increase of the prices for the energy sources, the reduction of the harvest of the fodder cultures and as result, the insufficient provision of the zoo technical sector with forage, the absence of the stimulating conditions from the part of the state that concern the delivery of the meat to the processing enterprises, the repartition of the swine effective (more then 52 % of the swine effective) between the participants at the process of privatization of the state agricultural enterprises. One of the main causes of the decrease of the production is the competitiveness of the prices of the pork and its inefficient sale. The small sale price in comparison with the cost resulted the unprofitable production.

Keywords: *pigs production, evolution, Republic of Moldova, productivity*

INTRODUCTION

Meat production is the major source of providing the population with foodstuffs and therefore, one of the strategic directions of country's security. Swine breeding is one of the oldest occupations of Moldova's rural population. In the years 70ths to 80ths the swine breeding has been transformed into a well-organized sector with a highly developed infrastructure, providing up to 20% of the country's agricultural output of the times. The sector's development was backed up by a scientific-practical institution specialized in the breeding of highly efficient races and hybrids of productive swine, 46 enterprises specialized in swine breeding for meat production, state agricultural enterprises with swine breeding divisions. Owing to the technical-scientific progress in the country was created a powerful genetic and economic potential, the profitability of pork meat sales has attained the level of 36%, the pork meat output by the year 1990 has increased by 2.6 times compared to that of 1970 [1].

Due to the political and economic transformations of the early 1990ths the country's swine breeding sector has suffered drastic changes and not only in terms of quality. The privatization process in agriculture resulted in the reorganization of the sector into a commercial structure without any legal or financial support from the state. So, the pork meat production has registered a dramatic fall from 280 thousand tons in 1990 down to 45,3 thousand tons in 2010. During the same reference period the number of pigs has reduced from 2045 thousand down to 283 thousand.

In the whole meat production the share of pork meat is the highest, varying from 53,4% to 46,4% throughout the span of 1990 – 2010.

Despite of the structural, political and economic changes that transformed the country's swine breeding sector into an underdeveloped one, the pork meat consumption continues to be a priority in the nutrition of population. Therefore, there is a need to revitalize the swine breeding sector in the Republic of Moldova.

MATERIAL AND METHOD

The conducted research allowed to determine the theoretical arguments in order to substantiate the swine breeding and the efficiency of the sector: the production costs of pork meat, the profitability levels, the structure of meat production in the country, the number of pigs and the pork meat outputs. The monographic study method has been applied, with elements of deduction, observation, synthesis and analysis. The research was based on the generalization of problems in the swine breeding sector. The system of indicators has been determined based on the materials obtained from the Ministry of Agriculture and Food Industry of the Republic of Moldova and from the National Statistical Bureau of Moldova.

RESULTS AND DISCUSIONS

The meat swine breeding activity in the Republic of Moldova is a problem of growing importance. The activity of swine breeding for meat is includes numerous technological, mechanical, economic and social processes. Only the proper combination of these processes may contribute generally to the success of swine breeding. Revitalization of this sector may be defined also as a determinant for the reliable pork meat supply for the population. In the general structure of meat consumption the pork meat occupies the biggest share   that in the Republic of Moldova constitutes only 12,9 kg per year per capita compared to the general norm of 28 kg or the average EU norm of 43 kg. Pursuant to the latest calculations, the average structure of meat consumption per capita is the following: 53,1%- pork, 23,8%- poultry, 19,1%- beef, 3,2%- sheep, 0,8%- other preferences. This is why this sector is so important for the country.

The recovery of national swine breeding sector implies a series of economic measures aimed at attracting long term financial investments with active involvement of the state. A higher attention of the state to the swine   breeding   sector

Table 1. Major indicators of pork meat production in the Republic of Moldova

Year	Production cost, thousand MDL per 1 ton	Profitability of production, %	Share in the animal breeding, %	Number of animals, total, thousand capita,	Including in the households, thousand capita	Number of pigs in households, per 100 households, thousand capita	Global meat production, thousand tons	Daily body weight gain, g
2003	19,3	-39,0	26	508	434	44	43,2	136
2004	22,7	-30,0	29	446	405	47	41,3	166
2005	19,5	-7,7	22	398	364	40	39,7	187
2006	16,1	-4,5	26	461	415	47	48,0	200
2007	21,1	-12,8	27	532	465	53	58,9	218
2008	25,2	25,2	22	299	237	27	35,1	268
2009	19,1	25,4	24	284	218	25	42,2	311
2010	20,3	20,2	26	377	283	33	45,3	296

is denoted by the approval of the Governmental Decree of the Republic of Moldova enacting the *Program of revitalization and improvement of genetic resources of swine for the years 2004-* *2010*. The enactment of this program was based on the results of the scientific researches conducted in the Swine Breeding Branch of the National Institute of Zootechny and Veterinary

Medicine, Scientific Production Association „Progresul" and of the State Agrarian University of Moldova during many years. The scope of the said program was to create the State Enterprise of Research and Production in Swine Breeding "Moldsuinhibrid", to recover and to preserve the genetic resources, to provide the breeding enterprises with high quality breeding material. The enterprise will sell breeding materials on the national market depending on demand and supply [3].

During the implementation period of the said Program the economic and social achievements were not significant. So, during the implementation period the Program has failed to increase the number of pigs since the year 2004. In the years 2008-2010 the number of pigs has decreased by 35% compared to the year 2003.

One of the most important economic indicators of swine breeding is the increase of profitability of production from -39% to 20% during the years 2003-2010. This achievement may be used for encouraging the national and foreign investors to begin operations in the swine breeding sector. This result has a subjective explanation: during the respective period the sales price of pork meat on the national market has risen by around 36% - from 45 lei per 1 kg up to 65 lei per 1 kg. The production cost of pork meat did not increase substantially- from 19,3 lei per 1 kg to 20,3 per 1 kg, in average by 1 lei. Under such conditions the profit of pork meat sellers constitutes 44,7 lei per 1 kg.

Another factor denoting the underdeveloped swine breeding is the significant number of pigs in the rural households. So, the share of animals in rural households attained 85% in 2003 and 75% in 2010 out of the total number of pigs registered in the country. The rural households continue to be the major swine breeders of the Republic of Moldova. They can hardly implement the provisions of the Program in the view of using better genetic resources compared to the existing , testing and scoring of boars, etc.

During the reference period of 2003-2010 the increment of overall pork meat production was not significant, the output increased only by 2,1 thousand tons, that is 4,8%. Moreover, it covers the pork meat demand for only 46%. The share of imported pork meat in the total consumption attains 54%. This fact denotes the available reserves of pork meat production in the country.

The daily weight gain of pigs in the year 2010 has attained 236 g, having registered a significant increase of around 2,17 times compared to the year 2003. However, it is still far behind the EU average of 770 g, that is 3,3 times higher. The average number of piglets delivered by one sow in Moldova is 5,6, while the EU average is 22. At the same time the fodder consumption per 1 kg of live weight at our producers is 3 times higher compared to the EU producers and the share of fodder in the production cost of 1 kg of meat is 70% [2].

CONCLUSIONS

Based on the results of investigations mentioned above one may conclude:
1. Swine breeding continues to be a necessary activity for the country;
2. The capacity to organize production and apply new genetic achievements is a must for this activity;
3. the development of enterprises specialized in swine breeding for meat production will contribute to the intensification of measures provided by the state authorities responsible for the sector.

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COMPLEX STRATEGY ENTERPRISE

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Abstract

Strategic management is a necessary component of system operation of the enterprise and is based on procedures and methods of the analysis and a choice of the strategic purposes and ways of their achievement, if the enterprise represents a complete organism, its strategy also should be complex, and it should take into account interrelations between separate subsystems of the enterprise and influence on them of an environment. The contents of the strategy of the enterprise should cover decisions in the field of structure and volumes of manufacture, behaviour of the enterprise on commodity markets, strategic aspects of intrafirm management, etc.

Keywords: *complex strategy, strategic management.*

INTRODUCTION

Strategic planning and management of the enterprise are tools that provide an opportunity for further development and success in the competition. In a developed market economy, the need for an economic system and its individual units in the coordination of social labour movement is achieved by planning the work of enterprises and firms, because of the demands of modern technology, the regulatory role of the state. If the company is a holistic organism, and its strategy must be comprehensive, to consider the relationship between the individual subsystems of the enterprise and the influence of the environment.

Many enterprises of the Republic of Moldova have not yet appreciated the opportunities that are opening up before them with the introduction of strategic management in front of uncertainty. This is partly explained by the lack of formalization of the process of strategic management and the absence of thorough methods of strategic analysis and management of high complexity of the problem. The lack of suitable tools that satisfy at least the majority of problems solved in the development and implementation of the strategy, also hinders the implementation and reduces the attractiveness of strategic management [5, p. 94].

MATERIAL AND METHOD

The ideology of strategic planning, is based on the management of the organization in terms of instability and uncertainty of the environment that best corresponds to the characteristics of the modern state enterprises of the Republic of Moldova, which determines the relevance of studies of the potential of strategic planning as an effective management by an economic entity.

For the study of economic phenomena, such methods as economic research: historical, graphic, economic and statistical have been used.

RESULTS AND DISCUSSIONS

Strategic management is a necessary component of a system of enterprise management. It is based on the procedures and methods of analysis and selection of strategic objectives and on the ways to achieve them. Boris Karloff named the strategic management of a modern modification of the corporate planning and management [3]. Strategic management should solve the main problem: to find ways to preserve and strengthen the position of the enterprise in a highly competitive, so the problem of competition and survival is at the heart of strategic management perspective, and consistent with the idea of Pareto

optimum (according to the Pareto optimality concept is defined as the state of the economy, in which the state or one company can not be improved by any possible reallocation of resources, finished products, etc., so that when it was not damaged as any other company).

In the most general form of the strategy - it is the general direction of the organization, following which in the long term it should lead to the goal, ensures that the organization's mission. Such an understanding of the strategy is only valid when considering the top-level organization. For lower-level hierarchy of top-level strategy of becoming a target, although it is a high-level tool. At the same time as the mission serves a global goal, determining the cause of the existence of the organization. In our view, the mission of the enterprise - a set of general guidelines of the principles that define the purpose and role of the enterprise in society, relationships with other socio-economic actors. Based on the mission of the enterprise formulated special purpose. The mission of the enterprise is usually a fairly laconic and yet very capacious formulation, as it incorporates the views of the enterprise environment, opportunities and ambitions of their own destiny, and the enterprise.

Strategic decisions (in the broadest sense) are the basis of strategies for the company. The very same strategy of the enterprise thus have to is like a skeleton, which is based on the specific tasks, decisions on specific issues of the enterprise.

The strategy of the company based on the principles of continuous adaptation to changing conditions, which in 1966 introduced the theory of strategic management A.Chandler, but the idea of adaptation, improvement and evolution of the organization used in the theoretical and methodological development of many scientists (I.Ansoff, M.Albert, B.Karlofa, etc.). In fact, all these concepts are reduced to the primary objective of any strategy. They are designed to ensure the survival (existence) and the development of the enterprise. I.Ansoff proposed a theory of basic strategies, the most common strategies used by enterprises. Among them he included a strategy of differentiation, focus, leadership by the quality, etc. [2]

There are three approaches to determining the strategies of the enterprise. The first is based on the structuring of the target space (sphere) of the enterprise – representations of any persons interested in the enterprise, the desirable condition, results, and the evolution of the enterprise. Among these individuals may be representatives of management, employees, shareholders, investors, buyers of products, suppliers, etc. Depending on the degree of activity or, conversely, generalization of these concepts in the target space of different five levels of description: mission, strategy, goals, objectives and actions (consequences of an element is a kind of border between the target and the behavioural sphere). Thus, the structuring of the target areas is executed in a hierarchical system in which each successive level should be considered as a certain refinement of the previous one. In turn, the higher level is presented as a synthesis of one or more lower. It is essential that such an approach, the strategy is seen as an organic unity of purpose and means of implementation.

The second approach to the definition of strategy is based on a synthesis strategy based on individual strategic decisions. That strategy is defined as a complete set of interrelated strategic decisions, is sufficient to describe the key activities of the enterprise. Communication strategies with the mission here is not emphasized, and focus on the completeness and consistency of strategic decisions.

Finally, the third approach is represented by different variants of combined.

Ultimately, any approach, implemented with consistency, content strategy should be the same. Advantages associated with the first approach, a priori "embeddedness" of the strategy to the system of the target space, dignity, the second – in a closer relationship with the implementers of strategy decisions.

It should be noted that the "strategic" consequences could be very different

decisions about the range and volume of production, relations with suppliers and customers, social development, remuneration and other areas of the company. The adoption of non-strategic, operational decisions without reliance on the strategies of the operational decisions denies the validity and consistency.

The purpose and the result of strategic planning is the formation of enterprise strategy - a system of mutually strategic decisions in key areas of activity and development of the company, determining its internal and external behaviours (Fig. 1).
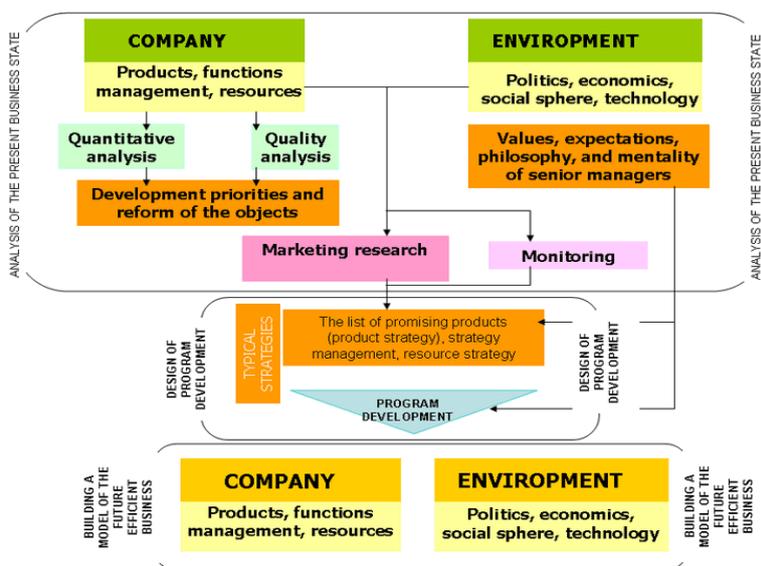
Fig. 1. Elements of Strategic Planning Company

With the concepts of "strategy" and "strategic decision" is closely related to the concept of "potential of the enterprise". At any given moment the company has a well-defined socio-economic potential. In the most general sense, it can be described as a set at the disposal of the enterprise strategic resources that are crucial to the possibilities and limits of functioning of the enterprise in certain circumstances. Should be classified as strategic resources the types of resources, amounts and whose structure can be significantly changed only through the adoption and implementation of appropriate strategic decision. Under normal circumstances, as the components potential should be considered resources that achieve competitive advantage enterprise: proven technology, progressive equipment, intellectual resources, patents, etc.

Finally, a strategy the enterprise should be distinguished from the policy of the company. Policy of the enterprise determines the proclaimed intentions of the organization. It is designed to orient the decision making

process in the right direction for the strategy. Therefore, the concept of "strategy" is a broader more extensive and fundamental than the concept of "politics".

In content, enterprise strategy should include decisions on the structure and volume of production, the behaviour of the enterprise in the commodity markets, the strategic aspects of in-house management, etc. The upper level consists of the following eight areas of relatively independent of the strategy:

-commodity-market strategy - a set of strategic decision that determine the range, scope and quality of products and ways of behaviour on a commodity market;

-resource and market strategy - a set of strategic decision that determine the behaviour of the enterprise in the market of industrial and financial and other resources and factors of production;

-IT strategy - the strategic decisions that determine the dynamics of technology the enterprise and the influence of market factors;

-integration strategy - a set of decisions that determine the functional integration and

management of interaction with other the enterprises;

-financial and investment strategy - a set of decisions that determine the ways to attract, accumulation and utilization of financial resources;

-social strategy - a set of decisions that determine the type and structure of the group employees of the enterprise, as well as the nature of interactions with its shareholders;

-management strategy - a set of decisions that determine the nature of business management in implementing the chosen strategy;

-strategy for restructuring - the set of solutions to bring the industrial-technological, organizational and management structure in accordance with the changed conditions and the strategy functioning of the enterprise [5].

By the time the enterprise strategy can be divided into two parts: strategy formation; operational management of the implementation strategy (tactics).

The formation of the strategy involves the selection of one of the few (usually no more than ten), pre-designed options in a given area, depending on external factors and the strategic and choice made earlier.

Create and implement a strategy – rather laborious procedure. However, the significance of this process for the company far exceeds the cost of its implementation. The fact that the mere process of thinking about the situation of collective discussion, analysis of different options in different areas of the enterprise are extremely useful, increasing the degree of consistency and validity of decision-making and management of the enterprise as a whole. It is interesting that in discussing the strategy of improving management, consolidated group, reduced the level of conflict in the interests of owners, managers, employees of the enterprise.

CONCLUSIONS

To create and implement a strategy is a rather laborious procedure. However, the significance of this process for the company considerably exceeds the cost of its implementation. The fact that the mere

process of thinking about the situation of collective discussion, analysis of different options in different areas of the enterprise are extremely useful, increasing the degree of consistency and validity of decision-making and management of the enterprise as a whole. It is interesting that discussing the strategy of improving management, consolidated group, reduced the level of conflict in the interests of owners, managers, employees of the enterprise.

Most of the enterprises of the Republic of Moldova does not have a documented strategy that does not prevent them succeed. Moreover, the lack of a strategic plan does not indicate that the management companies "drifting" The leaders of successful companies tend to understand what are their advantages over the competition and take cconcerted action to strengthen its market position. In this sense, they have a strategy. The problem is that it does not understand or do not accept those who are to participate actively in its implementation: top-level executives, middle, and lower-level employees. In our opinion, the main purpose of a formalized strategy is to create a common vision, able to coordinate the efforts of staff and managers at all levels. Therefore, the head of the enterprise is not enough to "invent" strategy. Necessary to ensure that it has become "our" strategy.

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THEORETICAL ASPECTS OF STRATEGIC MANAGEMENT ON ENTERPRISE OF THE AGRARIAN SECTOR OF THE ECONOMY

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Abstract

The Management of agrarian enterprises in the conditions of market economy is impossible without a business planning at all of the levels: strategic, tactical and operational. In the authors' opinion, the strategic level is, which defines the main directions of development of enterprises, is the most important. The formation of market relations creates for enterprises the need of strategic management, a concept which is based on the development of strategies for the effective development of enterprises on long terms, provided stiff competition among manufacturers.

*Keywords***:** *strategic management, management process.*

INTRODUCTION

One of the basic problems of the development of the agrarian sector of the Republic of Moldova economy is the absence of clear, evidence-based strategic directions of development of the branches of the agro industrial complex. As practice shows, not always the regulation of the development of agricultural production by the state gives the desired socio-economic results. Public governments are often unable to fully ensure the proper control and adjustment of the strategic development of the agro industrial complex. [2]

The expansion of negative tendencies in agriculture, the intensified competition, the deterioration of the social position of commodity producers, the inefficiency of existing methods of management of economic processes require new approaches to improve the effectiveness of the management of agricultural enterprises, the formation of a new type of thinking among the managers. [1]

MATERIAL AND METHOD

The main purpose of the article is a scientific justification for the foundations of strategic management of agrarian enterprises in the contemporary economy and the development of promising areas of the formation of an effective strategic management of agrarian formations of the state.

For the study of economic events, such methods as economic research: historical, graphic, economic and statistical have been used.

RESULTS AND DISCUSSIONS

Agriculture is the basis of agricultural production. Agriculture is of great importance to the economy of the Republic of Moldova, because: (1) at present and in the near future, the manufacturing sector of the national economy will have a predominantly agro-industrial character, and for much of the country's population, agricultural activity is the main source of livelihood, since most of the population live in rural areas, (2) the share of agriculture with industry, processing of agricultural raw materials is approximately 33% of GDP and 65% of total exports; (3) in rural areas natural and cultural-historical landscapes conducive to modern agro-tourism, which could develop into an important branch of the volume economy are attractive. [1]

The term "strategic management" was introduced into the lexicon of scientists and businessmen in the late 60-s and 70-s of the

XX century in order to distinguish the current management at the level of production and management, which was carried out at the highest level.

The first step towards deeper understanding of the need for strategic management has been the extended conference in Pittsburgh (USA, May 1971), where the results, such as the development of a strategic approach in the management of the western and eastern companies were summarised, and also the main directions of further development of strategic management were outlined.

Beginning with 1973, the principles of strategic management are gradually gaining acceptance in developed countries with a market economy type, and beginning with the late 80-s- early 90-s are dominating in the majority of corporations around the world. [5] Strategic management is quite often referred to as a strategic market management. This emphasizes the market orientation of enterprises.

Strategic management can be viewed as a dynamic set of five inter-related management processes (Fig. 1). These processes logically form a single integral mechanism in the middle of which there is a feedback-resistant and, accordingly, reverse the effect of each process on the other, and their whole totality. This is precisely the feature of the structure of strategic management.

Analysis of the environment is the first process of strategic management as it provides a basis for defining the objectives of the enterprise and for developing a strategy. The analysis includes the study of the macro-environment and directly the environment of the enterprise. The analysis of the macro-environment – is the study of the influence of the economy, regulation and governance, political processes, the environment natural and resources, social and cultural component of social, scientific, technical and technological development, and infrastructure. Macro-environment analyzes components such as customers, suppliers, competitors, job market. From the study of the external environment it is necessary to move to the analysis of the internal environment of the enterprise

(personnel, organization management, manufacturing, finance, marketing, corporate culture). For the enterprise it is important to maintain not only the balance between input and output in the manufacturing process, but also the balance of the interests of different social groups of people who are interested in the functioning of the enterprise and have an influence on it. The balance of interests determines the direction of the vector enterprise which is formally represented as a mission and strategic objectives.
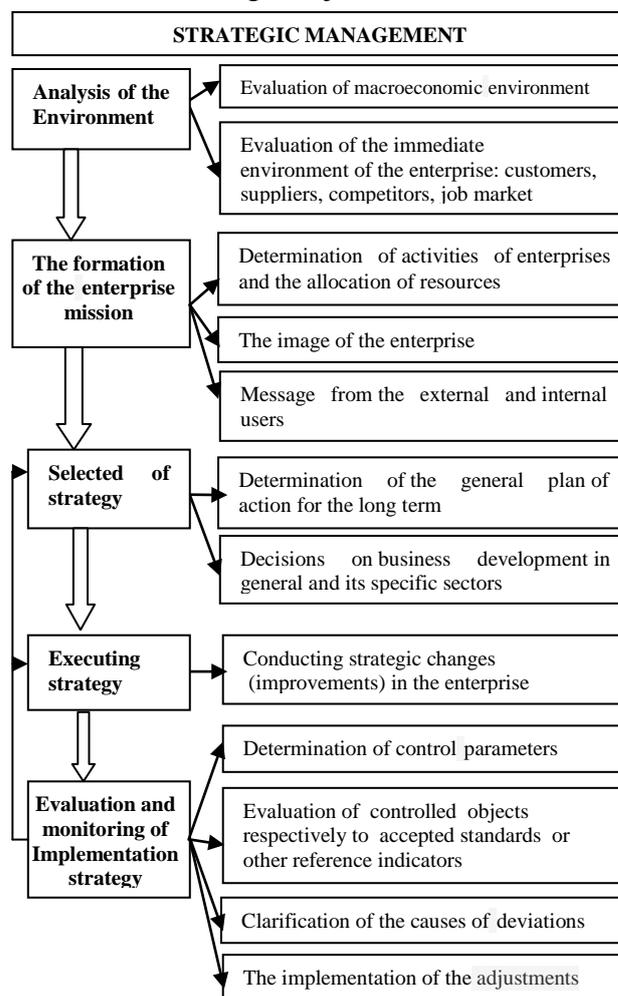
Fig. 1. The basic scheme of the strategic management of agrarian enterprises
Notice. Own research, based on [3].

The mission of the enterprise - this is a message addressed to both external and internal users, which sets out the reason for the existence of the enterprise and the characteristics that distinguish it from other companies, and this mode of perception, the image of the enterprise, the definition of areas

of activity and resource allocation. The mission serves as a motivator for employees and generates interest in it from the environment.

The mission must be formulated in a way, on the one hand, to clearly indicate the reason for the existence of enterprise and on the other - the mission to be general enough so that there would be no need to often change it.

After that, it's time to *select a strategy*. This process is central to the strategic management and consists not only in determining the general plan of action for the long term. Defining strategy as a process – a decision to develop the business as a whole and its separate sectors, how to deal with competitors, the place of the competitors, etc.

The process of implementation strategies is the next in the sequence of the objectives of strategic management. Implementation of the strategy - it is of strategic changes (improvements) in the enterprise, which leads him into a state of readiness to turn strategy into reality.

Consequently, the process management strategy requires exceptional attention and control. This function is addresses a *process such as evaluation and monitoring strategy implementation*, which provides: a definition of what and what parameters should be monitored, controlled assessment of the objects accordingly to accepted standards or other benchmark indices, to determine the causes of deviations, if any are found, the implementation of adjustment.

When monitoring the implementation of strategies, these tasks get some specifics as strategic control is directed at clarifying the extent to which the strategic objectives of the enterprise with the help of the chosen strategy. Adjustment of the consequences of strategic control may relate to both the strategy and strategic objectives of the enterprise. Therefore, the process is a closed-loop management.

Thus, the strategy of the enterprise in a competitive environment provides knowledge of the nature of strategic analysis, the ability to define the mission of the enterprise, assess and monitoring the implementation of the strategy as a basis for developing and implementing effective policies in the market conditions.

In the current economic conditions, strategic management and planning of agricultural enterprises, in practice, have found little application. The leaders of agro formations show a formal interest in strategic management and in most of the cases do not apply the modern technologies of strategic management. As practice shows, the agro formations reduced function of control and information security of the strategic management process.

In most cases, management decisions are made intuitively, without a detailed analysis of the factors of external and internal environment, economic justification of the effectiveness of strategic alternatives and consideration of financial risks. Also there is no relationship and consistency in the implementation of activities that does not give the possibility of a synergistic effect.

Features of the current state of public administration development of agro-industrial complex of the country, characterized by the absence of a regional approach in the preparation of the development strategy of agricultural enterprises. Reduced defining, regulating, controlling and stimulating the function of the state as principal organ, which forms the general direction of development agro-industrial complex at the national level.[5]

In our opinion in such a complex situation, agricultural enterprises of the Republic of Moldova to look for internal reserves of the organizational improving the efficiency of its activities, which are not related to the financial costs.

The lack of financial resources is one of the main obstacles to development of the majority of agricultural enterprises. The program of financial assistance to agriculture in Moldova compared to other countries is very modest, budget subsidies for agriculture does not exceed the level of 3% of all state budget expenditures.[1]

In our opinion, the existing organization of the management of enterprises in the country,

changes in the strategic management should be holistic, multi-level, long-term, and last but not least is consistent with other measures of reforming character. We believe that the main directions of improving the effectiveness of the strategic management of agrarian enterprises are:

1.The formation of an effective mechanism for implementing the strategic management of the development of strategic management at every enterprise. This mechanism should take into account the most effective and balanced ratio of all the components that would allow the maximum effect and is implemented on time management decisions.

2.The development of the enterprises strategic planning system, which would be based on the principles of indicative planning, strict control and the timely adjustment of enterprises in accordance with a system of economic indicators.

3.Establishing a clear management information systems, which should be fixed in an internal document management with a clear order of filing timely in the required amount of reliable information.

4.Providing highly qualified personnel by stimulating the manager of the desire to improve professional skills. Collaboration with the State Agrarian University of Moldova in terms of attracting capable and qualified advanced students for further work on the agrarian enterprises.

The plight of the rural sector requires a focus on the use of new forms and methods of strategic planning, management, monitoring and evaluation of the National program «Satul Moldovenesc» and regional programs in the field of agriculture and villages, a significant change in public policy in the countryside, the profound changes of legislative and institutional framework in this area.

CONCLUSIONS

Strategic management is an important part of enterprise management system. The main advantage of the strategic management of the agrarian enterprises is the use of internal

managerial resources of enterprises that do not require significant capital investment.

Based on the objectives, the system of strategic management of agricultural enterprise, in our opinion, must include:

1.The formation of an effective mechanism for implementing the strategic management of the development of strategic management at every enterprise;

2.The development of the strategic planning system, based on the principles of indicative planning;

3.Establishing a clear management information systems;

4.Providing enterprise with highly qualified personnel by stimulating the manager of the desire to improve skills.

Achieving these goals is possible only if the implementation and operation of well-regulated process of strategic planning, which, in our opinion make the country's agricultural enterprises to concentrate their efforts on the solution of actual problems and increase efficiency. [6]

Strategic planning provides an opportunity to study further the medium of their activities, their own capabilities and limitations. And of course it has a positive effect on increasing the profitability of enterprises and provides the basis for effective strategic management of enterprise.

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SOCIAL MEDIA AND WEB MARKETING STRATEGIES: AN EXPLORATORY STUDY IN THE ITALIAN WINE SECTOR

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Abstract

Social media have not only changed the way in which organisations and their brands interact with customers, it has also changed the way business gets done. Organisations are now able to reach consumers online and network with them. If these web communications are effectively managed, they become part of customer conversations. Despite that the Italian wine sector is characterized by a structural delay in the adoption of ICT, many managers are now trying to use social media as a low cost tools in their marketing strategies. The aim of this study is to explore the best practices adopted by Italian wineries in increasing wine brand visibility. Six leader wineries have been selected as case studies according to their business size, target market, product typologies and brand value. Wineries are compared in order to evaluate the relationships between wine brands, visibility, and social media strategies. Results show the existence of different development paths within the Italian wine sector. As a consequence comparative studies are required in order both to manage social media relationships and to reach higher levels of brand equity.
Keywords: wine, social media, web marketing, brand equity, best practices

INTRODUCTION

Social media have not only changed the way in which organisations and their brands interact with customers. But it has also changed the way business gets done. Organisations are now able to reach consumers online and interact with them. If web communication is effectively managed, customer conversation is greatly improved. Social media can help businesses to intercept the consumers looking to get experiences rather than products or services.

The time in which companies just put online a site as an equivalent to a paper brochure has passed through. Consumers now expect to be involved in the relationship with producers. From their point of view, everything can contribute to create or to enrich the experience of the product/service. To make sure that navigation throughout a site can be stored as a positive experience, it is essential for businesses to develop the interactivity potential of the Web 2.0.

At the same time this allows companies to reach virtual places visited by the new generations of web users/consumers.

Despite the Italian wine sector is characterized by a structural delay in the adoption of ICT, many managers are now trying to use the social media as low cost tools in their marketing strategies.

This is a response both to the reduction of investments in communication due to the global financial crisis and to the need to gain competitiveness through web technology.

For Italian wineries the wine lovers (mainly males aged between 26 and 45 years with a high social and economic level) and Millenials consumers (mainly males aged between 18 and 35 years) represent specific market segment targets for the web marketing strategists.

Starting from a selected sample of Italian leader wineries the paper discusses the relationships between the wine brands, social media visibility and web marketing strategies.

MATERIAL AND METHOD

The technological evolution that allowed firms to access the tools of Web 2.0, has enlivened the debate among marketers regarding both how to use them and their implementation in the business marketing strategy [1] [2].

The transition from Web 1.0 (where the Internet was seen as a mere means of information dissemination based on a unidirectional communication process from company to consumers) to the Web 2.0 era (characterized by the ongoing dialogue between companies and consumers), has given rise to the interaction and content sharing between users.

This has determined direct impact on the way which businesses put in place "esperiential" marketing models in order to meet the consumers needs for experience and emotion [3].

Many online sales scholars today consider social commerce as the natural evolution of electronic commerce.

This does not mean carrying the virtual products storefront on a social media fan page board. It is to turn the customers into promoters, so that they become true brand ambassadors.

Companies are aware that they can not continue to ignore the great opportunities that can be acquire from the use of social media especially to convey the corporate image and to interact with consumers.

The work of the companies, to obtain satisfactory results, should be based on listening to the conversations regarding the brands. Thus allowing a satisfactory monitoring of the users common thought and which is a pre-requisite for any change in the product strategies.

The essential factors for companies who want to set up social media marketing strategies are transparency and efficient interaction with users. In this way, through listening, interaction and transparency activities, the company can improve its ability to adapt to the needs of consumers, being able to generate positive word of mouth and to increase online brand visibility.

Social media can therefore help to achieve a key objective in the communication strategies of firms, which is consumer loyalty. As is known, however, consumers feel more protected if they see that the company responds publicly to any criticism or negative judgments.

Understand, monitor and anticipate these changes in consumers behaviour becomes the challenge on which companies and brands have to compete.

Even for wineries social media represent new opportunities to: i) establish and cultivate relationships with consumer targets and virtual communities [4] [5], ii) increase brand visibility [6], iii) generate brand equity [7].

Moreover, given the strong synergy that can occur between the wine consumption and the enjoyment of the territory from which it comes, there are areas in which we can see the appearance of Web 3.0 era. Based on mobile technologies and geo-localisation tools it provides a defined physical space for the exchange of information between users [8].

This study takes its origin from research carried out previously [9], where it was found that in Italy until now wineries were structured mainly from the perspective of Web 1.0.

The aim is to explore, through case study methodology, if and how these companies, which are distinguished by dynamism in web marketing strategies, have changed their organizational culture and approach in order to communicate through social media. The specific objective of the survey is to understand which web marketing strategies have been implemented and to compare the results obtained in terms of brands visibility.

The identification of the case studies was carried out according to the company size, the brand reputation, the communication strategy and the web marketing tools adopted.

On this basis the following six wineries were selected:
- Azienda Agricola il Mosnel (A);
- Marchesi de' Frescobaldi (B);
- Feudi di San Gregorio (C);
- Casa Vinicola Zonin (D);
- Fratelli Gancia & C. (E);
- Cantina Ca' del Bosco (F).

After identifying the production area and the most representative wine for every winery, the first comparative evaluation was based both on the observation of web marketing tools used (the presence or absence of Website, Blog, Facebook page, Twitter page, YouTube channel, Flickr page, iPhone Apps, QR code) and communication strategies implemented (communication target and content, strengths, weaknesses, potential for improvement).

The next phase of the analysis was to evaluate the online brands visibility. Data were obtained from a website called HowSociable (www.howsociable.com) through which it is possible to track the visibility of each brand in 12 different social media. It provides a specific score for brands visibility on each media, as well as an overall brand visibility score called "magnitude". The social media considered are:
- Blogger;
- Facebook;
- Foursquare;
- GetGlue;
- Google Plus;
- LinkedIn;
- Lockerz;
- Tumblr;
- Twitter;
- Wordpress;
- yFrog;
- YouTube.

The visibility score is calculated by taking a set of benchmark results using one globally recognized traditional brand and giving it a score of 10. In order to ensure also for small local brands the opportunity to be evaluated, the algorithm takes into account a sliding scale. The scores are referred to a specific week.

The scores were taken as a starting point to give a qualitative judgment on the web marketing actions carried out by the selected wineries. Online visibility is compared with the work done by the wineries on the web taking into creativity, conversation and relationship parameters.

For *creativity* we refer to the ability to generate consumers' interest and participation through non-conventional content. For *conversation* we refer to the ability to interact with its own audience through the continuous presence on the web. For *relationship* we refer to the ability to create long-term relationships with consumers and to generate customer loyalty.

The scores were reported on a scale of 0 to 10 and must therefore be considered in terms of benchmarking within the sample.

RESULTS AND DISCUSSIONS

In this section is presented a synthesis of the information gathered. Data has been processed into four tables.

Table 1 summarizes the foundation year, the original production area, the most representative wine, and its target markets for each of the selected wineries.

Table 1. Wineries' general information

Wineries	Foundation year	Original production area	Most representative wine
A	1836	Lombardy	Franciacorta DOCG, sparkling white wine
B	1300	Tuscany	Chianti DOCG, red wine
C	1986	Campania	Greco di Tufo DOCG, white wine
D	1821	Veneto	Gambellara DOC, white wine
E	1850	Piedmont	Asti DOCG, sparkling juicy white wine
F	1964	Lombardy	Franciacorta DOCG, sparkling white wine

The sample survey appears quite different considering that it involves both a winery with over 700 years activity (B) and a relatively new winery (C). It also takes into account still and sparkling white wine, red wine and sweet wines.

The original production area represents the land that has given rise to business development. The sample shows a greater presence in northern Italy (4 companies), while 2 are localized in the centre (B) and the south (C) of Italy. All selected companies have access to large scale retail chains with at least some wines.

Table 2. Wineries' web marketing tools and communication strategy aims

Wineries	Web marketing tools	Communication strategy aims
A	Official website, blog, Facebook page, Twitter page, YouTube channel, Flickr page, QR code.	To spread the culture of Italian wines and to maintain the relationship with consumers.
B	Official website, Facebook page, Twitter page, YouTube channel, Flickr page, iPhone Apps.	Product quality, Tuscany uniqueness area and innovation in production techniques and communication.
C	Official website, Facebook page.	To retrieve the value of indigenous grapes of southern Italy.
D	Official website, blog, Facebook page, Twitter page, Flickr page, QR code.	Making Italian wine culture, being able to represent many different production areas.
E	Official website (with storytelling), Facebook brand page.	Spokesman of the Italian conviviality lifestyle through sparkling sweet wines
F	Official website (with storytelling), Facebook page, Flickr page, Youtube channel.	To surprise through the art of making wine and to show itself as a trendy winery.

Table 2 highlights the web marketing tools utilized by the wineries and the aims of their online communication strategies. Each winery presents a different web marketing tools portfolio. In some cases it is so large that some tools are no longer updated (for example the Facebook and Twitter page of D Winery have been abandoned for more than two years). This is due to the fact that companies tried to activate all the new marketing tools at their disposal to establish a relationship with consumers, without considering the implications in terms of time and human resources necessary to run these tools. It is important to note that only the wineries oriented to widespread Italian lifestyle (E and F) are using the tool of storytelling.

At the end of this first stage of analysis an assessment on the wineries' potential development concerning their work on the web has been provided. The question that was placed is as follows: the actions taken by social media marketing companies have helped to achieve greater visibility on the web? HowSociable was the instrument used to obtain quantitative data related to online brand visibility. It is an algorithm which provides scores both on the brand overall visibility in all social media and the brand visibility in specific media.

Table 3 shows the scores obtained by the winery brands according to the HowSociable algorithm. They are considered on a linear scale from 0 to 10. Here have been selected only the visibility parameters in which wineries take a score.

It must be said that values greater than zero have been emerged even in social media in which the wineries considered do not have their own profile, especially on Foursquare, Google Plus, LinkedIn and Tumble tools.

Table 3. HowSociable algorithm scores

Visibility parameters	Wineries					
	A	B	C	D	E	F
Facebook	1.5	1.4	1.3	1.4	2.0	1.3
Foursquare	-	1.7	1.2	1.2	1.7	1.2
Google Plus	2.0	2.0	-	2.0	2.2	-
LinkedIn	-	1.6	1.6	1.6	1.6	-
Tumblr	-	1.2	1.2	1.4	1.4	1.2
Twitter	1.9	2.8	0.9	3.3	3.7	1.4
Youtube	-	2.0	-	2.7	1.7	-
Overall magnitude	1.4	2.7	1.1	3.3	3.5	1.5

At the same time it is important to note that in some cases, wineries get brand visibility even if their presence in the media was no longer being updated.

This represents a direct evidence of the influence that these tools play in the corporate brand spreading. It should however be considered that these scores do not take into account if consumers appoint the brands in a positive or negative way. This information can be inferred only by observing the work of the company on social media.

We have decided to make our comparison both on the overall brands visibility scores and the scores obtained in the three social media most used by the surveyed wineries, which are Facebook, YouTube and Twitter.

In general, the highest value was 3.7 on a scale of up to 10, which means that there are still wide improvement margins for wineries to effectively increase their visibility on the web.

Considering the different media, Twitter has emerged as the tool that gets the highest values within the sample. This could be related to the characteristics of this instrument as being based on 140 characters text messages. Often it requires more interactions for the information dissemination. Facebook, by contrast, returns values rather constant. This is probably due to need for a continued presence on the web. YouTube gives conflicting values. They can be read in light of the ability of this tool to emphasize the viral spread of the most popular videos of the moment.

By comparing the values obtained, there are only three wineries that have brand visibility in all these three instruments (B, D and F). This is consistent with their leader position in their respective target markets. They are also the larger companies in our sample.

The most striking feature is related to the visibility obtained by winery A on Twitter and Facebook. This despite being a small family winery takes scores even higher than two Italian major brands such as those of winery C and winery F. This is the result of a social media marketing action being very effective.

The comparative evaluation of the overall brand visibility score confirms the evidence presented above, defining the following ranking in the sample: E, D, B, F, A and C.

Table 4. Web marketing strategy parameters scores

	Wineries					
Web strategy parameters	A	B	C	D	E	F
Visibility	6	8	4	9	9	6
Creativity	5	9	2	7	7	9
Conversation	6	8	5	6	4	2
Relationship	7	7	5	7	4	2

Table 4 depicts the scores of the selected web marketing strategy parameters obtained by our comparative evaluation. The parameters have been graded on an effectiveness scale of 1 to 10. The score has been defined considering 0-1 = poor, 2-3 = inadequate, 5-6 = adequate, 7-8 = good, 9-10 = excellent.

The results obtained show that there are wineries that have implemented web marketing strategies more effectively than the other.

In particular some aspects emerge:

-Winery B, despite not having achieved the top visibility ranking, appears the most balanced in the sample survey, with highest scores in all other parameters analyzed;

-Wineries D and E have achieved a leadership position of brand visibility by adopting completely different communication strategies. Winery D uses a strong institutional communication style to create relationships, while winery E tries to create consumer interest through a very detailed business storytelling, but that does not seem useful to strengthen the relationships;

-Winery A suffers in terms of brand visibility because of the short history and the familiarity of the business, but it seems to be capable through the web marketing tools used to spread its brand and to build relationships to interact actively with its customers;

-Wineries C and D show instead communication strategies that lack of reticence and lack of ability to arouse interest in the brand (C), or which are characterized by a high visual impact, but that does not translate into profitable interactions with the customers (D).

CONCLUSIONS

The study presents the results of a survey on the Italian wineries that have shown to date a dynamic integration of Web 2.0 tools into their marketing strategies.

The main implications arising from the study can be summarized as follows.

There is not always consistency between strategic goals and brand visibility on the social media. The communication activities

do not often take into account the different languages to be used depending on the media typology. In particular too formal communication styles generate feelings of "detachment" from a user perspective which prevent the building of relationships.

Different development paths exist within the Italian wine sector. The case study approach used here permits the clarification of the strategic choices adopted by some leader companies, but it is not representative in the national trends. As a consequence further comparative studies are required in order to have a comprehensive understanding of how Italian wineries must manage social media relationships to reach higher levels of brand equity.

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PACKAGE STYLES IN WINE MARKETING: A CASE STUDY OF VALPOLICELLA WINES

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Abstract

The role of packaging as communication tool has not been deeply analysed in the wine marketing literature in the Old World, also considering the denomination of origin. Recently, the interactions between collective and corporate brands are generating new communication elements, which should be explored to give new marketing inputs to wine producers. This research aims at analysing the package styles to understand the communication choices of the wineries from Valpolicella. Valpolicella is one of the biggest and most famous typical production areas for red wines in Italy, with a wide range of product/market combinations, target prices and a high export propensity. An extensive survey has been carried out to understand the package style elements actually used. An ad hoc survey scheme has been applied to 377 wines of the 59 wineries which are members of the consortium of Valpolicella wines producers. The main "package style profiles" that represent the different communication strategies adopted by the Valpolicella wineries, have been determined. The research also highlights the roles of the collective brand and corporate brands in winery communication strategies.

*Keywords***:** *packaging, wine, communication strategies*

INTRODUCTION

Nowadays packaging is one of the most interesting components of the marketing mix, especially in the wine industry. For years it has been considered as an object to contain, protect and transport goods. Today it is an important marketing communication lever, as a component of the product. New communicative and symbolic functions are emerging for wine, involving different knowledge and research fields. Through the packaging, the combination of colours and shapes, and the communication and information messages contained in it, an enterprise can: i) build and strengthen its image, ii) supervise and manage its competitive positioning, iii) launch quality signals, iv) transfer the value of the corporate and the collective brands, v) arouse emotions.
The packaging is often the first clue used by consumer to assess the quality of a wine. There is no doubt that the presentation and appearance of a wine affect consumer perception and acceptability of the product. Therefore, the commitment in the packaging

care allows to achieve significant market results with lower investment than other marketing areas.
International studies on wine packaging focus on different technical options for alternative materials [1] [2], on its influence on consumer decision [3] [4] [5], on its impact on market prices for wine [6].
The study conducted by Orth and Malkewitz [7] develops empirically based guidelines to assist managers in selecting or modifying package designs for achieving desired consumer responses. They identified the concept of holistic package design based on the visual appearance and on consumer impressions. These authors characterized five holistic package designs: massive, contrasting, natural, delicate, and nondescript.
The objective of this paper is to examine how packaging, its elements and their characteristics can be used as leverage to achieve marketing success. It aims to understand the communication choices of the wineries for Valpolicella wines[1] to attract

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[1] Valpolicella is one of the biggest and most famous typical production area for red wines in Italy, with a wide range of product/market combinations, target prices and an high export

consumers, which are increasingly interested in purchasing products with high symbolic contents and in customized consumption experiences. On this basis, the study aims to analyse the role played by the different nature of textual and visual elements that make-up the packaging of a Valpolicella wine.

MATERIAL AND METHOD

The survey involved 377 wines produced by 59 members of the consortium of Valpolicella wines producers, representing 35.5% of its members.

Table 1 shows the investigated wines divided by denomination of origin (DOC)[2] or indication of origin (IGT). Red IGT wines have also been investigated to have a complete view of the product portfolio. They follow two different strategies: one characterises wines that are positioned in the low-price market segment and is mainly implemented by wine cooperatives, and the other is adopted by the wine producers, often small, that do not follow the standards for the production of denomination of origin wines, to fully express their creativity and create high range wines with high prices.

Table 1. Investigated products

Denomination/Indication	Wines	
	n	%
Amarone della Valpolicella DOC	116	30.8
Valpolicella DOC	94	24.9
Valpolicella Ripasso DOC	76	20.2
Recioto della Valpolicella DOC	57	15.1
Red IGT wines	34	9.0
Total	377	100.0

The firms have a product portfolio consisting of 6 wines on average. This is the synthesis of two different situations: i) about 60% of companies, mostly small, have up to 6

references, ii) the other 40% is composed by firms that apply relevant differentiation strategies, with more than one product line, and a high number of references (up to 21). The companies surveyed make also extensive use of product brands (71% of the companies). However, the impact that the product brand plays for the consumer, and its interrelationship with the collective brand, have not been explored yet.

The information collection has been carried out through the vision of the bottles, using the survey scheme in Table 2. The package elements have been identified thanks to the guidelines proposed by Orth and Malkewitz (2008).

Table 2. Survey scheme

Package elements	Surveyed characteristics
Bottle	colour, shape, relief, high, serigraphy
Capsule	closure, colour, adornments, image and text
Neck label	colour, adornments, image and text
Front and back labels	shape, colour, position, surface texture, finish, forma, reliefs, notches, adornments, edge, image, logo, company name, denomination name, product name, line name, legal information, other information

The survey scheme provides an exhaustive scenario of the characteristics of the packaging and its image and text elements. The collection of the information objectively assessed the presence or absence of each element and described it in detail when it was present.

The statistical analysis allows the assessment of the interdependence between these variables, in order to identify the reference package styles for wine firms.

This research presents a first exploration of the collected data. The univariate analysis will outline the firms' choices concerning the different packaging elements, the factor analysis will highlight different package styles.

RESULTS AND DISCUSSIONS

Table 3 highlights the features of the bottle and the capsule, and the presence of the neck label. It shows the frequencies of the different elements, each calculated on the total of the denomination of origin products.

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propensity. It lies in the Veneto Region, in the north-east of Italy. There are more than 6,000 hectares of vineyards (3.0% Italian vineyards) and produces more than 377,000 hectoliters of denomination of origin wine (3.8% of Italian DOC production) [8].

[2] The Valpolicella wines are produced from autochthonous grape varieties. Amarone is the most prestigious and fashionable Valpolicella wine. It is made from dried grapes and it is in the high range market. It has a strong structure and high alcohol content. The Valpolicella is the base product, characterized by high drinkability and medium alcohol content. The Valpolicella Ripasso is placed between Valpolicella and Amarone, because the wine comes from the contact between Valpolicella and Amarone marc, and because of its price, drinkability and alcohol by volume. Recioto is a sweet red wine, made from withered grapes.

Considering the bottle, despite that the favourite colours are dark green or brown, light green bottles are also used for Valpolicella and red IGT wines. Bordeaux bottles are the most used. However, Amarone widely uses burgundy bottles, which are heavier, more sinuous and sophisticated. This shape is also common in about half of the Recioto bottles.

The capsules of quality materials, such as polylaminate, are the most often used by producers of Valpolicella, especially for Amarone (the product of the highest range), and IGT red wines. This proves that they are not synonymous with less attention to details and a lesser quality than denomination of origin wines.

Amarone and IGT also have the highest percentage of neck labels, which often provide information and give an "ancient" style to the packaging.

Concerning the capsule colour, the data reported in Table 3 is the result of a reclassification, which compares the colour of the capsule to that of the front label. They may be equal, or different in two ways: i) the colour of the capsule may have colours related to the nature or the vine (i.e. beige, red or green); ii) the colour of the capsule may be totally different from natural tones (i.e. electric blue or silver). Under this point of view, Valpolicella expresses more fantasy than the other denominations, with the highest incidence of capsules with a colour that contrasts with the front label. Instead, high quality wines, like Amarone, are focused on the creation of a compact and homogeneous image, to transmit visual impact and elegance at the same time.

Table 3. Characteristics of bottles, capsules and neck labels (%)

Bottle, capsule and neck label	Valpolicella (n=94)	Ripasso (n=76)	Amarone (n=116)	Recioto (n=57)	IGT (n=34)
dark green/brown bottle	89.4	93.4	99.1	96.5	91.2
burgundy bottle	3.2	17.1	72.4	43.9	23.5
quality material of capsule	75.5	76.3	87.9	78.9	85.3
capsule colour different from label, not natural tones	10.6	7.9	1.7	5.3	5.9
natural cork	90.4	98.7	100.0	100.0	97.1
presence of neck label	0.0	0.0	7.8	1.8	5.9

The percentages are calculated considering the total of denomination/indication

The usual cork is a natural product. The synthetic corks are tolerated by the consumer only in the case of Valpolicella wines, which are not-aged and used as "everyday wines". The incidence of synthetic closures in Valpolicella wines is greater than that of red IGT wines. This emphasizes the concept that IGT is not synonymous with lower quality.

Table 4 describes the front label. Generally, it is not made with special materials and is centrally located in the bottle. The exception is Amarone, which has a lower positioning, which gives it a more prestigious image. Few front labels are fragmented, but the Ripasso is different and in this way it assumes a more innovative image compared to Amarone and a greater prestige than the Valpolicella. The label texture is almost equally divided in textured and smooth, but matte finish prevails over gloss. This confirms the natural and traditional approach that producers want to transmit to consumers. Most labels are rectangular. However, Amarone has the highest number of labels with special shapes (i.e. oval), linked with the tradition to affix the neck label and to recall the craftsmanship of manuscripts. Black labels are mostly used for Amarone and white labels for Valpolicella. The red and beige are mainly for Recioto. The beige is the second most common colour for Amarone. Natural colours are more associated to Amarone, giving it a traditional and territorial image.

The fantasy of producers for IGT wines shines through the use of colours that have nothing to do with the land or the vineyard in the label (i.e. blue and grey). Multiple colours labels prompt a more modern approach to design, which is more frequently hazarded in Valpolicella and Ripasso wines.

Most labels have a smooth edge. An elaborate edge is more widespread among the Amarone and the Ripasso, which gives them greater craftsmanship.

About one third of the sample presents images, and especially on the front labels of Valpolicella wines. In most cases they represents pictures or the winery buildings and rural courtyards. However, on the Amarone labels humans figures, especially

mythological, prevail, like cherubs or gods, showing the traditional local wine iconography. In red IGT wines, the image depicts items related to wine and vines (i.e. grapes, vines or shoots). Most of the pictures are very detailed, in high contrast with the background, and with a traditional execution. These features are particularly pronounced in IGTs. This is a communication choice to give a more traditional impression to consumers. The image resolution is predominantly lower, except for the Valpolicella.

Most front labels used the company logo as an image. It is elaborated in different colours and stylized, to create edges or ornaments, or printed in filigree.

Table 4. Characteristics of front labels (%)

Front label	Valpolicella (n=94)	Ripasso (n=76)	Amarone (n=116)	Recioto (n=57)	IGT (n=34)
Paper					
quality material	3.2	1.3	3.4	1.8	0.0
central position	62.8	63.2	49.1	56.1	58.8
Fragmented	18.1	19.7	11.2	7.0	11.8
textured surface	45.7	46.1	50.9	49.1	41.2
matte finish	80.9	84.2	89.7	91.2	91.2
Nonrectangular	13.8	19.7	28.4	21.1	11.8
Black	14.9	30.3	33.6	24.6	32.4
White	23.4	11.8	9.5	10.5	17.6
Red	6.4	9.2	2.6	17.5	2.9
beige tone	31.9	26.3	31.9	31.6	23.5
natural tone	3.2	3.9	7.8	5.3	2.9
not natural tone	8.5	3.9	9.5	5.3	11.8
2 or more colours	11.7	13.2	5.2	5.3	5.9
smooth edge	92.6	89.5	88.8	91.2	100.0
Image					
presence of image	37.2	31.6	31.0	21.1	26.5
Animals	2.9	8.3	8.3	16.7	0.0
Buildings	22.9	33.3	22.2	41.7	44.4
Humans	14.3	20.8	27.8	8.3	0.0
Landscapes	17.1	12.5	11.1	25.0	11.1
wine and vine	5.7	16.7	11.1	8.3	44.4
large amount of details	60.0	66.7	72.2	66.7	77.8
Traditional execution	54.3	75.0	66.7	58.3	77.8
high image-background contrast	60.0	54.2	55.6	66.7	66.7
high resolution	60.0	45.8	38.9	41.7	44.4
Presence of logo	63.8	55.3	53.4	64.9	52.9
Text					
presence of company name	89.4	80.3	82.8	89.5	79.4
presence of denomination	96.8	98.7	100.0	98.2	55.9
presence of product name	27.7	38.2	38.8	33.3	79.4
presence of line name	23.4	30.3	23.3	19.3	11.8
horizontal	93.6	97.4	99.1	96.5	88.2
symmetric	88.3	93.4	94.8	89.5	82.4
few details	78.7	76.3	74.1	71.9	76.5
prevalence of the text on the image	79.8	81.6	81.9	91.2	88.2

The percentages are calculated considering the total of denomination/indication

Considering the textual elements, the company and the denomination names are present in most front label. Especially for Amarone the latter is emphasized, because the

name of the denomination is present in all the labels. This aspect is of course omitted for IGT, for which prevails the use of the product name as a differentiation lever for the consumer. Few wines have the line name. Labels with more text than image are dominant, as well as those where the text is symmetric and horizontally developed, giving linearity, regularity and balance, but also conformism to the label.

Table 5 shows the characteristics of the back label. It is lacking particularly for the Recioto. In most cases, the format used is the same for all the wines belonging to the same company, with the only changes resulting from the product name and its denomination. The exception, once again, is the IGT wine.

In addition to the contents required by law, most wines present other textual elements, especially related to the production techniques (i.e. Ripasso). Recioto has the highest presence of information about its connection with food. Information about the history of the family and the entrepreneur are less common. The low use of information about the production area is perplexing.

Table 5. Characteristics of back labels (%)

Back label	Valpolicella (n=94)	Ripasso (n=76)	Amarone (n=116)	Recioto (n=57)	IGT (n=34)
presence	93.6	97.4	92.2	84.2	91.2
cured	39.8	39.2	42.1	45.8	58.1
other information than the legally required	73.8	71.0	70.8	74.3	75.0
sensory qualities	31.8	43.2	33.6	33.3	32.3
food matching	37.5	37.8	37.4	41.7	35.5
production techniques	17.0	54.1	41.1	35.4	32.3
service mode	31.8	32.4	35.5	27.1	19.4
family and wine maker	1.1	2.7	1.9	0.0	0.0
story of the entrepreneurial family	3.4	1.4	3.7	6.3	6.5
story of the territory	1.1	0.0	0.9	4.2	0.0

The percentages are calculated considering the total of denomination/indication

Table 6 summarizes the typographical features of the denomination and the product names. Considering the former, not extended, plain, not flourished, geometric typography prevails. Furthermore, it presents few quality details. Amarone and Recioto are different because their typography is heavier and bolder. In the product name, not extended, plain, not flourishing typography still prevails, but it is heavy and organic, recalling the

handwriting. Quality details are more common in the IGT wines.

Table 6. Characteristics of denomination /indication and product name

| Typography | Denomination/Indication | | | | |
	Valpolicella (n=94)	Ripasso (n=76)	Amarone (n=116)	Recioto (n=57)	IGT (n=34)
Denomination/Indication					
extended	0.0	0.0	0.9	1.8	0.0
plain	87.9	91.9	81.0	91.1	84.2
flourishy	2.2	0.0	2.6	1.8	0.0
organic	14.3	10.8	22.4	16.1	21.1
heavy	40.7	44.6	60.3	51.8	47.4
quality details	23.1	12.2	29.3	26.8	26.3
Product name					
extended	0.0	3.4	8.9	0.0	7.4
plain	53.8	75.9	64.4	84.2	51.9
flourishy	11.5	6.9	4.4	5.3	3.7
organic	50.0	27.6	42.2	21.1	59.3
heavy	76.9	75.9	71.1	52.6	74.1
quality details	34.6	41.4	46.7	31.6	55.6

Percentages are calculated considering the total of denomination/indication

Figure 1 highlights that on average the image occupies more space than the other elements that identify the company, such as the logo and logotype, or denomination on the label. The incidence of the product name is important for IGT wines, but also for Recioto.
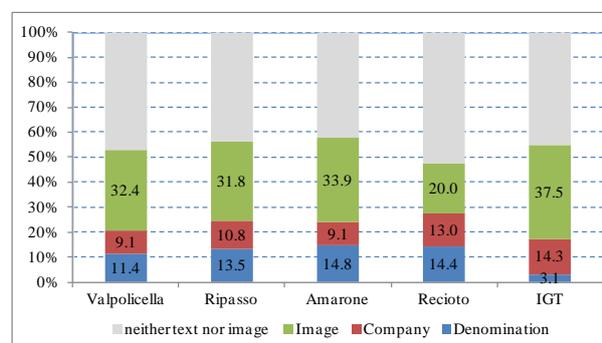
Fig.1. Importance of package elements on front label

Table 7 shows the latent variables that emerged from the factor analysis applied to Valpolicella, Amarone and Ripasso wines. Recioto has been excluded because it does not show clear packaging strategies by firms, and IGT has been excluded because it shows different strategies than those used for denomination of origin wines.

Factor analysis has been applied to 23 variables characterizing the bottle, the capsule, and the elements of image and text of front and back labels. It has highlighted 9 latent dimensions that explain 63% of the total variance. Dimension 1 is called "Bottle" because the shape of the bottle visually opposes Amarone to Valpolicella. Dimension 2 "Text vs. Image" segments communication strategies in two directions: i) that of the producers focused on their image, and that highlights the text and the image transmitted from the company logo, and ii) that of the producers that communicate tradition through the image, that in most cases represents rurality and wine iconography. The logo also appears in dimension 3 with a positive score, together with the presence of the logotype. The willing to bet on the line name prevails for some wines in firms characterized by extremer strategies of product/distribution channel differentiation. For these reasons, dimension 3 is called "Company vs. Line".

Table 7. Package style dimensions

| Variables | Dimensions | | | | | | | | |
	1	2	3	4	5	6	7	8	9
burgundy bottle	**0.809**	-0.025	0.064	0.062	0.120	0.020	-0.003	-0.099	-0.044
Amarone	**0.935**	0.030	-0.036	-0.115	0.027	-0.036	0.027	-0.037	-0.048
Valpolicella	**-0.614**	0.031	0.050	**-0.683**	-0.037	0.134	-0.112	-0.051	0.007
text prevails in FL	0.025	**0.866**	0.013	0.034	0.007	-0.017	-0.067	0.131	-0.007
image in FL	-0.024	**-0.850**	-0.067	-0.094	0.037	0.043	-0.087	0.130	0.053
logo in FL	-0.121	**0.518**	**0.485**	-0.028	0.055	-0.074	0.117	-0.162	0.020
line name in FL	-0.096	0.030	**-0.848**	0.031	0.051	-0.133	0.132	-0.111	-0.032
company name in FL	-0.030	0.100	**0.787**	-0.082	-0.030	-0.112	0.155	0.008	0.025
info on production process in BL	0.122	0.174	-0.089	**0.582**	0.028	0.124	-0.120	-0.067	0.025
Ripasso	-0.386	-0.067	-0.013	**0.853**	0.009	-0.101	0.090	0.096	0.046
nonrectangular FL	0.126	-0.051	0.031	0.015	**0.731**	-0.039	0.046	-0.068	-0.085
adornments in FL	-0.042	0.375	-0.184	-0.051	**0.551**	-0.249	0.112	0.102	0.052
smooth edge FL	0.058	-0.100	-0.061	0.105	**0.581**	0.215	**-0.433**	0.045	0.025
FL special paper	0.057	-0.083	0.025	0.026	-0.076	**0.691**	0.018	-0.185	-0.032
denomination in FL	0.110	0.050	0.067	0.059	-0.097	**-0.562**	-0.137	-0.125	-0.321
capsule colour different from FL	-0.252	0.024	-0.049	-0.024	-0.034	**0.435**	0.266	0.098	-0.414
quality material of capsule	0.256	0.013	-0.053	-0.044	0.025	0.179	**0.512**	-0.036	0.336
common colour FL	-0.032	0.046	0.088	0.040	-0.002	0.082	**0.755**	0.073	-0.179
neck label	0.223	0.056	0.099	0.065	0.312	0.178	-0.010	**-0.658**	-0.037
product name in FL	0.187	0.092	0.133	0.125	-0.101	0.386	-0.290	**0.513**	0.029
presence FL	-0.062	-0.044	0.108	0.025	0.315	-0.045	0.165	**0.670**	-0.076
light green bottle	-0.225	0.077	0.206	-0.073	-0.050	-0.009	0.031	0.041	**0.620**
plain typography product name FL	0.034	-0.088	-0.090	0.116	-0.039	0.086	-0.071	-0.038	**0.666**
Explained variance	*10.4*	*8.6*	*7.6*	*7.1*	*6.2*	*6.1*	*5.8*	*5.8*	*5.6*
Cumulative explained variance	*10.4*	*19.1*	*26.6*	*33.7*	*39.9*	*46.0*	*51.9*	*57.6*	*63.2*

FL=front label; BL=back label

The dimension 4 "Ripasso" reveals a positive correlation between the Ripasso and the presence of information about the production process on the back label. This is a very important information to let the consumer know the product, considering its particular production technique. Dimension 5 is called "Shape, adornments and edge" and correlates with a positive sign: the particular shape, the presence of adornments and elaborated edge of the front label. These elements aim at

creating sophisticated packaging. Dimension 6, "Title vs. visual impact", highlights the strategies of producers to attract attention through the quality of the packaging (special paper and particular capsule colour), that overshadows the reputation of the denomination.

The dimension 7 "Sophisticated Impact " correlates the presence of capsules in quality materials with cured back labels considering the use of colours, designed to create a sophisticated image, but respecting the tradition.

Dimension 8 can be called "Ancient impact." This approach is realized by the neck label, the lack of back label and the prevalence of the denomination of origin at the expense of the product name. Dimension 9, "Basic differentiation seeking", is achieved by using light-coloured bottles, and plain typography.

CONCLUSIONS

This research highlights the key variables to describe the package styles: i) use of colour to create a sophisticated visual impact rather than natural, but always within the tradition; ii) prevalence of the text in the images, and consequent role of the denomination of origin; iii) use of the logo in many forms, in order to enhance the corporate reputation; iv) additional information on the back label, aimed at detailing the product and business characteristics, neglecting every territorial element.

These factors comes from the variety of business philosophies and reference models for the firms. They require a joint effort to offer consistent collective marketing strategies, to reinforce the brand and territorial identity, and support the market with a differential force shared by the businesses, in competition with the other denomination of origin.

Future developments of this research will evaluate the impact of the different package styles on consumers, to explicit their needs in relation to the visual and informational offer provided by the packaging.

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ANALYSIS OF MANAGEMENT INFLUENCE ON ECONOMIC EFFECTIVENESS

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Abstract

*The purpose of this work is the analysis of the influence of management on the economic efficiency. The working methods used in preparing of this material is the analysis, synthesis and observation applied following consultation with specialized literature. Research has demonstrated that a systemic approach to management contribute to the effectiveness and measurement of this system in economic practice. As a **conclusion** we could rely that the management is a primary middle, and efficiency is the major result of human activity.*

*Keywords***:** *management, efficiency, management systems, the contemporary society.*

INTRODUCTION

"Intelligence, imagination, and knowledge are essential resources, but only effectiveness converts them into results".
P. Drucker-The Effective Executive, 1967
Analysis of the development level of an economic system, of its capacity for survival, of the final development direction, requires precise definition and measurement of economic effectiveness.

Therefore, an important role has the concept of economic effectiveness, this accomplishing the link between allocated resources for conducting an action and the obtained results from it, a concept that directs resources to those fields where is assured their usage with a higher efficiency under the rational and harmonious development of national economy.

MATERIAL AND METHOD

The working methods used in preparing of this material is the analysis, synthesis and observation applied following consultation with specialized literature. Research has demonstrated that a systemic approach to management contribute to the effectiveness and measurement of this system in economic practice.

RESULTS AND DISCUSSIONS

Analysis of management effectiveness and especially quantifying effectiveness intake appropriately to management, applied or properly to new concepts and tools recommended by the theory - all these face significant obstacles, and the developments on this subject, inclusive in the widely recognized works, have a relatively modest rank.
Economic effectiveness is a modern concept of work evaluation and serves to substantiate decisions, so that available resources are consumed in the most favorable way for society. [3]
Effectiveness of management practices implemented by organizations, as well as effectiveness of a particular national economic system - are often compared and evaluated based on final results. Comparative examination of the final results obtained, as appropriate, at the firm level or at the macroeconomic level, over a period of time, *show rigorous accepted* which type of management is more efficient. A definition which consciously deviates from the principle of similarity is that given by Ştefan Matei: *economic effectiveness of an activity is a trait of its expressed by causal relationship between the total effects, equivalent in nature and time and total resources equivalent in nature and time involved by this activity, positive relationship itself, in comparison with*

other types of activity and with full view expressing the requirements of resource-saving national economy. [3]

It is estimated that the most comprehensive definition of the effectiveness is given by the economist Petre Jica. [1] He attributes to the notion of effectiveness four meanings, namely:

A very broad sense *in which effectiveness is defined as the quality of an activity, action or a resource to produce positive economic effects that are expressed by comparing the effects with efforts;*

A broad sense *in which it is included direct effects and the related ones, and the direct and related effort. So, we deal with absolute effectiveness, which does not involve comparison with other alternatives of the action;*

 A narrow sense *which requires that the effect / effort or effort / effect ratio to be acceptable compared with other ratios of work or with other variants or with a standard mode of effectiveness;*

A strong narrow sense *represents the most synthetic and complete approach of the effectiveness notion, an approach that assumes a correlation of equivalent efforts in nature and time with usual effects also equivalent in nature and time.*

In industrialized countries, as it deems E. Mihuleac, the management is situated on the same level with new technique, that no matter how powerful it is, it cannot be effectively valued without a proper management. [2]

Highlighting the multiple and complex interdependencies between management and effectiveness, it is likely to facilitate the efforts geared towards the social effectiveness modernization and growing, given the many changes taking place in contemporary society. Theoretically, the impact approach that management has on the effectiveness is necessary to start from the following basic premises: the effectiveness is the ultimate goal of management; management is a key element in the effectiveness growth.

Management contributes to the systemic approach of effectiveness and shaping a system of evaluation indicators of this system with which, indeed, they operate in economic practice.

On another level, management as a whole and each of its organizational, informational, methodological and decisional components has as content: the anticipation of effectiveness indicators level that is to be achieved in run subsystems; the establishment and substantiation of the specific ways of obtaining the effectiveness designed levels; In the same area of theoretical links between management and effectiveness is needed to design management system and its major components, in order to be effective in terms of sizing, structure and their interrelation. Referring to management as a whole, the starting point in designing it should be the macro and microeconomic management principles.

More often, the specialized literature emphasizes the high influence that a certain type of management style has on the effectiveness, even detaching the effective and ineffective styles, in terms of overall effects on the operational plan.

Changes produced by the new scientific-technical revolution, amplifying social division of labor, growing the size of micro and macro systems and the interdependencies between them that lead to amplification of management impact on effectiveness, to detect new ways of its influence by management systems.

CONCLUSIONS

The influence of management on the effectiveness grows together with amplified size, complexity and functions of lead field, given the influence of increasing consistently endogenous and exogenous variables.

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THE ROLE OF TRANSPORT MEANS USED IN THE TRANSPORTATION OF FRESH HORTICULTURAL PRODUCTS

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Abstract

The purpose of this work is the presentation of the means of transport to transport fresh horticultural products. The working methods applied to this study are: analysis and synthesis, as well as other methods and processes which enabled the identification and highlighting essence of the problem investigated. The research denotes a very important result, namely, transportation is the deciding factor in process of sale a fresh horticultural products. Transport is one component of logistics process and market price of fresh fruit depend to a large extent on the quality of their. Losses incurred because of conditions of transport are often considerable. Below we highlight the important conclusions: the means transport used in transportation of fresh horticulture products need to ensure protection of the product of climateric factors protect products from mechanical damage, etc.

Keywords: transport of goods, logistics, marketing, transporting fruits, means of transport.

INTRODUCTION

Transportation is the main factor, often even the most important factor when trading fresh products. It is reasonable to take the products directly from the producer to the consumer. In more complex distribution systems (the systems that serve big cities and distant countries) the transport cost is an important part of the price paid by the consumer, sometimes it may be higher than the cost of natural product.

The losses made because of transport conditions are considerable. The aim of each person that participates in the transportation process must be to preserve the product in the best possible conditions during transportation, and the transportation itself should be as fast and efficient as possible. That's why the product should be packed properly and shipped attentively in the suitable transport.

MATERIAL AND METHOD

The working methods applied to this study are: analysis and synthesis, as well as other methods and processes which enabled the identification and highlighting essence of the problem investigated. The research denotes a

very important result, namely, transportation is the deciding factor in process of sale a fresh horticultural products. Transport is one component of logistics process and market price of fresh fruit depend to a large extent on the quality of their.

RESULTS AND DISCUSSIONS

The choice of the method and means of transportation of fresh horticultural products is one of the constituents of fresh fruit marketing. The quality and the final price of fresh fruit depend especially on the transport. [1] The term "transportation" means not only products transportation by a transport means; it also means a range of technological operations that raise some problems that are reduced to two main problems:
-How can we keep the products in the best way?
-How to reduce expenses?
These problems may be grouped in the following way: the choice of transport method and means; checking product's quality and package; the organization of loading-unloading works and the storage of cargoes; formation and maintenance of the necessary transportation arrangements; the reduction of

product's losses; the calculation and analysis of expenditure.

The choice of transport means depends on: [2] the distance; the cargo; the expenses.

The distance, at which the cargo must be carried, is determined by the destination place and may vary depending on the type of transport. The shortest way is browsed by air transport, then by auto transport, railway and water transport. Map scheme 1 indicates conventional distances (beams) linking Moldova and the destination points of exported and imported cargoes. [3]
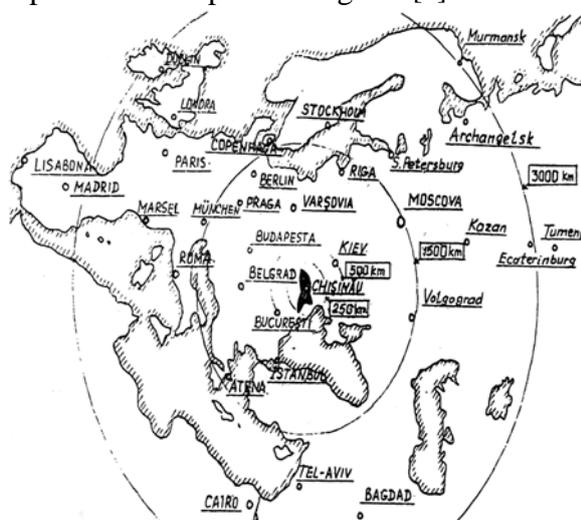
Scheme 1. Conventional distances (beans) linking Moldova and the destination points of exported and imported cargoes

The types of transport may be divided into:
-*Local transport* in a city, region, community. The transport distance usually doesn't overcome 30-50km. the transport means are used to transport products by local trade network;
-*Inland transport*-the radius of transportation constitutes 250 km covering the whole territory of Moldova including some border areas with Romania and Ukraine;
-*Short transport* is within 500-600 km including the largest part of Ukraine and Romania;
-*Medium transport*-up to 1500 km that include Ukraine, Belarus, Latvia, Lithuania, Russia till Moscow-Volgograd, to the north-east, to the south-Turkey, Greece, to the south-east and the east-East European states;

-*Long-up t*o 3000 km including nearly the whole Europe (in Russia till Murmansk and Ecaterinburg), in Asia-the Near East, and in Africa- Egypt;
-*Very long transport* overcomes the distance of 3000 km.
Air transport is usually used when transporting fresh fruit at the distances that overcome 1500 km. Though it is the most expensive and the fastest means, there may be great losses in the following cases:
-The package is of low quality and non-standardized;
-Careless product transportation to the airport and its exposure to various harmful factors;
-Product transportation with delay in favor of passengers transport;
-Flight delay because of bad weather or if the plane is out of order;
-Temperature change influence on the product.
Water transport includes river and sea transport. This type of transport isn't used on the territory of the Republic of Moldova. The nearest seaports are Odessa and Iliciovsk where the import of citrus and tropical fruits from other countries is concentrated. These seaports are cargoes are loaded and transported to Moldova by land transport.
Railway transport is used when transporting considerable lots of fruit at great distances that overcome 1000 km. transportation distance depends on the type of cargo and on the carriages that are usual covered, insulated or refrigerators. The destination point is great importance: if far from the railway station, it is necessary to reload the product into trucks which is expensive and technologically inconvenient.
Auto transport is used the most often in fresh fruit transportation from Moldova to the distances up to 1500 km to Ukraine, Russia, Belarus and the Baltic countries. Positive results have been obtained when transporting fruits at big and very big distances (up to 3500 km) in auto refrigerators equipped with cooling systems with liquid nitrogen.
Transportation duration depends not only on the distance but also on the transport type, product type, and the state of roads, the

number of borders that are to be passed and other factors. In CIS the distance partaken the auto refrigerator during 24 hours constitutes 600 km when the refrigerator drives at a speed of 46-49 km/hour. The duration of cargoes transportation to Moscow usually constitutes 2.5-3 days. The average speed of the cargo train is 2.0-2.5 time's lower, that's why train transportation takes more time.

When transporting cargoes on the auto roads with imperfect floorings (these are usually country roads and the roads isolated from the main highways) with many hills and valleys, the truck needs to reduce its speed not to damage the fruits. This fact lengthens transportation time. That's why the route should be thoroughly studied before starting the transportation. Transportation time is also influenced by the products features. Each product has an acceptable transportation term, if it is not respected, the products quality worsens and that leads to huge losses.

If the acceptable transportation terms of a certain product are shorter than the terms estimated according to the average speed and the total distance, the transportation of these fruits by this type of transport is not allowed. Taking this fact into consideration, the early varieties of cherries, peaches, grapes, beans and other products, that quickly perish, are not transported by railway. The transportation cost is the basic argument when choosing the transport type. Railway transport is cheaper than auto transport if large cargoes are transported to a certain destination place. Railway transport is convenient to transport the products from stationary refrigerators their long storage, when there is enough quantity of products and there's no need to spend time to accumulate the load.

Transport means should assure: products protection from climatic factors (high temperatures in summer and low temperatures in winter, solar radiation, precipitations: rain, snow etc.); products protection from mechanic damage; controlled temperature of the cargo; normal air circulation; optimal tonnage. [2]

We should avoid fresh fruits and grapes transportation by open transport. Because of high temperatures of the air from outside and solar radiation when transporting products in an open vehicle, humidity elimination from the fruits intensifies and their losses may be bigger than during their storage in the field. Short time transportation in such conditions is allowed only at night as it is colder. In case when the temperature of the environment isn't below zero the cargo may be transported by non-specialized transport but it should be covered with waterproof cloth or it should be transported in vented truck vans.

The transportation of the products loaded immediately after being harvested by the transport sealed hermetically with moisture proof and with no cooling and no ventilation may lead to products damage because of overheating in the confined space. Without ventilation fruits get hot, the temperature of cherries, peaches may reduce by 0.5° per hour, the temperature of raspberries by more than 2° per hour being loaded at the temperature of 25°C. If we cool beforehand fruits and vegetables that easily perish, we can transport them in heat-insulated transport with no coolers during hot period of the year only for short time avoiding moisture condensation on the products' surface. In order to transport products during winter time, it is necessary to use the transport with thermo-refrigerators or with radiators.

In winter at temperatures below 0° fruits transportation in thermo isolated transport without heating the cargo during 12 hours is not allowed. The doors and other parts should be closed hermetically; the isolation shouldn't have any defects. Unlike stationary storage, during transportation fruits are subject to mechanic actions: they press, hit each other, shake, vibrate, move inside the package hitting against its walls. The package itself moves in the transport. In order to reduce the effects of these actions the transport means must have: perfect damping capacity, the overall dimensions volume must be divisible to the load dimensions, facilities for securing the load. [3]

According to their tonnage auto refrigerators are divided in 3 categories:

-small tonnage (up to 1 ton) is usually used for local transport and products distribution;

-medium tonnage (2-5 tons) is used for local transportation and inside the country, as well as at short distances and rarely at medium distances (transport for valuable products);

-big tonnage (8-25 tons) is used in transportations at medium distances, rarely at big distances.

Big auto refrigerators must have enough space for handling. In fruits transportation non-special and special transport is used. The former type is represented by trucks and open vehicles without shutters, trailers, vans without special security installations. Special means of transport include auto refrigerators, containers for wide use. Their main parts are: traction trucks, trailer (semi-trailer), vehicles with fridge installations.

Nowadays automobiles are used more to transport fresh products, that's why those who use auto transport must follow the rules:

-Covered automobiles without fridge installations must be used to transport fresh products only at very short distances from the farmer or from the wholesaler to the retailer of the nearest market;

-In open trucks or in the trucks with semi-shutters there may be installed roofs or frames;

-There may be fixed the second roof (painted white) against radiation at the distance of 8 cm or 10 cm above the main roof. The second roof will reflect the sunlight and keep the products cool;

-In order to ventilate fresh products at long distances there may be installed more complex air collectors to create a large air current through the products;

-In fresh products transportation at long distances we use auto refrigerators and containers, railway and sea transport, but when the volume of the products is small these transport means are not convenient.

In Moldova and other CIS countries transport system is not developed enough, that's why relative expenses are still high though they are getting lower because of competition. The firms, that need to transport their products, first must choose the type of the transport to be used: railway or auto. Even though the firm doesn't have its own trucks, auto transport could be rather a good choice.

CONCLUSIONS

The choice of the method and means of transportation of fresh horticultural products is one of the constituents of fresh fruit marketing. The quality and the final price of fresh fruit depend especially on the transport.

The choice of transport means depends on the distance; the cargo; the expenses.

The distance, at which the cargo must be carried, is determined by the destination place and may vary depending on the type of transport. The shortest way is browsed by air transport, then by auto transport, railway and water transport.

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EVOLUTION OF MILK PRODUCTION IN THE NORTH EASTERN REGION OF ROMANIA

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Abstract

The prices of agricultural products have a series of features related to the level of the offer, perishability, storage possibilities, scarcity, quality, etc. Under the herein paper we have debated the aspects connected to the quantitative aspect (on the evolution of the agro-food /agricultural product prices levels and evolution of prices for the main product that represent the intermediary consume in agriculture) as well as to the qualitative aspect (referring to the level and intensity of the correlational influence of the agricultural products indicators → prices, acquisition prices → retail prices).

Keywords **:** *acquisition price, farm gate price, elasticity (coefficient), agro-food market (channel), market price.*

INTRODUCTION

Numerous exchanges that are formed in the agricultural market / food area not only stem from agriculture, but have a much larger area. It may be inferred that the objectives in agricultural prices are numerous and generally describe what that is intended to achieve food system. For this reason the prices of agricultural products is a different approach in terms of structural and territorial. To these may be supplemented by large differences in price levels due to the policies of subsidizing agriculture.Variables such as socio-demographic structure is a multitude of items, including food prices resulting sizing is a question for which food availability and access to it. Revenue policies require knowledge of population levels and the implications of price levels in two-dimensional form, the dynamic intensity influences.

MATERIAL AND METHOD

The comparative analysis aimed to describe, as played by the characteristics (variables), differences in national food prices in the dynamic period 2004-2009. Price levels were analyzed at the main plant and animal falling on two levels, namely: the acquisition and agri-food market.

Methodological average prices of agricultural products have been adopted and interpreted as the arithmetic mean weighted average prices obtained by reference to: sales prices of agricultural producers, which requires obtaining these farmgate prices, the sales macro channels (food markets - fairs and processors - traders - agricultural companies).

When analyzed were found that prices of agricultural products within the following characteristics: it reflects the first stage of marketing, do not include transport costs, storage, etc.., Do not include subsidies on products and VAT.

Statistical analysis was performed in 2004-2009 by dynamic indicators expressed in physical units, value and percentage, compared to being considered in 2004.

Approach the problem of estimation methods required the use of the factors influencing price levels and intensity of major plant and animal, being used method of elasticity coefficients. It was applied to knowledge intensity factors (agricultural production →

acquisition price, purchase price → market prices, market prices → food consumption), which is why they took into account many variables compared (by which price food purchase and consumption of agricultural production are influenced successively realized market prices).

The 2004-2009 dynamics, elasticity coefficients were determined for comparison base fixed 2004 (E), the chain (E '), and the year before that in 2009 (last year of dynamic analysis) was considered year comparison (E '), the contribution of each variable based on the price level fluctuation.

The phenomenon considered effect (y) was represented by the price (purchase and market food consumption), and the phenomena considered relevant changes (x), were presented successively by the structural agricultural production (plant and animal), prices procurement and market. Coefficient of elasticity (E) was determined by computing the relationship:

$$E= \frac{Dy}{Dx} : \frac{Dx}{x}$$ The meaning of notations:

Δy increase the absolute size of the phenomenon considered measurable effect;

Δx - Increase the absolute size of the phenomenon considered quantifiable concerned;

x, y - the basis of comparison of effect sizes considered quantifiable phenomenon, that question.

The methodology has pursued knowledge that trend factors (x) that allow the knowledge structure factors effect level (x), which to base levels distinguish two categories of prices (procurement and market) for the main agricultural products / food in Romania.

RESULTS AND DISCUSSIONS

1.Price level and comparison for agri-food products

Variation and use of knowledge required price level changes that agricultural products / food are significant purchase prices and the prevailing retail food market. Average purchase prices of agricultural products in Romania are an essential, but directly related to agricultural production conditions. In the event that is considered a base price to "farm gate" as a tariff, this type of product available on the farm price, excluding any form of transportation bill, or delivery fee.

Thus, the first problem that is interested is the average of these prices for the main plant and animal products, with special reference to the variation in annual growth from 2004 to 2009. Table 1 is given this level of rate these prices, with differences from base year 2004, from which emerge the following:

-overall for most products there is a successive increase in price level, but for which the comparison to 2004, annual variations are reported;

Table 1. The main products price indicators that represent the intermediate consumption in agriculture (2005 = 100) [1]

Product	2006		2009	
	2005%	± towards de 2006	2005%	± towards 2006
TOTAL	103,3	0	128,9	25,6
Energy and lubricants	107,7	0	122,3	14,6
Seeds	88,8	0	110,5	21,7
Chemical fertilizers	98,5	0	147,7	49,2
Straight fertilizers	99,0	0	135,9	36,9
Complex fertilizers	98,3	0	153,4	17,6
Plant Protection Products	101,8	0	112,6	10,8
Fungicides	99,3	0	115,9	16,6
Insecticides	100,6	0	115,7	15,1
Herbicides	102,7	0	111,1	8,4
Veterinary expenses	103,3	0	145,4	42,1
Feed	106,7	0	142,9	36,2
Feeding stuffs	107,5	0	142,9	35,4
Fodder	102,9	0	142,8	39,9

- for vegetable products group is found in wheat, barley, corn, for comparison base in 2004, there is the lower growth rate, and in

2005, 2006 and 2009, reductions in the price. A similar phenomenon is manifested in 2005 and 2006 and for sunflower and soybean. Only potatoes, tomatoes and grapes can be said that there was a successive increases for each year between 2004-2009, these products are registered and growth most pronounced rim;

- Animal products show a growth rate of differentiated prices amplitudes. Successive is significant annual price increases for beef, sheep and poultry, milk the cow, the most pronounced growth rates (compared to 2004, 2009, increasing by 82.82%, 30.76%, and 45.16% respectively). For sheep meat products and honey for many years recorded decreases compared to the year 2004 so that only in 2009 is an increase in the price of 20.04% and 15.02%.

Average prices of main food products sold in markets (retail) reflect the variation phenomena, considered significant by the differentiated levels of annual increases. Table 2 is shown in the dynamic situation where the same period 2004-2009 arising following:

- From the base of comparison in 2004 there is an existence of a general rate increase in this price category;

Table 2. Elasticity manifested through the influence of the production price (x) (y) acquisition from Romania of cereal [1]

Years	Influence of production price (x) (y) purchase at wheat product			Influence of production (x) on the purchase price of the product (y) barley			Influence of production price (x) (y) of getting to the corn		
	E	E′	E″	E	E′	E″	E	E′	E″
2004	0	0	0,5	0	0	1,0	0	0	0,1
2005	5,1	5,7	0,4	1,46	1,46	2,3	1,5	1,52	-1,16
2006	1,2	0,2	0,06	0,71	-0,10	0,5	-0,8	0,23	-2,95
2007	-0,1	-1,7	-0,41	-0,18	-2,04	0,61	-0,10	-1,45	-0,28
2008	-0,2	-0,08	-0,98	-1,88	0,10	22,6	0,64	0,29	-32,09
2009	0,4	-0,04	0	1,06	15,20	0	-0,31	-21,06	0

- For some products such as dried beans, cabbage autumn, apples, milk and cheese, this rate of growth recorded marked amplitudes (changes in the last year is between 113.37% 59.09% compared to 2004);

- Chicken egg products and honey, it is found that for period 2005-2006 and 2005-2007 respectively, the price is lower than the reference year 2004. From all this one can see the response to food distribution market.

Existence of level differentials between the rhythms of the purchase price and the market is considered a result of market events food. The very efficiency and cost savings in marketing agricultural products is critical to the success or survival of the agricultural sector.

You can deduct the following:

- All products for intermediate consumption is recorded annual levels rising prices, which in total exceeded last year by 28.9% compared to 2005 and 25.6% compared to 2006;

- for most products under crop production elements, assist in 2006 to lower prices, the amplitudes for the 2005 comparison is between -7.5% and -0.1%, which continues to decline compared to 2006 base, of -11.6% and -2.4%. Structure analysis reveals that the annual growth rate last year registered growth analysis fertilizers most pronounced (comparative reference of 2009 to 2005 and 2006, prices increased amplitudes of chemical fertilizers were 47.7% respectively 49.2% and 35.9% for simple fertilizers and 36.9% respectively);

- The goods-producing animals only increase prices every year. Comparison of 2005 and 2006 reveals that the highest levels, namely: Veterinary Services of 42.9% and 42.1%, for food (simple) of 42.9% and 36.2 % and 42.8% combined feed and 39.9% respectively.

Hence the conclusion that the meaning and growth of prices of main products consumed in agriculture was much higher than the purchase prices of agricultural products. The situation mentioned was one of the reasons was required knowledge level intermediate consumption in agriculture.

It follows that a factor determining the demand for agricultural production is a more complicated process than for any product. Some differences in prices of agricultural inputs remain under equilibrium conditions, without causing other to remove them. These disturbances of balance can be explained by

differences in factors intrinsic or results. Or all they require analytical knowledge of meaning and intensity of factors influencing these levels differentiated.

2.- Influence of agricultural production on prices (procurement).

For differentiation of causal knowledge of agricultural systems practiced on farms, it was considered necessary to analyze the structure correlative price indicators compared and dynamic. Elasticity measured by specific manages to highlight the extent and intensity of production factor the purchase price. Were calculated elasticity coefficients determining the impact of agricultural production (the main categories of crop and animal species), the purchase price.

Table 3. Elasticity manifested through the influence of the production price (x) (y) purchase products from technical cultures Romania [1]

Years	Influence of production price (x) (y) purchase at sunflower product			Influence of production price (x) (y) acquisition from potato product		
	E	E'	E''	E	E'	E''
2004	0	0	0,41	0	0	-3,13
2005	0,46	0,46	0,22	-0,54	-0,54	1,88
2006	4,48	-0,20	0,38	-5,24	2,56	14,01
2007	-0,14	-0,31	-0,50	-2,58	-0,52	-1,14
2008	-1,82	0,29	0,06	-0,64	10,13	1,17
2009	-0,39	3,77	0	-4,02	1,19	0

Fixed base elastic coefficients (E) 2004, the chain (E') and maintaining constant momentum last year (2009), presented in Tables 2, 3, 4,5, capturing aspects of direction and intensity based correlative following:

a).- For crop production were discussed in group representative products of cereal and industrial crops.

- interpretations made for cereals production (x), the purchase price (y), which render trend increase / decrease yields achieved, that influence the purchase price in annual growth rate is differentiated as follows: in 2004 there is a direct (E> 1, 1> E '> 1, E'> 1), in 2006 a lack of influence (1> E> 0, 1> E '> 0, 1> E ''> 0), and during 2006-2009 a reverse elasticity (E <0, E '<0, E' <0);

Table 4. Elasticity manifested through the influence of productions (x) on the acquisition price (y) meat product in Romania

Anii	Influence of production price (x) (y) of getting to the meat of bovine animals			Influence of production price (x) (y) of getting to the meat of swine		
	E	E'	E''	E	E'	E''
2004	0	0	-0,94	0	0	
2005	-12,68	-12,68	-0,69	-5,77	-5,77	-3,27
2006	-1,41	-0,01	-1,51	-5,18	-4,96	-2,35
2007	-0,92	-2,11	-1,44	-3,75	-3,93	-3,16
2008	-1,58	-2,23	-1,66	-5,33	-5,27	-3,11
2009	-2,54	-2,62	0	-4,59	-3,07	-2,69

Table 5. Elasticity manifested through the influence of productions (x) on the acquisition price (y) meat product in Romania

Years	Influence of production price (x) (y) of getting to the meat of sheep and goats			Influence of production price (x) (y) of getting to the bird		
	E	E'	E''	E	E'	E''
2004	0	0	-0,28	0	0	0,40
2005	0,81	0,81	-3,94	2,66	2,66	-0,49
2006	0,86	1,01	15,60	-6,26	0,18	-0,26
2007	0,61	2,25	-5,88	0,54	-0,67	0,27
2008	0,14	-3,54	0	0,87	-1,66	0,10
2009	-0,53	0	0	0,34	0,09	0

- Influence on production crops (with reference to sunflower and potato), the purchase price for years dominated phenomenon majorities lack of elasticity (1> E> 0) and an inverse elasticity. Based on comparison of previous years 2007 and 2008, reported a favorable trend in the correlation x → y (increasing yields are increasing the purchase price).

b).- If the influence of animal production (x) on the purchase price achieved for these products (y) is the predominant tendency of inverse elasticity (E <0, E '<0, E' <0), the rhythms are distinguished:

- For beef negative trends are lowest in the first period, then there is a reduction of its negative trend in pork is within close range (about -4), and meat goat and sheep + lack of elasticity birds predominate (1> E> 0, 1> E '> 0, 1> E ''> 0);

- Milk and egg product is maintained manifestation inverse elasticity (E <0, E '<0, E' <0) and increasing / decreasing production level reverse effects of the purchase price;

- Situation plays honey product production → correlative tendency purchase price, majority years playing for a favorable trend (E> 1, E '> 1, E'> 1). So have a positive production growth and increase the purchase price. Only in 2008 (E <0, E '<0) and 2009 (E' <0) is reported a negative, which indicates a situation in which prices have had a significant decrease.

From here we deduce the existence of rhythms annual differentiated situation of plant and animals that are not supported with the appropriate purchase price. This statement is justified because for all products by the three forms of elasticity (E, E ', E') is significant for most years, the reverse trend of production → correlative purchase price. A balance of that relationship is manifested in product and isolated honey wheat, barley + barley, sunflower and potatoes (only in some years the last part of the period analyzed).

All this involves fundamentals related to the exploitation possibilities of the consumption goods market determined the forms of its manifestation. Differentiation may be known by the market prices of food products (retail), with actual consumption of consumer products.

3.- Influence prices (purchase) the average price sold in food markets.

Existence of rural consumer model includes the categories of consumers that have areas of land and whose food situation depends on both own production and purchasing power, determined by the ratio between prices of products sold and bought in the market prices. For causal knowledge of the differences previously played is deemed necessary correlative analysis of the structure of indicators, compared and dynamic. Elasticity measured by specific manages to highlight the extent and intensity factor average prices sold in food markets and the actual individual consumption.

Were calculated elasticity coefficients determining the impact of the purchase price, the average price markets and their influence continua average market prices of main food consumption (potatoes, tomatoes from field, milk, eggs, honey). Fixed base elastic coefficients (E) 2004, the chain (E ') and the year 2009 (E') shown, capturing aspects of direction and intensity based correlative following:

a) On crops, potatoes and tomatoes, there is differentiated trends. If the product inter-relations potatoes to the fixed 2004, is a lack of elasticity (1> E> 0), based on an alternating chain of existence and inverse elasticity (E '> 1, E <0), phenomenon occurs and elasticity for comparison of 2009. The field tomato product for most years is significant direct elasticity for fixed base 2004 (E> 1), and the other forms oscillations are similar to those of potato product.

b) Framed in a next step food chain, is analyzed elasticity influence played by the average market price of the average per capita consumption potatoes and milk product. The potato product is found for most years an inverse elasticity (E <0, E '<0, E' <0), so the average market price increases with the consumption decreases. Milk product is a lack of elasticity (1> E> 0, 1> E '> 0, 1> E "> 0), which means that price fluctuations do not affect the consumption market.

Hence the conclusion that the methodology fails elasticity measured by specific, to underline the degree and intensity of interaction of the producer price to the consumer price ↔ (consumption). However this response is closely related to market events. Intensity influence the purchase price is differentiated product structure analysis, by its very meaning and intensity showed the coefficient values determined.

CONCLUSIONS

Romania's agricultural markets are unstable because of structural reasons and circumstantial, from which the main products were able to conclude the following:
- Working methodology aimed on the one hand comparative knowledge in dynamic level food prices, prices of main products 40

consumed in agriculture on the other hand knowledge that the trend factors that allow knowledge structure factors effect level, but the meaning and intensity correlation (by differentiating the two categories of price levels, purchasing and marketing).

- The existence of differences between the rates of purchase price and the level of the market is a result of market events food. This is because efficiency and cost savings in marketing agricultural products is critical to the success or survival of the agricultural sector.

- The direction and rate of growth of prices of main products consumed in agriculture was much higher than the purchase prices of agricultural products. Knowledge level of intermediate consumption in agriculture showed that one factor determining the demand for agricultural production is a more complicated process than for any product.

- Analytical knowledge of meaning and intensity level differentiation factors influencing price elasticity method was revealed that the existing differences in the dynamics of the years for the crops and animals are not supported with an appropriate level of purchase prices. For majority years, the reverse trend is significant correlation between production and purchase price. A balance of that relationship is manifested only to the honey, and isolated from wheat, barley + barley, sunflower and potatoes (only in some years the last part of the period analyzed).

- Knowledge of causal differentiations elasticity coefficients given by the impact of purchase price, the average price 'markets, and their influence continua average market prices of main food consumption (potatoes, field tomatoes, milk, eggs, honey), delineation of the extent and intensity of interaction aimed at factor cost from the manufacturer to the consumer price ↔ (consumption), from which it emerged.

- All these differences were known by varying market prices of food products (retail), with actual consumption of products by the consumer, given that agricultural prices in Romania have a much greater variability than the European market and hence their predictability is lower. In the food products market, prices go from farm gate to market and retail. For most cases farmers delivers the products directly obtained and not big business intermediaries processing / retail chains, which is why there is a greater variability than the European market and therefore predictable price level is low.

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MENTAL PATTERNS SPECIFIC TO PERFORMANCE LEADERS

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Abstract

 In Romania, LEADERSHIP is poorly understood, because examples worth noting of the successful companies are not taken into consideration, most times, and they are not even highlighted by mass-media. As several foreign or mixed capital companies imposed a good internal communication that allows the awareness of what the concept of LEADERSHIP really means. The Romanian managers practice leadership without being aware of it. They behave as leaders because of their personality. Following the study based on questionnaire, applied on 51 successful managers and entrepreneurs, and on 71 sellers of products and services, with high results in the teams they are part of, we determined a series of 10 mental, relational and professional patterns, that we named "the success secrets" and they are common to all performance managers, who become leaders by the power of example.

Key words: leadership, leader, manager, mental patterns

INTRODUCTION

"Leaders are us all: trustful or deceitful, fearful or brave, generous or greedy. To suppose that all leaders are good persons it would be blind to the realities of the human condition and would affect severely our aim to become efficient leaders" [1]. Psychodynamic version made by specialists from Tavistock Institute add other elements that can be taken into consideration: they are psychological factors that encourage people to become leaders or adepts, and why the organization or society give birth to the perception of "leadership"? this way to approach highlights the importance of self understanding and understanding other persons and thus, understanding the nature of the relations between leaders and adepts [2]. Thus, for example, we could conclude that the leader accomplishes the role of providing security and aim to his adepts this being the reason for which they follow him.

In a recent summary of the theories on leadership, Northouse identified four common topics regarding the way in which the leadership is expressed: 1. it is a process 2. it implies influence 3. it appears in the context of creating a group 4. it implies reaching some objectives. In this way we define the leadership as being "a process in which an individual influences a group to reach some common objectives"[3]. This definition situates the individual as main source of leadership.

MATERIAL AND METHOD

The quantitative on site research was made in the period September – December 2011 2011, based on a semi-standardized questionnaire, with a number of 13 questions, with multiple variants of answer, applied face to face, at the job of the respondents, by interviewing 51 successful managers and entrepreneurs and 71 sellers of products and services.
The research registered the opinions and attitudes of the above mentioned respondents in 67 locations in Călăraşi county, aiming to identify the mental patterns of leadership, by questions that aim: self control and communication within organization; formation of a team which lead to successful accomplishment of objectives; encourage the team in the process of decision making; accomplish the tasks and efficient management of time; catalyst of changes and

improvement of performances; transformation of complex projects in individual tasks, easily to follow; self evaluation and conflict management.

The sample was selected with a statistic step of sampling, based on studies, specializations obtained by studies, position held within the organization, aiming to constitute a representative sample from the point of view of age groups and position responsibilities, that lead to behaviours and attitudes specific to leadership.

The results obtained following the interpretation of this set of data led to the elaboration of a research report, from which ten mental patterns specific to performing leaders resulted. The main instrument used for the identification of the mental patterns of leadership was an evaluation questionnaire made of 13 items, existing 5 variant to answer to each of them: Always (Î), often (A), Occasionally (O), Rarely (R), Never (N). The grid for marking the answers presents on the first line the number of question, and on the first column the symbols of possible answers, with two types of symbols (triangles and circles). It represents a witness and with his help it is calculated further on the number of triangles and circles achieved by the answers given. The result obtained represents a special graphic in which the mental pattern is appreciated by two important elements that characterize: orientation to profit, quantified by the number of triangles; orientation to subordinates, quantified by total of circles registered.

RESULTS AND DISCUSSIONS

Characteristics of the leaders can order in four essential groups: personal qualities; numerous social relations; profound knowledge of business; profound knowledge of people. These characteristics have origin in three basic fields: family, school and organization.

Personal qualities represent a group of physical, intellectual, behaviour, motivational and reputation qualities, by which leaders are different from most persons and serve to the elaboration of mental patterns specific to top performers: self trust, ambition, action,

courage, creativity, relationship, support given to subordinates and collaborators, self promotion, exceeding crisis situations, as well ways to improve them.

Self trust. What distinguishes the successful people from the rest ones is the fact that they are usually very trustful. It is normal, that when you trust yourself, you tend to assume risks and see opportunities. Such persons take initiative in diverse social contexts, express opinion, create alliances and find new solutions to reach the goals. Those who do not trust in themselves expect that the initiative to be taken by someone else and avoid the situations that could betray their weaknesses. The best variant for such persons in order to get out this vicious circle is to propose achievable objectives, to be aware tht many other persons have doubts and to find modalities to find that they can win new tops in the future.

Ambition appears when you are oriented to results, wanting to reach established objectives and standards; your propose courageous objectives and assume risks; you look for information for new solutions; you learn who to improve the performances.

Action. There are managers who give everyone the possibility to express their opinions and others who retrain consultations only to the decision circle of the management team. But you can give all the possibility to express opinion when you manage a small team, but when you talk to hundreds of employees, you must rely on a retrained number of people, that you select of the best ones. This means that you give up to the dialogue with the employees, that you can obtain further on by surveys, focus groups, department meetings, project meetings, team-building etc. still it seems that the accurate management to the subordinates have the reverse too. Although these managers are treated with respect by their colleagues, it is appreciated that they have lower control on the resources and they are less capable to sanction and to compensate. It is often asked if a manager prefers to be respected or feared and if he can be respected and feared at the same time. Specialists [4]. Consider that any

organization copies the model of attitude and behaviour of leader. If the leader has a conflict or competitive attitude, his attitude will transmit to the employees by top management and middle management. If the leader has a constructive attitude, so the organisation will be. If leader prefers control on actions/budget, so the managers will be.

Courage. Top performers practice permanently the thinking imagining new things and solutions. People with mediocre results ask „who to do it?" and look for solutions in what the others did before them. Thus, what they do is similar to what millions of people did before them and so have low value, it is predictable and of course, generate a mediocre results.

Creativity. Top performers are creative and have continuous tendency to look for how can they do things other way than those before them. It is famous Alexandru Macedon's reply: „if it is impossible to cross the mountains over here, than this is what we will do!" [4].Attention! to be able to do things other way than those before you, first you must know very well what they did! Creativity does not eliminate learning!

Relationship. Top performers develop continuously the network of known persons. People with mediocre results have a retention as regards relationship with unknown persons. Top performers instead, are very tenacious to know and to maintain relation with as many persons. From the tendency to greet everyone when he enters the public space and to introduce to new persons, until conscious management of relations in important fields, they increase permanently the network of acquaintances. In case of top performers you are often surprised to discover that they „know somebody" in almost every sector and thus they can solve a multitude of problems. Make a list with 300 persons that you could ask for a favour.

Help. Top performers indebt their acquaintances by help and support. Most persons have two types of reactions when it is about to help someone. First, and the most seen, is to avoid – „I am sorry! I cannot, I do not know, I do not go for it!"; and the second,

unfortunately the most rare is generosity: „I do everything I can! I do not want anything in exchange!". Top performers involve to help the others perceiving each occasion to help someone as an investment: „I help you now and maybe you will help me too when I will need it!". This type of relations management have two big advantages: people gather around them knowing they won from the relation with them and their relation network is based on mutual gain.

Make a list with all persons who are grateful to you for something!

Self promotion. Top performers speak with delight and enthusiasm about their achievements. People with mediocre results tend to hope that those around them will notice their success or talent. Unfortunately, this does not happen but very rarely because people are more concerned with their own success then others.

Top performers are „boastful", we could say. They are very proud about what they do! That is why they tend to share this thing with any occasion. They are delighted to tell about their achievements, they proudly present their works and prise their victories. Until purely material level, they wear such way as to highlight the success.

You heard the expression: „wear as you want to be treated"? then you will understand the link with self promotion.

Phoenix Bird. Top performers have extraordinary capacity not to give up being „defeated" by no success or by losses. People with mediocre results suffer from each loss and „disarm" immediately. For example, if they present an idea in public and are criticized, they suffer from this and give up to the idea. Top performers supply with energy and ambition from no success! Any failure makes them ambitious and makes them „gather" resources to try again! Practically, they born again from the asses of their failure!

Amplification of power of action. Top performers know that alone it is almost impossible to succeed, that is why they take in their actions as many persons. People with mediocre results tend to act alone when they have a good idea or to collaborate with a very

retrained number of persons. They do this from fear that „idea could be stolen from them", either because they think small actions with small results. Top performers know to attract and to use those around in the actions they make. They know to "sell" their ideas and to gather those around, explaining them what they can gain from their participation in the respective project. They know to make people proud and important as part of the project. They know to let the others to work and reserve the position of „coordinator" and „motivator" of team . Thus, their power of action is amplified with the number of people involved in their projects!

Table. 1. Success matrix

Eliminate „Mental barriers":	And develop „the success strong points"
1. self lie - Be sincere to yourself!	1. self trust . trust in yourself ! you are your fan no. 1!
2. it is somebody else guilt! - Do not blame others for your failure!	2. Ambition. Choose to do things very important! Very important!
3. Hope without action! - Only hope that you will succeed is not enough!	3. Action. Act! Only action bring results!
4. thank to all! You do not have how to thank all!	4. Courage - Think of what you will win ! not what you will lose!
5. do well and you will be appreciated! - the others do not care about your talent! Promote yourself !	5. Creativity - how could you do different from others?
	6. Relationship - Do you know over 300 persons that will make you a favour?
	7. Help - How many people are grateful to you?
	8. Self promotion - to how many people do you promote your achievements?
	9. Phoenix bird - Failure must motivate you and make you ambitious!
	10. Amplification of power of action - How many persons are involved in the success of your projects?

The evaluation of the mental patterns of leadership supposes the application of some methods that take into consideration all the classification criteria, with their differentiated importance, on one hand, and calculation of

some synthetic indicators for the appreciation of the managers depending on their personal qualities and style of management practiced, on the other hand.
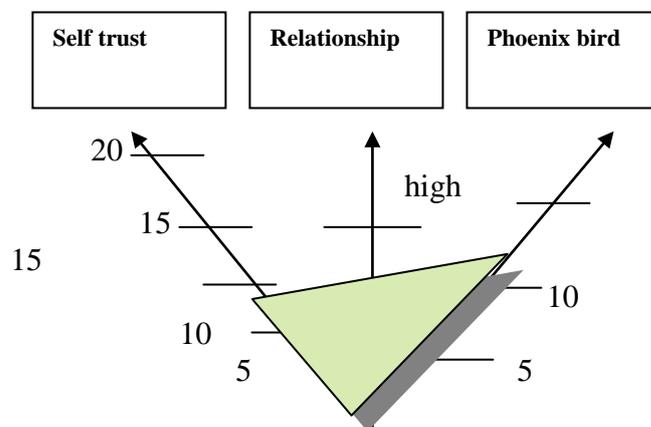
Orientation to profit   Orientation to subordinates
Fig.1. Graphic of predominant mental patterns for managers
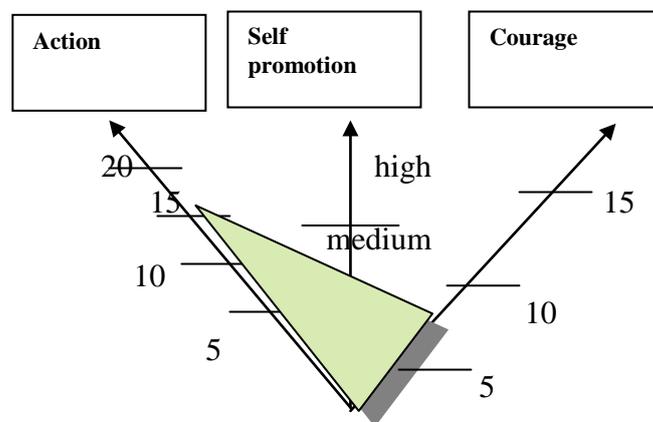
Orientation to profit   Orientation to clients
Fig. 2. Graphic of predominant mental patterns for sellers of products and services

The evaluation of the styles of management can be approached depending on a series of criteria, such as: evaluation objectives, time horizon, comprehension level, person who makes the evaluation, etc.
If a correct, complex and differentiated evaluation constitutes fundamentally the improvement and promotion activities of the managers, a wrong evaluation can lead to

discouraging a capable person or with social and economic damage..

In the specialisation literature some methods were drawn up methods the managers will be evaluated with, such as: conversation method, interview, questionnaire, psychological tests, delegation, multiple comparison method etc.

It must be noticed that the results obtained were the result of an inquiry and they were not verified in other ways (by other instruments) because they represent a start phase for a more ample study.

Finally we must point out several elements. First of all we cannot talk about a panacea mental pattern. Ideally a manager, who is at the same time leader should draw the mental patterns depending on circumstances. In reality the things are different. Many managers stuck in certain mental pattern, regardless the situation. The flexibility of the mental patterns represent an attribute to a successful manager.

Knowing mental patterns of leadership, by different perspective, is extremely needed for a manager. First of all it allow them to understand the weak points and strong points. Secondly, this allows to understand the collaborators behaviour.

Although it is difficult that certain mental patterns of leadership reach perfection, it tends to shape such patterns. The bigger the percent of some positive effects is, the more positive effects associate with their long practice. The more adapted and specific they are not only to a group, but to social historic ones, the more efficient the pattern will be. The inquires made within the practical study allowed, by means of a simple but efficient instrument, the identification of some mental patterns of leadership of managers of some organizations in the agricultural, agro-food, insurance, educational management and banking sectors. The results obtained provide information which is confirmed by the economic and social sector of South Muntenia Region.The science of leading cultivate itself, does not discover. The real "born" leader will be in front anyway; but to remain in top, you must develop the natural features.

CONCLUSIONS

Leadership exists in our daily life. It is not only a characteristic of ' chosen ones' or a rare event, or an occasion that we have once in a lifetime. Nowadays, in the country we live or at our job, we face with challenges every step. Every time when we deal with a conflict between contradictory values, or when we identify a difference between our values and the way in which we live, we must find new ways to evolution.

Leadership seen from this angle needs a strategy of learning and adaptation. A leader must engage himself and engage people to face challenges, to adjust values, to change perspectives and to develop new forms of behaviour. The needs to adaptation of the present society must have a leader who is responsible, without expecting to be asked. The one who leads must have questions permanently.

 The main qualities a good leader must have are care, value and authenticity. Nevertheless, many managers in companies with activity on the local market do not have these values.

Also, a good leader must bring value himself, value from the point of view of the organization. Not producing value means in the best case to stay in one place, if not even to evolve. As regards the authenticity, many are what that should not be. Many are not made to be leaders.

One of the most frequent problems the managers face with is trust in their own person. Including people who are arrogant and who have strong reactions, in fact they wear an armature. A strong person does not need to show it. If you are really strong, you do not have to show it, you must feel it.

Related to the present economic context, people should regroup, identify values and prioritize them. We are in a period of storm, when things happen that all try to understand. In such moment, a regrouping should take place. Normally, people regroup, they try to find posts, values, thinks they are fond of, so they to prioritize them.

In the crisis period, managers must be with their employees and guide them. People

always look, without exception to the strongest one.

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EFFICIENCY OF USING THE HUMAN RESOURCES AT S.C. CATEX S.A.

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Abstract

 S.C. CATEX S.A. has being producing textile confections for over 40 years. It is a private company with integral Romanian capital, that develops its activity in the sector of textile confections, the production being destined especially to export. The economic viability of the company depends on the volume, structure and efficiency of using the material, financial and human resources. The analysis of using the human resources is approached in three aspects: as dimension and structure, staff mobility, work productivity. The specific of the activity within S.C. CATEX S.A. is seen on the process of recruitment and selection that prove less complex that within other organizations, most of the employees being represented by workers on positions of confectioner machinists. It is noted the economic financial situation of the company, that is in a favourable situation due to the orders of some companies in the European Union where the labour force is much more expensive, with major implications on the recruitment process.

Key words: human resources, economic viability, recruitment, efficient use

INTRODUCTION

The development of human resources, as distinct function of the organization [1] include, as an essential activity, professional training and development of the employees. The general objectives of this activity result from the internal needs of the organization and they are subordinated to its general objectives; they refer to the elimination of discrepancies between the real level and the needed level of staff knowledge and skills, for the creation of opportunities to learn, to learn for each employee, so that learning becomes a permanent activity of each person in the enterprise. The need of this activity within the organisation derives from the economic reasons, related to the increase of economic efficiency, the costs related to professional training and development activity being considered as investments to ensure the unit progress.
Professional training is a process of learning/training by which the employees gain theoretical and practical knowledge, new skills and techniques to make their present work more efficient. Unlike training, *professional development* is a more complex process, for manager training or for other

specialists to assume high responsibilities, in the present or future positions [2].
These two types of activities differ by aim and by persons to which the address. Instead, both are needed both for the individual progress of each employee, and for the organization progress.

MATERIAL AND METHOD

At the level of the company, rational use of the labour resource needs the approach of some quantitative aspects, such as: the rate between the technical-scientific progress and general training; qualification, specialization and distribution of work resources; using the work time according to the qualification level; compliance between the work complexity degree and qualification level; rate between qualification level and work productivity.
At the same time, the rational use of human resource must be the result of joining the quantitative aspects, the complete use suppose, with the qualitative ones, that the efficient use suppose. Approaching the rational use of the human factor in such a vision, the problems of analysis of ensuring and using the human resource can be systematized as follows:

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* analysis of ensuring the company with work resources, from qualitative and quantitative point of view;

*analysis of work resource mobility and stability;

* analysis of work time using;

* analysis of work productivity and ways to increase it.

The three problems aim the complete use of human factor, and the fourth relates to the efficiency of using it.

RESULTS AND DISCUSSIONS

The company CATEX S.A. Călăraşi constituted in accordance with the provisions of Law no. 31/1990 on companies and Government Decision no. 1272/08.12.1990.

The Company CATEX S.A. Călăraşi is a Romanian legal entity, having the juridical form of share company with private integral capital.

The company functioned until the end of 1990 as independent unit with legal status and programmed economic management, with about 2800 employees.

In November 1992 inside S.C. CATEX precincts the Romanian-Canadian mixed company SERCA S.A. Călăraşi establishes, to which S.C. CATEX S.A. participates with a part of its own patrimony, buildings, equipment as well transfer of 400 employees.

In 1995 S.C. CATEX S.A. is privatised in percent of 100%, the shareholder structure being 5% SIF Moldova and 95% natural persons (present and former employees).

The economic viability of the company is dependent upon the volume, structure and efficiency of using the material, financial and human resources [3]. The human resources can be approached from at least two points of view. On the one hand, as structure and dimension, as it is presented in table 1. and graphic 1. and 2, and on the other hand, staff using as it is presented in table 2.

Table 1. Structure and evolution of staff
-number-

No. Crt	Categories of staff	Registered level		
		2009	2010	**2011**
1.	Directly productive workers	1928	1957	2020
2.	Indirectly productive workers	422	431	446
3.	**Total workers**	**2350**	**2388**	**2466**
4.	TESA staff	119	125	134
5.	**Total staff**	**2469**	**2513**	**2600**
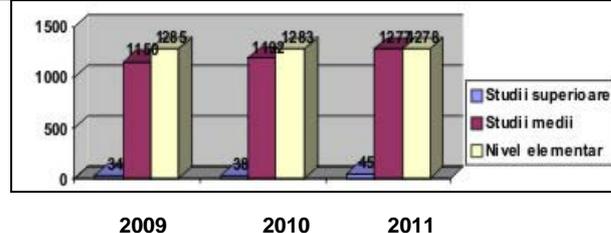
Fig.1. Evolution of staff on categories of training in the period 2009 - 2011

From the information presented the following conclusions result:

*from the quantitative point of view, insignificant modifications to staff are found out, it maintain at the level of about 2500;

 *from the structural point of view, the highest percent are workers (95,18% in 2007, 95,02% in 2008 and 94,85% in 2009) and directly productive workers are within it. TESA staff maintains at a highly reduced level (4,82% in 2007, 4,97% in 2008 and 5,15% in 2009);

*as regards high education staff, we highlight the engineer percent of 53,33% in 2009, percent less reduced than in the previous years, while the economists percent is at the value of 37,77% in 2009, percent that is considered favourable.
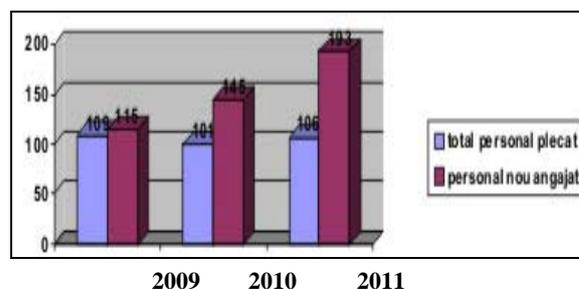
Fig. 2. Fluctuation of staff in the period 2009-2011

Thus, it is found out that for the entire analysed period, the optimal rate between different categories of staff maintained.

Following the investments made in the sector of production technologies, with immediate result on production increase and implicitly turnover increase, it was imposed also hiring a supplementary number of engineers and economists to work in the activity of research and design, where the production destiny is decided.

The staff mobility is appreciated by means of the following indicators: 1. **Coefficient of staff inputs intensity** is calculated as proportion between the number of employees entered the company in the respective period and the average number of employees; 2. **Coefficient of outputs intensity** is established as proportion between the total of leave and the average number of employees;

3. **Coefficient of total movement** (M_t) – obtained by comparing the sum of inputs and outputs of staff registered during a period of time with the average number of staff; 4. **Stability degree** – is determined based on relation: $G_s = 1 - M_t$.

It is remarked a favourable situation to the company in the analysed period, the lower stability degree in 2011 being due to the increase of the number of staff, not due to staff who left the company.

Work productivity, important indicator of economic efficiency, needs a more varied analysis due to its complexity, to factors that influence it and remarkable implications on the economic state and dynamics of the company.

If we take into consideration the classic formula to determine the productivity, respectively W=Ca/Ns, various factors can be identified which lead to the modification of its level.

$$W = \frac{C_a}{N_s} = \frac{M_f}{N_s} \times \frac{M_{fa}}{M_f} \times \frac{Q_f}{M_{fa}} \times \frac{C_a}{Q_f}$$

Table 2. Indicators used to staff

No. crt.	Indicators	Registered level		
		2009	2010	2011
1.	Turnover C_a (thousand lei)	143.235	165.03.3	156.075
2.	Staff number N_s (employees)	2468	2513	2600
3.	Fixed assets M_f (thousand lei)	2898,4	2672,.6	2845,7
4.	Active fixed assets M_{fa} (thousand lei)	1586.5,4	18388,9	22121,8
5.	Manufactured goods production Q_f (thousand lei)	14122,5	16807,3	15556,4
6.	Level of technical equipment of work (lei/employee)	1.1744	1.0635	1.0945
7.	Proportion of active fixed assets / fixed assets	0,547	0,688	0,777
8.	Efficiency of active fixed assets	8,901	9,140	7,032
9.	Level of production capitalization	1,014	0,982	1,003
10.	Work productivity W (lei / employee)	5.8037	6.5671	6.0028

Modification of work productivity in the period 2009 – 2010

$$\Delta W = W_{2007} - W_{2006} = 6.5671 - 5.8037$$
$= 0.7634$ RON

Modification of work productivity in the period 2010 – 2011

$$\Delta W = W_{2008} - W_{2007} = 6.0028 \quad -$$
$6.5671= -0.5643$ RON

An element to highlight the use of human resources and, in general, of company efficiency is represented by the way of respecting some correlations between the min objectives and the results obtained for their achievement.

The first correlation is of quantitative nature and refers to the dynamics of some quantitative indicators:

$$I_{C\ A} \geq I_{F\ S} \geq I_{N\ S} \text{ where:}$$

I_{CA} -index of turnover

I_{FS} -index of salary fund

I_{NS} -index of employees number

We find out that **in the period 2009-2010**:

$I_{CA} > I_{FS} < I_{NS}$ and $I_W > I_S$

By means of these correlations it is highlighted:

Ascendant dynamics of volume and efficiency indicators;

Not respecting the first correlation is determined by staff hiring with salaries under the average salary on company (not qualified workers and reducer qualification workers)

The registered level of $I_W = 111\%63$ $I_C = 121\%$ highlights an increase of the turnover due to especially the increase of work productivity.

We find out that in the period 2010-2011:

$$I_{CA} < I_{FS} > I_{NS} \text{ şi } I_W < I_S$$

Not respecting these correlations indicate grave imbalances within S.C. CATEX S.A. at the level of 2009, the turnover index being exceeded more by the salary fund index and employees number index, at the level of 2009 a decrease of the employee number, not an increase of it would have been normal.

The second correlation indicates the fact that the salaries were not increased based on work productivity, in this situation a decrease of average salary under level of 91,41% being normal, registered by the work productivity.

CONCLUSIONS

The causes of these imbalances are: the increase of the minimum salary per economy that influenced the salary fund and the average salary; pressure of the trade union within the company to increase the hour salaries of the workers; the decrease of prices on the external market determining the need to reduce the sale price to cope with the competition.

It can be found out that the motivations, requirements and behaviour of the employees are to be modified radically. A general trust to the company and to its traditional values, wish to safety, but also to have a rapid evolution in the hierarchy, aspiration to be useful and to put in practice knowledge, a more sincerity in relations with other persons are only few of the common features of those who apply for a post.

The human resources are for the organization more than a source of costs or of consume. They can ensure the efficiency but also the disaster of the organisation. Their efficiency depends on the managers skills and passion for their work with people but also on the motivating system that is used.

World changes rapidly without precedent and to keep with it, the organisation must have competent and loyal employees. The future of the organisation is ensured rather by persons than by products. Managers must think, equally, of what they offer to the employees and of what they expect from them, if they want to obtain the expected performances.

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SUPPORTED CROP STRUCTURE IN ROMANIA IN 2007-2011 PERIOD

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Abstract

After five years since the initiation of the direct financial support reception process effects are expected, on one hand over farmers and on agricultural production profitability, and on the other hand on crop structure. Subsidizing itself has constituted an incentive for the agricultural production capacity expansion and for the increase of the subsidized areas. The areas subsidies have encouraged on the one hand the merger of orchards and grasslands, even if it was not always about physical merger, but only operating merger, and on the other hand these have led to the expansion of the arable land area. An increase of the cereals areas has been noted for the majority of cereal types, except for barley and oat. This way the cereals character of the crop production in Romania is stressed out. As to the oleaginous crops, both sunflower and canola have proven to be two "magnet" crops for the Romanian farmers, and the areas cultivated have continuously increased also maybe because the bio-fuel production was developed and encouraged. Following the study performed on the situation of orchard areas it was noted that the areas with plum trees and apple trees occupy the largest share summing up over 78% from the orchard areas.

Keywords: agricultural area, evolution, subsidy

INTRODUCTION

The Common Agricultural Policy (CAP) is among the first communitarian policies and it was created having the main objectives on one hand citizens' food security and on the other hand securing farmers' revenues. CAP is constituted from two pillars respectively common measures regulation for operating agricultural products markets and structural measures that target the balanced development of the rural areas [2].
For Romania, the 2007 European Union accession has constituted the strongest pressure factor for the quick reform of the economy in general and of agriculture in particular, given the need to successfully integrate within the European rural economy and a follow up of the interventionist policy of subsidizing agricultural production with large sums which have continuously grown in absolute figures [3]. The Common Agricultural Policy has represented for Romania mainly subsidies for agricultural producers and money for rural development, money that are found in the rural

infrastructure as well as in many investments that have led to the modernization of the agricultural production. The difference is that the balance between the two is opposite to the countries in the West, in the sense that in Romania rural development has allotted more funds than farm subsidization, this being justified by a downward degree of equipment if Romanian farmers are compared to the farmers in the West. [4]

MATERIAL AND METHOD

In order to create this paper the data provided by the Agency for Payments and Intervention in Agriculture (APIA) was used. The analysed data presents the evolution of areas cultivated with different subsidized crops, the number of farmers and areas that have benefited from financial support. The methods used were comparison, qualitative and quantitative analysis of data in order to highlight the evolution of areas with different crops starting with 2007 until 2011, identification of possible mutations in the crop structure that could be charged to area subsidization and

calculation of the merger degree of crops at farm level.

RESULTS AND DISCUSSIONS

Starting with the 2007 agricultural year, Romanian farmers who fulfilled the eligibility conditions for area subsidy received direct support for the areas cultivated. These subsidies had two sources: European funds (EAGF and EAFRD) and the state budget. After five years since the initiation of this process effects are expected, on one hand over farmers and over agricultural production profitability and on the other hand over crop structure [1].

The intervention of area subsidies, the fact that the amounts allotted (per hectare and in total amount) have continuously increased, have made crop production an activity increasingly profitable, and farmers oriented themselves towards those crops that bring them stability and an extra return.
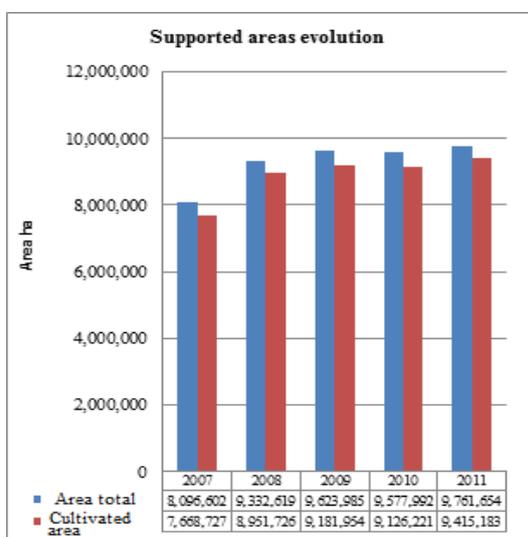
Fig.1. Supported areas evolution

Based on the data provided by APIA, the total areas for which subsidies were allotted for the analysed period have increased from 8,097 million ha in 2007 to 9,762 million ha in 2011, representing an increase of 1,665 million ha in absolute figures or 20.56%, the most important increase being recorded in 2008 (with over 1,230 million ha more than in 2007).

From the total subsidized agricultural land, the effectively cultivated land area increased in its turn from 7,669 million ha in 2007 to 9,415 million ha in 2011 (meaning an increase of 1,746 million ha or 22.77%). Also, the major increase happened in 2008 compared to 2007, when 1,283 million ha more subsidized and cultivated land areas ware recorded.

During the period analysed the uncultivated land area, but for which subsidies were given, being kept in good agronomic conditions, fluctuated by an increase in the first part of the period from 427,86 thousand ha in 2007 to 451,77 thousand ha in 2010, to then drop to 346,47 thousand ha in 2011.
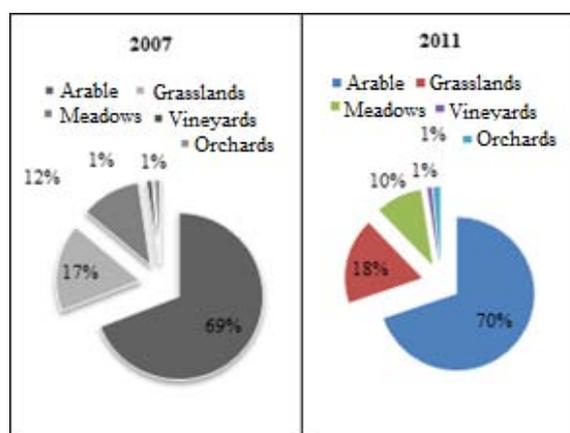
Fig.2. Share of subsidized land use categories

A first conclusion that to be drawn from the data presented is that the land area subsidisation has constituted an incentive for the expansion of agricultural production capacity and the increase of the subsidized areas created a snowball effect. This effect shall certainly be more visible if the amounts allotted for crop production subsidization in the stated period shall be analysed.

As to the share of land use categories in the total land areas for which the subsidy was allotted there were minor mutations between 2007 and 2011, slightly increasing the arable land and grasslands, against meadows (see fig. 2.). In relative figures, as table no. 1 shows, all usage categories have recorded increases, orchards and grasslands being in front with 41% and respectively 30% area increase in 2011 compared to 2007.

If we refer to absolute figures, the most important increase was recorded by the arable land, that has expanded with 1,270 thousand ha between 2007 and 2011, but in relative figures it only means 24%.

Table1.Evolution of the supported surfaces on land use categories

Specification (ha)	2007	2008		2009		2010		2011	
Arable	5299367	6171666	116	6330717	119	6316225	119	6570093	124
Grasslands	1305064	1671611	128	1731256	133	1697663	130	1701970	130
Meadows	883160	904565	102	904932	102	895001	101	917458	104
Vineyards	84800	95419	113	93312	110	90377	107	90089	106
Orchards	96336	108466	113	121737	126	126955	132	135572	141
Total	7668727	8951726	117	9181954	120	9126221	119	9415183	123

It can be concluded that subsidizing land areas encouraged on one hand the operating unification of orchards and grasslands (for which the subsidized area was increased) and on the other hand the expansion of arable land for which subsidies were allocated, at the expense of uncultivated land for which either there were no subsidy requirements or the conditions were not fulfilled in order to submit a subsidy request. These lands have been operated in accordance with the requirements of APIA.

Inside the arable land use category, cultivated land for which land subsidy was allocated have evolved increasingly for most crops with percentages between 7.6 and 122.7 for fresh vegetables and respectively tobacco. In exchange there were decreases in the land areas occupied by leguminous crops (with 34,000 ha, mainly because of the decrease in soybean land), potato (with over 30,000 ha), sugar beet (with almost 2,700 ha), both being more intensive cultures, that require higher expenses per hectare and implicitly have higher risks. Important increases in absolute figures are recorded by cereals (plus 600,000 ha or 17.1%), oleaginous (plus 415,000 ha or 57.5%), fodder plants (128,000 ha or 32.8%) and temporary grasslands with plus 60,000 ha or 42% more in 2011 compared to 2007. These evolutions show on one hand the increase of the attractiveness level of those crops for which the land area has increased and a possible lack of competitiveness for crops with land areas that are dropping.

The decrease is materialized through the decrease of the attractiveness level for Romanian farmers or simply by quitting the more difficult crops, that need mobilization of amounts of money larger than the expenses per hectare (potato, sugar beet) and implicitly the undertaken risk is also higher. For the potato it is mentioned that the internal potato production has strong competition from the Netherlands, German and Poland imports (autumn potato) and the early potato imports from Turkey – extra-communitarian country that has the zero import duty contingency in EU, and Greece. Also we add the fact that Romanian potato producers do not have storage facilities, nor they have succeeded to form exploitation cooperatives in order to get to market large and homogenous quantities of merchandise in transactions with large retail chains. A special mention has to be made for the sugar beet for which the exploitation is strictly connected to the sugar production quota and the evolution of the cultivated land area is decreasing although additional subsidies are provided, although the cultivated land areas are related to the possibility of fitting the sugar production quota.

Table 2. Evolution of the supported arable cultivated land

Crop \ years	2007	2011	%
Cereals	3.493.671	4.092.772	117,1
Oleaginous	896.453	1.412.108	157,5
Fodder plants	389.497	517.373	132,8
Leguminous	147.256	113.923	77,4
Temporary grasslands	144.240	204.803	142,0
Potatoes	86.992	55.879	64,2
Fresh vegetables	41.061	44.184	107,6
Sugar beet	20.590	17.903	87,0
Medicinal and aromatic plants	13.591	18.227	134,1
Green and yellow melons	12.839	21.046	163,9
Industrial plants	2.764	3.335	120,6
Fodder beet	1.946	804	41,3
Tobacco	926	2.063	222,7
Other crops	47542	65671	138,1
Arable	5.299.367	6.570.093	124,0

Analysing the evolution of the cultivated land, arable and financially supported between 2007-2011, we observe that the highest increase has been recorded for the tobacco crop, which in 2011 was occupying 2,063 ha, with 122.7% more than in 2007, followed by the green and yellow melons crop with an increase of 63.9%, and on the 3rd place in the increase ranking is the oleaginous crop – 157.5% compared with 2007. However, from the occupied land point of view, the cereal crops own the highest share, of 41.9% from the total land in 2011, followed by the oleaginous crop with a share of 14.4% from the total arable land.
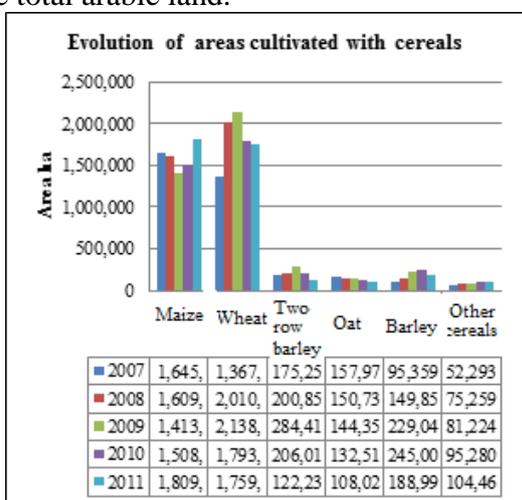
Fig. 3.Evolution of areas cultivated with cereals

Within the group of cereals the highest share is that of maize and wheat. The land surface cultivated with maize had increased from 1,645 million ha in 2007 to 1,809 million ha in 2011, meaning an increase of 164 thousand ha that is equivalent to 9.98%. Within the analysed period the land areas cultivated with common wheat have suffered changes, so that in 2011 these reached 1,759 million ha, with 392 thousand ha more than in 2007 in absolute figures or 28.67%.

The biggest increase recorded in 2011 compared to 2007 was observed in barley crop, when in 2011 we had 188 thousand ha cultivated compared to 95 thousand ha in 2007, as percentage representing an increase of 98.19%.

As regards to the land occupied by two-row barley and oat we observe that these have decreased, therefore the two-row barley crop

dropped by 53 thousand ha and the oat crop by 49 thousand ha.

A first conclusion of the evolution of land cultivated with cereals is that for most cereal species there is an increase, except for two-row barley and oat. This way the cereal character of the crop production in Romania is stressed out, and we may say that Romania is heading towards a certain specialization as regards the cereal production in detriment of industrial crops that are more specialized and more intensive.

Fig.4.Evolution of areas cultivated with oleaginous crops

From the oleaginous crops, there are significant increases for sunflower and canola crops. Therefore, in 2011 the sunflower crop was occupying an area of 989 thousands ha, compared to 2007 – 628 thousand ha, fact that highlights an increase of 360 thousand ha or 57.26%.

The area cultivated with canola also increased significantly in the analysed period with 155 thousand ha, from 266 to 421 thousand ha or an increase of 58.33%.

Both sunflower and canola have proven to be two „magnet" crops for the Romanian farmers, and the land areas cultivated have continuously increased maybe also due to the fact that the bio-fuel production developed and has been encouraged.

Starting with 2009 within the APIA statistics two new types of crops appear, respectively safflower and sesame, although the land occupied by these is insignificant in report to

the other crops, 143 ha in 2011 for safflower and 18 ha for sesame during the same year.

Following the study performed over the situation of land with orchards one may observe that the land with plum trees and apple trees have the highest share. In fact in 2011 the plum orchards were covering an area of 63 thousand ha, representing 47% from the total area covered by orchards, and the apple tree orchards cover 42 thousand ha, equivalent to 31.3%. The two species sum-up over 78% of the land, the rest being occupied with cherry trees, sour cherry trees, apricot trees and engrafted apricot trees, strawberry, etc.

Fig. 5 Evolution of orchards surfaces

The orchard surface has known an increase for most of the cultures, with the exception of the strawberry, where it may be observed that in 2011 compared to 2007 there was a drop of 538 ha in absolute figures or 32.49%.

The cherry and sour cherry tree culture has increased by 741 ha, respectively 16.21%, and the apricots and engrafted apricot trees have increased by 16.21%, respectively 355 ha.

It must be said that the land in preparation for orchards has had a spectacular increase, from 1108 ha in 2007 reaching in 2011 to 4135 ha (an increase in the equivalent of 373%), showing that investments are increasing. This fact is a positive one because it indicates preoccupation and interest for fruit tree

intensive growing, usually present in areas that are not favourable for other crops.

The data provided by APIA allows the calculation of the average land per farmer, these figures being important because they show the agricultural production merger. The total agricultural land per country is divided to the number of farmers that have submitted a request and obtained this merger degree for the cultures.

Analysing the data for the period 2007-2011, we observe that the most merged crops are rice, canola, soybean, sunflower, common wheat, durum wheat, maize, etc.

Table 3. Crop concentration degree

Crop	2007	2008	2009	2010	2011
	ha/farm				
Rice	437.1	361.7	392.4	184.8	120.8
Canola	42.7	63.1	53.6	49.0	48.7
Soybean	22.9	14.5	12.6	13.7	10.1
Sunflower	4.0	5.6	6.0	7.4	8.2
Common wheat	3.5	5.2	5.2	5.3	5.8
Durum wheat	2.4	5.4	12.2	12.5	6.5
Maize	1.8	2.0	1.9	2.2	2.6
Triticale	1.1	1.5	1.5	1.5	1.7
Haricot bean	0.9	0.9	0.9	0.9	0.8
Oat	0.8	0.9	0.9	0.9	0.9
Plum trees	0.7	0.7	0.7	0.7	0.7
Pear trees	0.6	0.6	0.6	0.6	0.6
Vineyards	0.4	0.5	0.8	1.0	1.0
Fresh vegetables	0.4	0.4	0.5	0.6	0.6

A reduction of the merger degree for some crops was also observed: rice strongly falls from 437.1 in 2007 ha/farm to 120.8 in 2011 ha/farm; soybean also drops from 22.9 ha/farm in 2007 to 10.1 ha/farm in 2011. An opposite tendency, of increase in the degree of merger stands out for the crops of sunflower, wheat and maize. These crops become more and more merged at farm level, the cultivated land almost doubles for each indicating on one hand the farmers' orientation towards these and on the other hand giving up on other crops that are probably less attractive.

Also to be noted is the fact that wheat is a crop that "merged" more than maize (perhaps because it is harvested mechanically and is usually left to be cultivated   by   the

association), and maize is preferred for smaller areas, cultivated and usually harvested manually.

CONCLUSIONS

Agricultural production area subsidization starting with 2007 agricultural year also brought about few effects revealed by the present paper. From the effects observed we note:

-significant increase (by 20.56%) of the subsidized areas, the growth being recorded mostly during the first year;

-orchards significant increase (+41%) grasslands (+30%) and arable land (+24%) for which subsidy was granted;

-significant increase of the areas cultivated with tobacco, temporary grasslands, oleaginous plants and cereals and decrease of the land cultivated with potato and sugar beet;

- sunflower and canola have been the stars of this cultivated area increase due to the additional demand induced by the bio-diesel; production development;

-from orchards, the plums trees and apple trees occupy the largest increase in share, the other species having recorded lower increases, with the exception of strawberries that have a decrease in the cultivated land share;

- rice, canola, soybean, and to a lower extent sunflower and wheat are crops that, because of the crop culture encourages area merger at operational level, and for the last two the evolution is in favour of merger;

- maize, triticale, beans and oat are cultivated in a less merged manner but these also develop in favour of operating merger.

ACKNOWLEDGEMENTS

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FINANCING BUSINESSES IN THE FIELD OF SMALL AND MEDIUM BUSINESS

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Abstract

To achieve sustainable economic growth it is not only sufficient to create a favorable environment for development and employment of labor for the employable population, but also to create a climate for cultivating entrepreneurship. For this is needed to identify problems faced by small businesses to create a favorable climate for development of small business sector, increasing its share in national economy and solving social problems, so that it is possible for economic agents to assert their ambitions into reality and to plan and manage projects for both business development and for national economic prosperity.Thus, increasing competitiveness of small and mediumbusiness in Moldova consists primarily in removing factors that constitute the largest obstacle to development of small entrepreneurship, then in developing and shaping directions, which would contribute to the potential of small businesses and strengthen their market positions.

Key words: small and medium business, entrepreneurship, sources of funding, competitiveness.

INTRODUCTION

The current business processes, developing positive trends outlined in the economy and improving the prospects of the real situation in production, in one way or another, are all related to expansion of entrepreneurship and small business in the Republic of Moldova (RM). Developing and promoting a state policy based on regulation of financing the small business in RM involves the fulfilment of compliance and conditions, some of which are determined as a result of special research in the field.

This option becomes even more important if the insufficiency of funding is one of the basic problems faced by entrepreneurs trying to organize and develop their business. One of the key issues in every third enterprise development is attracting financial resources which is reflected in financial policy and the financial resources for investment deficit. [4]

Currently there is a wide spectrum of financial institutions like credit organizations and funds with foreign capital in Moldova, which carry out various projects and programmes for financing SME. Of these institutions, given the volume of financial services, banks play a leading role.

Lately, many banks are prone to develop working relationships with a small business, which is considered not only a source of capital attraction, but also as a profitable investment opportunity.

It is important to note that banks consider that the small businesses would not bear any discrimination - banks would need to provide the same package as to the other customers.

We believe that the problems and the funding level in the RM are not yet sufficiently studied, confirming the topicality and the desirability of a more thorough investigation in this area. Since the SME financing is one of the major problems, in theoretical and practical aspects, it has determined the purpose and tasks of this paper. [6]

MATERIAL AND METHOD

For the activity analysis of the financing small and medium businesses on the Republic of Moldova territory, the Statistics were used literatures and Web pages that are listed in the engine references.

RESULTS AND DISCUSSIONS

In recent years, recognizing the contribution of SME to economic growth has stimulated

research activity in this area, more and more researchers directing their attention to the phenomenon of increasing their role.

Its mass development depends mostly on the capacity to access and successfully mobilize sufficient financial resources.

Currently the primary problem for young entrepreneurs in the sphere of small business is gaining some cheap financial sources.

A young entrepreneur, might have family or other relatives that could guarantee the loans, otherwise, it's starting from scratch and trying to accumulate personal capital during next several years in order to finance the business.

This is the way that a good breed of entrepreneurs is formed. [5]

Table 1.The most problematic factors for doing business in Moldova

Indicators	Years	
	2010	2011
Policy instability	20.3	19.5
Corruption	13.0	16.8
Access to financing	14.2	10.0
Inefficient government bureaucracy	10.6	9.2
Government instability/coups	8.4	9.0
Inadequate supply of infrastructure	6.8	6.6
Inadequately educated workforce	5.5	6.4
Tax regulations	5.8	5.4
Tax rates	2.3	4.0
Inflation	2.3	3.6
Poor work ethic in national labor force	3.1	3.4
Foreign currency regulations	2.8	2.3
Restrictive labor regulations	3.1	1.7
Crime and theft	1.2	1.4
Poor public health	0.7	0.7

Source:The Global Competitiveness Report

Thus, increasing competitiveness of SME in Moldova consists primarily in removing factors that constitute the largest obstacle to development of small entrepreneurship, and in developing and shaping directions that would help small businesses and strengthen the potential.

Currently the biggest problems faced by small and middle businesses in order to be able to finance their activity are as follows:

1.*Insufficient financial resources necessary.*
This is a difficult dilemma in providing businesses with the funds required for the establishment, operation and business development.

The entrepreneurial management practice shows that tapping into this resource by the entrepreneurs is a complex and difficult process, requiring special skills and efforts. Because the lack of the start-up capital, many businesses fail at the beginning.

2.*High interest rates charged by banks and their excessive volatility.*

High interest rates on credit/loans creates a vicious circle, it limits the potential number of eligible clients, which, in turn, limits the possibility of reducing account management costs, which, in turn does not allow a reduction in interest rate for loans.

Among the reasons to maintain a relatively high level of interest rates on loans include:

a) High inflation and high risk of a high rate, which are major elements in influencing interest rates on deposits and bank credits/loans;

b)Liquidity in the banking system, limited instruments and the reduced effectiveness of liquidity management lead to the fact that banks have significant resources placed on National bank accounts and other liquid instruments but with a reduced profitability rate.

3.*Lack of financial resources for long-term credit.*

Deficiency of long-term financial resources, time gap between loans and attracted resources, result in interest rate for these loans to be quite high.

In order for a profitable business to increase its financial activity, it is more advantageous to use short-term bank credit loans rather than wait until they would be self-sufficient through profit capitalization. Generally, there are three factors to consider in selecting short-term funding sources: the actual cost of credit, availability of credit in the amount required for the period, and influence of using one specific funding source oncost and availability of another funding source. [2]

4.*The small share of strategic foreign investors in the banking system in Moldova.*

The entrance of other strategic investors on the Moldavian market is hampered by the economic inactivity because of its small size and non-transparency of the banking system.
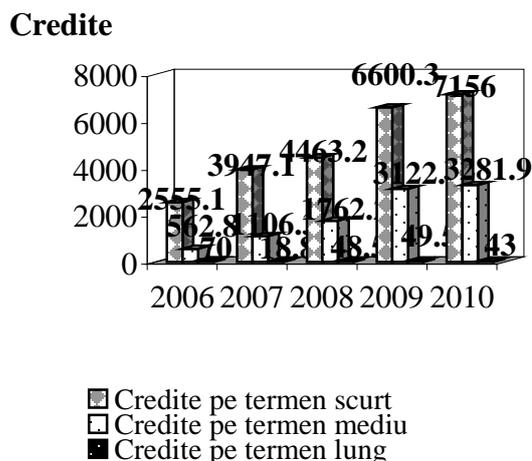
Credite

Fig 1. Distribution of bank credits under the grant period
        Source: [7]

5.*Lack of collateral* is one of the alleged causes of limited access to credit by SME. The evaluation of pledges is extremely conservative, in general giving preference to buildings in the large cities;

6.*Lack of appropriate technologies for bank lending to SME and the imperfection of existing financing instruments.* For the "traditional" banking technologies, lending to SME is not very attractive because of high administrative costs. For SME lending there are necessary more flexible approaches that would reduce these costs. Banks offer a relatively wide range of traditional credit products: term loans, lines of credit, guarantees, letters, etc.

7.*Quality of submitted projects.* Entrepreneurs lack in most of cases, basic business knowledge.

8.*Lack of interest in an important sector of economy - agriculture.*

9.*The poor developed business infrastructure,* makes information and communication with small business operators in the area to be ineffective. This includes business development services for SME, as well as technical assistance and trainings for funding providers.

Given the listed problems, to improve access to finance for SME as part of the real sector, drastic measures should be adopted by small business, the state, and financial institutions.

With full support from foreign governments, as well as from the state which implemented programs and strategies for SME development, it is still necessary for drastic measures to be taken in order to overcome constraints in small business financing. These would include:

1.*Promoting a monetary policy directed towards low and stable inflation* which would reduce interest rates on loans and ensure greater predictability and stability thereof. Low inflation and a relatively stable exchange rate would create conditions for confidence of people in instrument of long-term saving.

2.*Improving the business environment* will reduce risk doing business, improving the quality of loan portfolios and make the creditors to include risk margins to lower interest rates.

The measures should be taken, with effect on credit market, among others are:

 a)Reform the judiciary system and eliminate corruption;

b)Limit the discretion of judges and examination time-effective entry into possession by mortgage lenders in cases of mortgage foreclosure and insolvency.

At the same time we should mention that in order to improve the business environment state support of small entrepreneurship needs to be improved as well. This is necessary to take account of innovations developed by economists in the analysis of Western European countries to target orientation and effectiveness of programs drawn supporting small entrepreneurship.

The main directions that the government should focus its attention are: a) Focus efforts to create acceptable macroeconomic conditions; b) Issue of law, establish goals and objectives of the policy in small entrepreneurship; c) Further promoting this policy at the local level; d) Analysis and implementation of that policy as an integral component of economic and social policies, as well as employment.

3.*Attracting foreign investment in financial sector,* this can be achieved by: a) Greater transparency of the banking sector by publishing reports related to ownership structure and risk exposures; b) Conducting periodic bank tests; c) Increasing public confidence in the banking system; d) implementing a transparent and predictable monetary policy.

4.*Improving access to information on the SME sector.* This refers to:

a)Establishing analytical tools for evaluating access to finance for SME loans on time, type of beneficiaries by categories of businesses (not just branches), interest rates (in the microfinance sector); b) Establish a functional and efficient credit bureau; c) Establish a public register of financial reports; d) Create a unique and centralized directory of funding opportunities for small businesses, completed and updated regularly, to harness all the information concerning the programmes and projects of State funding as well as donors.

5.*Reformation and capitalisation of credit guarantee funds,* or the formation of new guarantee funds, with the support of international donors to come up with financial and technical assistance in this regard.

6.*Adoption by banks of strategies consistent and technologies specific to lending to SME,* which are different from those used for crediting large enterprises. This is especially true for SME lending in the agricultural sector, which require different approaches than to companies in other sectors. Such strategies and technologies should be directed to: a) Reducing bureaucracy in decision making process of granting credits/loans; b) Transparency of conditions and lending criteria; c) credit products well suited to the needs and repayment capabilities of SME.

7.*The creation of the legal framework necessary for the activity of venture funds* and their participation in the Foundation, together with international financial institutions and private ones. Creating such a framework for the activity of hedge funds, would help to diversify funding options for SME and business, especially as development funds are beginning to venture in Moldova.

8.*Develop a legal framework for the collection by microfinance institutions on domestic resources and making* Savings and Loan Association (*SCA) a cooperative banking network,* which would improve infrastructure, regulatory framework and enhance depositor confidence in those institutions that currently lack the resources is the main impediment to development. [3]

CONCLUSIONS

In order to achieve a sustainable economic growth it is not enough just to create a favorable environment conducive to growth and employment, for employable population, but also creating a climate for the cultivation of entrepreneurship.

And for this it is needed to identify problems faced by small businesses in order to create a favorable climate for development of small business sector, increase its share in the development of national economy and solving social problems, so that it is possible to assert the economic agents to put ideas into practice and to plan and manage projects both for business development as well as for the prosperity of the national economy.

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STEPS IN MAKING TECHNICAL ANALYSIS ECONOMIC ACTIVITY IN FARM

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Abstract

Business analysis of agricultural units, research, information system based on the results obtained in their work, factors which have determined ways to improve them. It has an important role in ensuring the scientific management of farms, are an essential instrument in the exercise of leadership attributes on all hierarchical levels. In the analysis of business units in agriculture must take into consideration the peculiarities of agricultural production. These are reflected in the structure of economic unity, their traits, to the conduct of ¬ active fathers. Features such as weaving social labor process with the biological process of reproduction, considerable influence of climate, land use as the main means of production, the disparity between work time and production time, use in the production of significant amounts of company own production, obtaining the same activities as the main products and by-products, are just a few. The items listed above and others, through their concrete manifestation, give specific agriculture as a branch of national economy.

Keywords **:** *economic analysis, farm, economic indicators*

INTRODUCTION

Analysis, as a concept, is a research method based on decomposition or dissolution of an object or a phenomenon in its parts, in its simple elements. In all fields of science, analysis plays an indispensable means of knowledge. Economic analysis can be defined as a research phenomenon (process or activity) of economically, based on the decomposition of all the elements of components and their study of the factors that determine it. The essence of economic analysis is the study of structural relationships and cause-effect relationships. At farm level economic analysis is differentiated primarily in terms of agricultural production profile. Thus, classification of holdings after profile is highly complex, involving the identification of its activities and determine the correct value of the shares in total income. A correct classification and a system of appropriate indicators and benchmarking interpretations lead to more viable.

MATERIAL AND METHOD

The main stages through which the business analysis are:
• prepare analysis plan;
•collection of appropriate information material;
• verification of data collected;
• ordering and performing data analysis calculations;
• interpreting results and drawing conclusions.
Prepare analysis plan.
Any activity analysis begins by developing its plan. Plan preparation is necessary to ensure coverage of all the problems they have to consider the analysis and to establish deadlines, so the action is done in time.
Develop plan based on circumscribing the scope of analysis. Depending on the purpose, sets out key issues to be studied from the complexity of issues it has studied the work unit. Clearly state the purpose of collecting necessary material ensures fairness and prevents unnecessary references to collateral issues, minor. For each aspect analyzed is determined objectives. Also in the plan are details on a methodological nature of

indicators used, methods to be used in data processing, technical work, the presentation of results, etc.., To ensure consistency of analysis, to achieve its intended purpose . When necessary, indicate the sources of information (globally or for each issue separately).

Gathering necessary information material.
Information sources and business analysis of agricultural holdings consist of two categories: external and internal sources.

External sources are: industry development programs or activity, market conditions, domestic sources of other economic units that have relations with the observation, etc. This category mainly generate information sources needed to guide farm work, integration into the complex mechanism of macroeconomics, to achieve its objectives. Internal sources are the sum of sources to the activity of the observation unit, its status in certain moments. Although the analysis of economic activity, both sources are absolutely necessary, overwhelming role, in the volume of information provided, we have indoor sources. In turn, internal sources are grouped into two categories: the sources providing the information needed to plan, reflecting the level that is or was going to work; sources that provide effective information, reflecting the fact the work of the unit analyzed. The main source providing effective information is the economic evidence. This, as a unitary reflection processes, means, resources and results of the unit, part of the information system consists of: accounting, statistical evidence and evidence of technical-operative.

Check the data collected.
Check the collected data essentially two sides, different background and accuracy. Background check is to examine the accuracy of information, the degree to which it reflectsthe level and mode of production of the phenomenon. This concerns logical examination of links that should exist between the levels of certain indicators, between their values and characteristics of the phenomenon illustrated time and space, between the whole and its parts.Verify the accuracy of information, is to examine the accuracy of

calculation that was the basis for determining the data collected. It also bears the name of,, check arithmetic ''', achieved by repeating operations that were determined values.

Performing analysis calculations.
Making calculation is an important point of analysis, both its content and the amount of work it takes. Through the operations involved, ensure immediate achievement of business objectives analysis, objectives that actually define its contents (finding of the phenomenon, its structure, the influence of research, etc..).

Interpretation of results and drawing conclusions.
Data interpretation is the stage that completes the analysis, which makes conclusions arising from the processing of information collected. Interpretation of results calculations performed are the most difficult and high officials of the analysis process. It can not be divorced from the rest of the work of analysis, the subject of how to do the other steps and actions, starting with their deployment in practice. Draw conclusions and proposals should be clear, does not contain contradictions, to include accurate answers to the objectives laid. They must be based on factual material collected and processed in the respective analysis. Conclusions relate to the essential problems of the farm business and proposals, concrete measures to increase the efficiency of them.

RESULTS AND DISCUSSIONS

Documentation of technical and economic analysis plan is developed with the basic analysis, taking into account the purpose, the issues set out in the plan, and taking into account any changes you can make the actual data obtained from information collection and processing them.
Documentation of analysis should be structured, logical, seeking to highlight what is essential. It should present facts in a certain order, starting from general to particular, from complex to simple. All items listed on the conduct of business analysis are still general rules.

The main source providing effective information is the economic evidence. This, as a unitary reflection processes, means, resources and results of the unit, part of the information system consists of: accounting, statistical evidence and evidence of technical-operative.

Conduct a thorough analysis of business units in agriculture involves using the same time, the sources of the three forms of economic evidence that although each operates by its own methods, complement each other, constituting a unit.

Economic evidence provides information through its documents: primary documents, filing documents and current financial statements and accounting. Among them, financial statements and accounting is one of the most important sources of business analysis, because regardless of their nature or the period covered (annual, quarterly, monthly), they present situations that reflect synthetic data unit activity as a whole or of its sides, the degree to which planned objectives, etc.

In preparing the plan of analysis, especially in making them, must take into consideration the particular unit studied, the natural and economic conditions in which it operates, the characteristics of the production process. Itself through the plan, when analysis is performed by persons outside the unit shall be provided general data need to study economic unit and its activities.

Any analysis is unique in its own way, she is determined not only of research and its purpose, but also the specificity of the situation are being developed. In this paper the analysis shows, on the one hand, scientific ingenuity of the person making, ability to apply known methods in the concrete situation, its logical thinking power, and on the other hand, methodical routine work, which is repeated every time.

Where analyzes are repeated frequently in terms of methodology (feasibility studies, business plans, etc..) Can develop appropriate algorithms, which favors a high degree of automation not only collecting information but also analysis calculations.

Anyway, data interpretation and the conclusions remain the attributes of performing analysis.

Another feature of economic analysis, is very complex character, character comes from the very complexity of research. A number of issues that illustrate the complex nature of economic analysis appear clearly on the need to study cause-effect relationships.

If the usual representation of the links mentioned, processes its own relatively simple and direct means of producing direct effect to question if ties manifested in economic phenomena can not be concerned only effects from multiple factors, the influence of different directions and intensities, transmitted through complex causal chains.

Because economic laws, unlike the laws of nature itself is done by human activity, the object of economic analysis - studied phenomenon and processes - are inextricably social and economic phenomena. Hence a feature of economic analysis, on the one hand the difficulty of separation of the observed phenomenon is studied, and on the other hand, need to give due importance to the human, social and psychological issues specific to its action.

CONCLUSIONS

Driving all farms (regardless of its form of ownership) as a key component involves economic and financial analysis with which to monitor and assess its function in the system. Economic and financial analysis can be used unrestricted in farm management, that is competent in solving any current and future issues affecting the economic efficiency of the final itself.

In this context, economic and financial analysis finds a place and a well defined both in the preparatory stage and the final stage of decision making. The current knowledge and forecasting of farm economy, the domestic reserves, the underlying causes of these, profitability analysis contributes to ongoing efficiency of its human and material resources.

In addition to preparing and substantiating management decisions, it helps to substantiate the economic plans of the farm, the improvement of financial indicators, the harmonization of economic activity, the economic-financial balance, control and regulate the activity of micro, to achieve leadership positions etc.

The manager of a farm is a resource manager that tries to make best use of scarce resources - land, capital and labor in order to maximize profit. Profit you can make a farm manager's skill depends heavily on the production and its management skills. Therefore, farm profitability is affected by the decision making process.

Analysis of the agricultural units is subject to the range and depth of system indicators used and capacity information of each. Is a numerical indicator of an economic process or phenomenon, defined in time and space and can be characterized by absolute size, relative size, medium size, indices and coefficients.

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ECONOMIC EFFICIENCY OF FOOD EXPORT OF MOLDOVA

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Abstract

Economic theory suggests that export expansion generates a resource allocation improve efficiency and increase productive output by capital accumulation. Export growth causes increasing openness of the economy, so those saving will be able to absorb more quickly (by imitation) technologies advanced counters. So, will result the increase in total factor productivity, which will positively influence the growth rate in the long run.

Keywords **:** *economic efficiency, foreign economic activity, Republic of Moldova.*

INTRODUCTION

A number of empirical studies have tested the correlation between export growth and growth process and ways of transmission of the effects of two variables. For economies at a low/ high growth, there is an association between increased export and growth. But for counters with medium development level there is a statistically significant correlation between openness and economic growth.

What happens in the Republic of Moldova? The analysis did not intend to investigate this aspect in detail, but wanted to capture the influence of Moldova export on economic growth.

MATERIAL AND METHOD

During the investigation there were used such research methods as: analysis, monographic, statistic as well as other methods and procedures that allowed revealing the essence of the investigated problem.

The period analyzed in this study is 2000-2010. The data, collected from Ministry of Agriculture and Food Industry, have been statistically processed and interpreted, building the trend line and setting up the forecast based on simulation models.

RESULTS AND DISCUSSIONS

Character exports to the European Union has the following aspects:

- Dimensions of the EU market are one of the largest in the world. Moldova has a favorable geographical proximity to stimulate exports in this market. Moreover, other studies in this field, based on the use of gravity models indicate that normally in the absence of any barriers, export volume would be much higher in this market;

- Moldova has a relatively small share of EU market, but growing steadily, that the competitiveness of products exported to this market has a trend of consolidation;

- The need for increased promotion of exports to the EU market stemming from the fact that these products have potential for development based on comparative advantages "elevated", which would allow an intra-industrial specialization of Moldovan exports.

In early 2010, the meat processing industry worked 14 large and 70 medium and small units. Share of industrial products sector in the production structure in the country is 5.1%. In the years 2001-2009, the value of meat production increased from 355.2 million lei (2001) to 1104.5 million lei (2009). In 2009, it has decreased by 24.8 percent from 2008. The main goods produced in the sector in 2009 were meat (including poultry) - 11 200 tonnes and sausage - 20.60 thousand tonnes. Total production capacity per year per branch is around 190-200 thousand tons of meat carcasses. Slaughter capacity is used for a yield of only 7.5 percent and the manufacturing of sausage - about 35-50 percent.

An important part of the raw material used in producing the meat industry is imported. Processing sector faces pork high internal costs, despite relatively high corn production and cheap labor. In addition, the quality of pork meat processing industry provided a problem will be solved in the future. Most of the pig is in private households, feeding and husbandry practices that have been weak and the genetic material is generally of poor quality, despite its subsidies in recent years.

Dairies holds 4.2% in the structure of industrial production in the country.

In 2009, enterprises with main activity produced milk processing industrial production value of 1085.2 million lei in current prices which represents an increase of 2.5 times compared to 2001 and a decrease compared to 2008 9% was achieved when the maximum production of 1192.4 million lei.

The main dairy products in 2009 are the production of milk and cream with a fat content <6% - 67,100 tons, butter - 4.4 thousand tons, cheese and cream cheese - 2 300 tonnes and 7 3000 tons of ice. Over the last decade, processors have decreased by about 75 percent volume acquisition and processing of milk. The main reason is the liquidation of large producers of raw materials, with the privatization of agricultural households. Although overall the country is producing annually about 570 to 600,000 tons of milk a commodity, a quantity that can be fully industrialized existing capacities, processing units collect and process only 25-30 percent of this volume. Major problems in purchasing raw materials is under-capitalization sources (zones) of raw materials and poor technical equipment of the offices of milk collection. Another reason, no less important, which led to bankruptcy of many enterprises in the field, is the loss of traditional markets and under-equipping of milk processing units, which does not allow competitive production.

Econometric interpretation highlights the fact that adverse developments translate into exports of the poor national economy. Estimates indicate that 1% growth in exports contributes 0.13% -0.2% rate of economic growth. Previous conclusion that poor relationship between export growth and poverty reduction is confirmed. The current structure of commodity exports, the competitiveness of their degree of processing, etc.. will boost economic development in the country. Comfort misleading, that domestic exporters have, based on the CIS market, does nothing else, ultimately, only fuel consumption is imported.

In conclusion we can say that the CIS market, the Republic of Moldova orientation focuses on the following basic directions:

- Republic of Moldova on this market share is declining, that our export competitiveness in this market is reduced, either because of non-economic factors that lead to the introduction of tariff and non tariff barriers, or because of economic factors (increasing competition from traditional products exported from the Republic Moldova in the CIS market architecture changes etc.).

- Structure of exports to CIS denotes obsolete forms of specialization of the Republic of Moldova, based on comparative advantages, the latter requires a specialized inter-branch and trade sectors.

To determine the economic efficiency of foreign economic activity we propose using the following indicators: [1]

I. General indicator:

1. Intensity of inter-branch trade exchanges: - Grubel and Llozd indicator;

2. Geographic reorentation index of a country's foreign trade.

II. Indicators of purchasing power in foreign economic ratios:

2. The exchange ratio with the following indices:

2.2.1. Gross exchange trade ratio index,

2.2.2. Net exchange trade ratio index.

III. Indicators characterizing the degree of development of a country's foreign trade:

3. Volume of foreign trade/capita.

Source: A. POPESCU, Foreign Trade, Bucharest, 2010

Next we perform the analysis of foreign economic trade on the basis of the above mentioned indicators.

1. Intensity of trade exchanges in a branch. With this indicator we can determine the place

the country's foreign trade has in an economic sector, by emphasizing exports and imports of product categories in imports and the total exports and of the given country.

Intensity of trade exchanges in a branch is determined by the Grubel-Llozd (GL) indicator.

If GL = 1, then exports and imports in the category of goods are equal, so the country has "perfect" or "total" commercial trade.

If GL = 0, then there is no inter-branches exchange in the *i* category of goods.

Grubel-Llozd indicator can be of any value between the two extreme values, 1 and 0, but the closer is to the 1 value, the inter-branch exchange is considered more intense.

The calculations made in Table 1 demonstrate an increasing trend in the dynamics of this index.

If in 2000 the Grubel-Llozd index in food products reached the size of 0.14, then in 2010 the value of this index increased by 0.12 point; and reached the size of 0.26. This shows us that exports and imports of agricultural products are under-represented in foreign total trade of the Republic of Moldova.

So, agriculture and food industry contribute very little to commercial exchanges between Moldova and other countries.

	2000	2004	2005	2006	2007	2008	2009	2010
Total	**0.18**	**0.24**	**0.25**	**0.28**	**0.32**	**0.30**	**0.29**	**0.33**
Agro-Food products (0+1+22+4)	*0.14*	*0.15*	*0.17*	*0.20*	*0.24*	*0.25*	*0.22*	*0.26*
Agro-food and alive animal productse si (0)	0.25	0.25	0.28	0.26	0.27	0.31	0.27	0.29
Beverages and tobacco (1)	0.07	0.09	0.10	0.15	0.23	0.25	0.19	0.27
Oils, fats of animal origin (4)	0.35	0.06	0.05	0.03	0.04	0.04	0.05	0.04
Unclassificated goods from other section of CSCI (9)	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.25

Table 1.   Evolution Grubel-Llozd index in food products
Source: author's calculations based on Comtrade data.

The next analysis indicator is the Index of geographical reorientation of foreign trade of the Republic of Moldova.

Index of geographical reorientation of foreign trade has two forms:

a)Geographical reorientation index of imports;

b)Geographical reorientation index of exports.

Geographical reorientation of imports index shows the modifications in the value of imports between two consecutive periods relative to the volume or the total value of imports from the previous period.

Index of geographical reorientation of exports shows changes in export volumes accumulated between consecutive periods reported the amount or total value of exports.

As the index value decreases more rapidly, the geographical stability is faster. A level of 0.1 – 0.15 of the index shows a high stability related to a favorable international circumstance.

Table 2. Index of geographical reorientation of foreign trade of the Republic of Moldova

Specification	2001	2004	2005	2006	2007	2008	2009	2010
Export	0.26	0.29	0.21	0.36	0.36	0.34	0.26	0.28
Import	0.33	0.29	0.30	0.27	0.38	0.34	0.40	0.29

Source: author's calculations based on Comtrade data.

Taking into the consideration the data calculated in the Table 2, the calculated indices have the following meaning: the index of geographical reorientation of imports in 2010 has a value of 0.29 and index of geographical orientation of exports has a value of 0.28. These figures show us moderate geographical stability in the foreign trade of the Republic of Moldova. Schematically, the above information can be presented as follows. (Fig.1).
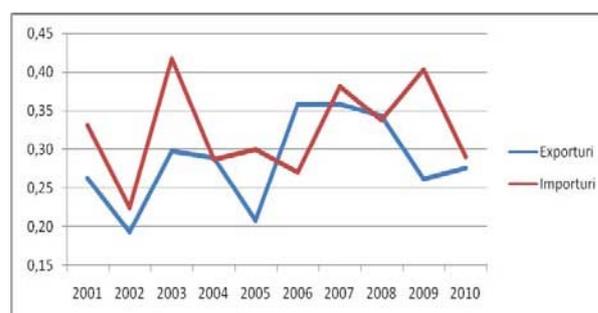
Fig.1.Index of geographical reorientation of foreign trade
Source: Author's calculations based on Comtrade data.

The economic efficiency of foreign trade operations is directly influenced by physical volume and price changes that they made.

Exchange ratio ("Terms of Trade") shows the purchasing power of a commodity relative to other commodities or groups of goods in relation to the same group on imports and exports compared to imports. The exchange ratio can be calculated through several indicators. We perform this analysis through the index of gross exchange ratio of Moldova and index of net ratio.

Table 3. Index of gross exchange ratio

	2005	2006	2007	2008	2009	2010
Wheat	1.36	1.46	0.52	0.96	1.97	0.63
Barley	1.01	1.10	1.55	0.43	18.58	0.16
Corn	0.23	0.86	12.76	0.82	0.14	1.78
Sugar from sugar beet and pure sucrose from the chemical point of view, in solid state	1.70	0.63	1.01	1.83	0.61	1.25
Grape wine	0.81	0.46	1.66	0.57	2.05	1.22

Source: author's calculations based on NBS

The vase calculations presented in Table 3 we conclude that the terms of trade index for wheat gross value of which was in 2010 of 0,63.

On the basis of data presented in the table it is showing that the ratio of the average export price and the average import price is higher than one, which proves that this product has a lot of purchasing power, because when you get a better price export and import the product you do at a lower price, leaving an additional difference in the foreign currency for our country. So we can say that we have an unfavorable gross exchange ratio for Moldova.

The index of the net exchange ratio is calculated in the table 4.

The index of net exchange ratio indicates net purchasing power of the country in foreign trade and world market conditions. This entire economic indicator demonstrates ability to use good conditions on the international market.

Table 4. Index of net exchange ratio

	2004	2005	2006	2007	2008	2009	2010
Wheat	0.08	8314.32	0.48	0.11	0.71	67.47	6.38
Barley	2020.20	0.50	0.18	0.11	202.06	0.02	3.54
Corn	0.15	17.13	1.12	0.00	0.83	102.63	0.95
Sugar from sugar beet and pure sucrose from the chemical point of view, in solid state 1701	50.67	0.09	60.24	0.16	0.08	3.23	1.08
Grape wine	0.79	1.18	0.76	2.63	2.81	2.34	0.15

Source: author's calculations based on NBS

If this indicator increases the value we can say that imports become relatively cheaper than exports, so the transactions are in the favor of the importing country.

Analyzing the information in the table above we can say that higher value than the index net exchange ratio products: corn, sugar, wine, show that exports are more expensive than imports, exports of these products provided a favorable exchange ratio for Moldova in 2010. If we look at the index products: wheat and barley, then exports do not bring any favorable exchange ratio of Moldova for 2010, because the average export price is lower than the average import price. If we analyze the dynamics of this indicator, we can say that this is different from year to year. We believe that the determination of this indicator is very important, because with it we can determine which products are good for the economy of the to be exported country and where the   products are not currently profitable for the export.

The next analysis indicator is the volume of foreign trade /capita.

Dynamic growth of this indicator reflects the country's foreign trade development. The data in Table 5 shows that the volume of exterior trade per capita in the Republic of Moldova increased about 5 times in the period from 304.0 USD/capita in 2000 to 1509,3 USD/capita in 2010. This demonstrated the positive trend of development of Moldova's foreign trade. If we consider the years, we see that in 2010 foreign the trade value per capita compared to 2008 decreased to 274,8 USD/

capita, but compared to 2009 we see an increase of 243,2 USD/capita.

Table 5 Foreign trade per capita

	2000	2005	2006	2007	2008	2009
Export, mil. USD	471.5	1091.3	1051.6	1341.8	1591.4	1287.6
Import, mil. USD	777.0	2293.0	2693.2	3688.1	4893.8	3274.0
Eterior trade, mil. USD	1248.5	3384.2	3744.8	5029.9	6485.2	4561.6
Population, mil. habitants	4.1	3.8	3.7	3.7	3.6	3.6
Export per capita USD/habitant	114.8	289.7	283.1	365.5	437.8	357.4
Import per capita USD/habitant	189.2	608.7	725.0	1004.5	1346.3	908.7
Volume of exterior trade USD/locuitor	304.0	898.4	1008.0	1370.0	1784.1	1266.1

Source: Authors calculations based on Comtrade data.

To evaluate the export performance of agro-food products it is used an indicator of comparative advantage in comparison with articles of other countries. Revealed Comparative Advantage (RCA) was used to investigate whether Moldova has similar or different comparative advantages on the global market, CIS and EU. RCA takes into the consideration the group of products featured on the export market, so the indicator used for better understanding of performance of the export. Thus, a high share in exports does not mean a greater specialization as possible for other countries to export to the same region a larger amount. According to the calculation when the RCA has values greater than 1 means that the country has great comparative advantages in that area. A RCA, with a value less than 1, means that it doesn't have these advantages. For Moldova we present in Table 6 on the 2006-2009 years the average of national exports separately from the world, EU and CIS.

Table 6. Revealed comparative advantages of the Republic of Moldova (average for 2006-2009)

Revealed comparative advantage	Total world	EU - 27	CIS
Meat and meat products	1,47	2,37	4,57
Dairy products and birds' eggs	2,25	1,94	2,05
Cereals and cereal products	4,25	5,87	4,9
Vegetables and fruit	10,03	19,91	39,47
Sugar, sucrose, honey	6,29	10,15	11,22
Freed for animals	1,94	3,69	4,15
Beverages	32,06	13,47	67,77
Tobacco and tobacco products	8,35	10,57	18,18
Fur and leather raw materials	5,74	4,67	7,9
Oil seeds and oleaginous fruits	13,6	133,67	21,22
Raw fertilizer	9,32	11,13	6,05
Animal or vegetable raw materials	2,13	2,12	14, 92
Fixed vegetable oils and fats	7,91	16,7	8,05

According to the survey made on the world market and the EU, we highlight some types of groups of foodstuffs in which Moldova is specialized. The CIS countries have identified 7 types of products groups which indicate a specialization. RCA is the sum of the averages values almost twice higher than the EU CIS countries than EU's ones emphasize the following products: oils from oilseeds, vegetables and fruits, oils and stable fats, beverages.

In conclusion, we mention that products with RCA are concentrated in food products, beverages and tobacco and primary goods. A very small percentage have the manufactured products, the largest RCA has "fruit and vegetable" group. A common feature both for exports to CIS countries and the EU, is that we have products that have an increasing trend of export specialization. A high RCA has volatility of most products so you cannot say that the product shave a stable exchange rate to improve the comparative advantage. Most products have a specialized market like the EU and CIS markets. Exception is the beverages and tobacco groups, where it shows different developments indicator of specialization. This can be explained by the different tastes and quality requirements, and access differently on the market between EU and CIS. One advantage for the Moldovan exports is food products.

Surprisingly, several studies and international databases present that Moldova has a high RCA if it is compared with the CIS countries. If to be sold, this can be treated as a source of future benefits. Most products with a high RCA are branches with a low potential of employment.

This is a major risk to long term, especially as they have radically changed the quality of economic growth in Moldova. Explanation we can find in the low value added exports.

To highlight this conclusion we analyze Moldovan exports in terms of input intensity.

Exports as classified by intensity level of use of production of the factors reveal a different structure between exports directed to EU and CIS. In the CIS countries are exported, mainly, raw material and resources with a low degree of processing for the period analyzed, these products are, on average of a value of 33% of total exports to this market.

A low share have the hold assets which are based on research and development elements in the same period of analysis, their share in exports to the CIS accounted for on average of 14%. If this tendency will not be stopped, Moldova is likely to perpetuate the current structure of state and economy. These exports are not putting pressure on the degree of processing changes of products exported, that is not enhanced diversification of national economic structure. In EU countries, export situation is different, with a surprisingly high proportion of products with increased intensity of use of research and development factor and, in particular, hard to imitate. This category of goods, especially industrial growth had after 2008.

We believe that this increase is due to the introduction of asymmetrical trade regime ATP. The problem is that the share of these exports, the total Moldovan exports is low – around 12% in 2009. Another conclusion is the fact that in the CIS the products are exported more raw materials and capital intensive, while the EU export – which uses more labor and material factor. Implications of this are quite important for the Moldovan economy.

Products exported to CIS stimulate employment, on the one hand, and on the other hand, this causes risks associated with shocks from external demand and prices. These risks weaken the effectiveness of the link between export expansion, growth and even poverty reduction.

CONCLUSIONS

It is considered foreign economic activity, business individuals and businesses from a particular country to another one, in all forms of international economic relations.

Foreign economic activity has an important role inn economic development of each country. Organization and external economic activity is an area of major importance in establishing a new economic mechanism through which the country achieved the classification on global market.

In the current global economy, the exports have become an important factor of economic growth. That is why it is very important for Moldova to move towards to a development model based on exports and investment. To help increase the export volume is necessary for proper management of approved export promotion.

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ACTIVITIES DIVERSIFICATION IMPACT ON OF AGRICULTURAL EXPLOITATION INCOMES

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Abstract

The paper aimed to present the evolution of Milk Production during the period 1990 -2007 in the North West Region of Romania, including Iasi, Botosani and Suceava counties. It is based on the statistical data provided by Ministry of Agriculture, Forests and Rural Development. The data have been processed into the following indicators: cattle livestock, number of dairy cows, milk yield, milk production. During the analyzed period, cattle livestock has continuously decreased, so that in the year 2007 there are just 1,440 thousand cows in Romania of which in the North Eastern part are raised about 25 %. Milk yield has increased from 2,850 kg /cow in the year 1990 to 3,980 kg/cow/year in the year 2007, but total milk production has decreased taking into account the reduced number of cows. As a conclusion, the North East region is traditionally suitable for cow rearing, due to its pastures and meadows, the important number of cow stock and possibilities to produce ecological milk.

Keywords : *milk production, evolution, NW Region, Romania*

INTRODUCTION

Diversification of the rural area activities it is a condition of the expansion of the living standards and risk diminution (possibilities) to achieve income. General acceleration of the present changes in the post-revolution period reached critical moments sometimes, which threatened to exceed the holding potential of the rural areas used in Romania. We refer, first, at the development of technologies and requirements boost of the living standards of rural economic development needs and the impact of the increasing requirements of the agricultural exploitations system and the limits of the economic and social phase. In this paper, diversification of the agricultural activities is considered a means of reducing the risk of obtaining agricultural production and incomes at agricultural exploitations level, the main purpose indicators were analyzed measuring the diversity at the country level. Simultaneously it sought to identify opportunities to develop agricultural exploitations by showing how it has managed to diversify and to modernize the production and management activities to obtain technical and economic results as

constant. Stocks were analyzed and the degree of self-sufficiency in agricultural products, followed by the average surface structure of agricultural exploitations by disposal of products obtained, and finally to give the incomes and other financial resources of the households in average on Romania. The structural elements of the analyzed types of agricultural exploitations showed the need to know the changes that have taken place in agriculture and its implications for rural areas in Romania.

MATERIAL AND METHOD

Structuring the specific indicators of varied activities taking place in the agricultural exploitations must follow the route, from the recorded result, at the essential final causes. For this reason, the indicators used were related to supply production and sales. But, on the agricultural exploitations, the types of activities are combining, intersecting, swelling, excluding themselves etc., therefore is very difficult to delineate levels of indicators that can be characterized by the respective phenomenon. In this case it is necessary to know specific rural phenomena,

related to micro and macro regionalism, which determines territorial disparities. These indicators were defined in the form of:

- Economic indicators, which measure the economic conditions of the phenomenon (situation) analyzed;
- Social indicators, which give statistics and research data on the objective conditions of social welfare and their consequences;
- Quality of life indicators that relate to people's subjective reactions to economic and social processes (4).

Sizing indicators of agricultural production analysis can be structured and ranked by determining the quantitative side, dimensional evaluation and actual production, aiming in particular the private sector.

Indicators characterizing the quantitative-structural side of the agricultural activities, that follow the related three aspects: agricultural area of agricultural exploitations, production volume, production structure (the entire physical production), stocks and their changes, the self-sufficiency level.

The value of synthesis indicators used to assess the technical and economic agricultural exploitation[3]s. (1). Can be classified according to the criteria that have as base the capacity on enrollment, is the reflection of productive activity, being able to delineate the following indicators: value of exercise, the value of production sold, the added value, the net production value. These indicators deepen the analytical structure of indicators on productivity, operating costs, reporting the indicator at 100 hectares or 1000 lei and circulating assets, turnover, gross profit etc. (3).

Indicators of income from agricultural exploitations activity, refer to the following structure indicators: income funds, with reference to gross wages and income from agriculture, income in nature, with reference to the value of their food consumption. As for Romania, there is a difference of activities in

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[3] *Statistics of the labor resources in agriculture (Methodologies regarding the valuation rules set out in Integrated Economic Accounts, CEEC), Material INS, 2006*

agriculture / rural indicators system for understanding different forms of diversification, through the registered level can be considered elements of knowledge and evaluation of the economic circuit stages that structures the supply, the production and sale.

RESULTS AND DISCUSSIONS

The stocks of agricultural products and the degree of self-sufficiency. Due to the economic crises in Romanian rural post revolutionary phase, the concept of diversification has taken new dimensions, with reference to the risk situations mitigation. The product resulted from the primary, secondary and complementary activities are viewed not only as potential profits, but also as a means of social transformation and rebalancing of the agricultural exploitations. This degree of self-supply stocks has important implications for all forms of diversification.

The analysis of the situation in 2000-2008, stock and the degree of self-sufficiency in agricultural products in Romania, there is a degree of self-sufficiency swing according to the changes in inventories. In table 1 is given this situation, in which for the main products are arising the following:

- On cereal products and potatoes stock variations are oscillating, a situation that causes instability and degree of self-sufficiency level. For example, in cereals, period, amplitude level of self-sufficiency varies between 64.3% and 144.7%, and the potatoes the same indicator varies between 98% and 122.2%;
- For the horticultural products (vegetables) the stock variations is falls in annual variation, reaching negative values in the recent years, reason also for the self-sufficiency level to have stagnant levels, with a downward trend from 91.5-97.9 % up to 79.6-88.2%;
- At the most animal products, changes in inventories are also oscillating, with degrees of self-sufficiency in milk and eggs slight increases and decreases in meat and fats.

Table 1. Stocking and self-sufficiency level of the agricultural products in Romania

Product	Specification	2000	2005	2008
Cereals	Stock Variation (thousand tones)	-5491	1858	1507
	Degree of self-sufficiency (%)	64,3	114,1	123,7
Potatoes	Stock Variation (thousand tones)	412	114	-2
	Degree of self-sufficiency (%)	112,2	98	95,4
Vegetables (and equiv. Vegetable)	Stock Variation (thousand tones)	-91	-116	-68
	Degree of self-sufficiency (%)	91,5	80,9	88,2
Milk (and equiv. Milk)	Stock Variation (thousand tones)	5	16	-5
	Degree of self-sufficiency (%)	99,3	100	95,6
Eggs	Stock Variation (thousand tones)	2	-1	3
	Degree of self-sufficiency (%)	99	97,9	96,0
Meat and offal	Stock Variation (thousand tones)	-12	52	5
	Degree of self-sufficiency (%)	91,3	64,9	71,8
Fats (vegetable and animals)	Stock Variation (thousand tones)	3	8	-3
	Degree of self-sufficiency (%)	90,5	81,7	66,5

Source: The consumption availability of the population in the period 2000-2006, INS, 2001-2008(5)

Regarding the degree of self-sufficiency in agricultural products in Romania, 2000-2008, highlights the following:
- The grain, in 2004, 2005 and 2008 is a high degree of self-sufficiency, 144.7%, 114.1% and 123.7%;
- At potatoes, all years 2000-2008 are characterized by high self-sufficiency, from 91.2 to 113.4%;
- At vegetables, self-sufficiency level is lower, between 79.6 and 97.9%%;
- At milk and dairy products and eggs meets the highest degree of self-sufficiency, of 95.6 to 100% and from 96 to 102.5%;
-At meat and fat, self-sufficiency level is lower, between 66.6-91.3% and respectively 66.5- 90.5%.

Surface average analysis of the agricultural products obtained after destination. The analysis of production boundaries (sale and consumption) and agricultural exploitations type (*table 2*) are relevant for the following areas within agricultural exploitations:

Table 2. The structure of average surfaces of the agricultural exploitations after the obtained products destination (year 2002)

Agricultural exploitations type	Self consumption only destination		Production surplus destined to sale		Production destination mainly for sale	
	ha	%	ha	%	ha	%
Total exploitations from which:	1,5	100,0	4,47	100,0	42	100,0
Individual agricultural exploitations	1,1	75,4	3,3	73,8	6,18	14,71
Legal units, of which:	178.5	1151 6,1	253,5	5673, 1	348,34	829,3
Companies / agricultural associations	148,8	9601, 2	468,8	1048 9,2	451,04	1073,9
Companies	96,5	6229, 6	271,5	6074, 0	445,66	1061,0
Public administration units	442,2	2853 4,8	463,9	1037 9,2	567,98	1352,3
Cooperative units	37,2	2401, 2	35,4	793,9 5	9,57	22,78
Other types	23,0	1485, 8	26,4	592,6	25,09	59,73

Source: Processed by the General Agricultural Census - 2002, Volume I, INS, 2004 (6)

- Intended only for consumption for the average area, the total holdings of 1.55 ha, considered a basis for comparison (100%) can be interpreted differently. Individual holdings, on an average surface of 1.17 hectares intended for consumption is only 75.48%. For legal units the levels of the own consumption increases are proportionally with the surfaces increase (between 14.8 times and 378 times);
- In case of surplus destined for sale, the average exploitation surface of 4.47 ha area at national level, considered 100% comparison basis, there are also differences. If individual exploitations, the average area of 3.30 ha, the surplus for sale is at a minimum level of 73.82% of the obtained output. For legal units along with the surfaces increasing is amplified also the surplus destined for sale (which is between 8.03 times and 142.08 times);
- At the individual agricultural exploitation for the average area of 6.18 ha, the production destination mainly for sales is only 14.71%. On legal units these levels vary between 22.78% (the average area of 9.57 ha) and 1352.33% (for the area of 567.98 hectares). It follows that the essential point in establishing and developing conception of diversity is directly related to the ratio consumption/sale of agricultural products. This way of thinking an objective are focused on issues such as analysis of the critical issues

of self-consumption and thus limits the agricultural exploitations development, development of realistic proposals for implementing the most appropriate forms of diversification and suggest new forms of cooperation in rural areas.

Revenue and other resources in rural areas in Romania. Diversification is based on the income and other financial resources in rural areas. The levels of appropriate indicators (which are presented in *table 3*) for 2002-2008 highlights the following issues:

- Total household income is increasing, the year 2008 compared to 2002 was amplified by 191.3%. However the total incomes of rural population are below the national, sub-urban. The most significant discrepancy occurs at the urban level on which the rural income differences are lower with percentages between 17.5% in 2002 and 26.7% in 2008;

- Cash incomes are also lower in rural areas, which are below the national average with percentages between 30.3% and 35.8%. Cash income from urban, there is a decrease between 49.3% and 43.5%. By analyzing the structure of cash incomes in rural areas there is a tendency of decrease deepened gross wage, but a very high level of income from agriculture (the level of agricultural exploitations income compared to the national average in this area is between 205, 2% and 213.3%);

- Income in nature in the rural areas prevail to the national level, to levels between 162.0% and 144.9%. The structure of these categories of income manifests two tendencies as follows:

a) regarding the counter value of income in nature obtained by the employees and beneficiaries of the social benefits prevail those obtained in urban environment (their share is above the national average between 38.4% and 42.2%;

b) regarding the value of consumption of agricultural products from the own resources there is a clear trend for the allocation of this return for rural areas (towards the national average the rural environment has an exceed between 70.5% and 65.6%).

Table 3. Incomes and other financial resources of the population households achieved on average in Romania (% / monthly average per household - RON)

Income structure	2002				2008	
	Total households, of which:	Urban	Rural	Total households,	Urban	Rural
	(lei)	% compared with the total		(lei)	% compared with the total	
Total incomes, of which:	795	108,5	89,5	2315,99	113,1	82,9
a) Cash incomes, of which:	595,7	128,7	65,2	1937,45	123,3	69,6
Gross salaries	355,9	148,9	40,8	1179,27	14,0	48,0
Agricultural incomes	33,3	12,8	205,2	57,34	19,0	205,4
b) incomes in nature, of which:	199,3	48,6	162	378,511	60,9	151,0
Counter value of the incomes in nature from social benefits	13,7	138,4	53,5	60,7	136,0	53,1
Counter value of the consumption of own alimentary products	185,5	41,9	170	317,84	46,5	169,6

Source: Processing after "Coordinates of the living standards in Romania, Population incomes and consumption in the year 2004, 2006, INS, Bucharest, 2005, 2007,2009 (80)(2)

From this evolution of income for the rural areas can conclude a slower rhythm of growth of the total incomes compared to the national and from urban areas, an oscillation in the growth of cash income levels and a decrease of the incomes in nature (although these incomes are predominant for the population households from the rural area).

CONCLUSIONS

Focus on diversification of agricultural exploitations activities and their impact on economic results of their risk reduction may lead to the following conclusions:
During 2002-2008, total income, cash income, gross wages and incomes in agriculture have registered an upward trend;

The counter value of the income in nature from employees and beneficiaries of social benefits, has also been growing;

In the equivalent consumption of agricultural products from own resources in the period has been a continuous annual growth;

Cash income in rural areas have increased, excluding income from agriculture, which in 2006 was recorded decreases, as diminished value of income in nature obtained by employees and social benefits.

In a synthetic form, the analysis shows an amplification necessity of the living standards and achieving risk mitigation by increasing the cash income and lowers the income in nature by diversifying the rural activities.

Regarding the family labor can be shown that it can be considered two-dimensional:

On one hand, by engaging labor through diversification of the rural activities that enhance the local resources capitalization and reduces unemployment;

And on the other hand, are the principles of ecology and preservation of the quality natural products, the use of labor that needs it, a heritage events toward the exploitation, and the manifestation of the tendency of family income insurance and capital development, etc. In this context, as a result of revenue optimization strategies can boost economic activities leading to sustainable development of the rural communities.

Analyzes performed may highlight that form of diversification that can reduce the risk of production, revenue and profit, the need for agricultural exploitations to be organized in groups (holding companies), which demonstrates their economic viability in practice.

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ADVANTAGES OF USING ENVIRONMENTAL ACCOUNTING AND ENVIRONMENTAL MANAGEMENT IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

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Abstract

The connection between business activity, in general, and the degradation of natural environment, as well as the repercussions of environmental degradation on population welfare have a complex nature, leading to difficulties regarding analysis and measurement. The analysis of the immediate impact of business activity on the natural environment cannot always reveal all the costs and risks which are related to the environmental degradation. Also, a special attention must be given to the repercussive effects of natural environment degradation status on the conditions in which business activities are developed and their performance. Hence, the importance of using an environmental accounting and an environmental management which could contribute to the diminishing of these disadvantages.

Key words **:** *enviromnmental accounting, enviromnmental management, sustainable development*

INTRODUCTION

In the current context, the protection of natural environment is imposed as a measure resulting from the irrational economic development which influences the natural factors. On the other hand, to obtain profit is a requisite for the operation of any economic agent, being required by the competitive system of the market economy itself. By analyzing this contradiction, between the natural environment and the economic growth, it results that profit is one of the main value leverages and the source of incomes for the budget which is necessary for the environmental protection activity. The environmental protection activity is not exclusively an activity performed for the preservation of environment quality and protection of its resources, it is also a source of growth.

Rethinking the new economy from an environmental perspective involves the use of new management tools at the level of enterprises, such as the Environmental Management System (EMS) and the Environmental Accounting.

MATERIAL AND METHOD

The research described is based on a bibliographic publications, data on the publications, authors, theories referred to, and methods were collected and analysed date of the environmental management and environmental accounting. For the analysis in this paper aimed analyse of the publications such as type of research (empirical, conceptual, normative), methods deployed, theoretical framework, etc.

RESULTS AND DISCUSSIONS

Environmental management includes several precise actions by which the protection of the environment in which the enterprise performs its activity is contemplated. All the actions connected to the environmental policies will be registered by using environmental costs, which are a component of the costs which led to the development of a Management Accounting for the environmental costs.

An important element of this approach is to establish the environmental costs.

The **environmental cost** is that part of applications which compensates for the consumption of production means and labour force, in the technical, organizational and management context, for the obtaining of an environmental service.

The cost content is connected to the consumption of the factors which led to its occurrence and, in order to the monitored and registered, needs to have a value. The cost is the value of all the factors used for providing environmental services and is expressed as the expenses born by the provider of the environmental services.

Environmental costs and performance have to monitored by the management because of the following reasons, at least:

-Many environmental costs may be significantly diminished or eliminated by changes at the operational level, by investments in clean energies, by redesigning the manufacturing processes and products;

- The environmental costs may be seen as insignificant at a glance;

- It was possible to register the environmental costs and benefits only when the use of waste recovery systems started;

- A better management of the environmental costs may lead to the improvement of the environmental performances and of the companies' performances;

- The proper understanding of the position of environmental costs and benefits which are related to the production processes leads to a more accurate calculation of costs and prices and may help the enterprise, in the future, to design processes, products and services which are more friendly to the environment;

- The environmental costs may be diminished or avoided by pollution prevention methods, such as the following: Product redesigning, replacement of material inputs, operational and maintenance improvement methods.

The process of taking decisions which are necessary for the management activities is connected to identifying and recognizing the environmental costs which are associated to a product, process etc. The reduction of environmental expenses, the extension of recovery processes and the improvement of environmental performances imply the proper identification of the elements of expenses. Hence, a more accurate use of accounting information is necessary.

A more accurate distinction between the elements which are included or not in the structure of each environmental cost has to be made. Sometimes, these costs are included in a grey area and may be classified as partial environmental costs.

Some costs can be easily identified as environmental costs (for example, those involved in the compliance with the requirements of the environmental laws, those connected to the expenses made for environmental recovery, for pollution control equipment, for non-compliance fines), other costs such as those resulted from the environmental protection activity are environmental costs even if they are not expressly required by legal regulations, but there are other costs which may or may not be seen as environmental costs (costs for the creation of clean technologies, costs for monitoring the categories of raw materials and suppliers etc.). In these cases, it is hard to differentiate the environmental costs, the health and safety costs or the risk management costs.

In order to accurately establish the nature of these costs, some companies have chosen the following approaches:

-A certain cost element is handled as environmental cost for a certain purpose, but not for another;

-Only a certain part of a cost involved in an activity is handled as environmental cost;

-A cost is considered to be an environmental cost only when it is decided that more that 50 % of it were connected to the environmental activity.

The identification of these costs and the method of their registration are the base of the Environmental Cost Management which represents a new approach to cost calculation and the objective of which is to thoroughly organize production as flows of materials and information which are structured in an efficient way.

The objective of cost calculation system is not to calculate the environmental costs, but to obtain information regarding the allocation of total production cost. The improvements of the current cost system are made in two directions:

- The economic direction which emphasizes the material costs, the value and places in which they appear, costs which in the manufacturing industry represents the highest percent.

- The environmental direction which involves the diminishing of costs for materials and energy used leads to positive environmental effects which are materialized in diminishing waste, effluents and emissions

The environmental costs may be classified as follows:

- Costs for waste disposal/storage, for emissions and their treatment including materials and manpower for maintenance works. Insurances and provisions for environmental obligations also reflect the idea of treatment instead of prevention.

- Prevention and environmental management costs – which include costs related to labour and external services for the proper management/administration of environment and additional costs for clean technologies, if they are significant. Research and development for environmental projects are also included in pollution prevention.

- Costs for materials and processing non-products which include the value for the supply of materials which are included in waste. All the outputs of non-products are assessed based on the balances of materials. Materials which are included in waste are assessed according to the supply value or the value of used materials with the help of stock management

- Costs for processing non-product outputs which also include man-hours, machine amortization, materials and financial costs

- Costs which are external to the company and generated by the public or costs which are relevant for suppliers and clients ("life cycle" costs)

- Costs related to health, property insurances or resulted from environmental obligations

The methodology which is suggested to be used in implementing the environmental cost management system within the companies involves the following stages:

- Identifying the environmental costs of the company

- Developing material and cash flows of the company

- Assigning environmental costs for cost centres and/or products

- Establishing a set of indicators to be monitored

Some of the advantages of using the environmental accounting in a company are the following:

- Diminished costs and increased benefits as a result of increased efficiency when using natural resources;

- Increased concerns for the development of new products, technologies and work procedures;

- Increased quality and consistency of information supplied to the management;

- Development of communication between the units and departments of the same company;

- The involvement of top management in structuring the material flow is accentuated;

- Increased efficiency when using raw materials and materials becomes one of the most important objectives;

- The strategic position of the company will be strengthened by the design of "green" services and products.

CONCLUSIONS

- The economic growth is conditioned by environmental factors.

- Taking into account that the natural environment crisis is worsening, the environmental economic theory tries to adapt itself to the competitive system of the market economy of these profitable and also indispensable activities for the provision of a natural environment which is capable to support a sustainable economic growth.

- Environmental management and environmental accounting may contribute to the growth of profitability and efficiency that a company may have in the context of a sustainable activity performed
- From an environmental perspective, the internal cost management has to take into account the review of the method in which the production costs are calculated.

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THE INVOLVEMENT OF AGRICULTURAL CONSULTANCY TO SUPPORT FARMERS

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Abstract

The paper deals with the evolution of consultancy activity developed in our country after 1990, organizational structure of the National Agency for Agricultural Consultancy (NAAC), its general activities, the beneficiaries of the consultancy service, activities organized by the consultancy services, services supplied, duties and responsibilities of the NAAC, and international cooperation in the field, and the involvement of agricultural consultancy to support farmers in the Timis County.

Keywords **:** *consultancy, agricultural, Timis*

INTRODUCTION

The National Agency for Agricultural Consultancy (NAAC) use to be an institution of the central public administration, with legal status, subordinated to the Ministry of Agriculture and Rural Development, totally financed from the state budget and from its own incomes. NAAC carried out its activities based and the GD no. 676/1998, with further changes and completions, and on the GO no. 22/2005 concerning the reorganization of the activity of agricultural consultancy acknowledged and modified by the Law no. 77 / 2005.

MATERIAL AND METHOD

The research was conducted at the The Timis County Office for Agricultural Consultancy (COAC), the current local Chambers of Agriculture and County and covers all aspects of agricultural consultancy involvement in support farmers in Timis County.
The data collected were centralized, analyzed and interpreted, so that we were able to obtain relevant conclusions.

RESULTS AND DISCUSSIONS

The role and importance of public and private consultancy for the farmers result from the quality, capacity and agricultural performance of the farmers as basic indicators of efficiency, productivity, development and support for the agricultural sector in each country. The high quality and performance of the farmers are not innate, but they need to be developed through either the study of agricultural sciences in an educational system through extension and consultancy courses for agriculturists.
These is the reason why most governments and development agencies admit the necessity of supporting and developing agricultural extension (consultancy).
Most states have some kind of "Agricultural Consultancy and Extension" system or service. The main problem of the extension policy is that a number of farmers need this kind of services and public funds are limited.
One way to increase the number of farmers that benefit from extension services without increasing the burden on the public sector is to cooperate with private sector, nongovernmental organizations and with farmers associations.

It has been generally admitted that agricultural extension is essential for the development of agriculture, though the functions of agricultural extension are still being debated. These different point of views concern:

- technological transfer;
- an informal form of education and of development of the human capital.

These two functions are important in the effort to improve and revitalize agricultural consultancy activities. Acknowledging these two functions emphasise two main aspects:
1 – the large number of farmers that need consultancy services –i.e. the issue of coverage;
2 - the limited number of resources available for consultancy activities – i.e. the issue of resources.

These complementary issue have implications in institutional regulations and the design and management of extension services in the developing nations.

Agricultural consultancy services use a wide range of strategies and methodologies to serve as many farmers as possible. These strategies include increasing the use of mass-media and communication techniques. They have introduced long-distance learning, strategic extension campaigns for the quick dissemination of educational messages to a large number of farmers using different mass channels and media. Other approaches are based on group methods and on the participation of other related services, to serve large numbers of farmers when they are organized in association.

National Agency for Agricultural Consulting use to coordinate:
• at the county level, 41 County Offices of Agricultural Consultancy (COAC) and the Municipal Office for Agricultural Consulting Bucharest;
• at commune level, 546 Local Centers of Agricultural Consultancy (LCAC), directly subordinated to COAC;
•The Agronomist's Houses, completely financed from their own incomes, in accordance with the GD 1901/2004.
The beneficiaries of these services were:

- Agricultural producers;
- The rural population involved in different activities generating income.

The general objective of activity:
- organizing free of charge activities meant to vulgarise, to supply consultancy, to assist technically, to educate and train professionally;
- promoting and applying the strategies and programmes of the Ministry of Agriculture and Rural Development, including programs of international cooperation;
- supporting agricultural producers in accessing structural funds and other domestic and foreign financing;
- supporting agricultural producers in associating;
- supplying consultancy to foreign investors in order to identify possibilities and opportunities in investment in Romanian agriculture.

Activities organized and services supplied:
- vulgarisation and promotion;
- editing, multiplying and distribution free of charge publications and materials;
- technical assistance.

Duties and Responsibilities NAAC:
- preparing the rural population involving in agricultural, fishing, forestry and other types of activities with a view to accessing the EU;
- disseminating legal regulations harmonized with European Union ones;
- promoting rural development programs among rural population;
- assisting technically for a quick accession of structural funds, of the supporting system for and of other financing programs;
- preparing and improving rural population involved in the field of agriculture, fishery, and forestry.

The Timis County Office for Agricultural Consultancy (COAC) aimed at supporting the process of reform in agriculture through activities of vulgarisation and technical assistance, managerial consultancy, professional training, technical assistance for the application of research results and for the insurance of the informational flow necessary for the agricultural producers in the private sector and for the specialists to organise and

operate modern, efficient and competitive agricultural exploitations.

Situation of achievements of the Timis COAC, between 2009 and 2011:

-technical assistance: over 1410 consultations;

- demo plots:

• 8 plots cultivated with wheat and barley total area of 12 ha,

• 7 lots of cattle with a total of 313 heads

• 1 lot of swine with a total of 10 heads

• 1 lot of honeybees with a total of 80 hives.

- information through magazines, folders, brochures, posters and books: COAC Timis edited its own "Informative Bulletin" (1300 copies distributed to the farmers free of charge).

- creation of collective farms: COAC Timis supported the first cooperative "PRIMAGRO BANAT" in Gătaia – whose main field activity is Purchase and sale of agricultural raw materials, live animals, textiles and semi-finished goods, which has a total of 13 members.

- support for associations:

• the "Ovitim Miorita " Association in Costei, which has 56 members: sheep breeding;

• the S.C. Banat Melon SRL, Association in Vizejdia, has five members: valorising vegetables.

• the "AGRICOM" Association in Comloşu Mare has 5 members: valorising grains and technical plants.

- editing of technological charts with national and local distribution;

- designing technico-economic models in: cabbage, turnip, cauliflower and in the following fruit trees: cherry, apricot, peach, plum - 16,000 pieces.

- two rural development projects for:

• Measure 1.2.1 – Modernising a vegetal farm by purchasing a maize harvesting combine + tractor for the amount of 11,674 euros, a project that has been acknowledged and completed.

• Measure 1.2.1 – Building a stable for 20 dairy cows for the amount of 328.000 Euro, a project that has been acknowledged and that is being completed.

- professional training: by 2008 the Timis COAC trained 3951 students in different trades.

The period 2009-2010 coincides with restructuring of the consultancy, with the creation of the County Chambers of Agriculture according to GD 1609/2009, and with their subordination by the county councils, with the achievements of the Chamber of Agriculture of the Timis County.

The Timis County Chamber of Agriculture was created on the ground of the GD. No 1609 / December 2009. The present Chamber of Agriculture were created by reorganizing the offices / centers of agricultural consultancy and of Bucharest subordinated to National Agency for Agricultural Consultancy.

The Chambers of Agriculture are decentralized public institutions with legal personality, subordinated to the county councils, financed from their own incomes and from subsidies the state budget.

The responsibilities, leadership, organizational structure and payment rolls of the Chambers of Agriculture are acknowledged by decisions of the local councils.

The Ministry of Agriculture and Rural Development (MARD) through its compartment "Extension and professional training " within the Direction "Agricultural Policies", ensures the technical and methodological coordination of the county chambers of agriculture, and supply support and consultancy to help to achieve these objectives.

Starting with of 01.03.2010, they have created the Timis County Chamber of Agriculture subordinated to the Timis County Council.

Organizational chart of the Timis County Chamberof Agriculture.

According to the e organizational chart acknowledged through The Decision of the Timis County Council approved by No 78 / 12.08.2010, the Timis County Chamber of Agriculture is structure as follows:

- Division Education, professional Training, and Human Resources;
- Division projects design and assessment;
- Division Extension, Consultancy and promotion associative forms;
- Division Budget, Finance, Accountancy, and own Income;
- Communal Agricultural Centers.

Table 1. Situation of Timis Chamber of Agriculture EAFRD projects in 2010

Current number	Measures accessed	Number **of** projects	value of projects **(Euro)**
1	Measure **112**	15	370.000
2	Measure**141**	69	103.500
3	**TOTAL**	84	473.500

Source: own research, Timis CAJ Activity Report 2010

Table 2.Graduates of training courses organized by the Timis COAC (2008-2009) and Timis CAJ (2010 -2011) per trades

Course title	Period				Total graduates / jobs
	2008	2009	2010	April 2011	
Horticultural	128	-	-	-	**128**
Employed in crop production	261	37	211	131	**640**
Work with animals	95	-	133	97	**325**
beekeeper	-	-	38	100	**138**
Total graduates/ year	**484**	**37**	**382**	**328**	**1231**

Source: own research, Activity Report 2008-2010 COAC-CAJ Timis

The impact of the courses on the graduates of training programmes is as follows:
- the beneficiaries are trained for their domain of activity;
- 1.46% of the graduates have been employed in the field for which they were trained;
- 30% of the graduates accessed European funds in measures 112, 141 and 121;
- 20% have got a license as Licensed Physical Person (PFA);
- 10% have got a license as Individual enterprise. (Î.I).

CONCLUSIONS

Under the present conditions, agricultural consultancy is the closest structure to

Romanian farmers: the consultant is the is the first to contact farmers and the first to carry on their needs to the ministry, local council or prefecture.

The lack of access to information prevents small farmers, to benefit from consultancy and, therefore, for developing their business, from orientation towards to market of production and from competing on the eu market.

Though access to consultancy services is free of charge, beneficiaries are afraid of later taxation for these services.

The level required to reach the Romanian agriculture in a time extremely small compared to the evolution of European countries or other states of Central Europe is a great effort from the farmers and the state.

We believe that no other instrument for the implementation can not be reliably than a proactive consulting and effective, close to farmers needs.

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STUDY ON ESTABLISHING THE OPTIMUM PRODUCTION CAPACITY FOR A UNIT PROCESSING AGRICULTURAL PRODUCTS

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Abstract

Establishing the optimum production capacity represents a fundamental issue for the economic activity. Building of oversized objectives is equal to fund wasting, immobilizing capital in fixed assets which remain unused. Or, building of undersized objectives creates bottlenecks in economic processes(4). This is why prior to designing the investment objectives thorough calculations are necessary in order to establish the optimum production capacity. The study was made on a company which will process agricultural products(2). Therefore, several alternatives are prepared which different as regard the production capacity volume and the technology used in obtaining the finished product, so the method of variants will be used.Optimal capacity was establshed by studies-4,560 tons of finished product annually.

*Key words***:** *optimum production capacity, specific investment, production cost, recalculated expenses, specific recalculated expenses*

INTRODUCTION

Establishing the production capacity for an economic objective plays a very important part because the level of satisfaction regarding the respective product of the foreign and domestic market depends on the production level.
At the same time, the efforts made for accomplishing the economic objective and for obtaining the forecasted production, efforts, which are materialized in the use of human, material and financial resources, also depend on the production capacity [3].

MATERIAL AND METHOD

The optimization of the production capacity may take into consideration several criteria. In establishing the optimum production capacity,

the aim is to accomplish the highest level of labour productivity, to diminish the expenses for raw materials and finished products, to diminish the production unit cost, as well as to diminish the investment effort [1].
The study was made on a company which will process agricultural products.
Therefore, several alternatives are prepared which different as regard the production capacity volume and the technology used in obtaining the finished product, so the method of variants will be used.
Since, in practice, it is possible that the project variants which are compared to not have the same production capacity, it is recommended that all the expenses to be expressed according to the forecasted production capacity, meaning per measure unit of the finished production. In this case, the investment expenses become specific

investment, and the production expenses, the unit cost of production.

The two expenses categories may not be added because the investments are made only once, and the production costs in each year of the operation of the production capacity.

The adding of the two indicators is made through the recalculated expense indicator which represents the total investment and production effort.

The indicator which takes into consideration the total effort and the volume of the production capacity is the recalculated specific investment.

RESULTS AND DISCUSSIONS

In view of establishing the optimum production capacity, six project variants have been prepared which are different as regards the volume of the production capacity and the technology used for obtaining the production, as shown in the table below (Table 1).

Table 1. Project indicators that caracteristical variants

No.	Capacity variants (tons)	Specific investment (thousand RON/ton)	Unit costs(thous and RON/ton)
1	4,000	82	37
2	4,500	75	36.5
3	4,800	77.8	36.3
4	5,000	80	36.4
5	5,500	83.4	36.6
6	6,000	82	37.2
7	6,700	81.3	38.1
8	7,500	80.1	38.5

By graphically representing the evolution of specific investment (s) as a function of the volume of production capacity, it is noticed that it has the evolution shown in the graphic below (Figure 1).

By doing the same for the production unit costs (c), a similar evolution is obtained. By adding the total effort with the help of the recalculated specific expense indicator, it is noticed that the evolution of this indicator corresponds to a parabola of second degree, of type $y = ax^2 + bx + c$, where y is the

recalculated specific expenses, and x is the production capacity.
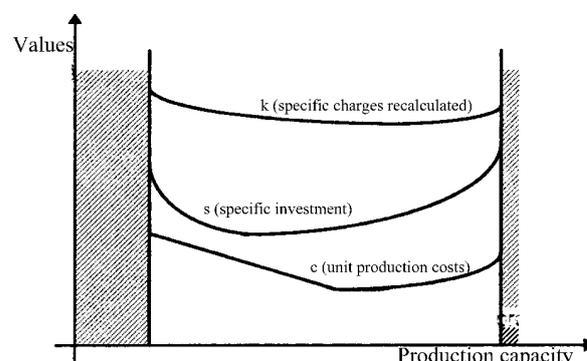
Fig. 1 - Evolution of the specific investment depending on the size of the production capacity

As it is shown by the graphical representation, the establishing of the optimum production capacity is necessary because it is related neither to a low capacity, nor to a high capacity.

Each of them has a series of advantages and disadvantages. For example, if the advantage of the large units is that they offer the reduction of production expenses per product unit, especially through the general expenses and the investment effort which is materialized in common works, they also have a series of disadvantages resulted from the supplementary expenses for the management of production process, job management, difficulties in adapting to the market requirements.

All these issues have to be studied and taken into account in sizing the production capacities.

By using the relation of recalculated expenses, we obtain:

$K_1 = 82 + 37 \times 15 = 637$

$K_2 = 75 + 36.5 \times 15 = 622.5$

$K_3 = 77.8 + 36.3 \times 15 = 622.3$

$K_4 = 80 + 36.4 \times 15 = 626$

$K_5 = 83.4 + 36.6 \times 15 = 632.4$

$K_6 = 82 + 37.2 \times 15 = 640.0$

$K_7 = 81.3 + 38.1 \times 15 = 652.8$

$K_8 = 80.1 + 38.5 \times 15\ 657.6$

As it is indicated in the graphic shown, these expenses evolve according to the following parabola: $y = ax^2 + bx + c$.

For establishing the optimum production capacity, meaning the variant in which the recalculated expenses are minimum.

It is necessary to calculate the a, b, c coefficients with the help of the system:

$$a \sum_{i=1}^{n} x_i^2 + b \sum_{i=1}^{n} x_i + nc = \sum_{i=1}^{n} y_i$$

$$a \sum_{i=1}^{n} x_i^3 + b \sum_{i=1}^{n} x_i^2 + c \sum_{i=1}^{n} x_i = \sum_{i=1}^{n} x_i y_i$$

$$a \sum_{i=1}^{n} x_i^4 + b \sum_{i=1}^{n} x_i^3 + \sum_{i=1}^{n} x_i^2 = \sum_{i=1}^{n} x_i^2 y_i$$

The coefficients of the system were obtained based on the following table:

Table 2. Values of variables X and Y

x_i	x_i^2	x_i^3	x_i^4	y_i	$x_i y_i$	$x_i^2 y_i$
4.0	16.00	64.000	256.0000	637.0	2548.00	10192.000
4.5	20.25	91.125	410.0625	622.5	2801.25	12605.625
4.8	23.04	110.592	530.8416	622.3	2987.04	14337.792
5.0	25.00	125.000	625.0000	626.0	3130.00	15650.000
5.5	30.25	166.375	915.0625	632.4	3478.2	19130.100
6.0	36.00	216.000	1296.0000	640.0	3840.00	23040.000
6.7	44.89	300.763	2015.1121	652.8	4373.76	29304.192
7.5	56.25	421.875	3164.0625	657.6	4932.00	36990.000
44.0	251.68	1495.73	9212.1412	5090.6	28090.25	161249.700

By replacing the calculated values in the system of equations:

$251.68a + 44b + 8c = 5090.6$
$1495.73a + 251.68b + 44c = 28090.25$
$9212.1412a + 1495.73b + 251.68c = 61249,7;$

It results: a = 3.961; b = -36.122; c = 710.384.

The function for the evolution of recalculated expenses according to the production capacity is of the following type:

$y = 3.961x^2 - 36.122 x + 710.384$

By knowing that this function accepts a minimum which is given by the first degree derivative, it results:

$y' = 2(3.961)x - 36.122$
$7.922x - 36.122 = 0$, and: x = 4.56

The optimum production capacity given by the calculation is of 4,560 tons.

CONCLUSIONS

By analyzing the various technical, technological and constructive possibilities for the accomplishment, the conclusion is that the level of optimum capacity is of 4560 tones of finished products per year.

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ECONOMIC AND FINANCIAL ASPECTS OF ACTIVITY IN SC ARBOFLORA L.L.C. - OVIDIU, CONSTANTA

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Abstract

S.C. ARBOFLORA Company with headquarters in Ovidiu, and workstation Street Port 1, registered at the Trade Registry under number J13/1195/2006, was established in April 2006. The company's individual shareholders, with a subscribed and paid 35,200 lei, the object of the company is in landscape maintenance activities, NACE Code 8130.Society benefits from a rented plot of land comprising a total surface of 9034 square meters and all construction related. In October 2006, the company purchased a greenhouse with an area of 150 square meters to produce dendrological and floricultural material plus two existing tunnels, with an area of 300 sqm. The company has machinery provided for activities. Company employees ranged from 21 (2006) to 29 (2008), of which 80% directly productive employees, and 20% employees in administrative structure. Customers are companies or third persons (Hotel Central Mamaia, Regional Meteorological Centre Dobrogea, Constanta RAJA, The Museum of Natural Sciences, Ovidiu Hall, Hall Cross, etc.). Company has as dendrological and floricultural material providers: GMB Viva Targoviste, Floriculture Galati, Kerslake, Romstal Bucharest. Also included are the utility providers and the local (Metro, Selgros, Praktiker, Petrom, etc.).The unit recorded assets of 574,887 lei (9593 lei intangible and 565,294 lei tangible assets), bank loans of 93,941 lei in 2008 and 72,000 lei in 2009, home worth 535 and 7414 lei in 2008 and 2009, current accounts 33,696 and 124,208 lei for two years (remember above), 722,437 and 809,173 lei debt for the years 2008 and 2009.

Keywords: *landscape, customers, providers, assets, capital, equipment*

INTRODUCTION

The income expresses the value of goods and services marketable produced in a farm. The term "marketable" expresses the fact that taking account of goods and services actually sold on the market plus remuneration for production factors (self-consumption, payments in kind) or kept as warehouse stocks pending sale. For organizing and conducting economic activities in agriculture, a particular importance have the knowledge of the functioning of production costs and how they influence the production level achieved [3].

The profit as an indicator determining profitability is the remaining part to the farm used for purposes decided alone, under the influence of free products market for plant and animal or raw materials [1].

Budget of incomes and expenses is a basic tool of financial management, analysis and control, which allows farm management to know the financial means and methods of action to increase the economic efficiency of activity [2].

MATERIAL AND METHOD

Completion of a project involved documenting through the use of financial reporting data for analysed unit [4].
Later it realized the data processing, by using the time comparison method and the formation of structures related to certain indicators used. The indicators were grouped into three categories homogeneous, as follows: indicators of income, indicators of expenditure and profitability indicators. Data collected and analysed, covers the period 2007-2009, by using and average period.

RESULTS AND DISCUSSIONS

Indicators of income. Table 1. presents indicators of income for the period 2007-2009. Sold production ranged from 827867 lei in

2007 to 1436776 lei in 2008, reaching the average of the period 1227393.7 lei. The dynamics is characterized by values higher than one of the index components - 173.6% in

2008, 171.2% in 2009 (1417538 USD) and 148.7% for the period average.

Table 1. Indicators of income-lei-

Specification	2007		2008		2009		Average 2007-2009	
	Eff.	Din.	Eff.	Din.	Eff.	Din.	Eff.	Din.
Production sold	827867	100	1436776	173,6	1417538	171,2	1227393,7	148,3
Incomes from selling goods	338110	100	228555	67,6	56852	16,7	207839	61,5
The net turnover	1165977	100	1665331	142,8	1474390	126,5	1435232,7	123,1
Variation of stocks	7963	100	1819	22,8	18676	234,5	9486	119,1
Other incomes	27311	100	505	1,8	3062	11,2	10292,7	37,7
Operating incomes	1185325	100	1667655	140,7	1496128	126,2	1449702,7	122,3
Interest income	1077	100	1592	147,8	495	46,0	1054,7	97,9
Other financial incomes	-	-	3757	100	308	8,2	1355	36,1
Financial incomes	1077	100	5349	4,96 ori	803	74,6	2409,6	223,7
Total incomes	1186402	100	1673004	141,0	1496931	126,2	1452112,3	122,4

Revenues from sales of goods recorded an average of 207839 lei (-38.5% compared with the reporting base), a variation limits of 56852 lei in 2009 (-85.3% compared to 2007) and 338110 lei in 2007 (2008 is decreasing beside 2007 by 32.4%, - 228555 lei). Starting from the above-mentioned indicators constitutes the turnover, which reached an average of 1435232.7 lei (23.1% compared to 2007-1165977 lei), indicator has surpassed in 2007 and 2008 term of comparison to 1.42 and 1.26 times respectively (1665331 and 1474390 lei). Variation of stocks ranged from 1819 lei in 2008 to 18676 lei for 2009, the average of period was 9486 lei (119.1% compared to 2007 - term of comparison). The dynamics is uneven, decreasing from 2008 (-77.2% compared to 7,963 lei in 2007) was followed by substantial increases in 2009 (2.34 times). Other incomes by the unit reached 27311 lei in 2007, 505 lei in the year 2008 (only 1.8% of the reporting base), 3062 lei for 2009 (11.2% compared to 2007). In these conditions the average of the period was 10,292.7 lei - 37.7% compared with the first term of the dynamic series. The value incomes from operations averaged 1449702.7 lei (22.3% compared to the term of reference),

limits of variation being of 1185325 lei in 2007 and lei 1667655 in the case of 2008).

The dynamics of index is one irregular - 140.7 and% respective 126.2 for 2008 and 2009.
The unit is also characterized by obtaining of financial income, made up of interest income and financial income.
Thus, interest incomes have varied from 495 lei in 2009 to 1592 lei for 2008, the average of the period being 1054.7 lei. The evolution in time is irregular for index, specific increases in 2008 (47.8% compared with levels from 2007 to 1077 lei), followed by substantial decreases in the year 2009 (-54.0%), while the average of the period reaches 97.9% of base reporting.
Financial income is found for the years 2008 and 2009 (3757 and 308 lei), average of the period being 1365 lei (36.1% in dynamics). Following the issues mentioned above the financial income are equal to those from interests in 2007 (1077 lei), reach 5349 lei in 2008 (brought forward by 4.96 times beside comparing base) and 803 lei for the year 2009 (-23.4% in dynamics). The average period was 2049.7 lei, which resulted in an advancing by 2.23 times of the base term.

Since the unit has not recorded extraordinary income, total revenues are given by the sum of operating revenue and financial ones. So there is an average of 1452112.3 lei (22.4% compared to 2007), with annual sequential levels, as follows: 1186402 lei in 2007, 1673004 lei for the year 2008 (41.0%) and 1496931 lei at the level of 2009 (26.2% compared with the reporting base).

Indicators of spending. Table 2. present the level spending indicators for 2007-2009**.** Expenses with raw and materials were between 479,537 and 732,881 lei (years 2007 and 2008), while the average of the period was 605,010 lei (126.2% in dynamics). The indicator increased by 52.8% in 2008 compared to 2007 and for 2009 there is brought forward to 1.25 times of the reporting term.

Table 2. Indicators of spending-lei-

Specification	2007		2008		2009		Average 2007-2009	
	Eff.	Din.	Eff.	Din.	Eff.	Din.	Eff.	Din.
Raw materials and materials	479537	100	732881	152,8	602612	125,7	605010	126,2
Other material expenses	17005	100	22558	132,7	6290	37,0	15284,3	89,9
Expenses (water, energy)	3432	100	5251	153,0	6023	175,5	4902	142,8
Spending concerning goods	121151	100	63535	52,4	23582	19,5	69422,7	57,3
Total costs for materials and related to goods	621125	100	824225	132,7	638507	102,8	694619	111,8
Salaries	184205	100	274778	149,2	295769	160,6	251584	136,6
Security charges	52945	100	70701	133,5	75055	141,8	66233,7	125,1
Personnel costs	237150	100	345479	145,7	370824	156,4	317871,7	134,0
Adjustments on assets	30791	100	110329	3,58 tim	127623	4,14 tim	89581	2,91 tim
Adjustments on current assets	-	-	-	-	3871	100	1290,3	33,3
Other operating expenses	271907	100	282056	103,7	250474	92,1	268145,7	98,6
Total spending for exploitation	1160973	100	1562089	134,5	1391299	119,8	1371453,7	118,1
Interest charges	8661	100	32968	3,81 tim	39961	4,61 tim	27196,7	3,14 tim
Other financial expense	2532	100	20455	8,08 tim	14992	5,92 tim	12659,7	5,0 tim
Finance charges	11193	100	53423	4,77 tim	54953	4,91 tim	39856,3	3,56 tim
Extraordinary charges	-	-	-	-	-	-	-	-
Total costs	1172166	100	1615512	137,8	1446252	123,4	1411310	120,4

For other material costs the average was 15284.3 lei (-10.1% compared to term of reference - 2007), with annual sequential levels of 17 005 lei in 2007, 22558 lei in 2008 (32.7% in dynamics) and of 6290 lei for the year 2009 (-63.0%).

External costs varied from 3,432 lei in 2007 up to 6023 lei for 2009, the period average being 4902 lei.

The dynamics reveal a strictly upward trend, bring forward of the reference term being: 1.53 times in 2008 (5251 lei), 1.75 times in 2009 and 1.42 times the period average.

Costs of goods were variable, the higher value - 121 151 lei - being specific for 2007, after which it is located the year 2008 with 63 535 lei (-47.6%) and then 2009 with only 23 582 lei (-80.5%). In these conditions period average reached 69422.7 lei - only 57.3% from the basis of reporting.

The total costs of materials and related goods is characterized by an average of 694,619 lei

(+11.8% vs. 2007), with sequential levels of 621125 lei in 2007, 638 507 lei in the year 2009. The total costs of materials and related goods is characterized by an average of 694619 lei (+2.8% compared with the reporting deadline) and 824225 lei for 2008 (brought forward of 1.32 times of the reporting base). Personnel costs are composed of salaries and insurance costs. Salaries have evolved strictly increasing from 184 205 lei in 2007 to 274778 lei in 2008 (+49.2%) and 295769 lei for 2008 (+60.6%). In these conditions period average surpassed the term of comparison of 1.36 times - 251584 lei.

Insurance spending has copied earlier expenses class evolution, closely connected to it. Average indicator was 66,233.7 lei (25.1% in dynamic compared to 2007), with extremes of 52,945 lei in 2007 (the reference period) and 75,055 lei in the year 2009 (41.8%).

With these components we find variations in personnel costs from 237150 lei in 2007 up to

370824 lei for the year 2009, period average being of 317871.7 lei. The dynamics is characterized by values of the components for indices strictly higher than one: 134.0% period average, 145.7% the year 2008 and 156.4% in the case 2009.

In the cost of ownership we find: **adjustments on assets** ranging from 30 791 lei in 2007 to 127 623 lei in 2009 (outrun by 4.14 times of the reference term), with an average of 89 581 lei (2.91 times compared with 2007); **adjustments concerning current assets** in amount of 3871 lei particular of 2009 (in these conditions the average of the period was 1290.3 lei - 33.3%);

other operating expenses which had an average of 268145.7 lei (-1.4% compared to the reporting base - 2007) and limits of variation from 271 907 lei for the year 2007 up to 282506 lei in 2008 (3,7%).

As a result of indicators presented above was determined the operating costs. They have reached 1160973 lei in 2007, 1391299 lei for 2009 (19.8% in dynamics) and 1562089 lei for 2008 (34.5% over to the reference term). In these conditions the average of the period reached 1371453.7 lei (118.1% in dynamics).

The financial costs distinguishes the following situation: **interest expense** ranged from 8661 lei in 2007 up to 39 961 lei for 2009 (brought forward of 4.61 times the base reporting), with an average of 27196.7 lei (3.14 times compared with 2007); **other financial expenses** averaged 12659.7 lei (5.0 times outrunning of the comparison term), with annual sequential levels of 2532 lei in 2007, 14,992 lei for 2009 (5.92 times compared to 2007) and 20,455 lei for 2008 (8.08 times compared to 2007); **the general level of the** indicator ranged from 11193 lei for 2007, to 53423 lei in 2008 (4.77 times as compared to previous term of dynamic series), to 54953 lei in 2009 (4.91 times compared with 2007). In these conditions the average reached 39856.3 lei, which in the dynamics have brought forward by 3.56 times the base of reporting. Since unit has not registered extraordinary costs, total costs were determined by adding the total operating expenses and financial expenses, leading to the following situation: the average of the period reached 1411310 lei

(20.4% compared to the year 2007), the annual level of 1172166 lei in 2007, 1446252 lei in the year 2009 (23.4%) and 1615512 lei for 2008.

Profitability indicators. Table 3. present the level of profitability indicators for 2007-2009.

The operating profit ranged from 24352 lei in 2007 up to 405566 lei for 2008, and the average of the period was 78249 lei (brought forward by 3.21 times the base for reporting - in dynamics). Evolution of the indicator is an ascending one, the term of reference being exceeded by 4.30 and 4.34 times in 2009 and 2008.

Financial activity has led in every year, to loss from 10116 lei in 2007, to 48074 lei in the 2008 (brought forward by 4.75 times the reporting term) at 54150 lei in 2009 (5.35 times compared to 2007). In these conditions the average financial loss was 37446.7 lei.

Current income averaged 25802.3 lei (81.2% compared with base of reporting), while the annual sequential levels of the indicator were: 14236 lei in 2007, 50679 lei for 2009 (3,56 times beside 2007) and 57492 lei for 2008 (outrun by 4.04 times the comparing base).

Our gross profit was similar to the current one, because the unit has not registered extraordinary profit or loss.

Income tax was paid according to legal regulations existing, such: 3440 lei in 2007, 10214 lei for 2008 (2.97 times compared to reference base), 16437 lei for 2009 (4.78 times compared with first term of the dynamic series), and 10030.3 lei average for the period (2.92 times in 2007).

The unit registered various levels of net profit, which led to an average of 30772 lei (2.85 outrunning beside the reference term - 2007). Annual net profit has varied from 10796 lei in 2007 up to 47278 lei for 2008 (4.38 times higher than in 2007), while the value of the indicator in 2009 was 34242 lei (brought forward by 3, 17 times of the reporting base).

Operating profit rate registered levels of 2.10% in 2007, 6.76% in 2008, 7.53% for 2009 and 5.70% at the level of the period average. Dynamics phenomenon is predominantly by outrunning of the baseline, as follows: 2.71, 3.22 and 3.58 times for the average of the period 2008 and 2009 respectively.

Table 3. Indicators of profitability

Specification	U.M.	2007		2008		2009		Average 2007-2009	
		Eff.	Din.	Eff.	Din.	Eff.	Din.	Eff.	Din.
The profit of operations	lei	24352	100	105566	4,34 times	104829	4,30 times	78249	3,21 times
The financial loss	lei	-10116	100	- 48074	4,74 times	-54150	5,35 times	-37446,7	3,70 times
Current profit	lei	14236	100	57492	4,04 times	50679	3,56 times	25802,3	181,2
The gross profit	lei	14236	100	57492	4,04 times	50679	3,56 times	25802,3	181,2
Tax on profit	lei	3440	100	10214	2,97 times	16437	4,78 times	10030,3	2,92 times
Net profit	lei	10796	100	47278	4,38 times	34242	3,17 times	30772	2,85 times
The profit rate from operations	%	2,10	100	6,76	3,22 times	7,53	3,58 times	5,70	2,71 times
The rate of financial loss	%	-90,4	100	-90,0	99,6	-98,5	108,9	-92,9	102,8
Current profit rate	%	1,21	100	3,56	2,94 times	3,50	2,89	1,83	151,2
The gross profit rate	%	1,21	100	3,56	2,94 times	3,50	2,89	1,83	151,2

Financial loss rate was 90% in 2008, -90.4% in 2007, -98.5% for 2009 and -92.9% at the level of the period average. Related to these values, the dynamics is characterized by subunit levels in 2008 (99.6%) and higher levels for the remaining terms of the dynamical series (102.8 and 108.9% for the average and respectively year 2009).

Current profit rate and the gross profit rate are equal and are characterized by an average of 1.83% meaning +51.2% compared with term of reference (2007).

CONCLUSIONS

S.C. ARBOFLORA LLC runs a very complex activity; it fits among small and medium enterprises on the basis of turnover and staff numbers.

The year 2007 recorded the minimum and 2008 year maximum in terms of value (level of financial indicators) – in the majority of cases, exceptions are external costs, personal expenses, adjustments concerning financial assets with maximum levels of costs for 2009. In the income structure prevailing the operating revenues with 99.83%, while financial incomes are only 0.17%. From the category of Operating incomes is prevalent the production sold (84.52%) or turnover (98.37%) - Figure 1. Total expenses are made up of operating expenses 97.18% and 2.82% finance charges. In the total structure weight is found the following sequence: 49.22% of total cost materials and goods, 22.52% personnel costs, other operating expenses 19.08%, 6.35% adjustments concerning

assets, 0.01% adjustments concerning current assets - Figure 2.
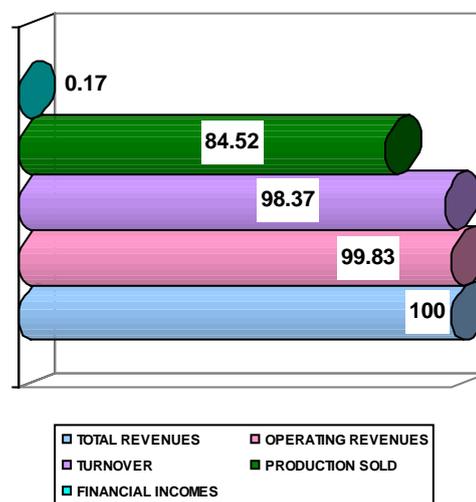
Fig.1. The ratio of total income and its main components (%)
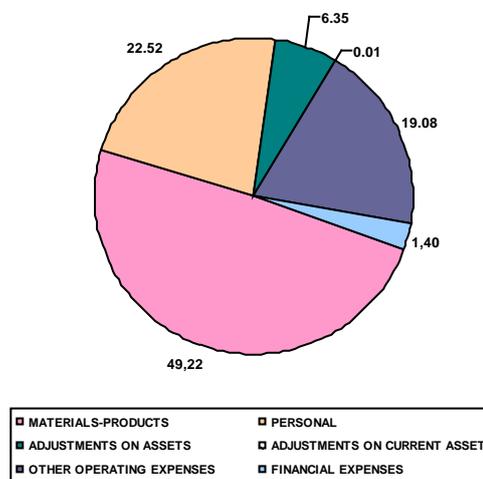
Fig.2. Structure of total expenses (%)

The unit record financial loss, operating profit is reduced as a result, profit or loss and extraordinary absence makes the current profit to be equal to gross profit.

Profit rate is one reduced aspect that emphasizes policy of the unit on the one hand and on the other the characteristics of economic environment evolving.

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PRIMARY OFFER OF MEAT IN CETATE VILLAGE, DOLJ COUNTY

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Abstract

Cetate village is plain locality, located near the Danube, a distance of about 25 km from the city Clafat and 90 km the county seat - Craiova. Common development was helped by favourable position from the old trade routes. On there was passing the way from neighboring villages (Gemini, Dîrvari, Pleniţa, Unirea, Dobridor) to port fortress, especially for cereals capitalization. Currently, within the village passes 56 A national road linking the port towns and villages situated along the Danube: Dăbuleni - Bechet - Calafat - Cetete - Drobeta Turnu Severin. Elucidating the communal potential, of meat production is based on use of an appropriate set of indicators: effective in exploitation (by species), total production and average yield per head. The study covers the period 2008-2010, taken as a starting point for developing a strategy of reviving the sector of production.

*Keywords***:** *meat production, livestock, potential*

INTRODUCTION

Livestock for specific conditions in our country, are particularly important for the following reasons: provides products of first necessity for food, helps to ensure raw materials of processing industries, providing superior capitalization in crop production, efficiently use and by-products plant industrial supplies organic fertilizer for crop production, provides a uniform use of labor throughout the year, providing cash for farms throughout the year, manufacturers must ensure constant income [3].

Livestock structure is influenced by the peculiarities of different species reproduction, breeding system practiced, direction of production, herd size bed, etc. [2].

Factors influencing the production of meat, generally can be divided into endogenous and exogenous.

Endogenous factors include health status, race, sex, age and individual characteristics.

Exogenous factors include: feeding animals and poultry, care, accommodation and fattening period [1].

MATERIAL AND METHOD

Carrying out the work involved documenting, reporting through the use of statistical data, in the case of commune Cetate. Subsequently processing the data realized while using comparison method and the formation of structures used for certain indicators. Data collected and analysed, covers the period 2008-2010, using the average of period too.

RESULTS AND DISCUSSIONS

A. Meat production. Table 1 shows the production of meat for the main species meet at the level of commune Cetate, looking at livestock slaughtered (Fig. 1), total meat production that has been obtained (Fig. 2), scarification and weight - average yield per head (Fig. 3). In the production structure of meat animals slaughtered found the following species: cattle, pigs, sheep and goats.

Herds of cattle slaughtered for meat production fell from 250 heads in 2008 to 190 heads in 2009 (24.0%)% compared to 2008 - considered fixed base of reporting) to be slaughtered in 2009 270 heads (an increase of 8.0% in the dynamic analysis for the index). The average period recorded 237 heads used in meat production (subunit level by 5.20% - 94.80%).

Table 1. Meat production

Specification	U.M.	2008		2009		2010		Average 2008-2010	
		Eff.	Din.	Eff.	Din.	Eff.	Din.	Eff.	Din.
Effective slaughtered									
Cattle	heads	250	100	190	76,0	270	108,0	237	94,80
Swine	heads	1700	100	1850	108,82	2030	119,41	1860	109,41
Sheep	heads	2300	100	2190	95,22	1550	67,39	2013	87,52
Goats	heads	1000	100	1090	109,0	1050	105,0	1047	133,30
Total production									
Cattle	tone	85,5	100	68,40	80,0	94,5	110,53	82,80	96,84
Swine	tone	195,5	100	222	113,55	243,60	124,60	220,37	112,72
Sheep	tone	64,4	100	76,70	119,10	54,25	84,24	65,12	101,12
Goats	tone	25	100	32,70	130,80	31,50	126,0	29,73	118,92
Average yield									
Cattle	kg/head	342	100	360	105,26	350	102,34	351	102,63
Swine	kg/head	115	100	120	104,35	120	104,35	118	102,61
Sheep	kg/head	28	100	35	125,0	35	125,0	33	117,86
Goats	kg/head	25	100	30	120,0	30	120,0	28	112,0

In the pigs used for meat production, the average of the period recorded 1860 heads (9.41% in dynamic indices with fixed base), average annual participation achieved by 1700 heads in 2008, 1850 heads in 2009 (8.82 % of the reporting base) and 2030 heads for 2010 (19.41% compared to 2008).

Sheep slaughtered for meat decreased from 2,300 heads in 2008 to 2190 heads in 2009 (base subunit level reporting by 4.78% - 95.22%) for the year 2010 being slaughtered 1550 heads (by 32.61% less than in 2008 (67.39%). The average was used in meat production a total of 2013 sheep heads (-12.48% in the dynamic index of fixed base - 87.52%).

Goats that were slaughtered for meat production have Recorded a total of 1000 heads in 2008, increased by 90 heads in 2009 (1090 heads, 9.0% in dynamics) and then decreased by 40 heads 91050 head , 5.0%), so has been average of period of 1047 heads sacrificed sheep (33.0% vs. 2008).

Total production obtained from bovine fluctuating in evolution with levels that have dropped from 85.5 tons in 2008 to 68.4 tons in 2009 (-20.0% for the index with fixed base, 80.0%), then in 2010 to increase at 94.5 tons (10.53% over-reporting fixed base), so that

the average periodicity was 82.8 tons, a level that has been below par in dynamic (-3.16 %).
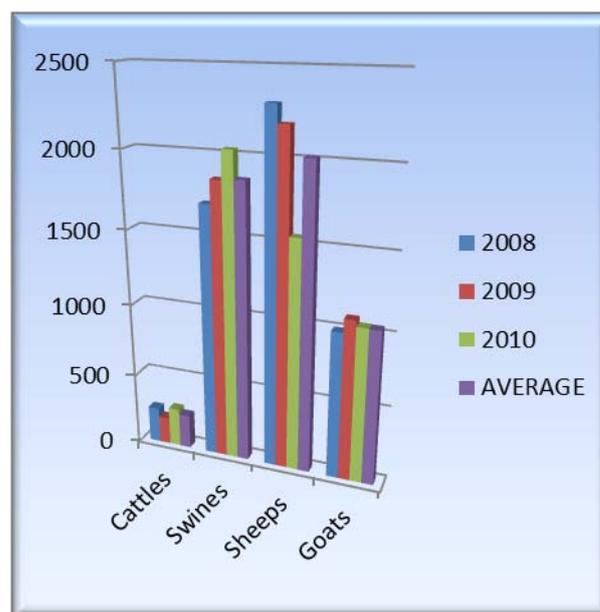
Fig. 1. Total effectives used in the production of meat for the main species in common Cetate Dolj (heads)

At the porcine species, the increase of production was 13.55% in 2009 compared to 2008 (from 195.5 tons to 222 tons of meat), so that in 2009 to record a production of 243.6 tons of meat (24.60% of the dynamic reporting). At the level of average period, pig

meat production was 220.37 tons (12.72% for the index analysed).

Situation encountered for sheep shows an increase in production from 64.4 tons as it has been the year 2008 to 76.70 tonnes in 2009 (19.10%), the following year achieving a decrease to 54, 25 tons (-15.76% in dynamics, for index with fixed base - 84.24%). On average, common Cetate obtained 65.12 tons of sheep meat, which is in the dynamic a level by 1.12% higher than one). Goat meat production recorded significant increases in the period from 25 tons in 2008 to 32.7 tons in 2009 (brought forward from 30.8% the dynamic fixed base level) and to 31.5 tons in 2010 (26.0%). In these conditions, average of period was 29.73 tons (by 18.92% more than in the dynamic index analysed).

Regarding the yield thah has been obtained for the main species, it is observed that cattle increased from 342 kg / head as it was in 2007 to 360 kg / head in 2009 (5.26% in dynamics), as in 2009 to 350 kg / head (2.34% compared to 2008). Average indicator was 351 kg / head (2.63% in dynamics).

Yield obtained from pigs averaged 118 kg / head, with an upward trend, from 115 kg / head in 2008 to 120 kg / head in 2009 and 2010 (4.35% vs. 2008). At sheep, the yield was 35 kg / head in 2009 and 2010 (4.35% in dynamic analysis for the index with fixed base) and recorded 28 kg / head in 2008. Average for this indicator was 33 kg / head (17.86% beside the reporting base).

Situation encountered for goats, have efficiency levels of 25 kg / head in 2008 and 30 kg / head in 2009 and 2010 (increase of 20.0%). Average index was 28 kg / head surpassing basis of 12.0%.

B. Structure of meat production. The following table (Table 2) shows the structure of meat production in the main species that are exploited at the level Cetate Village, from 2008 to 2010. Situation encountered in 2008, shows a maximum weight for swine owned 52.78% of the total (195.5 tonnes) and a minimum by 6.75% for goats (25 tons of meat), other species fished in meat production at the level of commune held 23.08% shares

of cattle (85.5 tonnes) and 17.39% for sheep (64.4 tonnes).

Fig. 2. Total production meat obtained for the main species in common Cetate Dolj (tonnes)
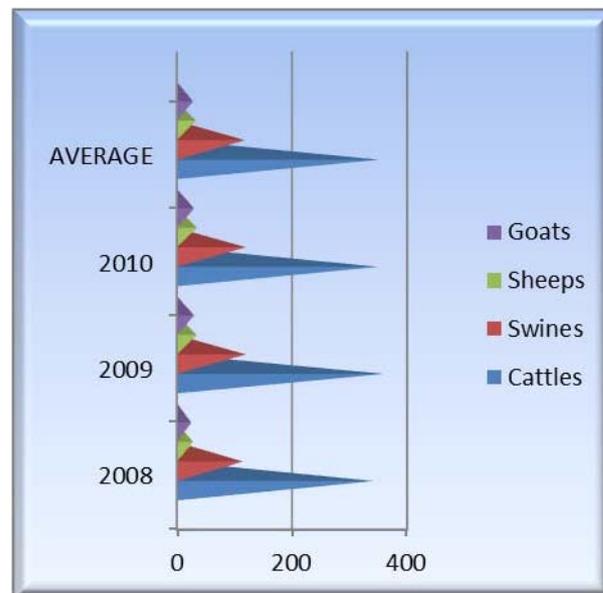
Fig. 3. The average yield for the main species in common Cetate Dolj (kg / head)

Table 2. Structure of meat production 2008 - 2010

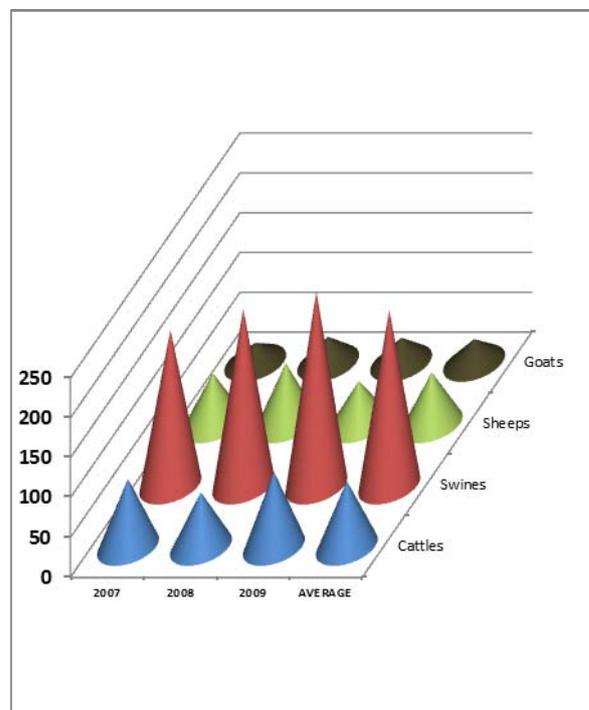| Specification	U.M.	Year						Average 2009-2010	
		2008		2009		2010			
		Effective	Str. %	Effective	Str. %	Effective	Str. %	Effective	Str. %
Cattle	tone	85,5	23,08	68,40	17,11	94,5	22,29	82,80	20,80
Swine	tone	195,5	52,78	222	55,53	243,60	57,47	220,37	55,37
Sheep	tone	64,4	17,39	76,70	19,18	54,25	12,81	65,12	16,36
Goats	tone	25	6,75	32,70	8,18	31,50	7,43	29,73	7,47
TOTAL	tone	370,4	100	399,8	100	423,85	100	398,02	100

In 2009, a total of 399.8 tons of meat produced, per species has been distributed as follows: 8.18% for goats (32.7 tonnes), 17.11% for bovine (68.4 tonnes), 19.18 % for sheep (76.7 tonnes), the largest share being owned and pig this year 55.53% (222 tonnes). Production structure in 2010, provide a level of 57.47% of the total 423.85 tonnes for swine (243.6 tonnes), followed by 22.29% of the total cattle (94.5 tonnes), and sheep with 12.81% (54.25 tonnes meat), the lowest rate was found in goats, 7.43% (31.5 tons of meat products).

The average period has an overall 398.02 tons of meat, which had a structure as follows (Fig. 4):

- 7.47% for goats (29.73 tonnes);
- 16.36% for sheep (65.12 tons of meat);
- 20.80% in cattle (65.12 tonnes produced);
- 55.37% for pigs (220.37 tonnes).
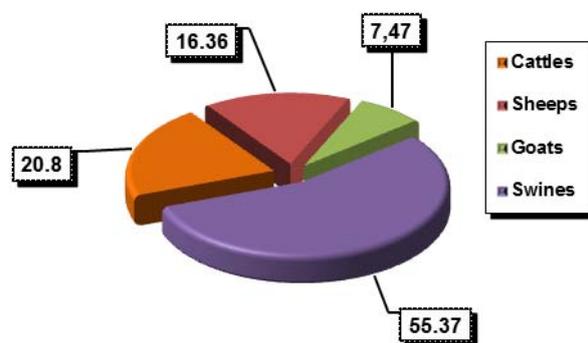
Fig. 4. Total production meat - structure in common Cetate Dolj, average period (%)

CONCLUSIONS

Livestock of animals used for meat production have evolved unevenly, being characterized by growth for pigs (from 1700 heads in 2008 to 2030 head in 2010) and goats (1000 heads slaughtered from 2008 to 1090 in 2009 and 1050 2010), and decreases from 2300 sheep heads in 2008-1550 heads in 2010);

total meat production made in the village has been closely linked to livestock used to obtain them, so the maximum level has been realized for cattle and pigs in 2010 (94.5 tonnes and 243.6 tonnes respectively) and for sheep and goats in 2009 (76.7 and 32.7 tonnes);

average yield obtained varied quite wide limits in cattle and sheep (18 kg / head and 7 kg / head), while pigs and goats variation was 5 kg / head;

in structure of meat production predominant was the species of pigs, who held shares of 52-57% of the total. Lowest weights in total meat production were in goats (which did not exceed 9% of the total).

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RESEARCH REGARDING GROSS MARGIN AND COST ANALYSIS IN POTATO CROPPING IN ROMANIA

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Abstract
The paper aimed to analyze economic efficiency in potato cropping. In this purpose a case study was made at SC Hibridul SA Brasov on the surface of one hectare. The specific indicators taking into consideration to characterise economic efficiency have been the following ones: gross product, variable cost, fixed cost, production cost, gross margin, gross and net profit, gross and net profit rate. The calculations refer to the year 2010. The conclusion was that potato is a profitable crop. In this case study, it provided a profit margin of 41.27%, although production cost was enough high varying between Lei 21,000 to 22,000/ ha showing that potato could be considered among the most expensive crops. In order to increase gross margin and profitability, farmers have to increase yield using high potential cultivars, resistant to drought, diseases and pests, adapted to local conditions, to increase potato quality, in order to get a higher market price at delivery, to reduce variable costs per hectare, using a lower amount of seed at sowing, purchasing only certified seeds from authorized producers, to use a corresponding dose of fertilizer, herbicide and insecticide per surface unit, to reduce the number of treatments per surface unit, to execute timely agricultural works in the field, to use modern equipments, to assure farm inputs at lower price by means of producers association.

Keywords: gross margin, potato, production cost, profitability, Romania

INTRODUCTION

Agriculture development is a priority under the EU Common Agricultural Policy and should be done in the context of sustainable development of rural areas. Consumer needs in food are directly conditioned by the agricultural yields and quality. In the EU-27 there is great heterogeneity of the farms from country to country in terms of size, profile and performance in production and profitability. It is obvious that the largest commercial farms have the capacity to apply a scientific and flexible management, to easily adapt to business environment change and penetrate in various markets.

Therefore, the EU Committee dealing with Agriculture Farm Accountancy Data Network created FADN, which deals with commercial farms, considered to be enough large to provide acceptable income for farmers and their family[8].

In the FADN vision, gross margin in crop and animal production is the difference between the income obtained from a hectare of cultivated area or of an animal and variable costs required to produce an unit of production.

Gross margin is the key economic indicator reflecting the economic efficiency of production, being expressed in lei / production unit: hectare arable land, livestock, etc.

It serves to compare the efficiency and profitability of various farm activities in order to identify the non-profitable and the most profitable ones. In this purpose, gross margin is used to compare different farm activities and also to classify farms based on this criterium. If gross margin is greater, the activity or farm is considered more profitable.

In the EU, FADN has established "standard gross margin" (SGM, Standard Gross Margin) to determine farm economic dimension and allow farm classification by size. The unit of farm economic size in the EU is ESU (European Standard Units), whose value is expressed in Euro. By dividing   farm gross margin by ESU value, one could obtain farm size and compare its size with the EU classification by size [6, 8].

Potato is a very important crop in Romania both for consumption as fresh product but also as forage for animal feeding and for processing industry [3].

Farmers are complaining that production cost is very high because of the increased input price. This is a reason to give them a help in hand and analyze production cost by cost item and also by cost category, mainly variable cost in order to identify he possibilities to reduce cost and increase profitability [4, 6].

In this context, the paper aimed to calculate gross margin in potato cropping taking into account the data provided by SC Hibridul Harman Brasov, a model farm producing potato and whose farmer if the President of Potato Producers Association in Romania [9, 10].

MATERIAL AND METHOD

In order to set up this paper, the data have been collected from SC Hibridul SA Harman, Brasov for the agricultural year 2010.The farm is situated in a favorable and traditional area for potato cropping . The farm si well endowed with modern equipments and has irrigation system.

Gross margin has been calculated according to the EU regulations, using the formula: MB = PB - CHV, where MB = gross margin, PB = gross product, CHV = variable costs. Gross margin served to calculate farmer's profit, diminishing gross margin by fixed costs, according to the formula: Pb= MB-CHF, where Pb = gross profit, MB=gross margin and CHF = fixed expenses [1, 6, 7].

RESULTS AND DISCUSSIONS

Gross Product counted for 32,544,40 lei, of which 98.29 % was represented by the contribution of potato yield. The average potato production in the year 2010 was 40,000 tonnes per surface unit and being sold at Lei 0.80 pe kilogram, income from marketed potato counted for Lei 32,000.

According to the Regulations in force, the farmer received Euro 132 subsidies, of which Euro 81 from the EU and Euro 51 from the Romanian Government. Therefore, taking into account the exchange rate (Euro 1= Lei 4.2), the value of subsidy in Romanian currency represented Lei 554.40. As one can see, yield is the key item determining gross product and also market price at delivery. The higher potato yield, the higher gross product (Table 1).

Table 1.Gross product in potato cropping in 2010

SPECIFICATION	QUANTITY KG	PRICE LEI/KG	PRODUCT VALUE LEI
POTATO YIELD	40,000	0.80	32,000
SUBSIDIES	-	-	554.40
TOTAL GROSS PRODUCT (LEI)	-	-	32,554.40
CONTRIBUTION OF POTATO YIELD TO GROSS PRODUCT (%)	-	-	98.29

Source: SC Hibridul SA Harman, Brasov, Own calculations.

Variable Cost is closely related to potato production. The higher yield, the higher production cost. The level of variable cost included potato seed, fertilizer, herbicide, fungicide, insecticide, treatments for crop protection against pests and diseases, irrigation water, works made by thirds for soil analysis and agro-chemical soil mapping, other materials such as fuels and lubricants, machinery parts and repairs, part time labor and supply cost [2, 5, 11].

Potato seed. The farmer used 3.5 tonnes potato seed of high potential cultivars, whose import price varied between Euro 650 and 850 per tone. In 2010, the seed price per tone was Euro 650 and multiplied by the exchange rate Lei 4.2/1 Euro, resulted Lei 2,730 per tone seed cost.

Fertilization was based on chemical fertilizers. First, the farmer applied 1 tonne of Novatec complex fertilizer whose price was Lei 2,300/tone, meaning Lei 2,300 per 1 ha. Secondly, the farmer applied 350 kg of Ammonium nitrate whose price was Lei 1,800 per tone, that is Lei 630 per surface unit. And thirdly, the farmer used a mixture consisting of Triplu 15-20 foliar fertilizer plus Nitrogen, Phosphorus and Potassium, whose cost was Lei 150. Therefore, fertilization cost per surface unit counted for Lei 3,080.

Herbicide. First, the farmer applied Sencor, an universal well known herbicide utilized against various types of weeds. The applied dose was 1 kg/ha at the unitary price Lei 150/kg, meaning Lei 150. Then, the farmer used Titus herbicide with high specificity. Its dose counted for 0.05 kg/ha, bought at Lei 2,000/kg, totalizing Lei 100/ha.

Fungicide/Insecticide. Crop protection usually requires a specific number of treatments against diseases and pest, depending on the climate condition and seed origin. First of all, the farmer applied 10 treatments costing Lei 150/treatment and totalizing Lei 1,500/ha. Then, he also applied an additional treatment against diseases for the imported seed as a protection measure. The treatment cost for the imported seed counted for Lei 1,000/ha. Therefore, the total cost for fungicide and insecticide was represented by Lei 2,500/ha.

Treatment for vegetation interruption involved Lei 180 per surface unit, taking into account the dose of 4 kg applied per ha and price of acquisition Lei 45/kg.

Irrigation water. Sometimes because of the lack of water in soil, farmers are obliged to spend money on irrigation water. In the year 2010, in Brasov area it was compulsory to irrigate three times the potato crop. Taking into account that irrigation was applied three times totalizing 1.599 cubic meters and the tariff per cubic meter was Lei 45/cm, irrigation water cost was 71.96.

Thirds services have been compulsory for making soil analysis and soil agro-chemical mapping. The official tariff was Lei 100/ha, and taking into consideration that it has to be

done once at four years, the related cost for the year 2010 counted for just Lei 25/ha.

Crop insurance represented Lei 226 per one ha.

Other material cost involved by potato cropping have been represented by fuel (diesel) 200 liters/ha purchased at Lei 5.6/liter, meant Lei 1,120/ha and machinery parts for repairs counting for Lei 1,800. Thus, total other material cost counted for Lei 2,920.

Part time labor counted for Lei 1,500 per surface unit.

Supply cost represented the smallest cost, just Lei 0.20 per ha.

Adding all these variable costs we finally determined total variable cost counting for Lei 20,307.96 reflecting how expensive is to cultivate one hectare with potato(Table 2).

Table 2. Variable cost in potato cropping in 2010

SPECIFICATION	QUANTITY KG	PRICE LEI/KG	PRODUCT VALUE LEI
POTATO SEEDING MATERIAL	35 TONNES/HA	LEI 2,730/TONNE	9,555
FERTILIZERS, OF WHICH:			3,080
-COMPLEX FERTILIZER- NOVATEC	1 TONNE/HA	LEI 2,300/TONNE	2,300
-AMMONIUM NITRATE	0.35 TONNE/HA	LEI 1,800/TONNE	630
-FOLIAR FERTILIZER-TRIPLU 15	-	-	150
HERBICIDES, OF WHICH:			250
-SENCOR	1 KG/HA	LEI 150/KG	150
-TITUS	0.05 KG/HA	LEI 2,000/KA	100
FUNGICIDES INSECTICIDES, OF WHICH:			2,500
-TREATMENTS AGAINST DISEASES	10 TREATMENTS	LEI 150/TREATMENT	1,500
-TREATMENTS FOR IMPORTED POTATO SEED QUARANTINE		LEI 1,000/HA	1,000
TREATMENTS FOR VEGETATION INTERRUPTION	4 KG/HA	LEI 45/KG	180
IRRIGATION WATER	1.599 CM	LEI 45/CM	71.96
THIRDS SOIL ANALYSIS AND AGRO-CHEMICAL MAPPING		LEI 25/HA	25
CROP INSURANCE		LEI 226/HA	226
OTHER MATERIALS, OF WHICH:			2,920
-FUELS	200 LITRES/HA	LEI 56/LITRE	1,120
-PARTS AND REPAIRS		LEI 1,800/HA	1,800
PART TIME LABOR		LEI 1,500/HA	1,500
SUPPLY COST			0.20
VARIABLE COST	-	-	20,307.96

Source: SC Hibridul SA Harman, Brasov, Own calculations.

Fixed Cost included *Labor* permanently employed requiring about Lei 200 per surface unit, *General Cost* which counted for Lei 150, fixed assets depreciation representing ei 700/ha, rent Lei 420/ha, membership fee to Potato Producers Association, counting for Lei 50/ha. Therefore, one hectar cultivated with potato require Lei 1,520 fixed expense (Table 3).

Production Cost and Cost Structure. Taking into account variable and fixed cost, one ha in potato cropping requires Lei 21,827.96. Cost structure shows that variable cost has the highest contribution to production cost (93.03 %), while fixed cost have just a small one (6.97%). The most expensive cost item is seeding material (43.77 %), fertilization (14.11 %), fuels, repairs and machinery parts (13.37 %) and fungicide/ insecticide (11.45 %). Regarding fiexd cost, the most costing is machinery depreciation (3.20 %) and rent (2.18 %) (Table 4).

Table 3. Fixed cost in potato cropping in 2010

SPECIFICATION	QUANTITY KG	PRICE LEI/KG	PRODUCT VALUE LEI
EMPLOYED LABOR			200
GENERAL COST			150
FIXED ASSETS DEPRECIATION			700
RENT			420
MEMBERSHIP FEE TO PRODUCERS ASSOCIATION			50
FIXED COST			1,520

Source: SC Hibridul SA Harman, Brasov, Own calculations.

Table 4. Analysis of production cost structure

SPECIFICATION	VALUE (LEI)	STRUCTURE (%)
VARIABLE COST, OF WHICH:	20,307.96	93.03
-SEEDING MATERIAL	9,555.00	43.77
-FERTILIZER	3,080.00	14.11
-HERBICIDE	250.00	1.14
-FUNGICIDE/INSECTICIDE	2,500	11.45
-TREATMENTS	180	0.82
-IRRIGATION WATER	71.96	0.32
-THIRDS	25	0.11
-INSURANCE	226	1.03
-OTHER MATERIALS	2,920.00	13.37
-PART TIME LABOR	1,500.00	6.87
-SUPPLY	-	-
FIXED COST, OF WHICH:	1,520.00	6.97
-FULL TIME LABOR	200.00	0.91
-GENERAL COST	150.00	0.68
-INTEREST	-	-
-DEPRECIATION	700	3.20
-RENT	420	2.18
PRODUCTION COST	21,827.96	100.00

Economic Efficiency and profitability was reflected by the following specific indicators: gross margin, gross profit, gross profit rate, net profit and net profit rate.
Gross Margin. Taking into account gross product and subtracting variable cost, we determined gross margin whose value per surface unit counted for Lei 12,246.44 in the year 2010.

Gross Profit resulted from the difference between gross margin and fixed cost and counted for Lei 10,726.44.
Gross profit rate was calculated by dividing gross profit to the related production cost per surface unit. Its value was 49.14 % reflecting that potato cropping is a profitable activity.
Profit tax was determined applying the 16 % tax to gross profit, resulting Lei 1,716.23 per ha.
Net profit resulted from the difference between gross profit and profit tax and counted for Lei 9,010.21 per surface unit.
Net profit rate was 41.27 % (Table 5)

Table 5. Analysis of economic efficiency per ha cultivated with potato in the year 2010

SPECIFICATION	VALUE (LEI)
GROSS PRODUCT	32,554.40
VARIABLE COST	20,307.96
GROSS MARGIN	12,246.44
FIXED COST	1,520.00
GROSS PROFIT	10,726.44
PRODUCTION COST	21,827.96
GROSS PROFIT RATE (%)	49.14
PROFIT TAX	1,716.23
NET PROFIT	9,010.21
NET PROFIT RATE (%)	41.27

CONCLUSIONS

Taking into account the analysis made at SC Harman SA Brasov on one hectare in potato cropping, we could draw the conclusion that potato is a profitable crop. In this case study, it provided a profit margin of 41.27%, although production cost was enough high varying between Lei 21,000 to 22,000/ ha showing that potato could be considered among the most expensive crops.
In order to increase gross margin and profitability, farmers have to increase per hectare using high yield cultivars, resistant to drought, diseases and pests, adapted to local conditions, to increase potato quality, in order to get a higher market price at delivery, to reduce variable costs per hectare, using a lower amount of seed at sowing, purchasing only certified seeds from authorized producers, to use a corresponding dose of fertilizer, herbicide and insecticide per surface unit, to reduce the number of treatments per surface unit, to execute timely agricultural

works in the field, to use modern equipments, to assure farm inputs at lower price by means of producers association.

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STUDY ON THE EVOLUTION OF POTATO PRODUCTION IN ROMANIA DURING THE PERIOD 1990-2009

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Abstract

The paper aimed to analyze the evolution of number of agricultural holdings growing potato, cultivated area, potato yield and production at national level and in the territory but also price indices in order to identify the main trends and prospects for potato development in Romania. The empirical data collected from National Institute for Statistics for the period 1990-2009 have been used and processed according to the specific methodology in order to create a complete picture about the past, present and future of potato cropping in Romania. As a conclusion, potato has registered a positive evolution regarding production even thou yield is the lowest in the EU-27. But Romania is on the top position in the EU-27 regarding potato production because of the larger cultivated surface and among the biggest producers in the world. Potato will remain an important food for Ronanian population and feed for animals, but also a raw material for industry.Processing industry in flakes, chips, French frites is continuously developping even thou in Romania has still a low percentage compared to other European countries.Farmers have to pay attention to high value hybrids, irrigation and technological works in order to keep production cost under control and obtain a higher profitability.

Keywords: potato, cultivated area, yield, production, price, Romania

INTRODUCTION

Potato is a very important crop for human food, animal feed and industry (starch, glucose, dextrose, spirit etc) as well as raw material for producing flakes, chips, French fried potato [5].
Potatoes are used in more than 400 recipes. Potatoes are a healthy, tasty and easy digestible food. Potato is considered "the second bread of human being", because sometimes it could replace bread but also could be used for bread preparation. As forage, it is successfully utilized in cattle and pig fattening. In industry, potatoes are used for producing alcohol, starch, dextrin and glucose. One tonne of tubers could produce 95 litres alcohol, 140 kg starch, 100 kg dextrin and processing the alcohol extracted from potatoes we could obtain 15-17 kg synthetic rubber [3].

An amount of 100 g fresh potato has 87 calories. It contains 77 g water, 1.87 g protein, 0.1 g fat, 1.8 g fibres, 20.13 carbohydrates, 5 mg calcium, 13 mg C vitamin, 0.31 mg iron, 379 mg potassium, 44 mg phosphorus, 0.106 thiamine, 0.02 mg riboflavin. Potato is used in pharmaceutics, cosmetics, in dietary products, in the industry of biodegradable plastics materials [1, 15].
Potato is also an important income source for farmers. Using high value cultivars and hybrids, it is possible to obtain good productions. In general, potato is a resistant crop to pests and diseases and it is cultivated in 140 countries both in the developed and developing states. At world level, about 18.8 million hectares are cultivated with potato and world production counts for 315.1 million tonnes. In the year 2005, world production reached 180 million tonne in the developing countries (China, India etc) and reflecting a balance between the production achieved in

the developed countries and the one produced in the developing countries [1].

The biggest potato producers in the world are The Netherlands, United Kingdom, France , Germany, Sweden, Denmark and Belgium where about 30-40 tonnes potatoes are achieved per hectare [11].

Of the world potato cultivated surface, about 70 % are cultivated in Europe. Romania comes on the 5th position in Europe based on the cultivated area (250,000 ha) and on the 17th position taking into account potato yield which is very small, about 14-15 tonnes per ha compared to 40 tonnes produced by Benelux, Germany, France, Denmark, United Kingdom [2].

In this context, the paper aimed to ananlyze the evolution of potato cultivated area, yield and production at national level and in the territory but also price indices in order to identify the main trends and prospects for potato development in Romania. In this purpose, the empirical data collected from National Institute for Statistics for the period 1990-2009 have been used and processed according to the specific methodology in order to create a complete image about the past, present and future of potato cropping in Romania [13].

MATERIAL AND METHOD

In order to set up this paper, the data have been collected from National Institute for Statistics for the period 1990-2009. The following indicators have been used and analysed: agricultural holdings cultivating potato, cultivated area, distribution of potato cultivated area in the territory by macroregions (M1, M2, M3, M4) and microregions (North-West, Centre, North-East, South-east, South Muntenia, Bucharest-Ilfov, South-West Oltenia and West).

Production was analyzed by means of yield and total production at national level and by macro and microregions.

Prices indices were used in order to characterized domestic market evolution regarding offer/demand ratio.

Finally, Romania's position among the EU-27 member states was presented showing its contribution to the common production and consumption.

In this purpose, the well known statistical index method has been utilized.

Fixed Basis Index(FBI) , according to the formula :

$$FBI = \frac{X_n}{X_0} \text{ x } 100 ,$$

Average (A) , according to the formula :

$$A = \frac{X_1 + X_2 + ...X_n}{n}$$

RESULTS AND DISCUSSIONS

Number of agricultural holdings dealing with potato growing counted for 1,068,501 units in the year 2007 being by 2.18 % less numerous than in the year 1990. The farm structure is dominated by small farms owning less than 5 ha (85.03 %). About 11.66 % farms have 5-10 ha, 2.70 % have 10-20 ha, 0.29 % have 20-30 ha, 0.14 % have 30-50 ha, 0.08 % have 50-100 a and only 0.10 % have more than 100 ha. In the period 2002-2007, the number of farms owning less than 5 ha regietered a decrease by 6.88 % and the number of farms onwing more than 100 ha has also decreased. The highest increase in the analized period was registered by farms having 10-20 and 20-30 ha (Table 1.)

Table 1.Number of agricultural farms dealing with potato growing in the years 2002 and 2007 by farm size

Farm size (ha)	2002		2007		2007/2002 %
	No	%	No	%	
Below 5	975,756	89.33	908,628	85.03	93.12
5-10	95,829	8.77	124,692	11.66	130.11
10-20	16,085	1.47	28,926	2.70	179.83
20-30	1,847	0.16	3,154	0.29	170.76
30-50	1,026	0.09	1,511	014	147.27
50-100	767	0.07	863	0.08	112.51
Over 100	917	0.11	727	0.10	79.28
Total	1,092,227	100.00	1,068,501	100.00	97.82

Source:National Institute for Statistics, 2010, Own calculations.

Potato cultivated area has recorded a decline by about 11.88 % from 289.6 thousand hectares in 1990 to 255.2 thousand ha in 2009. In 2009, Romania registered the smallest surface cultivated with potato. The share of potato cultivated area in total cultivated area in the country has increased by 4.87 % from 3.08 % in 1990 to 3.23 % in

2009. The surface cultivated with potato in private ownership has increased from 173.70 thousand ha in 1990 to 254.9 thousand ha in 2009.As a result of the evolution of cultivated land in the private sector, the share of private ownership in cultivated area with potatoes has increased by 66.54 % from 59.97 % in 1990 to 99.88 % in the year 2009 (Table 2).

Table 2.Potato culivated area in the period 1990-2009 (thousand ha)

	1990	1995	2000	2005	2009	2009/1990 %
Total cultivated area, of which:	9,402.1	9,224.6	8,905.0	8,467.9	7,884.1	83.85
Potato cultivated area	289.6	244.3	282.7	284.9	255.2	88.12
Share of potato cultivated area in total cultivated area (%)	3.08	2.64	3.17	3.36	3.23	104.87
Potato cultivated area in private sector	173.7	234.8	276.7	283.6	254.9	146.74
Share of private area in potato cultivated area (%)	59.97	96.11	97.91	99.54	99.88	166.54

Source:National Institute for Statistics, 2010, Own calculations.

Distribution of potato cultivated area in the territory. Potato could be cultivated in all the regions of Romania. But the most important regions where it is grown on larger surfaces are Macro-region 1 representing 44.65 % of potato cultivated area and Macro-region 2 whose share in potato cultivated area is 26.81 %. On the 3rd position comes Macro-region 4 with 19.55 %. By micro-region, the situation is the following one: Central part of the country 23.67, North Eastern part 22.75 %, North Western part 20.98 %, West 12.14 % (Table 3).

Potato yield has continuously increased in the period 1990-2009. In 2009, it was by 41.35 % higher than in 1990. I 2009, it reached 15,498 kg/ha compared to 10,964 kg/surface unit in 1990. In private ownership, potato yield has increased by 34.32 % from 11,536 kg/ha in 1990 to 15,496 kg/ha in 2009. As a result, the share of private sector in potato yield has slightly decreased from 105.21 % in 1990 to 99.98 % in 2009 (Table 4).

Table 3. Potato cultivated area by mcro and micro-region in the year 2009

Specification	Potato cultivated area ha	Share of macro/micro region in national average (%)
Total	255,244	100.00
M1	113,990	44.65
-NW	53,551	20.98
-Centre	60,439	23.67
M2	68,455	26.81
-N-E	58,088	22.75
-S-E	10,367	4.06
M3	22,877	8.96
-S.Muntenia	22,078	8.64
-Bucharest-Ilfov	799	0.31
M4	49,922	19.55
-SW Oltenia	18,920	7.41
-W	31,002	12.14

Source:National Institute for Statistics, 2010, Own calculations.

Table 4.Potato yield in the period 1990-2009 (kg/ha)

Specification	1990	1995	2000	2005	2009	2009/1990 %
National average	10,964	12,317	12,249	13,078	15,498	141,35
Private sector	11,536	12,259	12,269	13,080	15,496	134.32
Share of private sector in national average	105.21	99.52	100.16	100.01	99.98	95.02

Source:National Institute for Statistics, 2010, Own calculations.

Potato yield is still very low compared to the one recorded in other EU countries. The imports of potato have increased during the last years affecting the domestic producers very much. Due to this aspect, Romanian producers have to become more competitive paying attention to potato quality and yield. In order to increase potato profitability, it is needed to develop early productions able to be delivered faster in the market. Also they have to assure a continuous supply for consumers and industry using a large variety of cultivars. In this respect, farmers have to use high value hybrids and apply modern crop technologies. Among the most used potato cultivars in Romania we could mention the ones produced by National Research and Development Institute for Potato and Sugar Beet from Brasov such as: Roclas, Christian, Dacia, Amelia, Nicoleta, Tampa, Rustic, Corona, Cibin, Colina, Muresan, Carpatin, Brasovean, Magura, Muncel etc [17].

Also, during the last 10 years a lot of potato cultivars have been imported as follows: from the Netherlands: Agata, Latona, Cleopatra, Impala, Desiree, Asterix, Sante) and from Germany (Gloria, Velox, Rosara, Baltica) and assure high yield and potato quality but production cost is higher.

Potato quality could be assured only by purchasing potato seed from authorized producers. Also, deep ploughing in autumn and crop rotation are essential items of potato technology which have to be entirely respected.

Distribution of potato yield in the territory. Analyzing the situation by macro and micro regions in the year 2009, one can notice that the highest potato yields have been recorded in the Central part, North East and Bucharest –Ilfov, where potato yield exceeded the national average (Table 5).

Table 5. Potato yield by Romania's macro and micro-regions in the year 2009

Specification	Potato yield (kg/ha)	Share of macro/micro region in national average (%)
National average	15,498	100.00
M1	16,189	104.45
-NW	14,833	95.70
-Centre	17,392	112.20
M2	15,061	97.18
-N-E	15,538	100.25
-S-E	12,388	79.93
M3	15,461	99.76
-S.Muntenia	15,428	99.54
-Bucharest-Ilfov	16,389	105.34
M4	14,537	93.79
-SW Oltenia	14,532	99.76
-W	14,539	93.81

Source:National Institute for Statistics, 2010, Own calculations.

Potato production has increased by 25.69 % in the period 1990-2009, from 3,185.6 thousand tonnes in the year 1990 to 4,004 thoisand tonnes in 2009. This wsa due to the increased average production. The pottao production in private ownership has followed a similar trend increasing from 2,010.7 thousand tonnes in the first analyzed year and 3,998.9 in the last one. As a consequence, the share of private sector in potato porduction has raised from 63.11 % in 1990 to 99.87 % in 2009 (Table 6).

Table 6. Potato production (thousand tonnes)

Specification	1990	1995	2000	2005	2009	2009/1990 %
Potato production, of which:	3,185.6	3,019.9	3,469.8	3,738.6	4,004.0	125.69
Private sector	2,010.7	2,888.4	3,402.1	3,721.8	3,998.9	198.88
Share of private sector in potato production (%)	63.11	95.64	98.04	99.55	99.87	158.24

The National Institute for Statistics Report of March, 2012 mentioned that by the surface cultivated with potatoes, in the year 2011, Romania came on the 3rd position in the EU-27 after Poland an Germany and on the 6th position for production after Germany, Poland, The Netherlands, France and United Kingdom, because of the yield which was only 55.80% of the EU average [14].

Romania is seen as an important potato producer in the world. In 2007, world potato production reached 325.30 million tones compared to 267.99 million tones in 1991. The top potato producers in the world are in the decreasing order: China, Russian Federation, India, the USA, Ukraine, Poland, Germany, Belarus, the Netherlands, France and Romania [16].

Distribution of potato production in the territory. As one can see from Table 7, the macro-regions with the biggest contribution to potato production are M1 (46.38 %), M2 (26.16 %) and M4 (18.41 %).Taking into account the figures by micro-region in the year 2009, one can see that the most productive micro-regions have been: the central part of Romania (26.38 %), North Eastern part (22.86 %), North Western part (19.99 %) and Western part (11.50 %) as shown in Table 7.

Potato production cost is very high compared to other crops. In 2011, in Romania potato production cost reached about Lei 20,000 per ha because of high price for inputs, mainly seed from imported hybrids, fertilizers and irrigation water [9]. Also, other authors sustain that cost of applying drip irrigation and fertilization systems are relatively high compared with conventional gun irrigations. For this reason technologies should be adapted to local conditions regarding field size, farm practice and climate [6].

Table 7. Macro and micro-regions' contribution to potato production in 2009

Specification	Potato production (tonnes)	Share of macro/micro region in potato production (%)
Potato production	4,003,980	100.00
M1	1,857,151	46.38
-NW	800,566	19.99
-Centre	1,056,585	26.38
M2	1,047,814	26.16
-N-E	915.698	22.86
-S-E	132,116	3.29
M3	361,569	9.01
-S.Muntenia	348,004	8.69
-Bucharest-Ilfov	13,565	0.33
M4	737,446	18,41
-SW Oltenia	276,825	6.91
-W	460,621	11.50

Source:National Institute for Statistics, 2010, Own calculations.

Potato average purchasing price. In general, potato purchasing price has continuously increased from the year 1990 to the year 2009. In the last year of the analyzed period, its level was 4.8 times higher compared wit the purchasing price registered in the year 1990. This was due to the continuous increased price of far inputs (Table 8).

Table 8. Potato average purchasing price in the period 2001-2009

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2009/2001 %
Potato price	0.20	0.32	0.49	0.79	0.81	1.00	1.04	0.86	0.96	480.00

Even thou potato price has increased, it is still very low and very close to production cost. This is why potato producers are complaining. Also, the low yield has diminished the domestic offer and an important amount of potato was imported during the last years manly from Poland affecting local producers.

Potato price indices presented in Table 9 reflect the variations from a year to another. As one can see, potato prices indices increased mainly in 2004 and 2005. Then, potato price indices have declined because of the increased potato production.

Table 9. Potato price indices in the period 2004-2009

2004	2005	2006	2007	2008	2009
2541	2227	2014	1367	1334	1530

Potato processing has become more and more important during the last decades both at world and European level. Of world potato production, about 9.5 % is processed as French fries and chips, the biggest producers being the USA, Canada and the EU.

About 14 % of world production is processed in starch industry in China and India.

At world level, the structure of products resulting from processed potato is the following one: 180 million tones French fries, 4 million tones chips, 4 million tones dehydrated potato and 2 million other products [1].

At world level, some important companies are operating and controlling the largest part of potato production. In case of French fries, about 75 % of production is produced and controlled by 5 companies among the most important being Simplot(USA), Mc Cain (Canada), Lamb Weston and AVIKO. In case of potato chips, Fritolag (Pepsico), P&G(Pringles), Conagra, Kraft, General Mills, Intersnack and Unites Biscuits could be mentioned. Other companies such as Basic American Foods and RDO are among the main producers of dehydrated potato. Other products such starch are produced by AVEBE, Emsland Group and KMC[1].

In Romani only 3.5-4 million tones (5 %) of production are processed and the trend is increasing. Many foreign companies have entered the Romanian market such as: Pepsico and Intersnake but also other smaller processors [1].

Potato consumption is about 75 kg/capita/year, of which 95 % is consumed as fresh potato. In Belgium, the consumption is almost similar but 37 % of potato production is processed in industry. In United Kingdom, potato consumption counts for 94 kg/inhabitant/year and of potato production 50 % is consumed as fresh potato and 50 % is processed in industry. In the USA, average consumption is 60 kg/capita annually and in Canada it accounts for about 65 kg/inhabitant/year in the both American countries, about 57 % of potato production is processed.

Among the processed potato products, the most consumed sort is represented by French fries, which accounts for 28 kg/capita/year in United Kingdom, 24 kg in the USA, 18 kg in France, 16 kg in the Netherland, 14 kg in Belgium, 13 kg in Canada, 11 kg in Germany, 2 kg in Turkey and 1 kg in Russia. But French fries had registered a decreasing trend during the last decade because consumers pay more attention to their health and food safety.

Frozen potato represents about 30 % of processed potato production in Germany.

In 2008, in the Netherlands about 0.5 million tones are represented by peeled potato and partially processed potato destined for salads and cooking [1].

For processed potato in French fries there are used some specific potato cultivars such us: Russet Burbank, Shepondy, Bintje and for chips Amelia cultivar.

In Romania, potato processing offers new opportunities for potato cultivators and

producers but also for processors. It is important to extend production destined for processing by using the generalization of contracts, the use of suitable potato cultivars and the corresponding technology [1].

In the EU countries, food industry produces many types of potato products (chips, French fries, flakes, dehydrated potato, canned potato etc). For developing he industry of potato processing it was needed to diminish starch production. From this point of view, Germany occupies the 1st position cultivating 100,000 ha with potato, then the Netherlands cultivates about 63,000 ha, France and Denmark. Among the top countries cultivating potato and developing potato processing we could mention The Netherlands (67%), Denmark (64.3 %), Germany (44.6 %) and France (40.8 %). Austria and Finland cultivate smaller potato surfaces and process about 52 % of potato production.

In the past, about 70 % of potato production was used as raw material for producing starch and glucose and 20-30 % for alcohol and 5-10 % for other purposes. The main plants producing starch were situated in Harghita, Covasna, Neamt, Suceava, Botosani ans Sibiu counties.

At present, potato is not used any more for producing starch. But this is a big mistake and in the future it is expected a recover of starch industry in our country[4].

In Romania, the increase of potato profitability depends on the potato cultivar, technology applied and processing.

About 60 potato cultivars with different vegetation period and purposes are used. During the last years, it was noticed the willingness of various farmers to specialize their farms by cultivar destination. The surfaces cultivated with potato for industrial use are increasing year by year. Also, the capacity of processing plants is also increasing. In the year 2000, the processing industry had the following processing capacity: for chips, Star Foods-Pepsico 50,000 tonnes per year and Intesnack 20,000 tonnes per year; for French fries: Goldean Fingers 10,000 tonnes/year, Samaco Prod SRL 2,000 tonnes per year and SCRoclip SA 50,000 tonnes/year. Also, other products such as

flakes, salted snacks etc are produced in Romania too. In 2008, the production of chips and potato flakes in Romania counted for 2,400 tonnes of which 1,400 tonnes chips and 1,000 tonnes flakes [4].

Table 10.Potato import, export, demand, offer, industrial processing and stock in the period 2001-2007

	2001	2002	2003	2004	2005	2006	2007	2007/2001 %
IMPORT (THOU TONES)	24	21	304	1013	489	912	155	645.83
EXPORT (THOUS TONNES)	20	9	207	3	12	26	97	485.0
OFFER	3981.10	3490.80	4026.40	4178.90	3996.10	4321.40	3867.40	97.14
DEMAND	4001.10	3499.80	4047.10	4181.90	3997.30	4324.00	3857.70	96.41
INDUSTRIAL PROCESSING	55.00	48.90	56.10	57.80	55.70	60.50	100.00	181.81
STOCK	118							

Source: Zahiu Letitia et al., 2010 [12]

Potato trade balance has registered a deficit during the last year because imports have exceeded exports. Important amounts of potato have been imported mainly from Poland but also from Greece. And in addition, market price for imported potato was by 20 % higher in comparison with the price offered by wholesalers to potato producers [12].

CONCLUSIONS

Romania is an important potato producer in the EU, taking into account the surface cultivated with this crop. Its contribution to the EU-27 production represents about 4.38 %. But potato yield is the lowest recorder in the EU-27. However, due to the large cultivated area, Romania is among the top potato producers in Europe such as Poland and Germany.

Because potato yield is deeply influenced by climate conditions, technology applied and seeding material quality, farmers have to pay more attention to all these aspects in order to keep pace with the EU requirements and increase competitiveness and profitability of their farms.

Among the main objectives in potato cropping we could mention: the increase in potato yield, higher potato quality, higher profitability, the reduction of fertilizers and pesticides used per surface unit in order to

diminish environment pollution and a modern processing.

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CONSIDERATIONS ON THE IMPORTANCE OF SUNFLOWER AMONG THE OIL SEED CROPS IN ROMANIA IN THE PERIOD 1990-2009

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Abstract

The paper aimed to present the dynamics of cultivated area, sunflower seed yield and production at national level and in the territory but also price indices in order to identify the main trends and prospects for sunflower development in Romania. In this purpose, the empirical data collected from National Institute for Statistics for the period 1990-2009 have been used and processed according to the specific methodology in order to create a complete image about the past, present and future of sunflower cropping in Romania.As a conclusion, Sunflower is still and will continue to be an important oil crop in Romania. At present, it is on the 1st position regarding cultivated area, production and export compared to rape and soy bean. Farmers have to be encouraged to continue sunflower cropping as long as it is a low cost crop and seed, oil and cakes export could support Romania's position as a net exporting country.

Keywords: *sunflower, oil seed crops, cultivated area, production, trade, trends, Romania*

INTRODUCTION

Sunflower is an important oil seed crop besides soybean and rape, mainly due to its destinations: human food and animal feed [8]. Sunflower seeds have a rich oil content (50%) with exceptional food qualities and high conservability. It is mostly used in human consumption as a refined oil and food industry for producing margarine, canned products, soap, lecitine etc. After seed crushing, sunflower meals have a high protein content and for this reason are successfully utilized in animal feeding mainly in pig and poultry farming and also a raw material for protein comcentrates used in meat processing. Seed shels are used in the textile industry for obtaining artificial fibres and plastics. The whole sunflower plant can be utilized as fuel and also in buildings industry. Sunflower is a meliferous plant producing 30-130 kg honey/ha. Sunflower oil is very popular being recognized as a healthy cooking oil due to its benefits for human health [1,10].
The sunflower oil is a high quality oil because of its low content in saturated fatty acids and high percentage of unsaturated fatty acids.

This is an advantage for being used in cooking but also as raw material for producing biodisel [12].
Romania has along tradition in vegetable oil production, sunflower keeping the top position with 66 % of cultivated area, being followed by rape, soy bean and other crops [3].
Romania is recognized as a big producer and net exporter of sunflower seeds, oil and meal with an increasing trend from a year to another [9].
 In the EU agriculture, sunflower is the 5th important arable crop, being cultivated in 14 countries.Based on harvested area, the main sunflower producers in Europe are Romania, Spain, Bulgaria, France, Hungary, whose production represent 85 % of the total EU-27 sunflower production [5].
More than that, worldwide sunflower production has been increasing and according to 2004 FAPRI predictions, it will reach 30 million tonnes by 2015. The biggest sunflower seed producers in the world are Russia, Ukraine, India, Argentina, the USA, Romania, France, Spain, Hungary, Turkey and South Africa [7].

Sunflower oil will remain an important item of human consumption. Among the EU-27 countries, there are some different trends concerning sunflower oil consumption in the future.Benelux, Denmark, Romania, Bulgaria, Hungary and Italy are facing a stable or slightly growing sunflower oil consumption in comparison with France, Greece, Germany, Spain and United Kingdom where it is recorded a decline due to consumers health perceptions and preference for olive oil [12].

In 2009, the main EU-27 sunflower oil for food use consumers have been Spain, France, Italy, Germany, Benelux and Romania [2].

In this context, the paper aimed to present the dynamics of cultivated area, sunflower seed yield and production at national level and in the territory but also price indices in order to identify the main trends and prospects for sunflower development in Romania. In this purpose, the empirical data collected from National Institute for Statistics for the period 1990-2009 have been used and processed according to the specific methodology in order to create a complete image about the past, present and future of sunflower cropping in Romania[11].

MATERIAL AND METHOD

In order to elaborate this paper, the data have been provided by National Institute for Statistics for the period 1990-2009. Sunflower cultivated area, oil seeds crop cultivated area, distribution of cultivated area in the territory by macroregions (M1, M2, M3, M4) and microregions (North-West, Centre, North-East, South-east, South Muntenia, Bucharest-Ilfov, South-West Oltenia and West) have been the main indicators used in this analyse.Production was analyzed by means of yield and total production at national level and by macro and microregions.Prices indices were used in order to characterized domestic market evolution regarding offer/demand ratio.

Finally,Romania's position among the EU-27 member states was presented showing its contribution to the common production, export and consumption.

In this purpose, the well known statistical index method has been utilized.

Fixed Basis Index(FBI) , according to the formula :

$$FBI = \frac{X_n}{X_0} \text{ x } 100 ,$$

Average (A) , according to the formula :

$$A = \frac{X_1 + X_2 + ...X_n}{n}$$

RESULTS AND DISCUSSIONS

Number of agricultural holdings dealing with sunflower cropping counted for 286,905 units in the year 2007 being by 26.65 % less numerous than in the year 2002. This is a positive trend in close relationship with an increased farm size. The most numerous farms representing 68.34 % have less than 5 ha, 22.13 % have between 5 and 10 ha, 5.60 % have between 10 and 20 ha, about 2.37 % have from 20 up to 100 ha and just 1.56 % have more than 100 ha. Even thou, the smallest farms are predominant, the number of farms with 10-20 ha has registered the highest increase in the last five years (46.28 %) compared to the other farm sizes (Table 1).

Table 1.Number of agricultural farms cultivating sunflower in the years 2002 and 2007

Farm size	2002		2007		2007/2002 %
(ha)	No	%	No	%	
Below 5	307,792	78.72	196,093	68.34	63.70
5-10	61,664	15.76	63,505	22.13	102.98
10-20	11,002	2.81	16,094	5.60	146.28
20-30	2,140	0.54	2,673	0.93	124.90
30-50	1,748	0.44	2,335	0.81	133.58
50-100	1,667	0.42	1,834	0.63	110.01
Over 100	5,128	1.31	4,371	1.56	85.23
Total	391,141	100.00	286,905	100.00	73.35

Source:National Institute for Statistics, 2010, Own calculations.

Sunflower cultivated area. Despite that cultivated area has been diminishes by 16.15 % from 9,402.1 thousand ha in the year 1990 to 7,884.1 thousand ha in 2009, the cultivated area with oil seed crops has increased by 91.50 % from 654.7 thousand ha to 1,253.8 thousand ha in the same period of time. This was due to the favorable conditions for oil seed cropping in Romania and an increased trend in sunflower and soy bean area in the Eu-27, where in 2011, total oil seed area

counted for 11.5 million ha. Sunflower is on the 2nd position as importance after rape among oils seed crops in the EU-27. In the year 2009, a surface of 3.9 million ha was cultivated, representing 32.6 % of te 10.988 million ha cultivated with oilseed crops in the EU-27 [2].

In Romania, the land cultivated with sunflower has increased by 94.09 % from 394.7 thousand ha in the year 1990 to 766.1 thousand ha in 2009. According to National institute for Statistics Report in March 2012, Romania came on the 1st position in the EU-27 with 988,300 ha cultivated with sunflower in the yea 2011 and on the 2nd position after France due to the yield by 5.3 % lower compared to the EU average production [14].

The share of sunflower area in total cultivated area increased from 4.19 % in 1990 to 9.17 % in 2009 and in oil crops area from 60.28 % to 61.10 %, meaning a relatively constant but with peaks in the peiod 1995-2005 (Table 2).

Table 2.Sunflower cultivated area in the period 1990-2009 (thousand ha)

	1990	1995	2000	2005	2009	2009/1990 %
Total cultivated area, of which:	9,402.1	9,224.6	8,499.8	8,467.9	7,884.1	83.85
Oil seeds crops cultivated area, of which:	654.7	806.8	1,067.4	1,205.5	1,253.8	191.50
Sunflower cultivated area	394.7	714.5	876.8	971.0	766.1	194.09
Share of sunflower cultivated area in :	4.19	7.74	10.31	11.46	9.71	231.74
-Total cultivated area (%)	4.19	7.74	10.31	11.46	9.71	231.74
-Oil seed crops cultivated area (%)	60.28	88.55	82.14	80.58	6110	101.36

Source:National Institute for Statistics, 2010, Own calculations.

Cultivated area in private ownership. Most of sunflower areas are cultivated in private ownership. From this point of view, sunflower cultivated area in the private sector has increased from 8.5 thousand ha in the year 1990 to 760.9 thousand ha in 2009 and consequently its share in total cultivated area with sunflower has increased from 2.15 % to 99.32 % in the same period of time (Table 3).

Table 3.Share of sunflower cultivate area in private ownership in sunflower cultivated area in the period 1990-2009

	1990	1995	2000	2005	2009	2009/1990 %
Sunflower cultivated area (ha)	394.7	714.5	876.8	971.0	766.1	194.09
Sunflower cultivated area in private ownership (ha)	8.5	534.3	695.4	960.0	760.9	8951.76
Share of private ownership in sunflower cultivated area (%)	2.15	74.77	79.31	98.86	99.32	4619.53

Source:National Institute for Statistics, 2010, Own calculations.

Distribution of sunflower cultivated area in the territory. In the year 2009, the total cultivated land in Romania counted for 7,884,101 ha of which 1,253,810 ha was cultivate with oil crops (9.71 %) and of which 766,080 ha were cultivated with sunflower, representing 61.10 % of total cultivated land with oil seed crops. The distribution of sunflower cultivated area by macro-region was the following one: 6.40 % macro-region 1, 48.97 % macro-region 2, 29.83 % macro-region 3 and 14.78 % macro-region 4. Analyzing the situation by micro-region, one could notice that the most suitable areas for sunflower cropping are South-East (279,731 ha, representing 36.51 %) and South Muntenia (220,808 ha , representing 28.82 %) (Table 4).

Table 4.Distribution of sunflower cultivated area by Romania's macro and micro-region in 2009

Macro/ micro region	Cultivated area, of which: Ha	Oil crops cultivated area, of which: Ha	Sunflower cultivated area Ha	Share of sunflower cultivated area in :	
				Total cultivated area (%)	Oil seed crops cultivated area (%)
Total	7,884,101	1,253,810	766,080	9.71	61.10
M1	1,268,359	65,257	49,097	3.87	75.23
-NW	712,111	54,873	42,616	5.98	77.66
-Centre	556,248	10,384	6,481	1.16	62.41
M2	2,891,493	625,411	375,182	12.97	59.98
-N-E	1,155,451	171,521	95,451	8.26	55.64
-S-E	1,736,042	453,890	279,731	16.11	61,62
M3	1,910,678	397,609	228,555	11.96	57.48
-S.Muntenia	1,855,086	386,270	220,808	11.90	57.16
-Bucharest-Ilfov	55,592	11,339	7,747	13.93	68.32
M4	1,813,571	165,533	113,246	6.24	68.41
-SW Oltenia	1,033,718	105,698	68,404	6.61	64.71
-W	779,853	59,835	44,842	5.75	74.94

Source:National Institute for Statistics, 2010, Own calculations.

Sunflower seed yield registered a slight increase by 1.70 % at national level from 1,409 kg/ha in the year 1990 to 1,433 kg/ha in 2009. In the private sector, the average sunflower seed yield increased by 29.93 % from 1,147 kg to 1,433 kg per surface unit in the same period of time. Even thou the private sector recorded an increased yield, its level has remained most of the years below the national average. Starting from 2005 and continuing in 2009, it remained constant and equal to national yield (Table 5).

Table 5.Sunflower yield in the period 1990-2009 (kg/ha)

Specific.	1990	1995	2000	2005	2009	2009/1990 %
National average	1,409	1,304	821	1,381	1,433	101.70
Private sector	1,147	1,263	804	1,383	1,433	129.93
Share of private sector in national average	81.40	96.85	97.09	100.01	100.00	122.85

Source:National Institute for Statistics, 2010, Own calculations.

Distribution of sunflower yield in the territory. Analyzing the situation by macro and micro regions in the year 2009, one can notice that sunflower yield was higher in the macro regions M3 and M4, meaning that micro regions S.Muntenia, Bucharest-Ilfov, S.W. Oltenia and W are specific geographical area where sunflower could be successfully cultivated (Table 6).

Sunflower seed production as continuously increased due to the increased cultivated land with this oil crop and the use of more productive hybrids contributing to a higher yield. In 2009, sunflower seed production counted for 1,098 thousand tonnes being by 97.41 % higher than in 1990. The contribution of the private sector to total sunflower seed production has increased from 1.78 % in 1990 to 99.28 % in 2009.

In Romania, sunflower production represented 75.23 % of oil seed production in 1990 and 66.24 % in 2009. Tis eduction was determined by the new regulations established by the EU concerning rape crop whose cultivated surface sould be increased in order t produce biofuels (Table 7).

According to FAS EU-27, in 2009, the total oil seed oils fro biofuels use counted for 8,315 thousand MT, of which sunflower represented 200 thousand MT (2.40 %) being on the 3rd position after rapeseed and soybean [2].

In the EU-27, production is forecast to rise for all major oilseeds due to the interest to produce biofuels.

Table 6. Sunflower yield by Romania's macro and micro-regions in the year 2009

Specification	Sunflower yield (kg/ha)	Share of macro/micro region in national average (%)
National average	1,433	100.00
M1	1,421	99.16
-NW	1,420	99.09
-Centre	1,432	99.93
M2	1,273	88.83
-N-E	1,331	9288
-S-E	1,253	87.43
M3	1,560	108.86
-S.Muntenia	1,559	108.79
-Bucharest-Ilfov	1,579	110.18
M4	1,716	119.74
-SW Oltenia	1,617	112.84
-W	1,866	130.21

Source:National Institute for Statistics, 2010, Own calculations.

Table 7. Sunflower production (thousand tonnes)

Specification	1990	1995	2000	2005	2009	2009/1990 %
Sunflower production, of which:	556.2	932.9	720.9	1,340.9	1,098.0	197.41
Private sector	9.9	675.8	559.5	1,328.2	1,090.1	11011,11
Share of private sector in sunflower production (%)	1.78	72.44	77.61	99.05	99.28	5577.52
Oil seed production	739.3	1,055.4	868.5	1,803.1	1,764.0	239.60
Share of sunflower production in oil seed production (%)	75.23	88.39	83.00	74.36	66.24	88.04

Source:National Institute for Statistics, 2010, Own calculations.

Distribution of sunflower seed production in the territory. In the year 2009, the contribution of the four macro-regions to sunflower seed production was the following one: 43.48 % M2, 32.46 % M3, 17.69 % M4 and 6.35 % M1.

By micro-region, looking at the figures presented in Table 8, one could see that the most important producers of sunflower seeds are situated in SE, S Muntenia and S Oltenia, where their contribution to total production accounted for 73.32 %.

Sunflower seed price indices have registered a varied level from a period to another because of demand/supply ratio. In general,

demand was higher than supply, a reason as producers to be stimulated. Compared to soybean seed price indices, sunflower seed price increased till 2007. After Romania's access into the EU, soybean price has raised more rapidly than sunflower seed price Sunflower price is lower than soybean and rape seeds price in close relation to production cost (Table 9).

Table 8. Macro and micro-regions' contribution to sunflower production in 2009

Specification	Sunflower production (thousand tonnes)	Share of macro/micro region in sunflower production (%)
Sunflower production	1,098,047	100.00
M1	69,775	6.35
-NW	60,497	5.53
-Centre	9,278	0.84
M2	477,502	43.48
-N-E	127,027	11.56
-S-E	350,475	31.91
M3	356,439	32.46
-S.Muntenia	344,204	31.34
-Bucharest-Ilfov	12,235	1.11
M4	194,331	17.69
-SW Oltenia	110,639	10.07
-W	83,692	7.62

Source:National Institute for Statistics, 2010, Own calculations.

Table 9. Price indices for sunflower seed compared to soybean seed price indices, 2004-2009

Seed type	2004	2005	2006	2007	2008	2009
Sunflower seed price indices	218.1	202.7	99.2	118.3	157.3	118.2
Soy bean seed price indices	214.9	167.1	94.8	124.0	181.5	148.5

Source:National Institute for Statistics, 2010.

Sunflower production cost. From farmers' point of view, sunflower is a low input and more convenient crop because it requires just a small amount of seed at sowing and fertilizer per surface unit compared to rape and soy bean. Production cost counted for Lei 1,599/kg and Lei 796/tone in experiments where sunflower average production was 2,010 kg/ka [2].Other authors found similar results for lower and higher sunflower seeds productions in the Southern plain of Romania [4, 5].

Sunflower seed processing. Sunflower seeds are an important raw material for vegetable oil industry whose production has continuously increased due to the increased seed production as a consequence of constant demand of growth of sunflower oil and meals on external market. Aboout 70 % of sunflower seeds from domestic production are industrially processed in oil and cake and about 30 % are processed by peasants in the country side using their own oil presses. Therefore, domestic demand is largely covered by internal production. About 1 million tones of sunflower seeds are annually processed by various companies both foreign companies (Cargill, Bunge having American capital) and Romanian companies (Argus Constantza, Agricover Buzau etc) [2] .

Sunflower meal is another important product required both in the Romanian and external market. In 2009, the major oilseed meals feed /seed/waste, SME in the EU-27 counted for 45,038 thousand MT, of which sunflower meals feed 4,778 thousand MT (10.60 %), coming on the 3rd position after soybean and rape seed meal [2]

Sunflower crush is also an important product. In 2009, in the EU-27, oilseeds crush counted for 41,676 thousand MT, of which sunflower crush 6,150 thousand MT (14.75 %), being also on the 3rd position after rapeseed and soybean [2] .

Sunflower seeds, oil and meal trade. Among oil crops, sunflower seeds oil and meal remain the top exported products. In 2007, Romania exported about 56 % sunflower oil in the EU, mainly in Spain, Hungary and Poland and 29 % in Turkey. In 2008, Romania exported 61 thousand tonnes sunflower oil and 85 thousand tones sunflower cakes (Turkey 55 %, Hungary 20 %). In 2007, Romania exported 382.7 thousand tines sunflower seed and imported 66.6 thousand tones with a positive impact on sunflower seed trade balance, In the same year, sunflower seed export value counted for Euro thousand 105,274 compared to Euro thousand 32,451 import value. Export price counted for Euro 275/tone and import price for Euro 487/tone [3]

Romania's position among sunflower producers and exporters. Romania is an important producer and exporter of sunflower seeds, oil and cakes both into the EU and world market.

In the EU-27, in 2009, total oil seed production was 29,530 thousand MT, of

which 6,950 thousand MT sunflower seeds [2].

Romania produced 1,764 thousand MT oilseeds, representing 5.97 % of the EU-27 and 1,098 thousand MT of sunflower seeds, representing 15.80 % of the EU-27.

In 2009, Romania was considered on the top 4 producers of sunflower seeds in he EU-27 after France, Bulgaria and Hungary, being followed by Spain and Italy. All these 6 countries are able to produce 80 % of the EU sunflower seed production [2].

Romania is also included among the top 4 sunflower crushers after France, Spain and Benelux, being followed by Bulgaria and Italy.

As an oil producer, Romania is also situated on the 4th position after France, Spain and Benelux [2] .

CONCLUSIONS

Sunflower is still and will continue to be an important oil crop in Romania. At present, it is on the 1st position regarding cultivated area, production and export compared to rape and soy bean.

Due to the fact that 80 % of fat consumption is covered by vegetable fats and sunflower oil is traditionally used in Romania, sunflower cropping will continue to be an important supplier of raw material for oil industry.

A the same time, it si expected a higher competition with rape and soy bean in order to produce biofuel.

The EU regulations, regarding energetical crops destined for producing biofuels, have encouraged rape development. In this respect, a subsidy of Euro 45/cultivated hectar with oil seed crops is provided by the EU in order to stimulate biofuel production.

But sunflower is forecast to remain the main oil seed crop in Romania supplying oil for human consumption and cakes for animal feed.

The only problem sunflower crop has is the high sensitiveness to drought. From his point of view, in the driest years, sunflower seed production is in danger to decrease if technological management will ot be able to provide irrigation water.

Farmers have to be encouraged to continue sunflower cropping as long as it is a low cost crop and seed, oil and cakes export could support Romania's position as a net exporting country.

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CONSIDERATIONS ON THE IMPORTANCE OF MAIZE AMONG CEREAL CROPS IN ROMANIA IN THE PERIOD 1990-2009

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Abstract

The paper aimed to present the dynamics of cultivated area, maize seed yield and production at national level and in the territory but also price indices in order to identify the main trends and prospects for maize development in Romania. In this purpose, the empirical data collected from National Institute for Statistics for the period 1990-2009 have been used and processed according to the specific methodology in order to create a complete image about the past, present and future of maize cropping in Romania. As a conclusion, maize crop has registered a positive evolution regarding production performance positionning Romania on the top position in the EU-27 and among the biggest producers in the world.The favorable world price for maize grains could be an incentive for Romanian farmers to extend the cultivated surface with maize and apply modern technologies in order to carry out higher yield and production.

Keywords: maize, cultivated area, production, trade, trends, Romania

INTRODUCTION

Maize is a high value cereal with multiple uses in human food, animal framing and industry [7]. Maize grains are rich in protein (9.5-15 %), fats (5-8 %), water (12-15 %), fibre (2%), minerals (1.5-2 %, mainly iron, magnesium, zinc, potassium), vitamins (B, E) [4]

In human food, maize is used for producing polenta, caks, boiled kernels, pop corns, flakes etc. Also, maize grains are used like raw material for industry (stac, glucose, alchool and oil industry). Maize oil is considered a dietetical oil. The remains resulted from maize grains processing such as bran, cakes, meal etc are utilized in animal food [2,4, 5] .

Maize stem and leaves remained after harvesting are used in animal food and for producing celulose and husks are utilized for knittings and wrappers. Also, in the rural areaa, local population utilizes husks as fuel [3]. Maize sillage is an exceptional forage for dairy cows.

In general, maize crop is more resistant to droght and pests compared to other cereals and for this reason is widely spread in various areas from the climate and soil point of view. Farmers consider maize a low input and cost crop compared to other arable crops [1, 6, 7].

Maize is also recognize as a crop with high capacity of adaptation to various climate conditions and for this reason is cultivated in all the regions of Romania. About 92 % of arable land existing in Romania could be cultivated with maize. The Western and Southern Romanian plains are the most favorable areas for maize cropping but also maize could be cultivated in the central and North Eastern Romania. The Sounthern Carpatian hilly areas, sandy and salted lands are less suitable for maize [8].

Maize crop allows mecahanization 100 % and has a high conversion rate of fertilizer and water and monocropping apllied several years do not cayse troubles on soil fertility.

Romania has a long tradition in maize cropping, its production increasi bg substanbtially along the time. At present, Romania is on the 1st position among cereal cultivators and producers in Europe and on the 8th position in the world.

Because of the favorable geographical position, climate features and the use of high productive hybrids well adapted to local

conditions, maize production has continuosly increased.

In this context, the paper aimed to present the dynamics of cultivated area, maize seed yield and production at national level and in the territory but also price indices in order to identify the main trends and prospects for maize development in Romania. In this purpose, the empirical data collected from National Institute for Statistics for the period 1990-2009 have been used and processed according to the specific methodology in order to create a complete image about the past, present and future of maize cropping in Romania [11].

MATERIAL AND METHOD

In order to set up this paper, the data have been collected from National Institute for Statistics for the period 1990-2009. The following indicators have been used and analysed: maize cultivated area, cereal cultivated area, distribution of maize cultivated area in the territory by macroregions (M1, M2, M3, M4) and microregions (North-West, Centre, North-East, South-east, South Muntenia, Bucharest-Ilfov, South-West Oltenia and West).

Production was analyzed by means of yield and total production at national level and by macro and microregions.

Prices indices were used in order to characterized domestic market evolution regarding offer/demand ratio.

Finally, Romania's position among the EU-27 member states was presented showing its contribution to the common production, export and consumption.

In this purpose, the well known statistical index method has been utilized.

Fixed Basis Index(FBI) *, according to the formula :*

$$FBI = \frac{X_n}{X_0} \text{ x } 100 ,$$

Average (A), *according to the formula :*

$$A = \frac{X_1 + X_2 + ...X_n}{n}$$

RESULTS AND DISCUSSIONS

Number of agricultural holdings cultivating maize was 2,390,923 in the year 2007 being by about 10 % less numerous than in the year 2002. This is a positive trend in close relationship with an increased farm size. Regarding farm structure, in general, the average size of a farm is small. In 2007, only 0.25 % of holdings had over 100 ha, 0.13 % 50-100 ha, 0.19 % 30-50 ha, 0.29 % 20-30 ha, 2.20 % 10-20 a, 9.84 % 5-10 ha. Abput 87 % of agricultural holdings are small farms with less than 5 ha. During the peiod 2002-2007, the number of farms owning 10-20 ha has increased by 91.72 %, the number of farms owning 20-30 ha has increased by 75.35 % and of the ones owning 30-50 ha increased by 72.16 % (Table 1).

Table 1.Number of agricultural farms cultivating maize in the years 2002 and 2007

Farm size (ha)	2002		2007		2007/2002
	No	%	No	%	%
Below 5	2,426,611	91.77	2,082,567	87.10	85.82
5-10	174,962	6.61	235,467	9.84	134.58
10-20	27,490	1.03	52,705	2.20	191.72
20-30	3,968	0.15	6,958	0.29	175.35
30-50	2,777	0.10	4,781	0.19	172.16
50-100	2,535	0.09	3,152	0.13	124.33
Over 100	5,674	0.25	5,293	0.25	93.28
Total	2,644,017	100.00	2,390,923	100.00	90.42

Source:National Institute for Statistics, 2010, Own calculations.

Maize cltivated area has increased by 5.19 % during the analyzed period from 2,466.7 thousand ha in 1990 to 2,338.8 thousand ha in 2009. Despite that, the share of maize cultivated area in total cultivated area has increased by 13.07 % from 26.23 % in 1990 to 29.66 % in 2009. The woeght of maize cultivated area in cereal cultivated land has increased by 2.38 % from 43.25 % in 1990 to 44.27 % in the year 2009 (Table 2)**.**

Maize cultivated area in private ownership has substantially increased by 40.96 % from 1,652.5 thousand ha in 1990 to 2,329.4 thousand ha in the year 2009. As a result, the share of maize private sector in maize cultivated area has widely increased from 66.99 % in 1990 to 99.59 % in 2009 (Table 3).

Table 2.Maize cultivated area in the period 1990-2009 (thousand ha)

	1990	1995	2000	2005	2009	2009/1990 %
Total cultivated area, of which:	9,402.1	9,224.6	8,905.0	8,467.9	7,884.1	83.85
Cereal cultivated area, of which:	5,704.0	6,444.8	5,655.2	5,865.7	5,282.4	92.60
Maize cultivated area	2,466.7	3,109.2	3,049.4	2,628.5	2,338.8	94.81
Share of maize cultivated area in :						
-Total cultivated area (%)	26.23	33.70	34.24	31.04	29.66	113.07
-Cereal cultivated area (%)	43.24	48.24	53.92	44.81	44.27	102.38

Source:National Institute for Statistics, 2010, Own calculations.

Table 3.Share of maize cultivated area in private ownership in maize cultivated area in the period 1990-2009

	1990	1995	2000	2005	2009	2009/1990 %
Maize cultivated area (ha)	2,466.7	3,109.2	3,049.4	2,628.5	2,338.8	94.81
Maize cultivated area in private ownership (ha)	1,652.5	2,889.2	2,878.9	2,601.8	2,329.4	140.96
Share of private ownership in maize cultivated area (%)	66.99	92.92	94.40	98.98	99.59	148.66

Source:National Institute for Statistics, 2010, Own calculations.

In general, maize is on the 1st position among cereals cultivated in Romania and together with wheat cover 1/3 of cultivated area. But, during the period 2001-2009, maize cultivated surface registered a decrease by 20 %, characterizing all cereal crops. In this period of time, about 53 % of arable land was cultivated with cereals compared to 66 % in the period 1990-2000. In 2009, 45 % of cereal cultivated area was represented by maize, 44 % by wheat, 11 % by barley and 0.2 % by rice [9].

Distribution of maize cultivated area in the territory. The figures from Table 4 reflect the regions where maize found the most adequate soil and climate conditions to perform. As one can see, all the Romania's macro-regions are favorable for maize cropping. In 2009, the distribution of maize cultivated area in the territory was the following one: Macro-region1 15.07 %, Macro-region 2 counted for

36.92 %, Macro-region 3 for 19.31 % and Macro-region 4 for 28.69 %. Analyzing the situation by micro-region, one could see the following: NW 9.17 %, Centre 5.89 %, NE 18.56 %, SE 1836 %, S Muntenia 18.83 %, Bucharest-Ilfov 0.47 %, SW Oltenia 16.34 % and W 12.34 %.
(Table 4).

Table 4.Distribution of maize cultivated area by Romania's macro and micro-region in 2009

Macro/micro region	Cultivated area, of which: Ha	Cereal cultivated area, of which: Ha	Maize cultivated area ha	Share of sunflower cultivated area in :	
				Total cultivated area (%)	Oil seed crops cultivated area (%)
Total	7,884,101	5,282.445	2,338,766	29.66	44.27
M1	1,268,359	760,395	352,528	27.79	46.36
-NW	712,111	430,470	214,605	30.13	49.85
-Centre	556,248	329,925	137,923	24.79	41.80
M2	2,891,493	1,807,362	863,616	29.86	47.78
-N-E	1,155,451	684,592	434,204	37.57	63.42
-S-E	1,736,042	1,122,770	429,412	24.73	38.24
M3	1,910,678	1,301,574	451,620	23.63	34.69
-S.Muntenia	1,855,086	1,269,844	440,432	23.74	34.68
-Bucharest-Ilfov	55,592	31,730	11,188	20.12	35.26
M4	1,813,571	1,413,114	671,002	36.99	47.48
-SW Oltenia	1,033,718	824,757	382,342	36.98	46.35
-W	779,853	588,537	288,660	37.01	49.04

Source:National Institute for Statistics, 2010, Own calculations.

Maize grain yield has continuously increased in the period 1990-2009, except the years when climate conditions had a negative impact (2000, 2007). In the year 2009, maize yield counted for 3,409 kg/ha, being by 23.69 % higher in comparison wit the record achieved in the year 1990.

In the private sector, maize yield has increased by 10.60 % from 3,082 kg/ha in 1990 to 3,409 kg/ha in 2009 (Table 5).

The variations of maize yield are similar to the ones registered by other crop cereals, because of the climate change and the fact that the most of agricultural holdings do not use irrigation systems.

Compared to the variation coefficient of cereal production in the EU (8.9 %), Romania carried out the top variation coefficient: 28 % of average production during the period 2001-2009. Romania still registers a low maize yield in comparison with the average production in the EU-27 member states, mainly in Germany, France and Poland and large variations for maize and cereal production in general. This aspect has a negative effect on food security and imposes

important measures for using modern technologies, high quality seeds, fertilizers, herbicides, machinery and irrigation like in the EU countries [9, 13].

According to the Report 2012 of Romania's National institute for Statistics, in the year 2011, Romania came first in the EU-27 by surface cultivated with maize and send by maize production after France [10, 14].

Despite this positive aspect, Romania has still the lowest maize yield among the EU countries, 4,464 kg/ha being a production close to the ones registered by Poland (5,746 kg/ha) and Hungary (5,697 kg/ha). The three countries are placed on the lowest positions for maize yield in the EU-27 [10, 14].

Distribution of maize yield in the territory. Analyzing the situation by macro and micro regions in the year 2009, one can notice that the highest maize yields have been recorded in South Muntenia, Central part, South West Oltenia and West part of Romania where yields have exceeded average yield at country level (Table 6).

Table 5.Maize yield in the period 1990-2009 (kg/ha)

Specification	1990	1995	2000	2005	2009	2009/1990 %
National average	2,756	3,184	1,603	3,951	3,409	123.69
Private sector	3,082	3,176	1,612	3,950	3,409	110.60
Share of private sector in national average	118.82	99.74	100.56	99.94	100.00	84.16

Source:National Institute for Statistics, 2010, Own calculations.

Table 6. Maize yield by Romania's macro and micro-regions in the year 2009

Specification	Maize yield (kg/ha)	Share of macro/micro region in national average (%)
National average	3,409	100.00
M1	3,584	105.13
-NW	3,429	100.58
-Centre	3,826	112.23
M2	2,928	85.89
-N-E	3,399	99.70
-S-E	2,451	71.89
M3	3,803	111.55
-S.Muntenia	3,824	112.17
-Bucharest-Ilfov	2,959	86.79
M4	3,670	107.65
-SW Oltenia	3,801	111.49
-W	3,498	102.61

Source:National Institute for Statistics, 2010, Own calculations.

Maize grain production has increased by 17.08 % in the period 1990-2009, from 6,809.6 thousand tinnes in 1990 to 7,973.3 thousand tnnes in 2009. This was due mainly to the increased maize yield. Mauze

production produced in the private sector has deeply increased, by 55.73 % in the same analyzed period, from 5,100.3 thousand tonnes in 1990 to 7,9428 thousand tonnes in 2009.

The share of maize production in cereal production increased by 35.18 % from 39.65 % in 1990 to 53.60 % in 2009 (Table 7).

Table 7. Maize production (thousand tonnes)

Specification	1990	1995	2000	2005	2009	2009/1990 %
Maize production, of which:	6,809.6	9,923.1	4,897.6	10,388.5	7,973.3	117.08
Private sector	5,100.3	9,195.7	4,649.9	10,276.4	7,942.8	155.73
Share of private sector in maize production (%)	74.89	92.66	94.94	98.92	99.61	133.00
Cereal production	17,173.5	19,882.8	10,477.5	19,345.5	14,873.0	86.60
Share of maize production in cereal production (%)	39.65	49.90	46.74	53.69	53.60	135.18

Source:National Institute for Statistics, 2010, Own calculations.

According to FAO Stat Agricultural Statistics, 2007-2008, in 2007, the EY-27 grain maize production counted for 47.5 million tones, which amounts to 18 % of all cereal production. France, Italy, Hungary, Spain, Germany and Romania have favorable areas for producing maize. In 2007, Romania produced 3.9 million tones becoming the 4th biggest producer of grain maize after France (14 million tones), Italy (9.9 million tones) and Hungary (4 million tones) [12].

Distribution of maize grain production in the territory. In general, all the regions give their contribution to maize production, but in the year 2009, the biggest contribution was shown by M2 (31.72 %) and M4 (30.88%) but also by M3 (21.54 %) and M1 (15.84 %).

By micro-region, S Muntenia (21.12 %0, NE (18.51 %), SW Oltenia (18.22 %0, SE (13.21 %) and W area (12.66%) have substantially contributed to maize production (Table 8).

Average purchasing prices for maize grains. Maize purchasing price has continuously increased from Lei 0.31 /kg in 2001 to Lei 0.48 /kg in 2009. Compared to other cereal grains, its purchasing price occupied a middle position among wheat and

barley and two-row barley price. All the variations shown in this table were due to the different demand/offer ratio which was deeply influenced by production and climate change conditions (Table 9).

Table 8. Macro and micro-regions' contribution to maize production in 2009

Specification	Maize production (thousand tonnes)	Share of macro/micro region in maize production (%)
Maize production	7,973,258	100.00
M1	1,263,604	15.84
-NW	735,923	9.22
-Centre	527,681	6.61
M2	2,529,200	31,72
-N-E	1,475,914	18.51
-S-E	1,053,286	13.21
M3	1,717,605	21.54
-S.Muntenia	1,684,462	21.12
-Bucharest-Ilfov	33,143	0.41
M4	2,462,849	30.88
-SW Oltenia	1,453,235	18.22
-W	1,009,614	12.66

Source:National Institute for Statistics, 2010, Own calculations.

Table 9. Average purchasing prices for maize grains in comparison with the other cereal grain prices in the period 2001-2009

Cereal	2001	2002	2003	2004	2005	2006	2007	2008	2009	2009/2001 %
Maize	0.31	0.28	0.46	0.55	0.31	0.30	0.55	0.72	0.48	154.83
Wheat and rye	0.30	0.30	0.51	0.55	0.36	0.34	0.61	0.66	0.47	156.66
Barley and two-row barley	0.25	0.26	0.48	0.53	0.35	0.36	0.59	0.67	0.44	176.00

Maize grain price indices presented in Table 10 reflect the variations from a year to another. As one can see, grain maize prices indices increased by 85.1 % in 2009 compared to price level registered in 2005(Table 10).

In 2007, maize price indices have been 40 % lower compared to 2006 in the Eu-27, while Romania registered 101.9 % reflecting a large variation [8].

Maize grains consumption. Maize grains have multiple uses and consumption has recorded a slight increase. Annually, about 70-80 thousand tones pre-packed maize flour is sold in shops or supermarkets, other 50 thousand tines are used as self consumption in the rural areas, 50-60 thousand tones are used as raw material for breweries, 1 million tones are utilized for animal feeding. Maize flour is successfully used for cooking and transforming it in polenta, which is traditionally consumed in many countries from the Balkans to France (Romania, Bulgaria, Hungary, Italy, Austria, Switzerland, Croatia, Serbia, Ukraine) but also in South America (Brazil, Argentina, Venezuela, Uruguay) and Latin America (Mexico) [4].

Table 10. Price indices for maize grains compared to other cereals, 2004-2009

Seed type	2004	2005	2006	2007	2008	2009
Maize grain price indices	222.8	125.1	102.3	206.6	268.4	185.1
Wheat price indices	209.6	140.3	95.0	169.8	184.8	130.5
Barley and two-row barley price indices	234.3	152.6	101.6	174.7	219.0	156.9

Source:National Institute for Statistics, 2010.

Maize grains trade. Maize grain foreign trade is deeply determined by the ratio between production and consumption and of course by climate conditions. In 2001 and 2004 and mainly in 2007, years characterized by serious droughts, but also by delayed sowings and spring floods, Romania was obliged to import maize grains. In the years 2005 and 2006 and also in 2011, Romania had the chance to export more maize grains with a favorable impact on maize trade balance. Because of the attractive world maize grain price, Romania's maize exports have been developing faster during the last 10 years. In 2007, Romania imported the highest amount of maize grains but a part of it was re-exported [9].

CONCLUSIONS

Maize crop has registered a positive evolution regarding production performance positionning Romania on the top position in the EU-27 and among the biggest producers in the world.
The favorable world price for maize grains could be an incentive for Romanian farmers to extend the cultivated surface with maize and apply modern technologies in order to carry out higher yield and production.
The domestic maize production could easily cover consumption requirements as long as

Romania is able to produce additional amounts for export.
Maize crop is an efficient crop due to its low inputs and production cost and also could increase farmers's income by selling more maize grains in the EU and intrenational market.

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LEADERSHIP AND TURNAROUND MANAGEMENT CONCEPTS APPLIED IN THE AGRIBUSINESS ENVIRONMENT IN ROMANIA

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Abstract

Most of the times Romanian businessmen operating in agriculture make wrong use of the terms "leadership" and "management", going further, most of them do not differentiate very well when considering the types of management they actually use. The main objective is to point out the current status in the field and establish appropriate boundaries, as well as to draw attention over the benefits that leadership and turnaround management may bring about for both the business environment for the near future through the development of an explorative study based on a complex survey. Results have shown that the Romanian agribusiness environment is going through serious changes and is trying to apply concepts that are relatively new for it so that it may catch up with the trends in the region and EU overall as respect to running businesses during financial crisis times.

Keywords: *leadership, turnaround management, agribusiness, financial crisis*

INTRODUCTION

Leadership is a very rich word. It represents how a single person can motivate a group of people to act towards achieving a common goal. In business – either we are referring to cars, clothes, furniture, constructions, agriculture, etc. – leadership is linked directly to performance. Effective leaders are those who increase the profitability of the business they run.

Turnaround management is a tough practice and it depends mostly on the leadership skills of the manager and the available organizational framework in order to engage in attaining achievements and being effective.

In agriculture, agribusiness is a broad expression for the a range of businesses involved in food production, farming, seed supply, agrichemicals, farm machinery, wholesale and distribution, processing, marketing, and retail sales.

Within the agriculture industry, agribusiness is extensively used merely as a suitable link of agriculture and business, referring to the range of activities and disciplines included by modern food production.

MATERIAL AND METHOD

The research is structured in two major parts – literature review and the applicative questionnaire research. The research considered 220 businesses from the agribusiness environment in Romania to which questionnaires applied in order to evaluate the extent to which their leaders/managers/administrators possess the know-how needed to face the current economic turmoil. The survey sample is considered to be representative for the population targeted. Respondents were asked to answer a number of questions revealing their personal knowledge, their operating style and their willingness to stay up to date with the progress in their field of work.

The questionnaire included both opened and closed questions, multiple choice questions and eliminatory questions and included four sections: general data, knowledge evaluation on the research topics, evaluation section on the type of leaders they are and an evaluation section on the willingness to stay up to date with the progress in the specific field of work. Each questionnaire was then filled out by a decision maker – respondent within an

agribusiness profile company/association/ NGO.

The hypothesis proposed for testing were the following:

1. Romanian agribusiness top management includes more managers than leaders;
2. most people in Romanian agribusiness tend not to know what turnaround management is;
3. less than 50% Romanian agribusiness managers have the have specialized studies;
4. less than 25% Romanian agribusiness managers are interested in staying up to date;
5. the EU, the Romanian Government, NGOs are offering specialized support to run agribusinesses in harsh times of financial crisis;
6. Romanian agribusiness is progressing – with small steps.

The materials used in performing the theoretical part of this research is represented by specialized literature – books, articles, handbooks, legislative frameworks, etc.. Beside these resources databases that contain official census information were accessed. For the data processing and analysis JMP Statistics, First Bayes, GGUM 2004, and Ms Office 2010 Excel were used for the quantitative and qualitative statistical analysis. For the questionnaire design Ms Office 2010 Word was used.

RESULTS AND DISCUSSIONS

Over time numerous definitions and theories have been developed in order establish what leadership is. The overall resemblances gathered by all definitions wrap up the concept through two ideas, namely persuasion attempt and power to encourage attaining goals [7].

There were a lot of studies performed by scholars in the past few decades whose sole purpose was to capture the core of leadership [1].

The meaning of leadership is complex and includes many dimensions. For some people, leadership is a trait or ability, for others it is a skill or behaviour, and for others it is a relationship or process.

In the 1980^s leadership researchers determined that "leadership is simply doing the right thing to achieve excellence".

Management, as a practical, everyday activity, originated as far back as man in his hunter-gatherer phase, organizing effective ways of achieving collective goals in a highly coordinated manner.

About turnaround management, scholar Stanley Goodman stated: "A turnaround is to produce a noticeable and endurable improvement in performance, to turnaround the trend of results from down to up, from not good enough to clearly better, from underachieving to acceptable, to losing to winning" [3].

Turnaround management process aims at acknowledging that the business is distressed or operating below expectations. This in turn may result in loss of prestige, goodwill and credit lines. Clients and staff may tend to find other options if formal signals of distress become public. So it is preferable to apply turnaround management on an earlier-stage, for a higher flexibility rate and a greater chance of success.

The turnaround starts with a diagnostic assessment that is supposed to determine the actual position of the business from a strategic, operational and financial perception. This assessment involves impartial analytical and technical skills combined with practice. The manner in which the assessment is undertaken is important as it impacts the quality of information acquired and the chances for a successful turnaround. The relation with the employees is vital and through good communication a broad picture of the business is attained. Especially in times of crisis employees show fear and this is one of the elements that have to be counteracted. The turnaround manager must ensure trust and a truthful and accurate flow of information. A blend of solid influence skills that can only come with experience in "steering the ship" is required as the relationship between all concerned becomes dominant.

One of the most important functional areas in a turnaround is differentiating between critical

from non-critical processes so that the decisions taken use best the scarce resources, often representing the difference between success and liquidation.

In simplifying structures the turnaround management undertakes a commitment to change. Following through on responsibility and performance the turnaround plan is thought out to be successful. Communication during change is imperative and the risk of having misunderstandings has to be prevented.

In troubled circumstances, rescheduling or reorganization of debt and attraction of new capital is involved. The turnaround professional, negotiator and visionary, must show not only exceptional analytical and technical skills, but the ability to negotiate sustainable agreements. Change is not supposed to be seen as an ending point. This has to be a cyclic element made durable by the turnaround manager through a clear understanding of direction involving employee engagement and communication, measurable deliverables, taking into account any financial constraints, pressure on working capital, and difficult financial-economic and political times. A steady environment allows for mistakes and longer cycles to achieve goals. Distressed businesses show two main goals, that to survive and to improve. Following this analytic phase, the transition can begin towards a successful turnaround.

Businesses often get into distress because management postpones when it comes to making decisions. If the decision is made by evasion, it is similar to making no decision at all. Survival also depends upon being abrupt in making opportune decisions. Making a wrong decision means drive and direction. If a decision turns out to be wrong, this can be changed, adapted on the way.

Time is also a central aspect when it comes to authority. In a stable business, there is time to delegate and encourage growth of the management; there is time to work on long-term concerns and projects. In the distressed condition assigning takes on a different title. Managers by nature of their position are held accountable not only for performance, but for timely results, and as main decision-makers they are directly involved.

In a stable situation there is time to develop ability. But at a distressed business, one must exploit the abilities of those who can perform and convert the ability that is deficient. It means building a permanent management team capable to bring the business back to health and add value to it.

Turnaround managers and turnaround leaders are most often managers with reach professional experience, who have worked their way up the corporate ladder through hard work and fair play, and who have created themselves a solid management reputation. They have also established a set of talents to lever problem solving, with minimal resources, and scarce cash flow management, negotiating and dealing with bankers, investors and creditors.

Where stability is important in a steady environment, uncertainty is the core of a turnaround situation. The ability to deal with change at a rapid pace is critical. The existing leadership is often "out of its element" as it enters these periods of distress.

The turnaround specialist, on the other hand, is a hands-on decision maker who actually takes control of the business. He is in control of the business's purpose. He must know how to be decisive, know how to segregate the difficulties and find solutions.

When in crisis there is no time for preparation. Just as with that patient in intensive care, the longer a business is on the critical list, the harder it is to nurse it back to vigour. To perform rehabilitation, the turnaround specialist will know how to make the quick and suitable decisions put a plan into action and keep a talented team moving towards a strong and more valuable goal.

We are living in modern times. Business has to adapt, especially considering that most of the advancements were designed for it. From the computer that occupied one whole room to the modern personal computer; from simple accounting software to the complex ERP systems we can only conclude that change is part of live and business.

But when we thing to turnaround our business, most people would still think of technological or financial related measures. We propose to go to the third dimension of the business, respectively to the human resources. Turnaround management is extreme change management, and what better way to implement change management than to change the management before considering investing in any other measures. We make this proposal assuming the fact that the current management of the business has already applied all possible measures and performed all conceivable approaches to eliminate the source of troubles, still without success. [5]

The early development of turnaround usually involves a concentration of power that transforms into discipline and focus. Nonetheless, after the crisis has been stopped the most appropriate structure for a fast growing business is usually decentralized because it focuses growth where the market signals.

Successful turnarounds are based on a competitive management, a healthy economic cycle, a competitive environment, innovation and government support. Also, elements that come to support the turnaround achievement relate to geographic decentralisation, centralized functionality and product/service diversification.

Professionals believe that for the proper implementation of turnaround management it is vital for the management to be aware of its position in the industry in which it is functioning as also its status in the overall business environment. Also it is considered that turnaround is best applied when an outsider intervenes. The process of a turnaround requires a fundamental transformation in the way the internal and external settings are regarded and replied to by employees and management. Every so often, it is an outsider who holds the best position to lead this forced change and identify: inaccurate assumptions that led to the business failure, mental barriers to optimum solutions that caused the financial needs, counterproductive management styles

and conducts of individuals, interdepartmental conflicts, real character of employees toward the company and their enthusiasm to take an active part in the turnaround process.

In a turnaround situation, major changes need to be done and implementation of the plans is essential. Also for the establishment of effective plans unfiltered information is a basic requirement.

Agribusiness is a broad concept used to describe corporate agricultural enterprises individually and collectively. Agribusinesses are companies involved in one or more stages of the production of crops and livestock.

The agribusiness approach is a method of examining farming problems in a new and more comprehensive setting. One benefit from this approach has been the release of workers—farm manpower—from agriculture for employment in new nonfarm occupations—including the armed forces during wars. This has resulted in tremendous economic growth and development and an improved standard of living.

One prominent feature of agribusiness is its continuous pursuit of new technologies. Well-known examples include the use of satellite-based global positioning systems to closely manage crop lands and computer systems to manage various parts of the business. These technologies boost agricultural efficiency by reducing wasted resources, saving time, and improving output.

Crop agriculture, in particular, has turned to such high-tech solutions to develop what is known as precision or site-specific farming methods. These methods involve systematically testing crop fields for variations in fertility and soil composition. The data are then stored in a computer, and, using GPS equipment on the farm machinery, the on-board computer can then determine where in the fields to allocate seed and fertilizer to maximize yield and minimize waste.

Moreover, research and development projects are conducted in agribusiness to find new technologies and to better use existing ones. Important R&D work includes developing genetically engineered crops, improving the pest resistance of crops, using biotechnology

in agriculture, and formulating new agricultural pharmaceuticals and chemicals. Despite considerable government and university backing for agribusiness research, the majority of this research is funded by the private sector.

The agribusiness farmer must have a good education to be successful. Agribusiness requires knowledge of business, markets, agronomy, and mechanics as well as farming.

While the demand for traditional agricultural economics is diminishing, there is a growing need for the economics and management of the food sector and the environment.

The demand for agribusiness was induced by two factors, one direct and one indirect. First, as more and more value-added activities moved off the farm, the size of food processing and agricultural input sectors increased. In addition, the emergence of biotechnology and precision farming created expanded research possibilities in the field.

To become competitive many farms in Romania need to enlarge. [4] This implies also that land and labour markets should function better in order to foster restructuring of agriculture. This observation can be made for almost all Candidate Countries. In addition, measures should be undertaken in Romania to reduce market transaction costs, and there is also a need for small-scale farmers to seek off-farm jobs for supplementing their income.

Future perspectives for agricultural income have to be seen with respect to opportunities and risks. [2] Among the opportunities are land market liberalization that could contribute to the growth of farm size, with implications for increased incomes; the EU funding programs that could facilitate investments in agriculture and the creation of non-agricultural income opportunities in rural areas; macroeconomic stabilization that would assure new jobs for young people, including the rural labour force, and reduce over employment in agriculture. [6] Finally the increase of agricultural product prices on both world and domestic markets, which might also contribute to a higher income level.

CONCLUSIONS

A turnaround plan is a "back to basics," market-responsive approach that is designed to achieve high impact, short-term results. A business may only have one chance to regain credibility with its employees, clients, and creditors.

For that reason, maximum effort must be focused on the opportunity.

If the plan succeeds, then many good people get to keep their jobs and the business remains feasible.

If the plan is not carefully thought-out and implemented, the turnaround may fail and reorganization may be the foreseeable consequence.

The statistical hypothesis testing performed has confirmed the following:
- less than 50% of managers in agribusiness have little or no knowledge on leadership;
- less than 30% of managers in agribusiness have little or no knowledge on turnaround management;
- less than 30% of managers in agribusiness have little knowledge on agribusiness;
- less than 50% Romanian agribusiness managers have the have specialized studies;
- less than 25% Romanian agribusiness managers are interested in staying up to date;
- Romanian agribusiness top management is run by more managers than leaders;
- there is a direct link between success in agribusiness and leadership & turnaround management know-how;
- actualized knowledge is a critical need under the current economic context
- the EU, the Romanian Government, NGOs are offering specialized support to run agribusinesses in harsh times of financial;
- Romanian agribusiness is progressing and a positive trend in the development of the Romanian agribusiness has been observed for the past 3 years;
- the data revealed the need for specialized know-how in restructuring the agribusiness to best face the negative effects of the financial crisis;
- application of the two concepts presented under the herein represent opportunities for

the development of the Romanian agriculture and especially to the success of the agribusiness industry, supporting the overcoming of the negative effects of the financial crisis.

The Romanian agribusiness environment is going through serious changes and is trying to apply concepts that are relatively new for it and to catch up with the trends in our region and EU overall as respect to running businesses during financial crisis times.

The material presented in this article offers a brief view of the research thesis developed by the author in order to finalize the Master program of Business Economics and Management under MAICh – CIHEAM.

This is not an exhaustive study and any of the concepts debated under the herein may subsequently be analysed under different study cases – depending on location, industry, political or economic context.

ACKNOWLEDGEMENTS

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EVOLUTIONARY ASPECTS OF THE POPULATION OF THE REPUBLIC OF MOLDOVA

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Abstract

The purpose of this investigation consists in elucidating the evolutionary tendencies of the population of the Republic of Moldova from the standpoint of quantitative-structural parameters. The used methodological tools included analysis, synthesis, generalization, concretization, etc. As a result of this study, we emphasized a series of positive aspects in the evolution of Moldova's population, such as a stabilization in the last decade of the ratio between the rural and urban population and an also increase in the ratio of masculinity. Concomitantly, we remarked a continuous tendency of the country's population ageing accompanied by a demographic increase in the ratio of elderly people. The main conclusion of our research consists in the necessity to continue different state actions oriented towards the economic and social development, especially, of the rural areas of the Republic of Moldova, as they suffer the most because of negative demographic phenomena.

Keywords: Ageing, Demographic dependency, Masculinity, Population

INTRODUCTION

The concern of each state for its economic prosperity is inextricably connected to the permanent remedy of population evolution. As a confirmation of our affirmation we'll cite the words of the famous Rafael Salas, the Executive Director (1969-1987) of the United Nations Population Fund: „As effective development depends on the good knowledge of natural and other resources, so development planning depends on the good knowledge of population structure, growth and movement (May 21, 1975)" [1].

As a result of the synthesis of conceptual approaches, we stated that the population is defined as a community of people living in a particular geographic area [3], or, according to Romanian Explanatory Dictionary, as all the inhabitants of a country, region etc. The population is also described as a social subsystem represented by the number of inhabitants, their density, age and sex structure, birth and death rate, migration etc., characteristics that determine the specific features of a society and its development

potential. Thus, we can conclude on the importance of assessing the mentioned characteristics, as it is the first step in optimizing the policies of economic and social development.

MATERIAL AND METHOD

As material for this investigation, the authors studied a series of methodological reflections on population issues presented by: the guidebook «Population. Definitions and indicators" translated and adapted by „Population Handbook", reports on the issues of Moldova's population presented in „Republic of Moldova Population Green Book", statistical data on the evolution of the Republic of Moldova population which have been systemized in the Statistical Yearbook the Republic of Moldova (2010).

The methodological tools used in this investigation included the analysis of theoretical concepts on the investigated subject, as well as the results of studies mentioned above, researches on the evolution of Moldova's population from the standpoint

of certain quantitative and structural indicators, formation of own conclusions and judgments on current features and trends in population development.

RESULTS AND DISCUSSIONS

Along with other quantitative-structural aspects of population development, its evolution by areas, age and sex groups can be considered, certainly, very relevant.
Referring to the ratio between urban and rural areas worldwide, we observed, in the last decades of the XXth century, a trend of increasing urbanization, trend which continues to shape at present. The main factors of the mentioned trend are the following:
- High degree of industrialization in developed countries, especially the development of processing industries which are concentrated in urban areas;
- Modernization of agriculture and thus increased availability of a greater part of the population employed in this sector, followed by further employment in work activities performed in cities;
- Increasing absorption of the labour force by the service sector as a consequence of technical-scientific revolution [2].
Referring to the *evolution of the Republic of Moldova population by areas* [4] we can mention the following fact: during several decades, it has been noticed a marked migration of the rural population in urban areas. Thus, if in 1956, 77,7 % of the population lived in rural areas, in 2010, the village population constituted only 58,6% of the total country's population (table 1). At the same time, it was remarked a certain stabilization of the migratory process since 2000.
Even if the trend of rural population reduction in the Republic of Moldova is lower than the average of this process worldwide, it would be wrong to underestimate the exodus of rural population upon the following terms:
-Agriculture is the main economic branch in the Republic of Moldova, and currently there is a shortage of labour force in this sector;

- The exodus of rural population, though not as pronounced as worldwide, isn't accompanied by the transfer of labour force in other spheres of activity, but it is determined by the emigration of a growing number of people abroad to work illegally.

Table 1. Dynamics of the Republic of Moldova population by areas

A	Number of population, thousand inhabitants			In % out of total	
	total	urban	rural	urban	rural
A	1	2	3	4	5
1959	2884,5	642,3	2242,2	22,3	77,7
1970	3568,9	1130,1	2438,8	31,7	68,3
1979	3949,8	1532,9	2416,9	38,8	61,2
1989	4335,4	2020,1	2315,3	46,6	53,4
1996	4331,9	1987,6	2344,3	45,9	54,1
2000	3644,1	1514,2	2129,9	41,5	58,5
2001	3635,1	1486,4	2148,7	40,9	59,1
2002	3627,8	1485,2	2142,6	40,9	59,1
2003	3618,3	1484,1	2134,2	41,0	59,0
2004	3607,4	1477,9	2129,5	41,0	59,0
2005	3600,4	1476,0	2124,4	41,0	59,0
2006	3589,9	1469,8	2120,1	40,9	59,1
2007	3581,1	1478,0	2103,1	41,3	58,7
2008	3572,7	1476,1	2096,6	41,3	58,7
2009	3567,5	1476,1	2091,4	41,4	58,6
2010	3563,7	1476,1	2087,0	41,4	58,6

The maintenance of population in rural areas represents a problem with many variables and its solution implies a comprehensive approach including all aspects of life and work in villages.
Another important characteristic of population can be found in its classification by age groups. People in different countries vary by age. The population, in developing countries, is relatively young and this phenomenon is opposite in developed countries. Thus, while the population of Africa can be characterized by a high proportion of children and young people, most European countries have an ageing population, which is primarily represented by people of older age.
The proportion of age groups in the population structure is directly reflected in the proportion of the working-age, and thus,

employed population, the percentage of school age children, needs of certain goods, consumer preferences, necessary volume of certain services (including social assistance) etc. All these facts confirm the significance to investigate the population from the standpoint of this characteristic.

The assessment of population by age groups can be done with the help of the following indicators: *median age, mean age and age dependency ratio [1].*

The median age is the age that divides the population into two numerically equal groups: half the people are younger than this age and half are older.

The mean age is the mathematical average age of all the members of a population and it can be determined using the following formula:

$$\bar{X} = \frac{\sum(x+0.5)*Px}{\sum Px}, \text{ where:}$$

$\bar{X}$ - mean age;

Px –number of population of x age;

0,5 - half of the year considered as the average equivalent of age deviation from the exact date of reaching a certain age.

As a result of examining the evolution of median age of Moldova's population in the period 2002-2010 (figure 1), it has been noticed an ascending trend of this one: from 33,88 years in 2002, to 35,99 years in 2010.
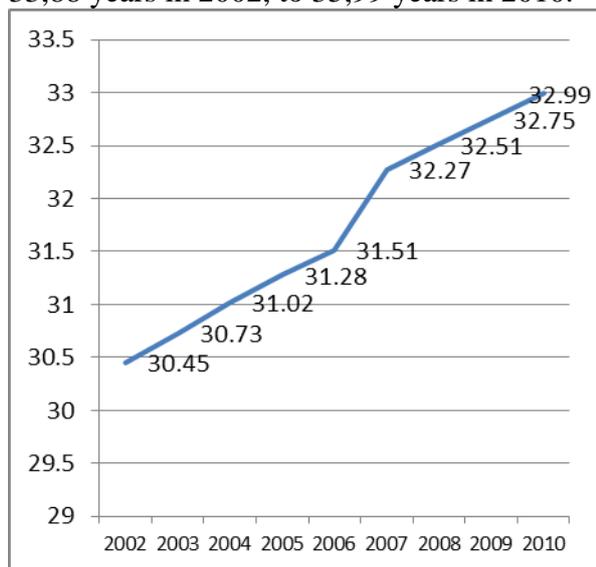

Fig.1. The evolution of median age of the Republic of Moldova population in the period 2002-2010

A similar trend was noticed in the evolution of mean age of Moldova's population (figure 2). Consequently, the mean age in 2010

exceeds the mean age in 2002 more than 2 years. The increase of the mean age represents in itself an evidence of country's population ageing.
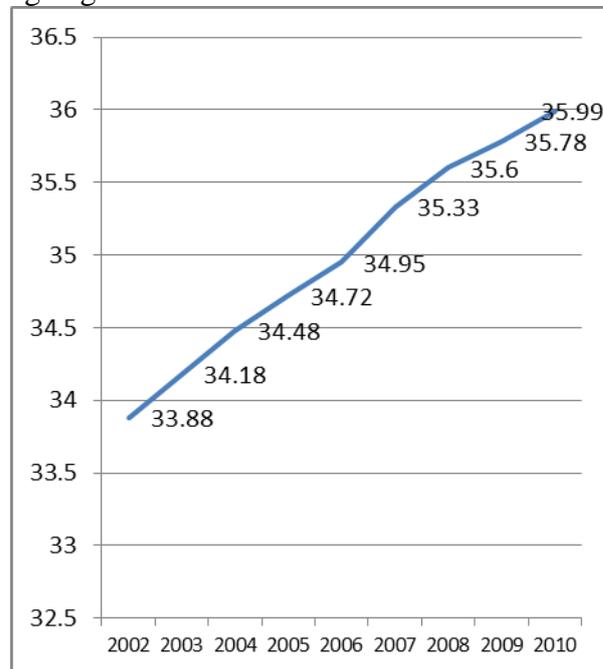

Fig.2. The evolution of mean age of the Republic of Moldova population in the   period 2002-2010

Age dependency ratio is the proportion between the number of „dependent" age people and the working-age population. According to the methodology exposed in „Population Handbook", dependent people are considered the children under 15 years and people older than 64 years, while the working-age population is considered the one aged between 15-64 years. In the absence of more detailed data to calculate the economic dependency ratio, it is used the age dependency ratio as indicator of the economic burden of productive population, despite the fact that a part of „dependent" age people is productive and a certain number of older working-age population is supported by other persons. As a rule, the highest age dependency ratios are recorded in the countries with a high birth rate, as a consequence of a greater share of children in the total population number.

After examining the data expressed in table 2, we can conclude that in the Republic of Moldova there is a continuous reduction of the average age dependency ratio. But, as a

result of a separate assessment of children and older people age dependency ratio, it can be highlighted the dynamic reduction of children age dependency rate, while older people age dependency ratio remained practically at the same level in the period 2002-2010. This fact confirms the previous conclusion regarding the trend of country's population ageing phenomenon and thus, of birth rate decrease.

Table 2. The evolution of demographic dependency indicators of Moldova's population in the period 2002-2010, determined according to the method proposed by „Population Handbook"

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total number of older working-age population, persons	2490861	2514650	2538807	2561173	2578953	2562110	2575848	2592561	2607398
Total number of older dependent population, persons	1136951	1103662	1068628	1039263	1010983	1019000	996855	974951	956297
including:									
Persons under 15 years	787843	750183	713240	683673	657876	650385	627860	609421	595496
Persons after 64 years	349108	353479	355388	355590	353107	368615	368995	365530	360801
Average age dependency ratio, %	45,64	43,89	42,09	40,58	39,20	39,77	38,70	37,61	36,68
Children age dependency ratio, %	31,63	29,83	28,09	26,69	25,51	25,38	24,37	23,51	22,84
Older people age dependency ratio, %	14,02	14,06	14,00	13,88	13,69	14,39	14,33	14,10	13,84

Thus, according to the calculation method proposed by „Population Handbook", the average age dependency ratio in the Republic of Moldova, in 2010, reached the level of 36,68%. According to the method used by local specialists, in order to determine the mentioned indicator, there has been made a ratio of the number of children under 15 years and people after 60 years to the number of people aged between 15 and 60 years. Therefore, in 2010, it was obtained an average age dependency ratio of 44,41% (by 7,73 percentage points higher than compared with the result calculated according to the method proposed in „Population Handbook"). Children age dependency ratio is 24,13%, and the one of older people – 20,28%.

The evolution of indicators of age dependency ratio, determined according to the methodology used in the Republic of Moldova, by local specialists is expressed in table 3.
According to data presented in table 3 we can conclude that the average age dependency ratio and children age dependency ratio pass through a slight reduction in the analyzed period of time, while older people age dependency ratio began to increase since 2006. This deviation from the results presented in table 2 can be explained by the fact that a greater number of people were referred to older people, reducing, at the same time, the number of those indicated in the denominator of calculation formula.

Table 3. The evolution of indicators of age dependency ratio of the Republic of Moldova population, in the period 2002-2010, determined according to the method used by local specialists

Indicators	2002	2004	2006	2008	2010
Total number of older working-age population, persons	2336297	2397157	2456827	2456406	2467821
Total number of older dependent population, persons	1291515	1210278	1133109	1116297	1095874
including:					
Persons under 15 years	787843	713240	657876	627860	595496
Persons after 60 years	503672	497038	475233	488437	500378
Average age dependency ratio, %	55,28	50,49	46,12	45,44	44,41
Children age dependency ratio, %	33,72	29,75	26,78	25,56	24,13
Older people age dependency ratio, %	21,56	20,73	19,34	19,88	20,28

In order to elucidate the evolution of population by sex, along with the comparative numerical dynamics of women and men number, the authors examined the *sex ratio,* which can be determined as the ratio between the number of men and women of a given population and which is usually expressed as the number of men to 100 women (table 4).

Table 4. The evolution of sex ratio in the Republic of Moldova in the period 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total population number, persons	3627812	3618312	3607435	3600436	3589936	3581110	3572703	3567512	3563695
including:									
men	1737551	1733308	1728414	1724841	1719368	1721030	1717459	1714931	1713487
women	1890261	1885004	1879021	1875595	1870568	1860080	1855244	1852581	1850208
Sex ratio	91,92	91,95	91,98	91,96	91,92	92,52	92,57	92,57	92,61

According to data presented in table 4, it can be stated an increase, although unessential, of the sex ratio in the Republic of Moldova and this fact can be classified as a positive one. It is also important to point out that this indicator varies greatly by age groups. Thus, if in the case of the population aged between 0–60 years the sex ratio is of 98 men to 100 women, for the population aged between 60-79 years this indicator is of 68 men to 100 women, and, for the population aged more than 80 years, the sex ratio is only of 46 men to 100 women.

CONCLUSIONS

The study of the population of the Republic of Moldova by average, age and sex groups allowed us to set up the following conclusions:
- The ratio between the rural and urban population is relatively stable in the last 11 years being remarked by an unessential exodus of the population from rural areas. But this fact doesn't exclude the necessity to continue state actions oriented towards the economic and social development of the rural areas in the Republic of Moldova;

- There is a continuous tendency of the country's population ageing;
- The trend of sex ratio increase can be assessed as a positive fact, as well as the trend of the average age dependency ratio reduction. Also, we have to recognize the problem of mass illegal exodus of the working-age population abroad, which proves „de facto" the insufficiency of people representing the human productive potential able to „support" the age groups unable to produce goods.

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ANALYSIS OF WORLD POULTRY MEAT PRODUCTION

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Abstract

The purpose of this paper is to present poultry and broiler meat production worldwide. Given the increased demand of animal protein due to population growth and urbanization, industrialization and integration was necessary to poultry production. This study is based on data from the Food and Agriculture Organization for the period between 2000 and 2010. Decade in which poultry sector was not exempt from a number of issues, such as avian flu epidemic, but also the emergence of global crisis. However, due to lower price and for the fact that is considered a meat diet, world production increased by 46% in the last decade. The world leader is the United States of America, the country introduced in the 1940 intensive industrial system and began selling hybrids.

Key words: poultry meat, broiler meat, world

INTRODUCTION

To satisfy increased demand of animal protein, in the early 1940 United States of America introduced intensive industrial system, which is later taken by the countries in Eastern and Western Europe.[1] Progress made in poultry sector is due evolution and technology innovation in reproduction, growth, processing and trading. Extending artificial incubation, development technique for producing hybrids suitable for industrial growth, sanitary-veterinary prophylaxis, growth technologies harmonization and applying principle of "all full - all empty" as industrialization and integration of production have resulted in increased production of meat and eggs.[2] Genetic selection made possible the appearance of 2.5 kg broiler's after only 39 - 42 days with a feed conversion ratio of 1.6 kg / kg body weight.[3] Increase of the poultry meat production was made possible by world population growt and economic development, especially in developing countries.[4] The purpose of this paper is to present poultry and broiler meat production worldwide and the factors that have acted.

MATERIAL AND METHOD

The analysis is based on bibliographic data as well as those provided by the Food and Agriculture Organization for de period between 2000 and 2010. As a method it is used comparison in time method on indixes with fixed base. Comparison of spatial takes into account production analysis in major producing countries.

RESULTS AND DISCUSSIONS

Because population growth which reach in 2011 at 7 billiards and urbanization have increased the demand of food. Considering that people from cities have higher revenues, they become only consumers, unlike those from rural areas which produce and consume at the same time.

In the last decade poultry sector was not exempt from problems, such as avian flu epidemic which burst in Asia in 2003 and reached Europe in 2005, causing a series of negative effects as: reducing the poultry flocks due to deaths, slaughter and lower prices. Since 2008 feed price increased due to factors sums such as: outbreak of the global crisis, biofuel production but also weather conditions in the grain producing regions.

Despite all these problems poultry meat did well taking advantage of the consumer's trend to replace red meat with white meat, a fact that this kind of meat doesn't have religious prohibitions, but also because of lower price compared with beef or pork, which makes it accessible to all social categories.

Table 1. Evolution of meat production worldwide (thousands tones)

Specification	2000	2005	2009	2010	2010/2000 (%)
Total meat	234077	261129	285275	292679	125,0
Poultry meat	68597	80847	94203	97942	142,8
Broiler meat	58698	70208	82511	86064	146,6
% fowl meat	29,3	31,0	33,0	33,5	114,3
% broiler meat	85,5	86,8	87,6	87,9	102,8

Source: F.A.O. 2012 [5]

If we analyze in dynamic evolution of the all species meat production worldwide (table number1, figure 1) it shows that it have been increased between 2000 and 2010 by 25% from 234077 thousand tones in 2000 at 292670 thousand tones in 2010. Worldwide poultry meat production between same period recorded a bigger increase of 42.8%, from 68587 thousand tones in 2000 at 97942 thousand tones in 2010. Worldwide broiler meat production increased with 46.6% being close to the production of fowl meat.

Poultry meat production represents 32% of all meat production. Broiler meat production represents of 87% of all poultry meat production, the rest comes from turkey and others like: web-footed, quail and lately ostrich.
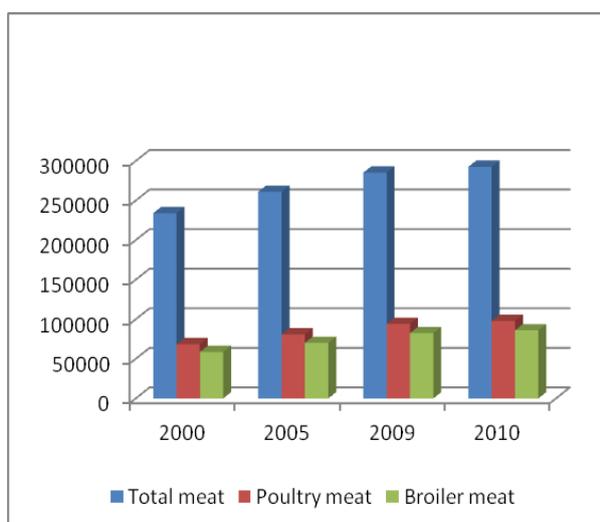
Table 2. Continents evolution of broiler meat production (thousands tones)

Specification	2000	2005	2009	2010
Africa	2780	3371	4156	4369
Asia	18644	22492	27232	28657
North America	14848	17041	17370	18019
South America	9489	11978	15377	16158
Europe	9387	10711	13410	13764
European Union	8179	8522	9666	9688
Oceania	732	939	988	1048
Total world	58698	70208	82511	86064

Source: F.A.O. 2012 [5]

If we analyze in dynamic evolution of broiler meat production by continent (table 2, figure 2) we notice a continuous growth, but uneven territorial. In 2010 the main producing broiler meat is Asia with 28657 thousand tones, followed by North America with 18019 thousand tones, South America with 16158 thousand tones and Europe with 13764 thousand tones. In 2000 the situation was similar but the difference between Asia and North America and also South America and Europe was much smaller.
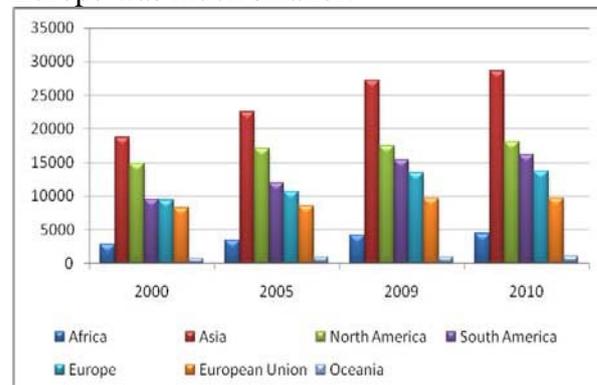

Fig.1.Evolution of meat production worldwide

Fig.2. Evolution of broiler meat production by continents

Table 3. Fixed base indexes of broiler meat production by continents (%)

Specification	2005/2000	2009/2000	2010/2000
Africa	121,2	149,4	157.2
Asia	120,6	146,1	153.7
North America	114,7	116,9	121.3
South America	126,2	162,0	170.3
Europe	114,1	142,8	146.6
European Union	104,2	118,2	118.4
Oceania	128,3	134,9	143.2
Total world	119,6	140,6	146.6

Source: own calculation based on statistical data

Analyzing the fixed base indexes of broiler meat production (table number 3) we can observe that worldwide, production increased compared with 2000 by 19.6% in 2005; by 40.6% in 2009 and by 46.6% in 2010. It shows that compared with 2000 in 2005 the biggest growth is in Oceania, and in 2009 and 2010 the biggest growth is in South America. In North America in 2005, 2009, 2010 compared with 2000 we can observe the lowest increase by 14.7%, 16.9% and 21.3%.

Table 4. Evolution of broiler meat production in major producing countries (thousands tones)

Specification	2000	2005	2009	2010
S.U.A.	13944	16041	16334	16971
China	9064	9965	11442	11853
Brazil	5981	7876	9940	10693
France	1242	620	1069	1103
United Kingdom	1215	1334	1463	1379
Rusia	755	1346	2313	2533

Source: F.A.O. 2012 [5]

Analyzing major broiler meat producing countries of the world (table number 4) we can observe that United States of America is world leader in 2000 as well as in 2010, but the percentage of broiler production is decreasing from 23.7% in 2000 to 19.7% in 2010. Second place worldwide is taken by China which production increased by 30.7% in the last decade. The third places are taken by Brazil with a growth of 78.8%.

As you can see the fist and the third place are taken by countries that are on American continent, United States of America and Brazil. Poultry meat production in these countries is very high considering high consumption of broiler meat, due to price competitiveness. But we don't have to omit high production of grains (genetic modify grains that are not allowed in European Union) and lower pressure from animal protection organizations, special Brazil compared with United States of America and in special European Union.

Second place is taken by China, where due to large population, the Government applied growth production measures.

The next broiler meat producing countries, at very big differences of world's leaders are European countries as Russia, United Kingdom and France. The last two countries are members of European Union where poultry meat production was influenced by increase of feed but also by the more stringent new rules of animal welfare applied.

You can see that in the last decade all the major broiler meat production countries are increasing their production except France.

Table 5. Fixed base indexes of broiler meat production by countries

Specification	2005/2000	2009/2000	2010/2000
S.U.A.	115,0	117,1	121.7
China	109,9	126,2	130.7
Brazil	131,7	166,2	178.8
France	49,9	86	88.8
United Kingdom	109,7	120,4	113.5
Russia	178,3	306,3	335.5

Source: own calculation based on statistical data

Analyzing fixed base indexes of countries broiler meat production (table number 5) we can see that compared to 2000 in France the production is decreasing, by 50.1% in 2005, by 14% in 2009 and by 11.2% in 2010. We can observe that France is recovering after 2009 but not enough to achieve 2000 broiler meat production.

Russia is the country where the biggest growth compared with 2000 it's visible, by 78.3% in 2005, by 206.3% in 2009 and by 235.5% in 2010. Based on this increase the FOA-OCDE and FAPRI prediction will make Russia from a major importer of poultry meat will become an important exporter.

Significant production increases we can see in Brazil, while in United States of America we can see the smallest increases of production.

CONCLUSIONS

World poultry meat production increased by 46% while world meat production increased by 25%. Poultry meat production increase it's due people trend to consume this kind of meat considered more dietetic, but also because it's cheaper which is increasing attractiveness.

The main broiler production worldwide region is Asia which is represented by China.

Poultry production leader of worldwide is United States of America considering that was the first country that introduced intensive industrial system and began selling hybrids

Third place is taken by Brazil because of the competitiveness given by huge production of grains at low costs but also because of favorable climate which allows breeding in cheap shelters.

France is the country where we can notice a production drop by 50.1% in 2005 compared with 2000.

In Russia we can notice the biggest increase of production in the last decade, and FOA-OCDE and FAPRI prediction is that Russia from a major importer of poultry meat will become an important exporter.

ACKNOWLEDGEMENTS

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ANALYSIS OF AVERAGE PRICE PURCHASE FOR POULTRY MEAT IN ROMANIA

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Abstract

The purpose of this paper is to analyze average price purchase and volatility for poultry meat in Romania and her regions. Taking in account that price represents a competitive element on the market, which must ensure manufacture's profit. Price volatility may appear because of imbalances in the market. But the poultry sectors will have to comply with still more stringent requirements, without any financial support from the European Union. To determine price volatility the variation coefficient was calculated, using data from on-line Tempo database of National Statistics Institute. After data analysis was notice that in Romania price volatility is low, but on regions level volatility fluctuates. Bucharest - Ilfov are the regions with highest volatility.

Keywords: average price purchaise, volatility, poultry meat

INTRODUCTION

Price represents a competitive element on the market, it express coin quantity which must be paid for buying goods and services from the market.[1] It's necessary that by price level to ensure for manufactures cost covering and profit.[1,2] Lately grains price growth determined a high price volatility which leads to instability on markets [3] and determined price raise to animal products.

Increasing grain price was influenced by a series of factors, like increase of biofuel production encouraged by European Union due to environmental concerns.[3] Another important factor is the high price of oil, taking into account that it represents an important percentage of production cost.

So we can say that increasing grain prices, which represents the main feed for poultry leads to price increase fowl meat.[4]

Poultry sectors do not receive any direct support from the Common Agricultural Policy, have no safety net to alleviate the impact of market volatility and must comply with the most stringent regulations regarding the environment and animal welfare.[5]

So price volatility appears due to imbalances in the market, creates instability and questions the food security of the population, objective of Common Agricultural Policy.[6]

The purpose of this paper is to make an analysis of the average price purchase and volatility for poultry meat in Romania and her regions.

MATERIAL AND METHOD

In this paper the analysis is based on data from the National Institute of Statistics, Tempo database online, for the period between 2008 and 2010. The method used to assess volatility is calculating the coefficient of variation. Coefficient of variation is calculated as the ratio between standard deviation and the arithmetic average and expressed as percentage. The higher this ratio is greater with both increases and price volatility. Standard deviation is calculated using the dispersion.

Standard deviation $(\ )=(\sigma)=\sqrt{\dfrac{\sum\left(x-x^{-}\right)^{2}}{n}}$

Variation coefficient $=\ =\dfrac{\sigma}{x^{-}}\times100$

x= arithmetic average of data string

RESULTS AND DISCUSSIONS

To face global competition, poultry farms in Romania, has to respecting high standards of the animal welfare, the environment and the food quality imposed by the European Union and to have competitive market prices. But on the Romanian market apply measures to stabilize prices on the poultry market because of the European Union Common Agricultural Policy.

Table 1 and figure 1 present evolution of purchase price for poultry meat in Romania.

Table 1: Evolution of purchase price of poultry meat in Romania (lei/kg live weight)

specification	2008	2009	2010	2010/2008 (%)
Romania	3,41	3,47	3,2	93,8

Source: Tempo database online, NIS 2010 [7]

Although since 2008 the global crisis hit you can see that in Romania, price of poultry meat, live weight, between 2008 and 2010 decreased by 6.2 %.(details are shown in table 1, figure 1). We can notice a increase from 3,41 lei/ kg live weight in year 2008 at 3,47 lei/ kg live weight, followed by a decrease at 3,2 lei/ kg live weight. Decreased can be caused by increased imports from European Union countries and not only, at low prices, which requires manufacturers to cut prices in Romania and gained less profit.

Farmers in the poultry sectors are couth between high input prices and low consumer prices, owing to the strong positions of processors, retailers and input companies in the food supply chain, and therefore cannot fully benefit from increased output prices.

Authorities must to ensure that third-country imports comply with European Union animal welfare standards, in order to prevent unfair competition[8].

Tabel 2 present the evolution of average price for moultry meat in regions of Romania. Price variation is important in the production decision and in the calculation of farmer's incomes.

At the regions level of Romania between 2008 and 2010 the purchase average price of poultry meat, live weight, increase in the Centre with 200% and in the South West Oltenia with (23,8%) and decreases in the North East (32.2%), Bucharest Ilfov (29.5), North West (7.1), South East (5.6%), South Muntenia (2.9%),(details are shown in table 2, figure 2).
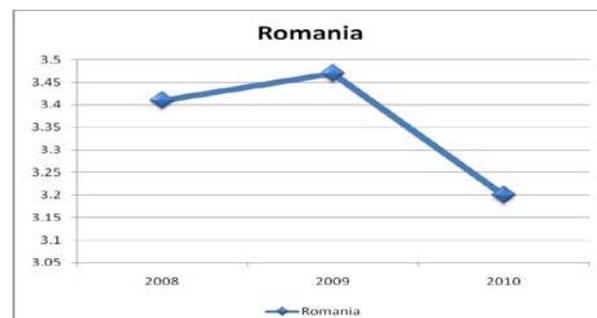

Figure 1. Evolution of purchase price of poultry meat in Romania

Table2: Evolution of the average purchase price for poultry meat in the regions of Romania (lei/kg live weight)

Specification	2008	2009	2010	2010/2008 (%)
North West	3,82		3,55	92,9
North East	6,28	3,38	4,26	67,8
Center	2,25	3,1	6,75	300
South East	3,03	3,22	2,86	94,4
South Wallachia	3,11	3,41	3,02	97,1
South West Oltenia	4,2	4,4	5,2	123,8
Bucharest - Ilfov	3,94	2,94	2,78	70,5

Source: Tempo database online, NIS 2010[7]

The conclusion is that in most regions occurs price drop at the acquisition of poultry meat (live weight).

In the region Centre, the medium price of acquisition for poultry meat, has most increased, but also, it is the region with the lowest consumption of poultry meat.

The region Bucharest-Ilfov has the smallest medium price for acquisition, for poultry meat being the largest consumer of this meat.

Consumption of poultrz meat donţt have a higher variabilitz because this meat dosenţt have religious prohibitions but also because of lower price compared with beef or pork.

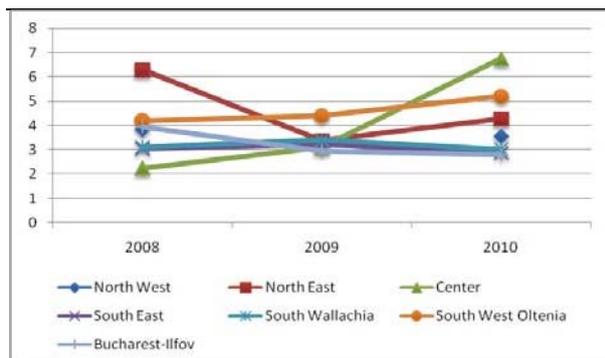But decrease during the holidays, when consumtion of pork is a tradition.

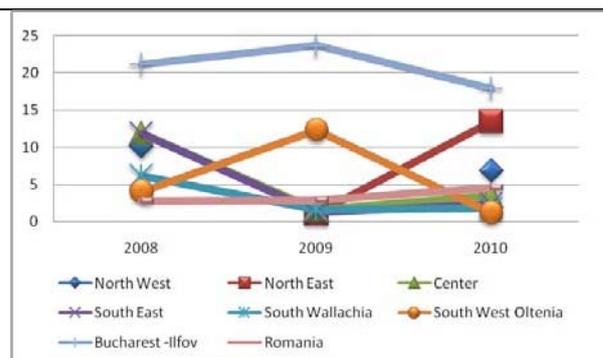Figure 2. Evolution of the average purchase price for poultry meat in the regions of Romania

Figure 3. Variability of prices for poultry meat in regions of Romania

Tabel 3. Variability of prices for poultry meat

Specificare	Coefficient of variation		
	2008	2009	2010
North West	10.07		6.87
North East		1.07	13.43
Center	11.85	1.58	3.44
South East	11.85	1.30	2.37
South Wallachia	6.20	1.61	1.78
South West Oltenia	4.03	12.32	1.18
Bucharest -Ilfov	21.14	23.63	17.89
Romania	2.75	2.84	4.60

Source: Own calculation on the base of data from Tempo on line data base, 2008-2010, NIS

Table 3 present the values of variation coefficient of poultry meat price by regions.

Volatility of purchase price for poultry meat, (live weight), is reduced as the negative transmission which has been achieved indirectly and gradually through variability in feed prices, energy and fuel.

Analyzing the average purchase price volatility in Romania and its regions as table 3 shows the following. In Romania the average purchase price volatility for poultry during this period is low.

In the North West and South regions Muntenia in the period volatility is low and maintained. While the North East region in 2009 volatility is low and in 2010 volatility increases reaching medium. In Central and South East regions decreased volatility is observed from medium in 2008 to low in 2009 and 2010. While the Bucharest Ilfov region in the reviewed period maintain a high volatility. High volatility due to large price fluctuations in the period under review.

CONCLUSIONS

Average purchase price for poultry, live weight, decreased by 6.2% between 2008 and 2010.

The same effect is observed for the average purchase price for poultry, live weight, for most Romania except for: Central and South West Oltenia.

Using the variation coefficient from comparing the price volatility of poultry meat in Romania's regions, we can draw the conclusion that volatility is low, because the negative transmission which has been achieved indirectly and gradually.

But the Bucharest-Ilfov region is high volatility due to price fluctuations in the period under review.

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RESEARCH ON DETERMINATION OF SAFETY INTERVALS PRODUCTION COSTS AND PROFITABILITY FOR POULTRY PRODUCTION OBTAINING A BEST QUALITY FOR HUMAN CONSUMPTION –„YELLOW PROTOCOL"

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Abstract

Poultry sector is the most dynamic and largest investment appetite in Romanian agriculture. Give further modernization process being completed, is to regain foreign markets and ensuring intra and exrtracomunitare domestic consumption of poultry products. In the medium and long term perspective there are new challenges and risks in the production and exploitation of poultry production. Essentially private poultry sector is interested in increasing productivity, lowering production costs, increase profitability, profitable and easy credit. However poultry products must meet quantitative and qualitative human nutrition comfort rules. In this paper are defined and determined by statistical analysis of safety intervals of production costs for poultry and table eggs produced in intensively in Romania. Are also treated uniform rules for determining the poultry farm profitability. Data collected during the four years between 2006 to 2010, so at the poultry farms in the sample selected, and from central and local state institutions are introduced, finally, a Schrödinger type equation, determine a dimensional function values falling production costs in the range of safety, for optimal poultry production for human consumption. Determining such values are used in credit analysis or return on investment projects or lending to achieve production in determining public support necessary to assist and guide production. Last part of the paper offers potential solutions to strengthen internal market poultry, by using the Internet, in a total transparency of the activities for obtaining and processing of poultry products.

Keywords **:** *human nutritional comfort, public support, Schrödinger equation type, range safety*

INTRODUCTION

Romanian agriculture faces a number of problems whose solutions, whether talking about the vegetable or animal husbandry, must be equally a priority. Romania's chance to rebalance the economic, medium and long term, to significantly reduce the economic and social disparities between Romania and other EU member states and restore the image due to the practice of agriculture is advanced, with advanced techniques and technologies, new forms of organizing production and fruitful international cooperation, and to ensure that costs for development and sustainability, for realization of production and agricultural products meet appropriate quality level of comfort human nutrition, in conditions of total transparency of the production process and can be monitored in real time, even by the consumer.[1]

In this context the poultry sector is the most dynamic and largest investment appetite of Romanian agriculture, providing over 30,000 jobs directly and another 100,000 poultry activities in related activities. He invested heavily in creating and upgrading of production capacity in slaughterhouses and processing enterprises. The most common form of organization of industrial poultry production is the vertical integration ensuring easier and faster transfer of technological innovations, performance management and practice of modern business type.[2]

The modernization process is far give be concluded, Taking into account the need for intra-and exrtracomunitare regain foreign markets, ensuring domestic consumption of poultry products. At the same time horizon of

the 2020s, given the new CAP guidelines and there are new challenges and risks in the production and exploitation of poultry production. Essentially private poultry sector is interested in increasing productivity, lowering production costs, and increase profitability, profitable and easy credit.

All this creates a major risk for future human nutrirtional comfort. Contradiction and so far has been buffered by corrective measures slippages due to the peculiarities of activities and products. Good agricultural practices in the sector, welfare measures, inspection and control activities are focused in the technical realization of poultry production in order to comply with human nutritional comfort. The evolution of science and technology substantially modified the definition of this concept and determine a new technological approach and financial economic exploitation birds. [3] This is found on the one hand a growing trend of technology and exploitation of birds and poultry production was the default and on the other hand an evolution and a different approach to financial and economic analysis, financial and credit assessments, guidance production, training and education consumption and agricultural policy. Limitations of biological and biochemical properties of biological material and raw materials (feed, medicines, hormones, stimulators, supplements, etc.), and materials (materials and infrastructure contraction, preservatives, packaging, hygiene and cleaning products, etc.) as and measures traditional agricultural policy and control and supervision mechanisms are not sufficient to guarantee achievement of primary and processed poultry production does not harm in any of nutritionally any human categories. This paper offers two possible solutions to offset any shortfalls generated qualitative effects of market economy and competitive system of production in the poultry sector, the conditions reduce state intervention in this area.

MATERIAL AND METHOD

Were used theoretical concepts taken from several areas (nutrition, physics, mathematics, economics), definitions have been updated to work with and have called on some results on the range safety costs - "Yellow Protocol" and on the other hand how real-time monitoring of processes and the production and processing of poultry products "Hawk Eye". Also defined as poultry production to meet human nutritional comfort, that poultry production providing quantitative and qualitative levels not harmful to human health in any way, made in conditions which contravene the ethical, moral and cultural needs of consumers.Proposed for the study were used data on production costs of operating units and industrialization of poultry in different geographical areas of Romania and of different sizes selected from the database of central and local institutions (MARD, APIA, APDRP, DAJ etc..) who have made major investments for the establishment or modernization of poultry holdings or economic objectives for the processing of poultry in the analyzed period (between 2000 to 2010). Counted units reported as expenditure at different levels to achieve production and its level and degree of recovery. All data collected were organized into a database and were organized series consisting of base rates in the chain as [4]:

$$\begin{pmatrix} T_k \\ R_y^{k/k-1} \end{pmatrix} sau \begin{pmatrix} t_k \\ R_y^{k/k-1} \end{pmatrix}; \quad R_y^{k/k-1} = \frac{y(k) - y(k-1)}{y_{k-1}} 100 = \frac{\Delta_y^{k/k-1}}{y_{k-1}} 100 = \frac{y_k - y_{k-1}}{y_{k-1}} 100 = \frac{y_k}{y_{k-1}} 100 - 100 = I_y^{k/k-1} 100 - 100$$

Quantitative time series reflects different sides of the production activity. They have the appearance of two parallel rows, of which the first number given the timing with the role of independent variable, and the second series investigated contained costs. Numerical expression of the cost (estimated cost) can be an absolute value, relative to medium.

Depending on the costs (production costs) underlying time series, have collected information about their level, about the meaning of their development and the extent to which evolves from one period to another,

from one moment to another. However, depending on the presentation of information were chosen and specific processing methods. Thus for determining the range of production costs corresponding obtain convenient poultry production for human consumption in conditions in which different categories of expenditure which compose different costs affect this level, and each one is influenced by many factors (vectors) of opposite sign and graphic representation of this range is rather a body of spheroid shape, irregular as limits and could be represented in a graph with three axes, the best solution is to insert the data into an equation of Schrodinger type, Austrian physicist who founded the quantum wave. In a series of papers described the partial differential equation and that is the basic equation of quantum mechanics. Equation :

$$H\Psi = E\Psi$$

the mathematical description of electrons is given by a wave function,, (or a state function), which specifies the amplitude of the electron at any point in space and time. In the figure below wave function is represented graphically [5].
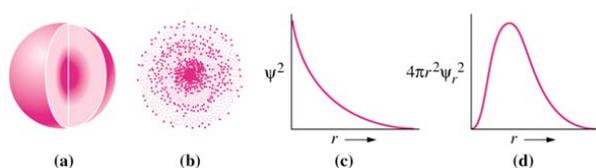

Fig .1.Graphical representation of Schrodinger's equation

1s electrons can be "found" anywhere in this solid sphere, cantered on the nucleus.(b) The electron density map plots the points where electrons could be. The higher density of dots indicates the physical location in which the electron cloud is most dense.(c) Electron density (Y2) is shown as a function of distance from the nucleus (r) as a graphical representation of the same data used to generate figure b.(d) The total probability of finding an electron is plotted as a function of distance from the nucleus (r). [6]

To calculate a confidence interval of cost-time equation can be written:

$$\frac{-\hbar^2}{2m}\frac{\partial^2 \Psi(x,t)}{\partial x^2} + U(x)\Psi(x,t) = i\hbar \frac{\partial \Psi(x,t)}{\partial t}$$

For the second part of this work was used the latest data and IT, from companies that have developed appropriate applications purpose. It is based on the monitoring system for poultry launched by National Research Institute for Electrical Engineering ICPE-CA. The system helps to increase production by monitoring the ambient temperature, water temperature, relative humidity, atmospheric pressure and brightness inside the hall. Data collected is stored in a software application and are used to control ventilation and lighting system for warning in case of exceeding critical values for environmental compliance in poultry farms to EU standards, monitoring and control of activities and significant reductions modern costs by optimizing energy consumption and the staff necessary to reduce mortality in livestock products from outside climate variations. The optimization of consumption is compatible with EU rules. A similar system can be used for real time monitoring of the activities of the chain poultry products by the consumer when purchasing such products.

RESULTS AND DISCUSSIONS

Essentially private poultry sector are inevitable economic laws of market economy and a competitive production system. In both biological and technological peculiarities of the species used, and that yields are obtained for human consumption and must be reasonably comfortable that human nutrition, determine their characteristics and factors of production in the sector tend to increase profit and reduce costs production is limited theoretically providing indispensable quality parameters. With diminishing state role in economy is the emergence of other tools and methodologies necessary control and protection of consumer interests, one of the possible solutions is the analysis of budgeted and actual production costs in the poultry sector lending and financing, based on a range safety of production costs. Characteristics and

a possible way of estimation of this interval are presented in this paper.

Were analyzed processes and technical and organizational measures forming technology The poultry meat and eggs, according to the nature and purpose, grouped into the following subsystems:

- Subsystem breeding;
- Subsystem growth and development;
- Maintenance subsystem;
- Feeding subsystem;
- Subsystem health insurance;
- Subsystem production and use;
- Subsystem organization of work processes;

Costs were reported on the following indicators: race, the proportion of laying hens during the operation, average daily gain, specific consumption, age and weight at delivery of chickens for meat. Determinations have been proposed for the following steps:

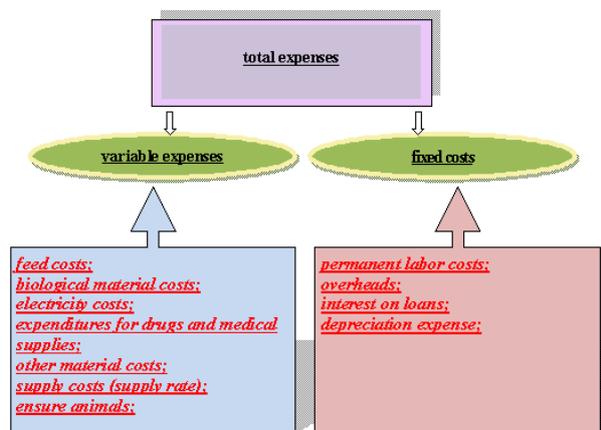Phase 1 of the categorization of expenditure comprising the cost of production

Fig 2.Categories of expenditure

Step 2 calculations for each category of expenditure.

Feeding costs - Feed costs per unit calculated as follows: for each item in the amount of feed ration and feed multiplied by price. It summarizes the evaluation results and get money / unit of product (according to the following mathematical relationship)[7].

$Chf = \Sigma \times q/up \times Pf$

Biological material costs

$Ch\,q = g \times N \times p$

Electricity costs

$C\,ee = Tee \times \Sigma\,q\,eei \times D\,i$

Expenditure on medicines and medical material

$Cm = \Sigma qmi \times P\,mi \times N\,m$

Other material expenses - These expenses resulting from adding maintenance and repair expenses machinery and equipment, costs of protective equipment, medical instruments - veterinary etc

Supply costs

$C\,a = Caj + Cam + Caa$

Thus, we estimated the costs of production. Were obtained strings of values of costs at different levels of the production.

Fig 3. Ranges of costs

Ranges of values thus obtained were introduced into a Schrodinger type equation was weighted as intermediate or partial cost contribution of each depending on three variables, cost, time and result. To obtain a graphical representation of a spherical body whose boundaries are the margins of safety Finally we obtained pairs of values of partial and total elbow delineates a confidence interval where the minimum is the minimum cost of production which ensures obtaining optimal poultry products for human consumption and the maximum is the highest value production cost of production is achieved profitable

Fig 4.Safety interval

Such results were obtained for example for holding the broiler poultry, located in a county

in the south (Bărăgan), in August 2010, for an increase 43zi average cost range was obtained from 3.786 to 4.021 lei / Kg

Particularly interested in the lower end of this range, in that limit profits by reducing costs and acting atypical for market rules. Use the credit analysis of the range of costs will reduce credit risk and will open the door to a long-term evolution of the poultry sector.

At the same time to fully regain domestic market and primarily to increase consumer confidence in Romanian poultry products can use an online monitoring system for consumers to productive activities. Given such an unprecedented technological goal is very convenient in terms of costs. The use of internet and wireless is now easy and relatively safe The use of internet and wireless is now easy and relatively safe, devices and instruments used are miniaturized and easy to use, network and database performance enough. Not least also monitoring systems are in use today in other activity areas (aeronautics, energy, medical, military, etc.)
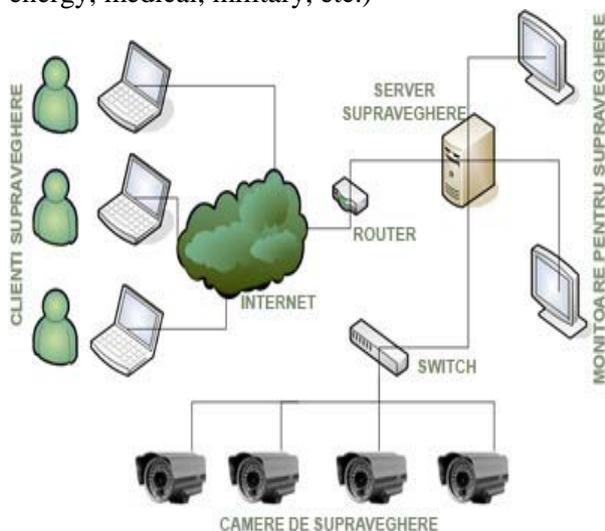

Fig 5.Surveillance system

System consists of three main components:

A:system for monitoring production processes and activities - inside unit - belonging to producers and processors, used in monitoring the microclimate parameters (temperature in the hall or shelter, humidity, ventilation) or other data (feeding, watering, plant automation and process etc.) and in surveillance and security
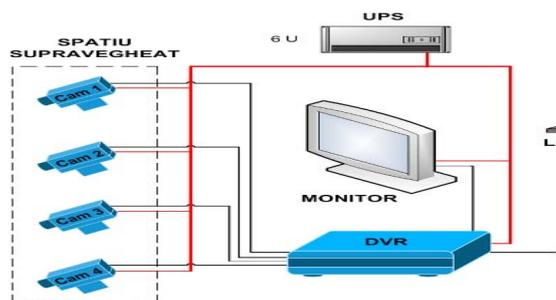

Fig 6.Local surveillance system

B. The second component Server and relay transmission. Can be used for central and local institutions, can use existing servers within these institutions, some with control in food safety and food bio security.

The server is the largest investment and is also the component that requires special security measures, the success of the entire system depends on the server to retrieve and forward live information from manufacturer to distribution units' poultry products.
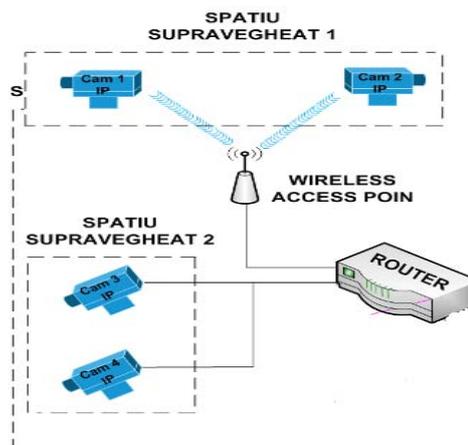

Fig 7.Wireless local surveillance system

C. Terminals or interface for the consumer. Typically located in retail establishments and in institutions with a role in surveillance and control. Belongs to the service center and equipment sales units, must be reliable and easy to use, the rule can be used monitors equipped with sound system.

Fig. 8 The hall growing broilers, viewed online from the store of poultry

Fig .9.Images from a farm hens

CONCLUSIONS

Setting a confidence interval of cost of production to guarantee that the corresponding quantity of poultry production, quality in terms of biochemical, sensory and psychosocial for human consumption, is an absolutely necessary goal. The present work was given some guidelines for achieving this objective and methodology of calculation possible. Determining the confidence interval of the production costs can be useful even in the future is absolutely necessary for credit analysis and financing, as an auxiliary tool for the calculation of any support in this sector, agricultural policy development and verification tools and control line, etc.. While production cost analysis and evaluation of poultry farm profitability trends will take into account the above and in this respect will be useful to develop a set of optimal values of cost and profitability. This set of values and how to assess them and using financial analysis of the deviation from classical to achieve cost and profitability of any production and products intended for human consumption may be called Yellow Protocol.

Also in the future to regain domestic market but also to export successfully Romanian poultry products required transparency measures and informed consumers to ensure that human nutritional and comfort in this variant can be presented in the second part of the work the front. It can also be considered a measure as a guarantor state, through its institutions, is mainly responsible for control and support investment arbitration, but may be technical and logistical support to ensure quality primary and processed poultry products and support to ensure transparency and monitoring processes and the production and processing (server and relay center).

ACKNOWLEDGEMENTS

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SOME PROBLEMATIC ASPECTS OF THE FISCAL REGULATIONS IN THE REPUBLIC OF MOLDOVA

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Abstract

The situation regarding the taxation of business in Moldova is rather contradictory. From a fiscal point of view, revenues from business are extremely low, partly due to a 0% corporate income tax rate, which has been in place since 2008 [3]. But the situation is not much better from a business point of view. While the tax burden is practically zero, the administrative burden of the taxation system, which includes regulation of primary documents, tax accounting, reporting and other steps, is very high. Clearly, the business taxation system is highly inefficient and thus in desperate need for reform [4].

Key words: fines, penalties, tax, economic growth, Republic of Moldova

INTRODUCTION

The administrative burden on business in Moldova is very high in comparison to other countries. Major parts of the administrative burden are imposed by the Moldovan tax legislation. Business representatives complain that they spend much time and devote significant resources to activities such as filling out documentation forms, maintaining registers, preparing reports, delivering reports to authorities etc. International studies provide further independent evidence for this view: Moldova has a very low rank in the "Paying Taxes" category of the World Bank Doing Business Report, although the corporate income tax is 0%, which shows that the lower tax burden can by no means compensate for the excessive administrative burden.1 This paper aims to derive recommendations for reducing the tax related administrative burden and thus improving the efficiency of the respective administration processes [5].

MATERIAL AND METHOD

In order to identify the weak points of the tax system in Moldova, we look at each of the 5 steps in the administrative process, which are necessary for business for complying with tax regulations: Fulfilling the requirements concerning primary documents, financial accounting and reporting, tax accounting and the preparation of reports for tax and other authorities, the delivery of reports to the authorities and the activities related to tax inspections. Our research is based on analysis of current legislation and of relevant data. Thus, we do not only focus on legislation, but also on its implementation. The results of our research are quite straightforward. We have identified severe problems in all 5 steps of the administrative process. Thus, there is lot of work to be done for reforming the whole process. With regard to small business, the most serious problems in terms of the highest administrative costs seem to relate to the first step (primary documentation) and the last step (tax inspections). Thus, any serious attempt to reform the system should also tackle these two steps. Furthermore, it is important to highlight the strong link between these steps. Excessive and highly complicated requirements concerning primary documentation makes it easy for tax inspectors to find mistakes and to demand fines, penalties or other payments from the company. Thus, the high economic cost and the negative image of tax inspections can only be tackled, if also the out-dated regulation of primary documentation is changed. A further result of our analysis relates to the fiscal

function of tax inspections. Representatives from business claim that the severity of tax inspections has clearly increased since the reduction of the corporate income tax rate to 0% in 2008. In their view, fees and penalties partly substituted the payment of taxes, thus contributing to a highly time-consuming and in transparent "taxation" system. Empirical evidence seems to support this claim [4].

RESULTS AND DISCUSSIONS

In 2008, fines and penalties almost doubled as compared with 2007, and continued to increase sharply in 2010-2012. Cleary, it would be much more efficient to secure state revenues by collecting taxes rather than fines and penalties. Against this background, it would make sense to increase the corporate income tax as soon as possible, thus taking away the revenue raising pressure from tax inspections and facilitating the reform of primary documentation regulation. The discussion above makes clear that single and isolated measures will not help much. What Moldova needs is a systematic approach for reforming its inefficient taxation system of business [2].

It should be mentioned that, starting with 2012, the state fiscal policy tends to:

- The reintroduction of 12% income tax for economic agents, cancelling all the general and individual fiscal facilities except those facilities that were guaranteed for a certain period of time: free economic zones, interests on bank deposits and corporate real estate values as bonds; 18%- for individual entrepreneurs and 7%- for farms cancelling all the general and individual fiscal facilities except those facilities that were guaranteed for a certain period of time: free economic zones, interests on bank deposits and corporate real estate values as bonds;

- The introduction of the unique simplified tax on the income gained by economic agents acting as entrepreneurs- non-tax payers of V.A.T, amounting to 3% of the incomes gained from operational activity;

- The introduction of the share of pay-as-you-earn final tax as dividends for all the categories of tax-payers amounting to 6%;

- The reduction of the period of reporting future losses concerning income tax from 5 to 3 years;

- The reduction of the pay-as-you-earn tax as dividends on the income gained by economic agents and resident and non-resident citizens from 15% to 6% and the introduction of the mechanism of final withholding of this tax;

- The introduction of the system of commission deductions for leasing companies;

- The deduction from special tax by financial institutions.

- Each country has its own standards/requirements for documents to be kept by business. If documents do not have the required features, the tax authorities can in the context of tax inspections decide not to accept the documents/invoices, to require the replacement of the old documents through new ones and/or to levy fines. The Moldovan companies' accounting cycle starts with preparing the primary documents. According to the legal definition, a primary document is the documentary confirmation that an economic transaction has been carried out [1]. All economic entities, which have to keep accounts, are obliged to use the mandatory forms of primary accounting documents. Mandatory forms of primary accounting documents are templates elaborated by National Bureau of Statistics or by the Tax Inspectorate, and they are printed on special paper with protections signs and serial numbers. Companies have to purchase blanks of mandatory forms of primary accounting documents from the official publishing house "Statistica". Individual document layouts, which differ from the official "Statistica" forms, are not accepted. Examples of mandatory forms of primary accounting documents are: invoices, fiscal invoices, annexes to invoices and fiscal invoices, waybill, receipts, acts of purchasing goods, acts of purchasing rent services and related costs etc. The documentation of invoices is particularly complicated in Moldova: In order to purchase the templates of fiscal invoices,

companies must present a range of documents to the Territorial Tax Inspectorate: a special order form specifying the name of the company and requested number of templates, registers of delivery and procurement for the last two months; inventory register of previously purchased invoices, proxy for the company's employee which will receive fiscal invoices. The Tax Inspectorate needs several days to process the invoice template purchase request, only after approval can the companies get the requested invoice templates. This shows that much time has to be spent before the actual book-keeping can start. However, it gets even more complicated. Additionally to the record keeping of primary documents, all information about documents have to be recorded in separate registers. Those registers are book-keeping journals with a specific design according to the Moldovan law. Every primary document has to be registered manually in a specific register. Pages of this register must be numbered and stitched. Considering how complicated the procedures are, it is just natural that mistakes can occur. However, there is no possibility to correct little mistakes in the mandatory forms of primary accounting documents. According to the Accounting Law, any corrections in primary documents for cash and bank operations, delivering/acquisition of goods/services are forbidden. Documents containing mistakes or corrections must be annulled and marked with "Deteriorated" and new complete primary documentation processes must then be carried out. Even in case of minor mistakes or corrections, from the legal point of view such a document is considered as incomplete or inadequate and will be fined with 200 MDL. If same mistakes are made in several documents, fines will be multiplied with the number of documents. In case of using primary documents forms other than established by law, the size of the fine is equivalent to the value of the respective economic transaction [4]. Economic agents using the single entry accounting system have to keep all the records in the Register of Receipts (revenue) and Payments (costs and expenditures) and/or in the following registers: Register of Output, Register of Settlements with Debtors and Creditors, Register of Fixed Assets and Low Value Items. These registers are the basis for the preparation of statistical and fiscal reports. The input for these registers is taken from primary documents. It is valid to calculate the revenue surplus on cash-basis (as opposed to accrual-based calculation method). This is a simplification which helps to reduce administrative burden. However, tax accounting and tax reports are based on the accrual-based calculation only. Therefore, companies need a double entry accounting for taxation reasons, and it is not reasonable to use the simple entry system for financial accounting and a double entry system for tax accounting [4].

The Double entry simplified accounting system is described by Accounting Law No. 113 [1] according to which the simplified double entry accounting system allows the use of simplified versions of the chart of accounts, simplified forms of accounting registers and financial reports. Companies can opt for that standard if they meet at least two of three following criteria:-• Total sales revenue – not more than MDL 15 m; - • Carrying amount of long term assets – not more than MDL 6 m; - • Average number of staff in reporting period - up to 49 people.

There is little difference in terms of workload between classical and simplified double entry accounting as the legal requirements are almost identical. On the other hand, the simplified double entry accounting system has further disadvantages such as unclear criteria and it is not accepted by commercial banks for credit assessment.

In the tax law there are no systematic legal rules for tax accounting and accounting records. There isn't a single legal framework for tax reporting as a basis to account for tax payments. In each of the section of the Tax Code there are defined accounting requirements not related to each other, which complicates the work of the businesses. Although the current CIT rate is 0%, companies must submit a CIT declaration. An incomplete or incorrect CIT declaration is

fined by 15% for undeclared or reduced taxable income.5 There is a complex system of adjustment from financial accounting data to tax accounting data - 16 differences on the revenue side and 40 differences on the expenditure side. For every row of the CIT declaration an accounting note with explanation must be created. Most of the information in the CIT declaration is related to the accounting of fixed assets. Beyond that, a wide range of further reports – up to 51 different reports - have to be prepared, too. This creates further workload for business. For most of those reports the addressees and terms or reporting (such as due dates) differ, requiring additional time and costs for report management.

Every type of report must be created in 2 exemplars, one is kept by the authority and another with the authority's stamp is kept in the company's accounting department. All reports must be presented personally by the company's representatives. That means that the representative has to visit the respective authority personally and must meet his dedicated official in charge. Due to the obligation of personal presenting of reports, economic agents are forced to spend their work time for staying in queues in front of authorities' doors in order to fulfill the report presenting procedure. For an average SME's accountant it takes approximately 1 day per month, which means more than 100 of working hours per year. For authorities it involves additional staff and resources. Such a system of reporting is time consuming and costly. Theoretically, the possibility to present reports via post mail should solve the problem. But practically only some types of reports are accepted by post. In 2009 started the project "electronic declaration"6 which allows companies to present income tax reports via internet without the need to spend time for personal visits and "queuing". Despite obvious advantages of the project (electronic signature, time saving and additional services), it did not become popular among business. In 2010 only 108 companies have become registered users of this service and till present only 136 have presented

electronic declarations. One of the reasons of limited success is the quite high price for using the service (almost MDL 3,000 per year). Starting from 21 February 2011, the diversification of possibilities and decreasing of prices for electronic declaration services was announced. The service will become available for individual entrepreneurs as well. However, the requirements of personal visits for presenting other types of reports (statistical, financial, social and medical insurance) remain.

All private sector representatives we have interviewed during our research stated that tax inspections are a key area of concern and must be seen in connection with the primary documentation regulation (Step 1). Tax inspections search feverishly for mistakes in the documentation and penalise even minor mistakes. There is overwhelming agreement in the impression that the complicated primary documentation requirements force business into traps of making documentation mistakes; business which are trapped and fined are a welcomed source of additional income for tax authorities. Tax regulation experts provided more evidence by explaining that many provisions of the tax regulation are contradictory and that it is partly impossible to comply with the requirements [4].

It is clear that the combination of tax regulations and tax inspections must form a safe system, which precludes systematic fraud from business side, but it must meet the criterion of efficiency, too. The current Moldovan system of primary documentation is very inefficient because it is very complicated and time consuming, creating excessive burdens for both business and public administration. International experiences show that documentation requirements can be simplified without increasing the danger of fraud and misuse. By contrast, the administrative burden of Moldovan primary documentation regulation has increased even more recently. At the same time the burden of tax inspections have increased continuously in Moldova. We recommend limiting the role of tax inspections to their primary function: The

prevention of tax evasion and tax fraud. In order to fulfill this function, tax inspections must prosecute infringements of tax regulation. However, minor mistakes, that are obviously a result of inadvertence and do not harm anybody, should not be punished. If primary documentation becomes more simple, companies will make fewer mistakes, which in turn means that tax authorities collect less revenues from fines and penalties. We, therefore, recommend a package of two reform measures simultaneously. When the tax inspections stop penalizing minor documentation mistakes, a loss in public revenues might occur, which must be compensated somehow. In order to do so we recommend considering an increase in the corporate income tax rate. Clearly, the discussion about the appropriate level of corporate income tax involves several more aspects which cannot be discussed here; but our analysis concludes that the business side prefers a moderate but transparent tax burden to an excessive administrative burden.

Simplified accounting schemes are effective and efficient measures for reducing administrative burden on business, especially with respect to the objective of facilitating the development of small and medium enterprises. However, this implies that the reports resulting from the simplified financial accounting system can be used for tax purposes, too.

Germany has, for instance, made good experience with the simplification of accounting requirements for individual entrepreneurs and small enterprises. Most important: In Germany the simplified regulation for financial accounting and reporting are identical to simplified tax accounting and reporting regulations. As an example: Accounting on a cash basis is a valid option for financial accounting and so it is for tax accounting. We recommend considering an enhancement of the accounting simplifications in Moldova, but only if simplified financial reports and tax reports get harmonised or – even better – unified [4] .

The financial reports produced by the financial accounting system should be the sole base for all kinds of reporting. Differences should be reduced to a minimum. This is particularly the case for corporate income taxation reports. Furthermore, we recommend reducing the total number of reports. This includes reports for other taxes such as local taxes, reports for social security, reports for medical insurances and statistical reports. The number of reports can be reduced by further harmonisation and unification of reporting regulation. To state it clearly: We do not favor single tax approaches, because single tax models entail further risks, such as unintentional side effects. However, we argue in favor of single reports so that most tax and/or social contribution liabilities can be derived from a single report, which is – in the best case – harmonised with the financial report.

The harmonisation and unification of reporting regulation includes the harmonisation of terms of reporting, mainly the due dates. Such a harmonisation is fast and easy to implement and has a big positive impact on business as it reduces the administrative burden significantly.

The time companies spend on physically presenting reports at the respective authorities is a waste of economic resources. It should be valid to deliver reports via mail (post office). This method is internationally widely accepted and would be appropriate for Moldova as well. Electronic file transfer of reports could be an option as well. It must be considered that many entrepreneurs in Moldova do not possess a computer, but for those who are equipped with computers, an electronic reporting system could be a way to improve the administrative efficiency. Such an e-government tool is already in place in Moldova, but the price model for using the system should be appropriate to Moldovan conditions. Business taxation is a key determinant of the business climate. However, business taxation does not only include the tax burden, but also the administrative burden related to the taxation system. In the case of Moldova these two aspects differ completely. While the tax burden is practically zero, the administrative burden is huge. This state of

affairs is far from optimal. Businesses can cope with a certain degree of tax burden, as long as it is predictable and transparent. Besides, the correspondent public revenues enable the state to secure a higher level of public goods such as infrastructure, education and justice; all goods from which businesses benefit greatly and which are rather scarce in Moldova. Thus, a reasonable tax burden involves per se no efficiency loss, but just a distribution from the private to the public sector. The correspondent assessment of the administrative burden is completely different. A high administrative burden amounts to a waste of resources in terms of time and money not only for the private, but also for the public sector. Here we are talking about a clear loss of efficiency and productivity, which is without doubt partly responsible for the low level of income and wages in Moldova. Thus, the country needs to reverse this condition. First, the administrative burden has to be drastically reduced. Technically speaking this is not very difficult, as we show in this paper. But also politically there should not be major resistance for reducing "bureaucracy". On the contrary, the reduction of the administrative burden for business, and especially for small business, will be highly popular with voters. Second, we see room for increasing the tax burden. Such a measure would indirectly be also important for reducing the administrative burden. As shown in the paper, there is a negative

relationship between both factors: The reduction of the tax burden in 2008 (i.e. the setting of the corporate income tax rate at 0%) has immediately led to an increase in the administrative burden. Following this logic, a higher CIT rate would facilitate the reduction of the administrative burden in the near future from a fiscal point of view. To sum up, a switch from a system that is predominantly based on creating administrative burden towards a more efficient taxation of business would be in the interest of business, the state and thus of the whole country. In short, this would be a clear win-win-situation for all stakeholders [4].

CONCLUSIONS

The complicated system of primary documentation causes an excessive administrative burden which goes far beyond international standards. There is serious need for reform.

The single entry accounting standard of Moldova is far more complex than international benchmarks of simplified accounting systems. Beyond that, it is not attractive for companies because it is not harmonised with tax accounting regulation. There is serious need for reform.

The simplifications of this standard are only marginal. It is not widely used by business. The objectives of this standard remain unclear. A reform should be considered.

The classical standard needs some revision in order to comply with international and European standards.

There are severe differences between financial and tax accounting, which creates further administrative burdens; a reform should be considered. Furthermore, the preparation of all the reports creates excessive administrative burdens; a reform is urgently needed.

The report delivery process needs to be reformed, with the aim of saving valuable working time for companies.

Tax inspections currently cause an excessive burden on business. It is very inefficient from both economic and political perspectives. There is an immediate need for change.

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THE VEGETABLES MARKET IN ROMANIA

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Abstract

Romania, due to its favourable climatic conditions, is a country with a long tradition in growing vegetables. The importance of growing vegetables is demonstrated both by area cultivated with vegetables and by the large number of individual producers. In this context, the current study comprises, on the one hand, the evolution of vegetable crops specific indicators, and, on the other hand, the evolution of foreign trade. As for the actual production of vegetables in Romania, it cannot provide the requisites for domestic consumption and for this reason we resort to imports. The imports of vegetables and unprocessed products have a negative influence on the trade balance. The producers, processors and distributors of vegetables and vegetable products are faced with a series of problems that have a negative influence on their economic and financial results. Among these problems, the most important ones are generated by: the use of nonperforming traditional technologies that contributed to lower productions, as compared to the productions obtained by EU vegetable farmers; the difficulty in marketing the vegetables within an optimum time interval because vegetable farmers are not members of associations that have a viable marketing programme, which would ensure an adequate and efficient vegetables distribution; the use of nonperforming seeds in order to obtain vegetables. In conclusion, it is imperative to support vegetable farming in order to provide the requisites for consumption and in order to increase the producers' revenues in the rural space. This can be achieved by accessing structural funds.

Key words: vegetables, production, import, export, food consumption

INTRODUCTION

The main objective of the vegetable farming sector in the context of increasing the market economy requirements, is qualitative and qualitative growth, which would lead to providing the quantity required on the domestic market and to the significant decrease in imports. This objective may be achieved by integrating vegetable farming in the sustainable development of the rural space.

Due to the seasonal character of the vegetable production in the overall agricultural context, there is an increased tendency to concentrate it in the large specialised areas located in counties in North-Eastern Muntenia, Southern Moldavia, along the Danube, in the Romanian Plain and Western Plain, as well as around urban centres [1].

In Romania, we notice the vegetable sector potential is not used at full capacity because there are factors that contribute to preserving this situation:

-large number of small vegetable farm businesses;

-the low level of technical equipment, both for the production activity and for the harvesting and processing activities;-the influence of weather actors on the production; -the vegetables' high level of perishability, etc.

MATERIAL AND METHOD

In order to perform this study, we used data provided by the National Institute of Statistics, Romania Trade and Invest for the interval 2005-2010, as well as other specialised magazines and studies. We analysed the following indicators specific to the vegetables sector: cultivated area, total production, average production, annual

average consumption per capita, import, export, prices. These indicators are found in the food balances and they represent valuable information for the producers in order for them to increase the areas cultivated with different vegetable types whose role is to meet the population's consumption needs.

RESULTS AND DISCUSSIONS

In order to complete the present study, it is necessary to set the vegetable farming sector in the Romanian agriculture and to mention its specific characteristics that differentiate this market from the other agricultural markets. Among these characteristics, the following must be mentioned:
- the atomicity of supply and demand;
- the vegetable products' seasonal character.
- the vegetables' high level of perishability;
- high consumption of inputs, especially labour, in obtaining vegetables.
- wide range of vegetable types on the market. The structure of the vegetable crops in Romania is represented by 48 types, 97% of which being the most common ones and 3% types that are used less in traditional consumption, but which are appreciated on the market by the consumers with average purchasing power [3].

Although Romania has favourable soil and climate conditions, we notice that the production obtained does not meet the human consumption requirements, and the exported amounts are insignificant.

Compared to other agricultural branches, vegetables farming stands out due to the high level of intensiveness for
the production. This gives the production structures certain characteristics with a positive effect on economic efficiency. According to the approach, these characteristics may be [2]: zonal, technological, economic.

At present, vegetables are obtained in almost all parts of the country on extended areas and in a wide variety of types. Zonal characteristics given by the production structure determine the consumption model of the population in a certain area.

Economic characteristics are very important in the market economy. The production structures in vegetable farming
have an intensive character, with an influence on: the production and revenues In the analysed interval, the area cultivated with legumes for seeds had a fluctuating evolution and in 2010 we notice a decrease by 13.5% as compared to 2005. This situation is not unique as we notice the same evolution in the case of vegetables, but here the decrease was smaller, of only 6.3%. this area varied because vegetables have high perishability, which prevents setting the cultivated areas [4].

When analysing more carefully, we notice there were certain types of vegetables and legumes for seeds for which the cultivated area recorded various increases, namely: for peas it increased by 5.5%, for tomatoes it increased by 2% and for peppers it increased by 11.1%. Analysing the statistical data provided by FAO, Romania fills the 6th position in terms of potatoes and the 5th in terms of vegetables in 2009, which is comparable to the European countries. This shows that Romania has a significant production potential for the vegetable sector. If we use modern production technologies and technical equipment, this area may increase in the following years, which would lead to better positions in the European hierarchy, in terms of several vegetable types. Obtained per area unit, the use of workforce, the division of production and vegetable farms.The vegetable farming sector has an advantage comparable to other sectors, namely the full and rational use of the workforce, but it also has a major disadvantage, namely the existence of intermediaries (60%), which contributes to the significant decrease in the producers' revenues. In table no.1 we present the evolution of the area cultivates with vegetables in the interval 2005-2010.

In the analysed interval, the area cultivated with legumes for seeds had a fluctuating evolution and in 2010 we notice a decrease by 13.5% as compared to 2005.

This situation is not unique as we notice the same evolution in the case of vegetables, but here the decrease was smaller, of only 6.3%. this area varied because vegetables have high

perishability, which prevents setting the cultivated areas [4].

Table 1. The evolution of the area cultivated with vegetables in the interval 2005-2010(thou.ha)

Indicator	2005	2006	2007	2008	2009	2010	2010/ 2005
Total agricultural area, of which	14,741.2	14,730.9	14,709.2	14,702.2	14,684.9	14,635.5	99.3
Legumes, for seeds, of which	44.1	40.4	43.7	36.7	38.5	38.0	86.16
Peas	22.0	18.1	23.4	18.0	22.7	23.2	105.45
Beans	21.8	21.9	19.6	18.2	15.1	13.6	62.38
Potatoes	284.9	278.0	268.1	255.3	255.2	247.0	86.69
Vegetables, of which:	266.7	280.1	253.4	268.6	267.1	250.0	93.73
Tomatoes	47.1	50.7	46.0	51.5	49.1	48.0	101.91
Dry onion	35.6	33.8	34.1	35.0	35.2	33.0	92.69
Pepper	18.9	23.0	18.6	20.1	19.9	21.0	111.11
White cabbage	54.8	45.7	46.1	49.0	48.3	46.0	83.94

When analysing more carefully, we notice there were certain types of vegetables and legumes for seeds for which the cultivated area recorded various increases, namely: for peas it increased by 5.5%, for tomatoes it increased by 2% and for peppers it increased by 11.1%.

Analysing the statistical data provided by FAO, Romania fills the 6th position in terms of potatoes and the 5th in terms of vegetables in 2009, which is comparable to the European countries. This shows that Romania has a significant production potential for the vegetable sector. If we use modern production technologies and technical equipment, this area may increase in the following years, which would lead to better positions in the European hierarchy, in terms of several vegetable types.

In table 2 we present the evolution of the total vegetable production in Romania, in the interval 2005-2010.

In the interval 2005-2010 we notice a fluctuation in the vegetable production in Romania, so that in the case of legumes for seeds there was a decrease by 24% in 2010 compared to 2005, and in the case of vegetables there was an increase by 7% in 2010 compared to 2005. These fluctuations in the vegetable production lead to an unstable domestic supply, thus contributing to the increase in prices during certain intervals.

The production in our country is in this situation because agricultural businesses do not have high performance types, nor modern production and processing technologies, and because of the climate factors' influence. In accordance with the data provided by FAO, Romania filled the 9th position in 2009 in terms of the potatoes production at European level, and the 8th position in terms of vegetables at European level [5].

Table 2. The evolution of the total vegetable production, 2005-2010 (thou.tons)

Indicator	2005	2006	2007	2008	2009	2010	2010/ 2005
Legumes, for seeds, of which	80,913	71,574	36,185	62,466	52,918	61,344	75,8
Peas	39,096	36,147	17,748	36,917	30,009	39,677	101.4
Beans	41,733	34,942	18,014	25,157	22,348	21,059	50.4
Potatoes	3,738,594	4,015,899	3,712,410	3,649,020	4,003,980	3,283,866	87.8
Vegetables, of which:	3,624,612	4,138,862	3,116,801	3,819,890	3,901,862	3,863,617	106.5
Tomatoes	626,960	834,968	640,785	814,376	755,596	768,532	122.5
Dry onion	363,625	390,694	324,993	395,579	378,106	369,142	101.5
Pepper	203,751	279,126	184,939	238,682	245,661	243,493	119.5
White cabbage	1,009,430	1,106,006	893,153	964,625	1,001,940	981,219	97.2

In table 3 we present the evolution of yields per hectare in the case of certain vegetable types in the interval 2005-2010. These yield are determined by the total cultivated area and by the total production obtained.

In the analysed interval, the average vegetable production had a generally upward trend, except for peas, which decreased by 3.8% as compared to 2005 and beans which dropped by 1.9%.

Table 3. Yields per hectare for certain vegetable types, in the interval 2005- 2010 (Kg)

Indicator	2005	2006	2007	2008	2009	2010	2010/ 2005
Peas	1,776	2,002	758	2,056	1,323	1,708	96.1
Beans	1,236	955	605	1,078	1,089	1,212	98.0
Potatoes	13,078	14,191	13,663	14,108	15,498	13,354	102.1
Tomatoes	13,302	16,468	13,916	15,814	15,395	15,443	116.0
Dry onion	10,198	11,554	9,526	11,294	10,748	10,908	106.9
Pepper	10,736	12,135	9,931	11,824	12,295	11,592	107.9
White cabbage	18,406	24,227	19,364	19,680	20,724	20,858	113.3

In Romania, the yields per hectare in the case of certain vegetable types are about half of the yield in Western European countries [4]. This was due to the production of vegetables under economically and technologically nonperforming conditions.

In table 4 we present the evolution of the average annual consumption per capita in Romania in the interval e 2005-2010.

Because local vegetables are exceptionally tasty, they are demanded for consumption, and the consumption level is different according to vegetable types.

As we can see in the table above, the evolution of consumption in the case of certain types was decreasing, namely: beans and other legumes for seeds (- 24%), potatoes (-13.5%). This indicates changes in the population's consumption model that targets vegetables which contribute substantially to preserving a balanced diet.

In the analysed interval, Romanian consumers preferred the consumption of cabbage and cauliflower (+ 14.1%), tomatoes (+ 15.2%), peppers and bell peppers (+ 29.4%).

Table 4.The evolution of the average consumption/capita, 2005-2010 (kg)

Indicator	2005	2006	2007	2008	2009	2010	2010/ 2005
Beans and other legumes for seeds	5.424	5.136	4.776	4.416	4.344	4.188	75.9
Potatoes	48.336	44.46	43.668	43.368	43.032	41.856	86.5
Cabbage and cauliflower	7.812	8.568	8.136	9.204	9.492	8.928	114.1
Tomatoes	9.9	12.084	12.384	13.176	13.776	11.4	115.2
Peppers and bell peppers	3.432	4.344	4.008	4.284	4.92	4.404	129.4
Dry onion	9.972	9.768	9.576	9.732	10.044	9.816	99.0

We must mention that this increase was also due to processing vegetables in individual households for winter consumption.

In the market economy, both production and consumption are influenced by the selling price. As we can see, the vegetables' prices

vary during one year according to the quantity supplied on the market. In table no. 5 we present the evolution of the average prices for certain types of vegetables in the interval 2005-2010.

Table 5 .The evolution of average prices for certain vegetable types, 2005-2010 (Ron/kg)

Indicator	2005	2006	2007	2008	2009	2010	2010/ 2005
Beans and other legumes for seeds	5.424	5.136	4.776	4.416	4.344	4.188	75.9
Potatoes	48.336	44.46	43.668	43.368	43.032	41.856	86.5
Cabbage and cauliflower	7.812	8.568	8.136	9.204	9.492	8.928	114.1
Tomatoes	9.9	12.084	12.384	13.176	13.776	11.4	115.2
Peppers and bell peppers	3.432	4.344	4.008	4.284	4.92	4.404	129.4
Dry onion	9.972	9.768	9.576	9.732	10.044	9.816	99.0

It is well known that on the long term the products' prices follow an upward trend. This increase in prices is mainly due to the increase in the prices of inputs used in obtaining the production. Vegetables cannot be an exception to this trend. But we must mentions that the prices for vegetables vary from one month to another. In general, prices go down significantly after harvesting begins. A good example in this respect is represented by the prices for peppers and tomatoes, which may decrease by about 50% in a few weeks. This is mainly due to these vegetables' perishability. As we notice in the table above, the average prices for all the vegetable types increased in the analysed interval. The highest growth is seen in the case of bean seeds (+84.1%), and the least significant one is in the case of bell peppers (+22.6%). The increase in prices during certain intervals in one year is also influenced by the prices of imported vegetables, when there is no supply from the domestic production.

Vegetable farmers must fin certain solutions to reduce the degree of vegetable perishability, so as to obtain revenues from this activity over a longer period of time.

Because the average productions in the analysed interval recorded low values, human consumption could be covered by resorting to imports. It is well known that each country imports certain products although some of them are also obtained locally. Romania's main problem is that in the analysed interval imports were clearly higher than exports. The result is a negative influence on the trade balance and on the economy in general. The status of the foreign trade in the interval 2005-20010 for certain vegetable types is presented in Table 6.

Table 6. Foreign trade, 2005-2010, (thousand tons)

Specification	Flow	2005	2006	2007	2008	2009	2010
Potatoes	Import	191,584	264,940	155,071	185,086	159,854	167,990
	Export	1,852	5,964	9,713	10,288	14,653	33,698
	E-I	- 189,732	-258,976	-145,358	-174,798	-14,520	-134,292
Tomatoes	Import	196,987	207,756	245,324	206,371	197,876	250,628
	Export	1,644	978	853	1,805	5,153	3,070
	E-I	-195,343	-206,778	-244,471	-204,566	-192,723	-247,558
Dry onion	Import	58,600	60,086	43,636	37,491	35,315	40,633
	Export	61	1,136	233	796	2,033	2,755
	E-I	-58,539	-58,950	-43,403	-36,695	-33,282	-37,878
White cabbage	Import	11,341	12,290	17,578	9,616	14,492	16,076
	Export	48	137	303	173	317	773
	E-I	-11,293	-12,153	-17,275	-9,443	-14,175	-15,303

In the interval 2005-2010 both imports and export recorded significant fluctuations. An explanation would be provided by the evolution of the domestic production of vegetables and the evolution of prices.

The largest imported quantities in 2010 were recorded for tomatoes (250,628 thousand tons) and the lowest for white cabbage (16,076 thousand tons). As we can see in the table above, exports were not significant, but in 2010 the largest exported quantity was recorded for potatoes (33,698 thousand tons) and the lowest exported quantity was recorded for white cabbage (773 thousand tons).

CONCLUSIONS

The vegetables market in Romania in the interval 2005-2010 was mainly characterised by a disparity between the supply and demand for vegetables due to the seasonal character of the domestic production.

The analysis of the vegetables market in Romania in the interval 2005-2010 emphasised certain aspects, of which we must mention:

- the existence of a significant potential for the production of vegetables both on fields and in greenhouses, potential which is not used in order to obtain satisfactory results for all vegetable producers;
- the areas cultivated with certain vegetable types fluctuated from one year to another, according to the demand on the market, as well as to the producers' interests;
- the total vegetable production could not meet the domestic demand, because relatively small yields per hectare were recorded;
- the vegetables prices increased in the analysed interval. This increase was caused by the increase in expenditures in order to obtain the vegetables and by the prices of imported products;
- in terms of imports and exports, we noticed the existence of significant gaps, imports covering most of the domestic demand.

In conclusion, Romania cannot supply the domestic market with the required vegetables, although it has optimum conditions for the production thereof.

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ANALYSIS OF FINANCIAL SUPPORT GRANTED TO FARMERS IN THE FIRST FIVE YEARS FROM ROMANIA'S EU ACCESSION

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Abstract

The paper proposes an analysis based on the data provided by the Agency for Payments and Intervention in Agriculture (APIA) over the payment system applied in Romania during the first 5 years from the EU accession date. The payment per area schemes are managed by APIA, under IACS and are under the form of SAPS (Single Area Payment Scheme), CNDP (Complementary National Direct Payments), Sugar Separate Payment Scheme, Transitional Payments for Tomatoes Intended for Processing, Less Favoured Areas Payments (LFA) and Agro-Environmental Payments. The study revealed that in Romania 3/4 of the area eligible for financial support is concentrated in 1/3 of the number of farms, the rest not being eligible because these have small surfaces that are fragmented into several land plots. The financial support measures have not been sufficient in order to determine small farmers to concentrate their area and increase the area eligible for subsidies. Given that for the period 2014-2020 CAP anticipates changes in the way of subsidizing small farms, continuation of the analysis is considered useful in order to underline any changes in farmers' behaviour in response to the new financial support schemes.

*Keywords***:** *area payment scheme, SAPS, CNDP, LFA, eligible surfaces, surface concentration, farmers' behaviour.*

INTRODUCTION

2007 has marked a new era in the agricultural and rural development economy of our country, because the accession to the European Union required us to adapt quickly in order to integrate onto the European Union internal market and fully adopt the Common Agricultural Policy [4].

The 2003 CAP reform ensured the conditions needed to shift to the European agricultural model based on a competitive sector, market oriented, fulfilling at the same time other public functions (environmental protection, provision of residential settlements more convenient for rural population, agricultural integration with the environment and forestry) [3]. The Common Agricultural Policy has moved its focus from direct subsidies to agriculture towards a full development of the rural economy and towards environmental protection. After the EU accession Romania received funds for agriculture under the form of direct payments per area. In 2014 and 2015 Romania shall continue the gradual introduction of direct payments (phasing-in) and shall have the opportunity to provide further complementary national payments. Thus, in 2017 the average value of direct payments shall be comparable to the payments made to other European countries.

MATERIAL AND METHOD

The present paper has been performed based on the data provided by the Agency for Payments and Intervention in Agriculture (APIA), data referring to the period 2007-2011.

The methods used were: comparative analysis, qualitative and quantitative analysis of data, in view of attaining edifying results on the payment system applied in Romania during the first 5 years since the EU accession.

RESULTS AND DISCUSSIONS

Direct payments represent the support granted by the European Union to the farmers in Romania in case these are eligible and submit an application for area payment.

The main conditions that a farmer must fulfil in order to benefit from the direct support per area are: use a surface of agricultural land greater than or equal to 1 ha consisting of plots greater than 0.3 ha of arable land or 0.1 ha permanent crops, maintaining that land in good agricultural and environmental conditions, in compliance with the Good Agriculture and Environment Conditions (GAEC).

In order to improve methods of payment towards beneficiaries, the Romanian state created a scrupulous system of management and control for the payment applications of farmers, respectively the Integrated Administration and Control System (IACS). Creation, implementation and management of IACS is in the assignment of the Agency for Payments and Intervention in Agriculture (APIA).

IACS system manages the following area payment schemes: SAPS (Single Area Payment Scheme), CNDP (Complementary National Direct Payments), the sugar separate payment scheme, and starting with 2008, the transitional payments for tomatoes intended for processing. Also, the Agency for Rural Development and Fishing Payments (ARDFP) has appointed APIA to perform the compensation payments included in Axis II of the National Rural Development Program, respectively the payments for the Less Favoured Areas (LFA) and agro-environmental [6].

Table 1. Evolution of the number of farms and areas with financial support

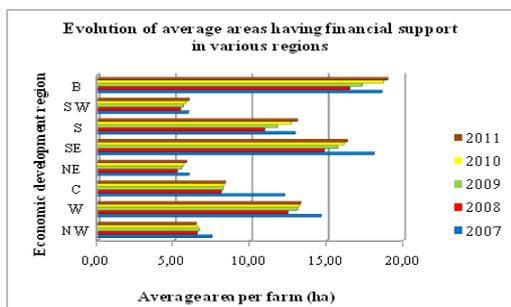| No.	Year	No. of farmers	Total area - ha	Average area ha/farmer
1	2007	1.240.168	12.338.798	9,95
2	2008	1.130.338	9.254.545	8,19
3	2009	1.122.011	9.598.387	8,55
4	2010	1.093.126	9.603.655	8,79
5	2011	1.088.664	9.721.753	8,93

Figure 1. Evolution of average areas having financial support in various regions

From the data provided by APIA we have considered inconclusive and distorted those relating to 2007, the first year of IACS appliance, when the same surfaces and payments were recorded as declared to more beneficiaries. The number of farmers who have benefited from direct payments steadily decreased over the period 2008-2011, while the subsidized area increased by 5.05%, from 9,254,545 ha to 9,721,753 ha. This evolution implies a phenomenon of concentration of the agricultural areas, so that the subsidized average area per farm increased from 8.19 ha in 2008 to 8.93 ha in 2011.

Table 2. SAPS eligible EA situation that have benefited from APIA payments in 2010*

No.	Specification	Unit	Absolute value	Relative value
1	Total EA	no.	3.856.245	100,00%
2	SAPS eligible EA	no.	1.119.200	29,02%
3	EA who have benefited from APIA payments [2]	no.	1.093.126	97,67%
4	Total area	ha	13.298.000	100,00%
5	Eligible area	ha	9.788.000	73,61%
6	Area that has benefited from APIA payments	ha	9.603.655	98,12%

*) processed based on the MARD Report July 2011 and APIA data 2010

A report of the Ministry of Agriculture and Rural Development of Romania [4] on the position of agriculture in the economy for the year 2010, shows that from a total number of farms of 3,856,245 only 29.02% were declared eligible for the SAPS support (1,119,200 farms). Of these farms, those who applied for payment and received APIA payments were of 1,093,126 representing 97.67%.

In terms of total agricultural area, this was of 13,298,000 ha for the year 2010, of which 73.61% was surface eligible for financial support (9,788,000 ha and 98.12% of this received APIA payments).

From the data presented above it is noted that approximately 1/3 (29.02%) of the eligible farms own 3/4(73.61%) of the eligible area, the 2/3 difference representing 70.98% of the farms not are eligible because they have very small land plots (26.39% of total arable land)

Table 3. Evolution and structure of the financial support for the period 2007-2011

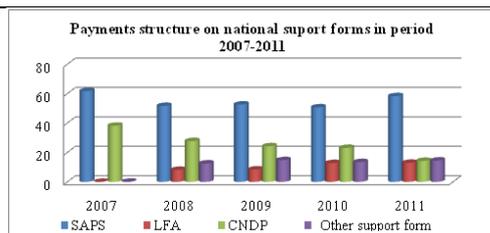| No.	Year	TOTAL	SAPS	LFA	CNDP	Other forms	Payments per farm	Payments per area
		thousands €	%	%	%	%	€/farm	€/ha
1	2007	835,005	61.73	0.00	38.16	0.11	720.29	72.40
2	2008	1,010,632	51.63	8.14	27.74	12.49	894.10	109.20
3	2009	1,149,240	52.59	8.40	24.23	14.78	1,024.27	119.73
4	2010	1,377,392	50.64	12.80	23.10	13.46	1,260.05	143.42
5	2011	1,494,283	58.27	12.96	14.28	14.49	1,372.58	153.71

Figure 2. Payments structure on national support forms in period 2007-2011

Regarding the structure of the payments on support forms, we found that during the period 2007-2011, the area payments (SAPS) were the most consistent form of support granted, over 50% of the total. Also, the volume of payments increased by 10-20% each year compared to the previous year. By increasing the area supported the direct payment per hectare was supported.

In 2008, the total payments made through APIA have recorded a 21.03% increase compared to 2007, by the introduction of payments for disadvantaged areas. These payments represented: 51.63% SAPS payments, 8.14% LFA payments, 27.74% CNDP payments and 12.5% other support forms. Analysing the situation of APIA payments in 2009, we observe an increase of 13.71% of the total payments granted to farmers compared to 2008 and are composed of: 52.59% SAPS payments, 8.40% LFA payments, 24.23%, CNDP payments and 14.78% other support forms. The value of total payments granted to farmers also continued to grow in 2010, when it amounted to 1,377,391,521 €, with 19.85% more than in 2009. In 2010, the structure of these payments was as follows: 50.64% SAPS payments, 12.80% LFA payments (an increase of 4.39% compared to 2009), 23.10% CNDP payments and 13.46% other support forms.

2011 continued the upward trend of the total payments value, reaching the amount of 1,494,283,383 €, with 8.48% more compared to 2010, with the structure: 58.27% SAPS payments, (with an increase of 7.63% compared to 2010), 12.96% LFA payments, 14.28% CNDP payments and 14.49% other support forms.

In figure 3 we observe an increase from one year to the other as regards to the value of payments granted per farm in all 8 development regions of Romania. Bucharest -

Ilfov region stands-out with the highest values of payments, ranging between 1,707.10 €/farm in 2007 to 2,441.07 €/farm in 2011, and South East region showing values of payments ranging between 1,361.58 €/farm in 2007 to 2,443.31 €/farm in 2011.
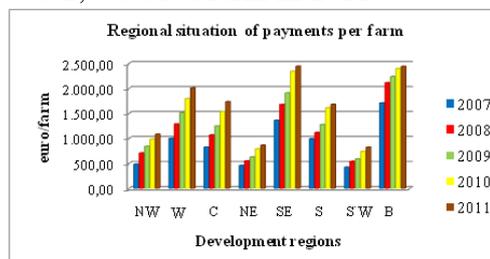

Figure 3. Regional situation of payments per farm

At the extreme we mention the payments per farm minimum in the South - West and North – East regions as follows: in the South - West the payments per farm range between 422.78 €/farm in 2007 to 822.80 €/farm in 2011, and in the North - East, these payments per farm were ranging between of 458.38€/farm in 2007 to 864.96 €/farm in 2011.

In terms of area payments granted, expressed in €/ha the situation is the following: in 2007 from 65.02 €/ha payments granted in N-W region and up to 91.83 €/ha in Bucharest - Ilfov.
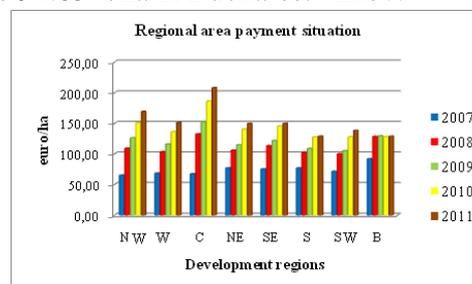

Figure 4. Regional area payment situation

Referring to the value of the subsidies distributed through APIA, there is an increase from one year to the other as regards payments granted per hectare in all development regions in of Romania.

In 2008 the payments per hectare ranged between 99.95 €/ha in S-W region to 132.48 €/ha in the Central region.

In 2009 the payments per hectare were ranging between 105.18 €/ha in S-W region to 152.36 €/ha in the Central region.

In 2010, then there were payments per hectare granted ranging from 127.61 €/ha in South-Muntenia region to 186.37 €/ha in the Central region.

In 2011, the last year included in our analysis, the smallest value of payments per hectare was recorded in Bucuresti – Ilfov region, amounting to 128.72, and the highest value of payments per hectare was recorded in the Central region.

CONCLUSIONS

Based on the analysis performed we draw the following conclusions:

Direct payments represent the support granted upon request to farmers in Romania, when these fulfil the eligibility terms by the area of the arable land of minimum 1 ha, composed from plots of land larger than 0.3 ha for arable land or 0.1 for permanent crops, and the land is kept in good agricultural and environmental conditions.

APIA manages the Integrated Administration and Control System (IACS) with the following area payment schemes: SAPS (Single Area Payment Scheme), CNDP (Complementary National Direct Payments), LFA (Less Favoured Areas payments), agro-environmental measures, sugar separate payment scheme, transitional payments for tomatoes intended for processing, as well as the compensatory payments included in Axis II from NPRD.

Single area payment scheme (SAPS) represents the most consistent form of support granted, representing more than 50% of the total. The volume of payments has annually increased with 10-20% compared to the previous year, in all 8 development regions by the increase of the areas supported and through the direct payment per hectare.

The analysis shows a greater concentration referring to the areas in Bucharest and S-E regions.

3/4 of the area eligible for financial support is concentrated in 1/3 of the eligible farms. The rest of 2/3 of the farms are not eligible because these have very small surfaces and are fragmented in many plots.

The financial support measures have not been sufficient in order to determine the small farmers to concentrate their land (association, farm leasing, sale-purchase, etc.) so that the eligible surface would increase and effectively the one subsidized.

For 2014-2020 CAP anticipates changes regarding the subsidizing ways for small farms that are up to 3 hectares, such as flat rate payment on the farms, crop diversification, etc. In these conditions the use of European funds represents a challenge that will influence the productivity and competitiveness of the Romanian farms.

It is considered useful to continue further this analysis in order to highlight the possible changes in the farmers' behaviour in reaction to the support measures that shall be adopted in 2014-2020 period that should lead to attaining the commercial character of the Romanian farms.

ACKNOWLEDGEMENTS

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THE RESEARCH IN WHAT CONCERN THE BEHAVIOUR OF SOME SUNFLOWER HYBRIDS CULTIVATED IN IRRIGATION CONDITIONS IN DOBROGEA

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Abstract

The research of some sunflower hybrids cultivated in Dobrogea in drought-conditions. The research took place in the period 2009 -2011at S.C.D.A,Valu lui Traian,Constanţa County,an area which is representative for its climatic conditions, the geomorphological unit and soil type are specific to the region in which the trial results will be implemented.There were followed up 6 hybrids (Favorit,Singi,Delfi,PR64A89,Tekny and Kondi) and three levels of water supplies: unirrigated,irrigated with pedological irrigation rate of 700m³/ha and irrigation with pedological irrigation rate of 350 m³/ha(50%from pedological rate) . The accomplished research showed the fact that the years 2009 and 2010 were not fovourable to sunflower crop but 2011 was a very advantageous one.The yield average during the three years(2009-2011) showed that in unirrigated conditions,the yield of the 6 hybrids was between 29,3q/ha and 35,0q/ha.Through the application of the irrigation rate of 700m³/ha,the yield average during the three years of trials has increased, its value being between 34,3q/ha(FAVORIT) and 45,0q/ha(KONDI).The reduction of the irrigation rate with 50% caused a decreasing yield for the whole sunflower hybrids. The yield varied from 30,5q/ha (FAVORIT)and 41,5q/ha(KONDI). In unirrigated conditions, the yield had the lowest level and it depend on the climatic condition of the crop year. KONDI hybrid showed a stable yield in unirrigated conditions and different climatic conditions between 2009-2011. FAVORIT hybrid yield was very much affected by the weather conditions of the crop years.

Key words: tolerance, geomorphological unit, pedological rate, yield

INTRODUCTION

Dobrogea region is chiefly distinguished by an irregular distribution in time and space of rainfall, thus, for the sunflower crop there isn't provided a comfortable humidity rate corresponding to the normal development of plant. Therefore,it can be mentioned the fact that on 90% from the ground surface of the region, the pluviometric rate is insufficient totalizing 432,2 mm during an annual year(multiannual average in 70 years), the irrigation being the most important measure for ensuring a profitable yield for the peasantry.

The decreasing of the irrigated areas, the destruction of the ex-irrigation systems, the high cost on 1000 m³, motivate the authors to study the most adequate germoplasma for obtaining profitable crops in conditions of less water supply.

This is the reason why, the work aims a follow-up of varied germoplasma behaviour of sunflower from the origin and earliness point of view, so as to identify hybrids that have a fast rhytm of loss seed water.From an agricultural point of view, the sunflower is considered to be a well-adaptive crop to drought, mainly because of a strong capacity of water absortion, ensured by its well-developed and efficient radicular system. Because it uses the lowest quantity of available soil water, the sunflower shows its high adaptability at unfavourable conditions, as well as its high resistance to the lack of water[1],[2],[8]. When the sunflower is cultivated in stress conditions, the yield is well- correlated with the limited water level. In what concern the conditions in South Romania, the water necessity of sunflower is covered in a ratio of 55-80% from soil water reserve at sowing and from rainfall in

the vegetation period. For obtaining maximum yield, 20-25% from the water necessity must be completed by irrigation [5]. In the field trials made at Novi Sad, the irrigation contributed to the implementation of a medium increasing seed yield with 19,9%. On the other hand, in normal years there weren't remarked significant differences between irrigated and unirrigated variants[3]. For the South–East region , it is recommended medium rainfall norms of 1500 m^3/ha, this indicating that if the irrigation is not applied in the period of maximum water consumption by the sunflower plants, the administered water is not rationally used[2].

MATERIAL AND METHOD

The research was developed and it was executed a sunflower trial, bifactorial type, located after randomized blocks method with the following factors and graduations: A factor- water insurance level: a_1 unirrigated (drought- tolerance), a_2 irrigated with pedological norm of 700 m^3/ha, a_3 irrigated with reduced pedological norm 50%= 350 m^3/ha.
The B factor FAVORIT (INCDA Fundulea), SINGI, DELFI, TEKNY, KONDI(Syngenta) and PR64A89 (Pioneer). The field trial was located at SCDA, Valu lui Traian, Constanta County in the period 2009-2011. The field trial was located in irrigation, pedoclimatic conditions to the area in which the field trial results are going to be applied. The soil type, on which the field trial was located , was specific for the sunflower crop, not only in what concern the texture but also the thickness of permeable horizons In the period 2009-2011 there were applied at a_2 variant three irrigations with pedological norm of 700 m^3/ha, the irrigation norm being of 2100 m^3/ha and at a_3 variant three irrigations with pedological norm of 350 m^3/ha, the irrigation norm being of 1050 m^3/ha. In the year 2010 , due to high rainfall level, there were applied only two irrigations with irrigation norms of 1400, respectively 700 m^3/ha . The vegetation observations contained: springing

date number of days from sowing to springing blooming date, harvesting date, plant height, head diameter. The height and head measurement was made on ten typical plants, chosen after they have bloomed . At harvesting, on the same plant, there were made lab determinations . The medium seed weight on head, the percentage of dry seeds ,the seed humidity the hectolitric mass, 1000-seed weight were tested in the laboratory. The 1000 –seed weight was determined by counting 500 seeds in two repetitionals at each hybrid, their weighting and the reporting of the 1000 –seed medium weight. The hectolitric mass and the humidity were determined in the harvesting day taking into account the average of three determinations carried out from the yield of each hybrid. The yield was determined through seed weighting on the plot, after the lateral and frontal ellimination were made. The seed yield was calculated per hectare after it was brought to the STAS humidity parameters(11%). The results were developed through statistical calculation using the analysis of the variation for bifactorial field trials placed after the randomized blocks method and the correlation between different characters and water supply.

RESULTS AND DISCUSSIONS

The sunflower sometimes suffers of drought, starting with the second period of June until the mid of August. The low water supply quantity in this interval contributes to the increasing of sunflower yield. The sunflower can generate big seed and oil quantities in hidric stress conditions, due to a favourable raport between evapotranspiration deficit and the yield decreasing . On the other hand in optimal water conditions, the sunflower displays high perspired level joined by a low water efficiency. Its photosynthesis is active and its response is quite low at the water factor

and this confers it a certain drought tolerance [4]. The study accomplished during the three years of field trials , not only from the climatic conditions point of view but also from the influence the water supply had on the sunflower crop showed that the years 2009 and 2010 weren't favourable to crop because of the drought or heavy rains that weren't used as well as the high temperatures, and the year 2011 was a favourable one. The research demonstrates that both the water consumption and the efficiency of water supply, modify taking into account the year-by-year climatic conditions[7]. The sunflower hybrids behaviour cultivated in different water supply conditions shows that the average in the period 2009-2011 the medium obtained yield was between 31,4 q/ha(FAVORIT) and 40,5q/ha(KONDI).In comparison to the field trial average (Mt1) (36,9q/ha),FAVORIT hybrid obtained a decreased yield with 5,5q/ha, significant difference. In comparison to FAVORIT, considered the second Mt, the yield differences were higher with 5,6q/ha(DELFI), significant, with 6,9-7,6q/ha(TEKNY and SINGI), distinct significant with 9,1q/ha(KONDI) very significant (Table 1).

Table 1 The influence of the sunflower hybrid over the yield under different water supply conditions(2009-2011)

Hybrids	Yield (q/ha)	Dif. Mt_1 (q/ha)	Significant. Dif. Mt_1	Dif. Mt_2 (q/ha)	Signifi-cant. Dif. Mt_2
FAVORIT	31,4	-5,5	0	Mt_2	
SINGI	39,0	2,1		7,6	**
DELFI	37,0	0,1		5,6	*
PR64A89	35,3	-1,6		3,9	
TEKNY	38,3	1,4		6,9	**
KONDI	40,5	3,6		9,1	***
Average	36,9	Mt_1			

   DL 5%   = 4,7 q/ha   DL 1%   = 6,3 q/ha   DL 0,1% = 8,3 q/ha

The medium yield of sunflower hybrids cultivated under different water supply and climatic conditions(2009-2011) underlines a classification of them as follows:KONDI(40,5q/ha),SINGI(39,0q/ha), TEKNY(38,3q/ha),DELFI(37,0q/ha),

PR64A89(35,3q/ha) and FAVORIT (31,4q/ha). Between the sunflower hybrids yield and water supply level there was established a relationship statistically ensured. (Figure 1)
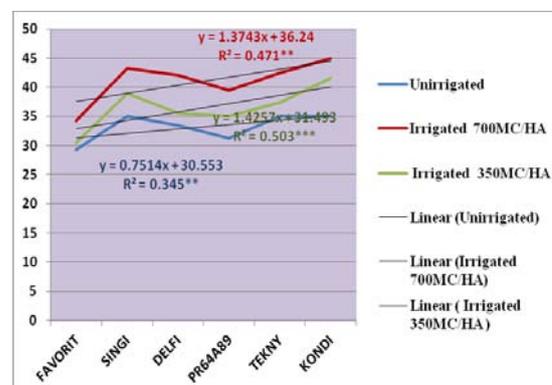

Figure 1 The relationship between the sunflower hybrids yield and water supply(2009-2011)

The irrigation with pedological norm of 700m^3/ha proved to be the most efficient for increasing of the yield. This was with 4,2q/ha higher, comparatively with the field trial average, significant difference. (Table 2)

Table 2 The influence of water supply conditions over the production of sunflower.

Water supply	Yield (q/ha)	Dif. Mt_1 (q/ha)	Signifi-cant. Dif. Mt_1	Dif. Mt_2 (q/ha)	Signifi-cant. Dif. Mt_2
Unirrigate	33,2	-3,7	0	Mt_2	
Irrigated with pedological norm 700 m^3/ha	41,1	4,2	*	7,9	***
Irrigated with reduced pedological norm50%= 350 m^3/ha	36,5	-0,4		3,3	*
Average	36,9	Mt_1			

DL 5%   = 3,2 q/ha   DL 1%   = 4,4 q/ha   DL 0,1% = 5,7 q/ha

In comparison with the medium field trial average the yield obtained by the variants cultivated with unirrigated norm was lower with 3,7q/ha, significant difference while irrigation with pedological norm of 700 m^3/ha there were obtained yield increases of 7,9q/ha comparatively with the unirrigated variant, the difference being very significant.When the water pedological

norm was reduced at 350 m^3/ha there were obtained yield increases of 3,3q/ha in contrast with unirrigation variant , significant differences. From thise research results the fact that the hidric deficit has negative effects over the yield. These can be elliminated by irrigation in drought areas but also in the subwet and wet areas for obtaining a high and constant yield supply. The emergence of hidric stress in the generative period leads to significant reductions of the crop and yield indice parameter, the sunflower yield losses being spread between 20 and 51% [7]. The years different from a climatic point of view marked also the studied 2009-2011 of hybrids height. The water supply conditions contributed also in a certain manner to stem height. Thus sunflower hybrids had the biggest height although the irrigation pedological norm was of 700 m^3/ha (Figure 2). FAVORIT hybrid had a height of 164 cm, under irrigation conditions with pedological norm of 700 m³/ha,160 cm while the 50% reduction of the norm and 157 cm under unirrigation conditions. All the hybrids had the same phenomenon.
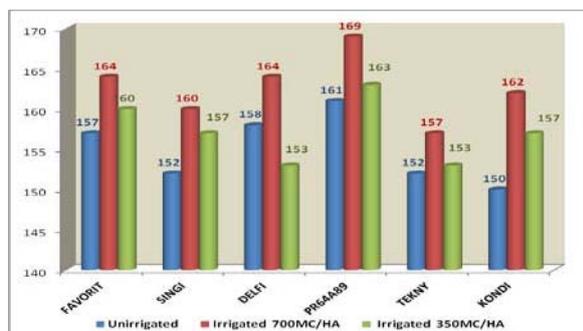

Figure 2 The sunflower hybrids height in terms of water supply level(2009-2011)

The number of seeds on plant, respectively on the head , is determined by the number of corolla tube and the autocompatibility degree of the genotype.A big number of seeds on plant, so a big head , is a character which ensures high yield [7].
The head diameter varied in reduced limits between the hybrids, in terms of water supply but also the climatic conditions of the crop year. Under irrigation conditions with pedological norm of 700 m^3/ha, the head

diameter varied between 22 cm at PR64A89 hybrid , 23 cm at TEKNY, DELFI,SINGI and 24 cm at FAVORIT and KONDI. When the water pedological norm was 50% reduced the head diameter decreased at 21cm at PR64A89 hybrid and 20 cm at the other hybrids. Under unirrigated crop condition the medium head diameter decreased from 18 cm at TEKNY hybrid to 20 cm at DELFI hybrids, and 21 cm at SINGI and SINGI and FAVORIT hybrids.(Figure 3)
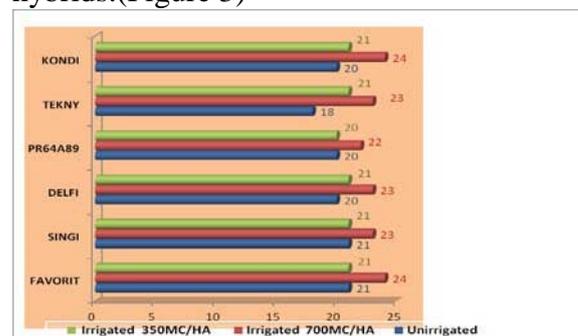

Figure 3 The head diameter of the sunflower hybrids in terms of water supply level(2009-2011).

The research carried out inside and outside the country showed a significant correlation between the head diameter and seed yield, argued that the head diameter conditionates the number of seeds and their weight[1].The climatic conditions in the period 2009-2011 as well as those of water supply marked the medium seed weight per head. All the period , under irrigation conditions with pedological norm of 700 m^3/ha, the seed weight was the biggest, an average on the 3 years being established between 85g at DELFI and 97g at KONDI hybrid (Figure 4). The 50% reduction of the water pedological norm determined the decreasing of the medium seed weight per head at range between 69g for the FAVORIT hybrid and 87g for KONDI hybrid.
In what concern the unirrigated variant, the decreasing of seed weight per head was higher, its range on average of 62g for FAVORIT hybrid and 75g for KONDI hybrid.
There was established a distinct significant correlation between the medium seed weight per head of sunflower hybrids and the water

supply level, in conditions of irrigation with pedological norm of 700m^3/ha and very significant in the case in which there is a 50% reduction of the pedological norm, as well as there isn't any irrigation .(Figure 5)
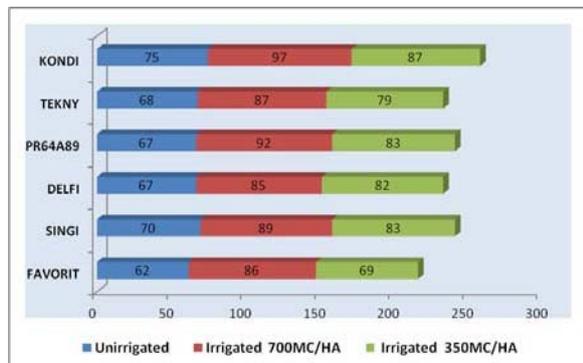

Figure 4 The medium seed weight (g)per head of sunflower hybrids in terms of water supply level (2009-2011)
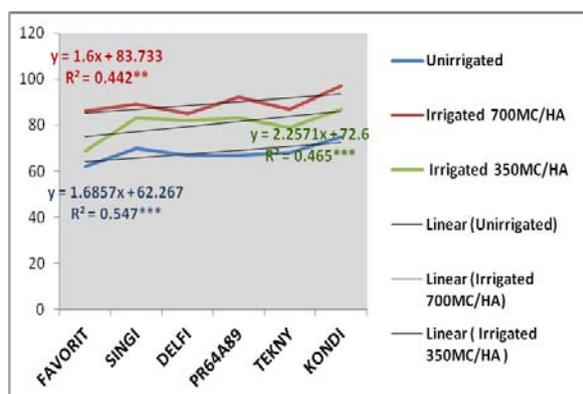

Figure 5 The relation between the medium seed weight per head of the sunflower hybrids and the water supply level (2009-2011)

The 1000 –seed weight is specific to the each hybrid but it is also influenced by the crop and climatic conditions. The seed weight, represents one of the basic components which participates to crop production.

This production component depends on the distinctiveness of the genotype, the provision and water reserve in soil, field diseaseless. The seed formation is

Therfore, in the whole water supply condition, the extremes for the value of the hectolitric mass were the FAVORIT

influenced by complex fiziological processes, a stage in which a germ organ differentiation. This stage starts in the same time with the length of the stem[8]. The climatic and water supply conditions influence was also noticed in the 1000-seed weight, range of the tested sunflower hybrids.The influence of irrigation with pedological norm of 700 m^3/ha was remarked while obtaining the highest 1000-seed weight range:66 g for KONDI hybrid in contrast with 61g for unirrigated condition.Significant differences were also obtained for the 1000-seed weight at the other hybrids comparatively with the irrigated variant with 50% reduced pedological norm or unirrigated variant(Figure 6).
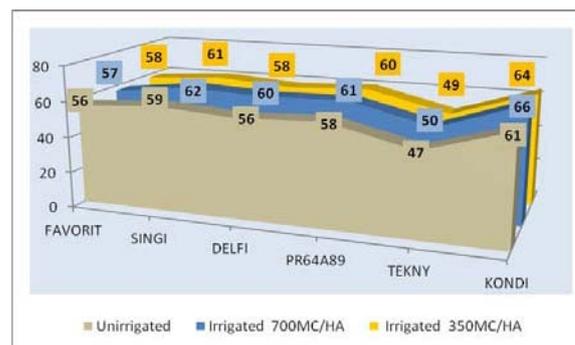

Figure 6. The 1000-seed weight of sunflower hybrids in terms of water supply level (2009-2011)

The hectolitric mass of seeds, is influenced by the seed form and the space between kernel and crusts and displays a clear correlation with the seed yield. Some authors show an even major interest to the hectolitric mass to the detriment of 1000-seed weight[3]. The average on the years 2009-2011 confirmed that crop irrigation with pedological norm of 700 m^3/ha determined higher hectolitric mass in comparison with the situation in which the water pedological norm was 50% reduced or there weren't irrigation conditions .

hybrids with 31kg/hl in unirrigated conditions,34 kg/hl in irrigation conditions with pedological norm of 700 m^3/ha and 33 kg/hl while reducing the with water pedological norm 50% and KONDI with

34-37-36kg/hl, for the same conditions. The hectolitric mass range of the other hybrids enters into these limits with the maximum only if the irrigation with pedological norm of 700m^3/ha and the minimum if there weren't any irrigation conditions(Figure7).
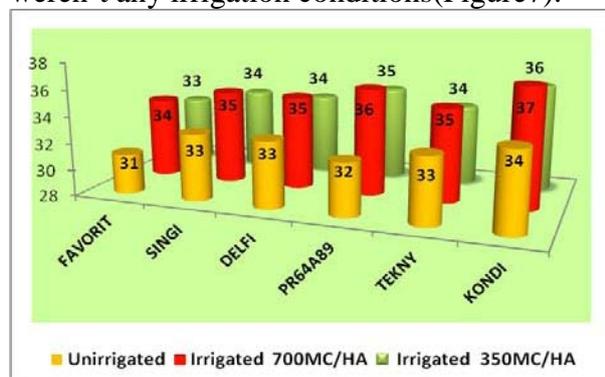

Figure 7. Hectolitric mass (kg/hl) of sunflower hybrids in terms of the water supply level(2009-2011)

CONCLUSIONS

The high temperatures, ununiform and less rainfall allocated during the vegetation period of the crops, intense hotness in July and August, impose the irrigation as a necessity for safe and stable yield . Under unirrigation conditions , the yield registered the lowest level , and it depended on the weather conditions of the crop year.KONDI hybrids showed stable yield , followed by TEKNY,DELFI and PR64A89.The yield of FAVORIT hybrids was affected in climatic conditions of crop years. Under irrigation conditions with pedological norm of 700 m^3/ha, the highest yield was registered by the hybrids: KONDI, SINGI, TEKNY, DELFI and PR64A89. FAVORIT hybrid responded to the irrigation conditions only in 2011, favourable from a climatic point of view. The yield decreased when the water pedological norm was reduced with 50%. DELFI, PR64A89,FAVORIT and KONDI hybrids showed a higher yield stability , comparatively with TEKNY and SINGI. The plant height , the head diameter, the seed weight per head, 1000-seed weight and the hectolitric mass varied in terms of climatic and water supply conditions. For Dobrogea area , in unirrigation conditions it

is indicated the cultivating of KONDI hybrid, and for irrigation conditions the hybrids :KONDI,SINGI,TEKNY,DELFI and PR64A89. Due to the introduction of new hybrids in crop , it is recommended the research to be continued in what concern their behaviour at stress conditions .

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APPRAISAL ANALYSIS OF AN AGRICULTURAL COMPANY AND ESTABLISHMENT OF A DEVELOPMENT STRATEGY

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Abstract

The paper presents the diagnostic analysis of SC Agrozootehnica Indeoendenta SA from Calarasi locality, analysis performed based on the data provided by the annual financial statements and those in the commercial, managerial, technical and technological sectors. The analysis started with the realization of the internal and external factors appraisal matrices of each branch of activity from the company, as well as the preparation of the internal and external factors global appraisal matrices (MEFI and global MEFE), based on which the development strategy was identified, by setting the values identified through matrix, in the SWOT model. The company SC Agrozootehnica Independenta SA is positioned in the IInd quadrant from the SWOT chart, quadrant that highlights the status of a company that has numerous advantages, but meets an unfavourable environment, so that it must use the strong points in order to create opportunities in other complementary activity fields or on other markets. Following our analysis, the recommendation is for SCAgrozootehnica Indeoendenta SA to adapt and implement a diversification strategy.

Keywords: economic MEFI, commercial MEFI, technical and technological MEFI, managerial MEFI, global MEFI and MEFE, diversification strategy.

INTRODUCTION

Under a competitive economic environment the major objective of agricultural companies is represented by their value's maximization, respectively the increase of their owners' fortune. This objective targets the development of the company's activity in conditions of higher profitability and in the same time keeping the creditworthiness and financial balance. [2]

In addition to these goals, from the management point of view, achievement of the following objectives may also be pursued: financial flexibility, maximal growth and maintaining financial power and autonomy.

Financial flexibility reflects the adjustment capacity of the company to the environment changes; a good flexibility can only contribute to the maximization of the company value.

The maximal growth does not necessarily lead to company value maximization: a strong growth, may lead, in certain periods, to a profitability decrease and risk increase, to financial deficiencies, because shareholders prefer to place the resources of the company

that have a moderate increase, and in consequence a lower risk, although these offer a constant profitability. The policy of keeping financial power and autonomy may sometime lead to inferior performances. [4]

Agricultural companies managers must pursue the achievement of those short term objectives that contribute to the achievement of the long term general objective: increase of the company patrimonial value, *the only way to attain its sustainability.* [3]

MATERIAL AND METHOD

The present paper has been prepared based on the data provided by SC Agrozootehnica Independenta SA from Calarasi locality, an agricultural stock company, having as objects of activity crop culture, animal breeding, services rendering and seedlings production. The methods used in elaborating the paper were: diagnostic analysis through the realization of the Internal Factors Appraisal Matrix for different branches of activity from the company, as well as Global External Factors Appraisal Matrix.

The elaboration method for the Internal Factors Appraisal Matrix (MEFI) is the following:

- List of the most important strong and weak points (10 to 20 strong and weak points shall be picked, as for being the most important for the activity branch analysed).

- For each strong and weak point a percentage is granted having values in the interval (0-1), so that the amount of these values is 1, significance of each factor is given by the importance that the factor has in the establishment of the strategy.

- Each factor is ranked: rank 4 – major strong point, 3 – minor strong point, 2 – minor weak point, 1- major weak point.

- For each factor a score is determined by multiplying the percentage of the factor with its rank. The total score may be comprised in the interval (1-4). If the total score has values below 2, the strategy must be eliminated, above 2, the strategy is accepted.

The External Factors Appraisal Matrix elaboration (MEFE) was done as follows:

- The determination of 10-20 external factors (opportunities and threats) that are important for the company;

- Each external factor is given a significance coefficient (the share that the external factor has in the evolution of the overall environment where the company takes actions), with values in the interval (0-1).

- Each factor is ranked, fact that expresses the response abilities of the company.

- Depending on the efficiency with which the strategy responds to the influence of the respective factor, this shall have the following values: 1 for major threat (low efficiency), 2 for minor threat (average efficiency), 3 for a minor opportunity (over average efficiency), 4 for a major efficiency (high efficiency).

In order to obtain conclusive results on the type of development strategy that is required to be applied in future activity of the company, the SWOT model was used.

RESULTS AND DISCUSSIONS

Then we discuss about the internal economic environment of SC Agrozootehnica

Independenţa SA, we consider the overall economic elements from the company's interior over which this has an influence determined also by a total control. Therefore, the elements that influence the internal economic environment are represented by forces and weaknesses. The most important economic elements of the company are its resources, structured in physical (material), financial, operational, human and technological resources.

Table no. 1 Internal factors matrix in the economic field

No.	Internal factor name	Coefficient of significance CS	Mark granted Mj	Score granted S =ΣCS x Mj
1.	Fixed assets ratio	0.05	4	0.20
2.	Current assets ratio	0.05	4	0.20
3.	Stocks ratio	0.02	3	0.06
4.	Trade receivables ratio	0.02	2	0.04
5.	Cash and investments ratio	0.02	2	0.04
6.	Financial stability ratio	0.05	3	0.15
7.	Financial autonomy ratio	0.05	3	0.15
9.	Global debt ratio	0.05	3	0.15
10.	Net situation	0.05	4	0.20
11.	Working capital	0.05	4	0.20
12.	Working capital needs	0.05	4	0.20
13.	Net treasury	0.05	2	0.1
14.	Evolution of total expenditure	0.02	3	0.06
15.	Evolution of total revenues	0.05	4	0.20
16.	Economic return ratio	0.1	4	0.4
17.	Financial return ratio	0.1	4	0.4
18.	General liquidity	0.1	4	0.4
19.	Immediate liquidity ratio	0.02	2	0.04
20.	General solvency	0.1	4	0.4
	Total	1	-	3.59

The score obtained is 3.59 indicating that the fact that economically SC Agrozootehnica Independenţa SA has a good diagnostic.

The necessity of having a diagnostic analysis of SC Agrozootehnica Independenţa SA, is justified by the importance the information obtained for the preparation of the commercial strategy. This information refers to:

-Supply and demand characteristics identification on the agricultural market where the company activates.

- Performance of a comparison between the company products prices with the prices used by other economic units.
- Determination of the organization ways for supply and distribution;
- Existence of some promotion techniques for the company image and products.

Table 2 Internal factors matrix in the commercial field

No.	Internal factor name	Coefficient of significance CS	Mark granted Mj	Score granted S =ΣCS x Mj
1.	Market share increase	0.15	4	0.60
2.	Good market positioning	0.15	4	0.60
3.	Own distribution channels network	0.08	3	0.24
4.	High quality of the products	0.09	4	0.36
5.	High competitiveness of the agricultural products performed	0.08	3	0.24
6.	Increase of the production surface and implicitly of the available finished products	0.10	3	0.30
7.	Higher prices than the market average	0.07	1	0.07
8.	Products range little diversified	0.09	2	0.18
9.	Packaging having a low degree of attraction	0.10	2	0.20
10.	Weak developed promotion activity	0.06	1	0.06
11.	Consumer loyalty	0.03	2	0.06
	TOTAL	1.00	-	2.67

The total weighted score is lower than 2.67, showing that the company is well rated from the commercial point of view.

The diagnostic analysis of the technical/production field has a special significance because it allows:
- Quantification of the extent to which the production capacity is used and the economic efficiency appraisal of technologies and equipment used by the company;
- Establishment of a quality level for own products compared to the existing norms;
- Determination of the impact of company machinery repairs and maintenance activity organization on the company efficiency;
- Determination of the degree in which the utilities and energetic resources necessary is covered;
- Comparison of the existing conditions with the ergonomic requirements of each work position.

The total weighted score is lower than 2.77, showing that the company is well rated from the technical and technological points of view.

Table 3. Internal factors matrix in the technical and technological fields

No.	Internal factor name	Coefficient of significance CS	Mark granted Mj	Score granted S =ΣCS x Mj
1.	Large quantities raw material supplying possibilities	0.10	3	0.30
2.	Possibility of producing part of the raw materials (seeds and planting material, fodder)	0.10	4	0.40
3.	Stability in livestock production	0.08	4	0.32
4.	Correct nourishment of the animals by structuring the fodder ratio	0.09	4	0.36
5.	Technological processes in crop production performed in due time	0.10	3	0.30
6.	Planning the activity of maintenance of agricultural machinery and equipment	0.07	3	0.21
7.	Superior quality of finished goods obtained in the plant and livestock sector	0.10	4	0.40
8.	Lack of an automatized line for packaging of the agricultural products	0.03	2	0.06
9.	Expenses with the transportation means	0.04	1	0.04
10.	Agricultural production dependence on agro-meteorological conditions	0.10	1	0.10
11.	Production volume quasi-dependence on soil characteristics	0.09	2	0.18
12.	Production process inflexibility in plant and livestock production	0.10	1	0.10
	TOTAL	1.00	-	2.77

The analysis of the management field has the purpose of determining the extent and efficiency with which the management of the company predicts, organizes, coordinates, performs, controls and appraises company activities. According to the organization chart, the company has a pyramidal type structure, with four hierarchical levels. The structure is classical, typical for companies with high degree integrity, where the whole range of functions is found. The organizational chart has functions with presence and dimension that reflects the interest shown in the company for: quality, production, and marketing.
The activity of the company manager has the objective to obtain the following

performances: turnover, investments and profit increase. [1] The financial results attained by the company during the analysed period prove the abilities of the management team in crossing over a period when the Romanian economic environment is seriously damaged. Management opening towards innovation is noted as well as its capacity to undertake difficult responsibilities in the reorganization or the company. We consider that the management is active and involved, interested in defining a real and viable strategy for the medium and long term in order to face the economic crisis period that our country is crossing over.

Table 4. Internal factors matrix in the managerial field

No.	Internal factor name	Coefficient of significance CS	Mark granted Mj	Score granted S =ΣCS x Mj
1.	Well defined organizational structure	0.15	4	0.60
2.	Well organized informational system	0.15	3	0.45
3.	Efficiency of the decisional system	0.08	4	0.32
4.	Participative management style	0.09	3	0.27
5.	Efficient use of the control-evaluation function	0.08	3	0.24
6.	Efficient use of the coordination function	0.10	3	0.30
7.	Lack of autonomy in obtaining market information	0.07	1	0.07
8.	Lack of concern for product promotion	0.09	1	0.09
9.	Lack of activity referring to the performance of prognosis	0.10	2	0.20
10.	Lack of interest on research – development in the agricultural field	0.06	2	0.12
11.	Prevailing caution given to current problems in detriment of those in perspective	0.03	2	0.06
	TOTAL	1.00	-	2.72

The total weighted score is less than 2.72, showing that the company is well rated from the management point of view.

Taking into account the weak and strong points of the analysed agricultural company, drawn from the diagnostic of the internal potential in the economic, commercial, technical, technological and managerial fields, on one side and threats and opportunities specific to the external environment, on the other side, we build the SC Agrozootehnica

Independenţa SA appraisal matrix in report with the internal (MEFI) and external (MEFE) factors. If the score obtained has values below 2, the company shall be rated internally weak, and it shall be rated stronger if the score gets closer to the value of 4.

Table 5. Internal factors global appraisal matrix

No.	Internal factor name	Coefficient of significance CS	Mark granted Mj	Score granted S =ΣCS x Mj
1.	Quality of the products offered	0.15	4	0.60
2.	Market share	0.05	3	0.15
3.	Distribution network	0.05	2	0.10
4.	Price policy	0.05	3	0.15
5.	Products promotion	0.05	1	0.05
6.	Profitability	0.10	4	0.40
7.	Liquidity	0.10	4	0.40
8.	Solvability	0.10	4	0.40
9.	Technologies used	0.05	3	0.15
10.	Managerial system	0.10	3	0.30
11.	Informational system	0.05	3	0.15
12.	Production capacity	0.10	2	0.20
13.	Structural organization	0.05	3	0.15
	TOTAL	1.00	-	3.20

The value obtained shows the fact that the company has a strong internal strategy, having good ratings as regards to profitability, liquidity and solvability as well as high quality products. The company should insist on product promotion fact that could bring new market segments and implicitly additional revenues.

The external environment targets the overall elements from the company exterior that is in direct or indirect contact with, influencing and being influenced to the same extent. The study of the external environment from the point of view of strategies is due to its dynamic, complex and uncertain character. The external environment of a company, no matter of its character, is divided in general external environment and competitive external environment. No matter of affiliation, the general external environment influences any type of company and is represented by the following forces: political-legislative, social-cultural, economic, and technological.

The total score of 1.90 shows that the company has a low adjustment capacity to the environment requirements. One of the most important factors of the environment is represented by inflation, economic crises as well as the decrease of the demand on the

internal market. The main opportunity is constituted by the company capacity to promptly respond to the new market segments that have appeared.

Table 6. External factors global appraisal matrix

| No.	Internal factor name	Coefficient of significance CS	Mark granted Mj	Score granted S =ΣCS x Mj
1.	Product diversity	0.05	4	0.20
2.	Expansion of the distribution on the market	0.10	4	0.40
3.	Purchasing power decrease	0.10	2	0.20
4.	Competition intensification	0.10	1	0.10
5.	Economic recession	0.05	1	0.05
6.	Internal market demand decrease	0.15	1	0.15
7.	Governmental policy changes	0.15	2	0.30
8.	Inflation	0.10	1	0.10
9.	Financial situation of suppliers and clients	0.10	2	0.20
10.	Labour force migration	0.05	2	0.10
11.	Technological changes	0.05	2	0.10
	TOTAL	1.00	-	1.90
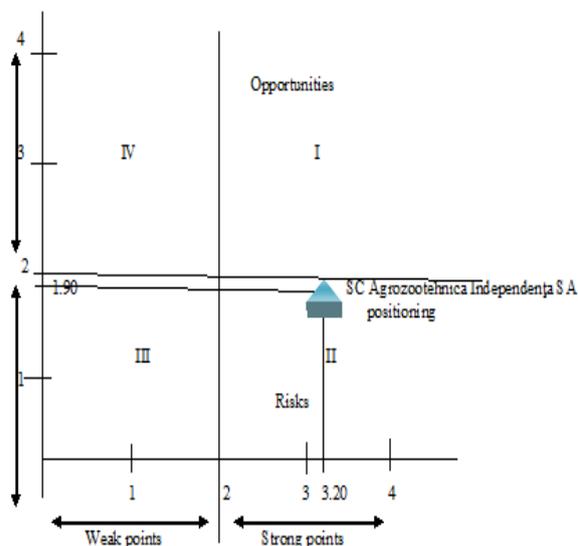
Fig.1.Development strategy quadrant identification using the SWOT model

The analysis continued with the establishment in the quadrant of the SWOT model by positioning the SC Agrozootehnica Independenţa SA agricultural company in one of the four quadrants according to the results calculated with the MEFE and MEFI matrices.
As we can observe from Fig.1., SC Agrozootehnica Independenţa SA is situated in the IInd Quadrant, quadrant where companies with numerous advantages are positioned, but where these meet an unfavourable external environment, thus necessary to use the existing strong points for creating some opportunities in other complementary activity fields or on other markets: it is recommended to use a *diversification strategy*. [3]

CONCLUSIONS

Based on the analysis performed the following conclusions arise:
-The score obtained on economic MEFI is of 3.59 showing that economically, SC Agrozootehnica Independenţa SA has a good diagnostic.
-The total weighted score to commercial MEFI is lower than 2.67, showing that the company is well rated commercially.
-The total weighted score obtained to technical and technological MEFI is lower than 2.77, showing that the company is well rated technically and technologically.
-The total weighted score to managerial MEFI is lower than 2.72, showing that the company is well rated from the managerial point of view.
-The value obtained to global MEFI is of 3.20 showing the fact that the company has a strong internal strategy, having good ratios as regards to profitability, liquidity and solvability as well as high quality products. The company should insist on the promotion of products that may bring new market segments and implicitly additional revenues.
-The total global MEFE score of 1.90 shows that the company has a reduced capacity to adjust to the environment requirements. One of the most important environment factors is represented by the inflation, economic crisis as well as the decrease of the internal market demand. The main opportunity is represented by the company capacity to promptly respond to the demand of the new market segments that have appeared.
SC Agrozootehnica Independenţa SA must adopt a diversification strategy, because it has numerous advantages but the external

environment is unfavourable, being necessary to use the existing strong points in order to create opportunities in other complementary fields of activity or on other markets.

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INTERDEPENDENCE BETWEEN INVESTMENT RISKS AND THE INNOVATION DEVELOPMENT OF THE COUNTRY

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Abstract

This article is dedicated to research of the role of investment risk and implement innovations that ultimately leads to increased competitiveness fence at different levels of economic activity. It is well known that the interdependence between risk and profit, but there is a strong interrelationship between the risk of investment and innovative development of the country. Based on this purpose have been characterized elements of investment risk has been made an investment risk analysis, innovational process and performance indicators. In that article presents a vision of innovation and investment activity in Moldova.Here are considered the main components of development indicators are presented that characterize performance, identifies trends in international and local level. Addressing the investment process both at national and global level allow to assess the influence of innovation on the development of innovative risk of the country.

Key words: risk, investment risk, risk of innovation, innovative development, innovation management, investment management

INTRODUCTION

The new economy characterized by innovation need, the need to produce something else or to produce differently, impose the condition of transforming and idea into a salable product, new or an improved one, or an operational process or industry or commerce, or in a new social approach.

Innovation brings risk with it. This process largely depends on the investment risk. It is well known that investment in research generates the quality economic development of the country.

Innovation imposes an eloquent rule: "if there is no risk, then there is nothing new" – innovation as a means of global competition is meaningless.

This is why studying the risk of a knowledge-based economy, particularly in the context of innovative development, acquires a large valence.

MATERIAL AND METHOD

It has been effectuated a monographic study which object is to study the evaluation of the interdependence between investment risks and the innovation development of the country.

During the study we use the statistical method of observation which involved a large number of observations and monographic method. Information was collected from National Bureau of Statistics, Academy of Sciences of Moldova, Eurostat and Worldbank sources.

RESULTS AND DISCUSSIONS

The risk in the context of innovative development relates to funding and application of scientific and technical innovations.

Because the costs and the results of scientific and technical progress are expanded and distanced in time, they can be provided only in certain limits (usually very large). So, innovation risk is the probability of the losses appeared at the entrepreneurial company investment of means to produce new goods and services, which possibly will not find (in short time or never) the expected market request.

Any innovative risk is complex and represents a multitude of elements and risks construction. Thus, the innovative risk

represents a system of factors which act like complex risks, individual for each project participant in quantitative and qualitative relations.

So, the significance of each risk is individual for each participant, but the common risk of innovative process represents for everyone a coherent system of particular risks containing multiple links.

The risk in innovation process is interpreted as objective and inevitable reality. Thus, international experience denotes that the share of obtaining the expected results at the basic stage of the research, usually exceeds 10%.

The share of the applied scientific elaborations is 80%. Preventively it is assumed that even at a strict selection, during which 80-90% of proposals are rejected, however, among the projects that were financed from innovation funds, up to 10-30% of these can be completed with failure. But obtaining a negative, however shows a result [4].

Investors prefer projects with a higher expected return (higher average) instead of projects with lower expected return and if the return is same they prefer the project with the lower risk.

Regarding the risk analysis to compare the priority of investment projects in innovation, it is used the graph which presents the correlation between the relation cost/effect and expected risk. [1]
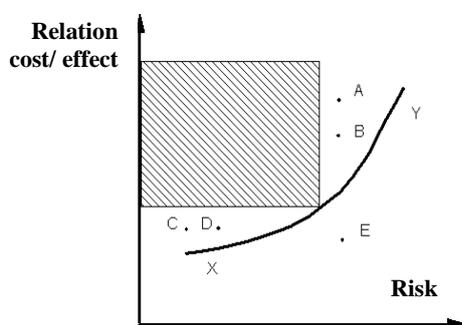

Figure 1. Evaluation of the risk in innovation investments

Based on Figure 1 it can be appreciated the following:

-project A is more acceptable than project B due to higher efficiency at the same risk level;

-project C is more acceptable than project D due to a low risk level;

-Curve XY is the acceptable limit of the conditions to which should correspond the accepted projected.

-The shaded area shows the acceptable correlation between return and risk for investors.

This method doesn't have accuracy, thus the investment projects in innovation can only be classified according to criterion of correlation between return and risk level.

According to neoclassical risk theory, whose theses were elaborated by A. Marshall and developed by A. C. Pigou – the fundamental thesis is "for a higher expected return, the investor is ready to accept a higher risk".

The link between income and risk is the basic position of the investment. Each investment of means has a certain risk level which is named innovation risk. This risk can be characterized as the risk of the total or partial loss of the deposed funds or the risk of not obtaining the expected incomes. If the investor takes a more serious risk then the expected income from his investment is considered to be bigger. This income is the motivation of the entire investment.

The problem is that the innovative entrepreneurship, requires essential investments in the initial phase of development and the projects have a high risk. Thus in the investment chain exists "a weak link" – the projects at initiation phase[1], when the gains can't be known yet.

This is why in the West free donations to scientific institutions are practiced and venture companies, involved in the assimilation experience of the new technologies have tax facilitation and they are supported by the government.

This is the main paradox of the innovation development – it is not possible to predict how fast will be felt the results of research funding? This can't be known by nobody.

In the real economy sector the long terms to achieve projects, the insufficient volume of investment, the low circulation and recovery of means, a relative low level of economic knowledge of the administrative staff restrain

the objective evaluation of privileges conception of risk reduction in teh company's activity and creates a psychological barrier of distrust related to economic science recommendation to minimize the risks.

In reality the financial-economic activity of the company is effectuated in condition of uncertainty. The choice of one or another development strategy cat lead to the increase or the loss of the invested funds. In conditions of uncertainty there are always a multitude of alternatives to adopt decisions.

The probability to realize with success (to obtain maximal incomes with minimal losses) of any of them depends on the essential number of internal and external factors that influence the company. These realities reflect integrally the essence and the notion of risk.

Risk level depends on expected losses size ration to the patrimony volume of the entrepreneurial company, as the probability of appearance of such losses.

One of the main rules of the financial-economic activity says: "Do not avoid the risk, but prevent it, trying to reduce it to the lowest possible level" [2], and for this it is necessary to manage correctly the entrepreneurial risks.

To accept or not the risk especially in innovational activity it is necessary to delimit it.

From statistical point of view the risk can be measured both in *absolute expression* (where the risk can be determined through the size of possible losses in material or value expression), and in *relative expression* – the last being much ampler because the risk is determined as the size of possible losses related to some basis which can be the patrimonial situation of the company or the total expenditures of resources for the respective type of entrepreneurial activity, or the expected income (return).

Then will be considered losses the random deviations of profit, income, return to reduction, in comparison with expected sizes. Depending on the size of possible losses it is reasonable to divide them into three groups:

1.Admissible risks– losses, which sizes don't exceed the calculated profit*;*

2.Critical risks - losses , which sizes is bigger than the calculated profit; these losses are necessary to be returned from entrepreneur's funds;

3.Catastrophic risks – the most dangerous in which the entrepreneur risks to support losses which exceed the patrimony.

In terms of evaluation the risk is defined in a certain manner: it expresses the expected change of the investment return. In terms of statistics and mathematics, it can be expressed as a standard deviation of the returns.

Although the effectuated calculations are very laborious, their accuracy is only apparent. It is created the impression that were taken in account all the aspects related to possible returns and these cannot be situated outside of the predicted interval.

In fact, the realized calculations to determine the risk were based on estimations and cannot be correct only in the case that the forecasts were good.

Based on the fact that in the conditions of a knowledge-based economy the applicative scientific researches funding depends on the economic factor, a groundless decision or risk avoid influence negatively on the quality of the outcome, this is why the elaboration and the adoption of the optimal decision is the main condition to prevent the risk. One of the main reasons to manage investment risks in a innovative economy is the lack of distinct methodological basis of this process. Analysis of risks management principles reveals their inconsistency and the few attempts to systematize them led to multiple contestable moments. However, analysis in the field of risks management methodology taking in account the demands of contemporary economy allows to create the principles system of risks management:

Decision, related to risk, is necessary to be correct economically and to not influence negatively on the results of the financial-economic activity of the company;

➢ Risks management must be effectuated within corporative strategy of the company;

➢ At risk management the adopted decisions should be based on the required volume of veridical;

- ➢ In the process of risks management the taken decision must take into account the objective characteristics of the environment in which operates the company;
- ➢ Risks management mush have a systematic character;
- ➢ Risks management should involve the current analysis of the effectiveness of taken decisions and the operative correction of the set of principles and methods used by the risks management [3].

In these conditions it is necessary to put the risk under control, or to be systemically approached and on certain technologies. In this context it is obvious that the problem of investment risk in a knowledge-based economy, with the acceleration of innovation requires a systematical approach because their correct evaluation will allow us to attract the necessary investments. The problem is that with the exhaustion of the life duration of technical apparatus from many companies, the reduced volume of investments and the vicious management of the depreciation funds, will generate in the future a destructive blockade for the society. It should not be neglected nor the consumers attitude in the preferential utilization of inport products, in the conditions when the domestic market is relatively narrow due to the real incomes of the population, which are modest in comparison with those realised in other developed countries.

The problem referred to the diminution and the prevention of the negative effects of investment risk materialization in terms of creating an innovation economy lies in choosing the measures of an adequate management which will offer a maximum protection and minimum costs.

At macroeconomic level, it should not be ignored the risk generated by corruption, by excessive bureaucracy and instable legal framework, facts what cat reduce the interest of potential investors, especially foreign.

The problem of investment risks in the innovative development of the Republic of Moldova has gained a negative connotation in the last years. First due to the fact that the minimum of investment in the sector of research and development which is necessary to insure an economic growth is considered at the level of 1% of GDP, but for a qualitative growth it is necessary to reach the level of 2%. But even these investments depend on the GDP of each country. As comparison, Moldova spends in R&D sector 0.55% of GDP (24 million dollars) while Poland with the same investment as share of GDP invests 100 times more, and Russia invests only 1% of GDP which consists 20 millions USD.

Table 1. Expenses for research and development in some countries

Countries	Expenses for R & D, milion.USD	Share from GDP, %
Poland	2424,3	0,57
Ukraine	1241,65	0,87
Romania	914,2	0,54
Belarus	439,17	0,97
Republic of Slovenia	387,5	0,46
Kazahstan	220,19	0,21
Bulgaria	202,1	0,48
Azerbaidjan	59,488	0,18
Republic of Moldova	**24,2**	**0,55**
Armenia	19,33	0,21
Kyrgystan	9,5	0,25

Source: calculated using the information published on [7,8]

In this case (Table 1) clearly shows that the share of expenditure from GDP is not a comparable indicator because the value of GDP is very varied.

Ranking of countries by level of funding (like the share % from GDP) spent for R & D in the last years (în ultimii ani), is as follows: first place does Israel (4,2%), second - Sweden (3,8%) three - Finland (3,5%), four - Japan (3,4%), five - Iceland (3,1%), six - the United States of America (2,8%), seven - Germany (2,6 %), ten - France (2,1%), eighteen - England (1,9%), twenty-one - China (1,5%), twenty-five - Russia (1,3%), India (1, 0%).

These countries are in the richest countries in the world. So you can see the direct link between these indicators: the more a country

spends on research - development, the higher is the level of economic development and living standards. A weak development of R & D sector, which absorbs less than 2% of GDP, is characteristic for the countries exporting raw materials. Proceeding from this fact, UE member's countries recommended that the level of investment in research and development should not be less 2,5% from GDP.

This indicator reflects the correct emerging balance of national economy. This indicator mainly changes slowly, only in case of force majeure. Every tenth or hundredth of a percent is very important because of the value of GDP.

Situation of the Republic of Moldova after year 90 is characterized by different periods.

-Early 1990 - a drastic reduction (from 1.57% to 0,58%) to finance scientific research as a result of the influence of the deepest crises and the most radical changes in economic and fiscal system of the country.

-After 2000 another reduction in spending on research and development up to 2001 (from 0,58% to 0,18%)

-2002 -2004 share for scientific research funding is growing very slowly (from 0,18% - 0,22%).

-2005-2008 increased funding for science and innovation, but only on the level of 2000s. This can characterize the level of adaptation to the new economic sector.

-After the year 2008 another reduction of R&D funding influenced by economic and political crisis in the country.
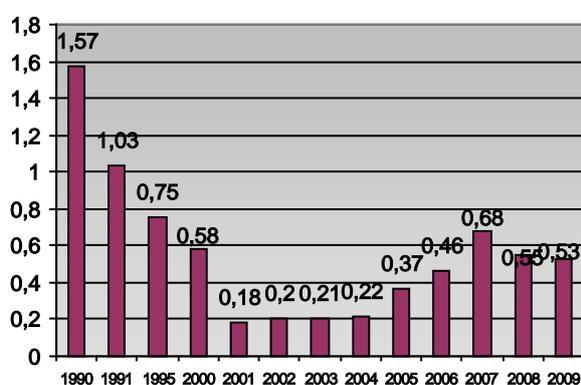

Figure 2. Research and development expenses in the years 1990-2009.
Source: Calculated by author based on data from the ASM and NBS [5,6].

So if we spend very little scientific research, we cannot expect in this case improving the performance and national completeness. Through increased imports policy, we will not achieve the expected goals. And in the situation when either investment is not rushing to run in country what's the path to prosperity? China's miracle economy overwhelms us. But today China attracting 60 billion dollars FDI, anew Republic of Moldova, at this chapter is not among the leaders. Taking into account that foreign investment per capita in Republic of Moldova are not sufficient for a qualitative improvement the question is where will we get and which will be the future of our country?

It is well known that efficient worldwide scientific apparatus costs very expensive. And for Moldova, where prices are higher than in many European countries, decrease spending for research, on the one hand and on the other hand, taking into account, that at this chapter foreign investment per capita Moldova is among the countries with the lowest investments, we can ask how is shown economic development on long term of our country.

The main objective of improvement of the science funding system in terms of reform scientific-technical sphere is to ensure that restructuring and development of this would be made in conditions of limited financial resources. Fiscal policy should include target meeting of state needs and society in this area. Improvement significantly of financial situation in science field can be realized through redistribution and concentration of budget on priority areas, selective support of industry research organizations, and attracting the extra-budgetary sources of private equity funds.

All system of public funding of organization of research and development must be "transparent" to avoid the excess use and for ensure efficient use of budgets funds.

CONCLUSIONS

We can live certainly, and without science, using result of research from other countries. But in this case, without scientific and technological capabilities in our country will be impossible to build a economy of XX century. It is well known that the countries with a strong scientific basis determine that will be the quality of life and of technology in future.

Therefore, to obtain a situation qualitatively new in science is necessary simultaneous solving of two problems: increasing the share allocations for research and development in GDP and creating entrepreneurial sector in science field.

In this context it is obvious that the problem of innovation risk in a knowledge-based economy, with the acceleration of innovation, requires a systematical approach because their correct evaluation will allow us to attract the necessary investments.

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THE REDUCTION OF HUMAN POTENTIAL - RISK FOR REDUCTION OF THE SCIENTIFIC AND INNOVATIVE POTENTIAL IN REPUBLIC OF MOLDOVA

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Abstract

Reduce the potential scientific and innovative the country mainly depends on two factors: brain drain and lack of motivation. Exodus of intelligence (brain drain) is a strong correlation with labor migration in Moldova. Although labor migration is an international phenomenon, the brain drains if Moldova has a negative effect. Labor migration is the result of the economic crisis, which is directly proportional to the growth of an exodus of intelligence. Lack of motivation for the young is the second problem of reducing the potential scientific and innovation in the country.

Key words: the potential scientific and innovative, exodus of intelligence (brain drain), lack of motivation, labor migration.

INTRODUCTION

Throughout history, wars between nations and men were always evolved for land and property. Now when the land is generally distributed appears a new type of war, the war for technologies and their control and this is the new threat of the future centuries.

The knowledge-based economy gains more ground, the existence of innovations being one of the main factors which determine the country's development. Josef F. Engelberger, paraphrasing the end speech of the U.S. DoD Program "Project Hindsight" in 1967, said that innovation requires only three things: 1 – a recognized need; 2 – competent persons with relevant technology and 3 – financial support. [1]

We observe that the existence of high-skilled people is a very important factor of the innovation process. In this context, the study of the phenomenon of brain drain becomes more contemporary to identify the particularities and its influences on the economic development of the country.

MATERIAL AND METHOD

It has been effectuated a monographic study which object is to study the evaluation of the scientific-innovation potential reductions risks of the country.

During the study we use the statistical method of observation which involved a large number of observations and monographic method. Information was collected from National Bureau of Statistics, EUROSTAT and UNESCO sources.

RESULTS AND DISCUSSIONS

The role of the human factor has a major valence throughout history, as confirmed by the modernization of economic structures. Unlike all other existing resources, human potential is the only resource that is able to increase its value over time. This is why the human factor has become the decisive factor for the social and economic dynamism and the reason for all activities. Scientific staff involved in research and development activity plays a decisive role in the economic development of a country. Currently, the modern global economy oriented to knowledge, compared with the one based on raw materials or physical work. To keep step and pace of development to meet competition is needed to create a knowledge-based society that will ensure a smart and sustainable growth. Reaching a purpose is possible only

through the activation of the process of research - development and innovation, which's driving force the human scientific potential is.

The trend of decreasing the human scientific potential began with the collapse of the USSR and is characteristic for all countries of the former USSR.

The fundamental factor underlying this phenomenon are active migration processes of scientists ("brain intellect") to economically more developed states, which had a negative impact on human scientific potential of Moldova. Massive emigration of ethnic Germans, Hebrew, Russian and other nationalities to its historical countries had a strong negative impact on the development of science in Moldova.

The UNESCO report in 2010 [4] stated this: "As a consequence of a weak demand in R & D, the following countries: Albania, Bosnia and Herzegovina, Bulgaria, Moldova, Montenegro, Romania, Serbia and the former Yugoslav Republic of Macedonia suffers from an acute brain drain intellect . An assessment of the seriousness of this situation places these countries between positions 109 and 121 of the 125 countries studied (WEF, 2007). The effects of this process have not been studied deeply in our country even until now.
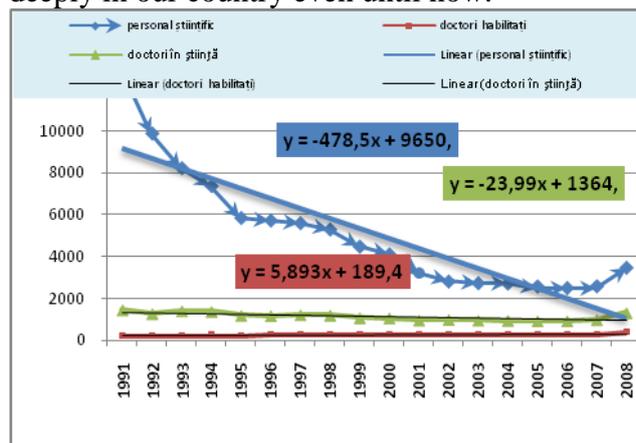

 Figure 1. Dynamics and the trend of human scientific potential during the years 1991-2008
Source: Elaborated by the author based on information [3,5]

Analyzing the human potential employed in scientific work, we can mention that in the last 17 years, the number of employees in R&D reduced approximately 4 times. Using the linear trend of timeline we observe that the average annual reduction of scientific employees, during the years 1991 – 2008 has been more than 478 persons which demonstrates that the scientific potential accumulated in RM has been lost (Fig.1.).

According to the trend of the number of science Ph.D. from Moldova, reduces on average by more than 20 persons and at the same time increases insignificantly the number of Ph.D. habilitate (5 persons per year). This can be caused by the departure of young science researches which affects negatively this sphere of activity.

The reduction of scientific potential of a country depends on 2 factors: internal and external "brain drain" and the lack of motivation.

Moldova has lost a big quantity of human capital due to soviet Jews and Germans emigration (in Israel and Germany). Scientists going abroad, many times transport with them not only their intellect but also their ideas (knowledge, skills etc.) and others. In addition, irregular flow of scientific information, including research results, projects, know-how and other intellectual products which accompany the brain drain, significantly increase the value of such a "transfer".

In the countries with transitional economy such as Moldova, employees, according to market rules are searching a better job.

Of course that in actual situation, the government must take care of the economic and legal mechanisms necessary for the international migration process of labor which insures country's and migrants interests.

In Republic of Moldova the share of specialists involved in R&D, during the 2000 years, is 0.5% of the total employment in the economy. This index indicates the existence of several problems. A factor of the scientific potential reduction of the country is the lack of motivation, because scientists don't receive a proper respect from the society. Science losses are massive. Few people orient themselves towards science. The competition in educational institutions is big, but after graduation the best students don't chose

science. For the advance of the science are needed capable people, but their share in the society is not so big. In the case when they go to work in the private sector which offers more opportunities or they go abroad, the losses of the science are often catastrophic.

There are also problems referring to the redistribution of human resources between scientific organization and superior institutions, also the inefficiency of the system of scientific staff production.

A well developed system of scientific staff training is the basis of the production of scientific and technical potential of the country. But anyway, youth brain drain from science sector in the last years, has changed seriously the structure of scientific staff of Republic of Moldova and had lead to his significant ageing.
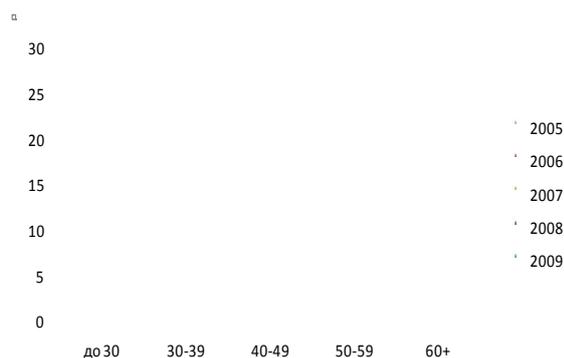

Figure 2.   Dynamics of the division of share researches by age
Source: Elaborated by the author based on information [5]

This situation is reflected in the following diagram which clearly shows us that the majority of researchers are in an older age.

Descending the living standard of scientists strongly diminished the interest of the younger generation in scientific work, disturbed the mechanism of scientific staff reproduction. At the same time, appeared a more pronounced understanding that Republic of Moldova cannot thrive without their own science: there are always a lot of essential problems which can be solved only by national science, because the foreign one always reaches with a certain delay. But even the assimilation of new knowledge obtained

abroad requires highly qualified scientific personnel. [2]

But despite a general improvement of human resources in demo-economic perspective in Moldova the problem of reproduction of scientific staff remains actually.

If in 2005 the share of researchers under 50 years was 54% and those over 50 years was 46%, and then by 2009 this situation has changed both age categories sharing equal shares.

A distinctive characteristic of the present evolution of the human scientific potential is the yearly diminishing number of the most productive group of researchers those in age of 30-49 years , who possess a share of 36% of the hole number of researchers, meanwhile those in age of over 50 years have a share of 50% , youngsters posses only 14 % of the total , we must state the share of those in age of 30-39 have s small variation towards diminishing (about 16%) , meanwhile the age group of 40-49 has decreased from a share of 21% to 18% . From this results that to one hundred researchers in the most productive age group (30-39 years) there are 137 researchers with age over 50 years, and only 41 young researchers less than 30 years. This situation is not a good one because this situation isn't even ensuring the simple reproduction of scientific staff.

The situation becomes even more alarming when we analyze the staff preparation (via doctorate) for scientific activity. In this case the decrease between youngsters under 30 years who are making their doctor studies has diminished in ten years from 2001 till 2010 from 80% to only 56%.

The weight of scientific researchers who hold degrees is about 50% of researchers; including 11% 39% are PhDs and PhDs in science. After statistical researchers share in Russia are holding scientific degrees: PhDs-6% and 19% doctors of science. If you now consider the trend during the years 1991-2008 (see Figure 4) we can conclude that the number of scientists with Ph.D. degree is decreasing (by 32 people annually), while the

trend researchers with a PhD degree is a slight increase (4 persons).

This indicates the departure of young people from science, which can have a negative impact on the industry.

Attracting youngsters in R&D is a national priority. But to attract them to R&D is not enough we also must ensure that they stay there by creating the necessary conditions, therefore we must accordingly motivate them to stay.
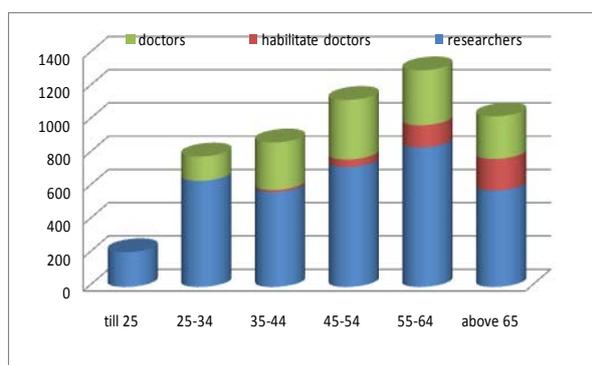

Figure 3. Distribution of researches by age
Source: Elaborated by the author based on information [5]

CONCLUSIONS

In striving for excellence the important actors of the knowledge market attract and develop top human resources concentrating an important critical mass to solve the III millennium challenges.

The involvement in research and the urgent need to make closer connections with the economic environment imposes societies to attract highly qualified human capital, which becomes not only an additional income source but also an intrinsic element in the process of forming a knowledge-based society.

In this context, maintaining an adequate research human potential to a knowledge-based society requirements, becomes a priority of the social-economic development of contemporary society. This potential loss will stop us from economic development for many years before.

As a result of the realized study, we can say that for analyzing the risks caused by the "intellect migration" and to evaluate the influence of the brain drain on a country in is

necessary to expand empirical researches on the growth effects of high-skilled employees on country's resources, to expand the comparison between countries.

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COMPARATIVE STUDY ON THE ECONOMIC EFFICENCY OF PENSSIONS IN THE URBAN AND RURAL ENVIRONMENT

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Abstract

The expansion that rural tourism has witnessed in the late XIXth century was determined by the existence of two reasons: on the one hand the revival and development of the rural area, and the other hand the alternative tourism form compared to traditional, classic or table tourism [2]. It is known that, regardless of the external environment in which tourist accommodation units operate, an important role belongs to the quality of the services offered and the satisfaction level of the customers [3]. This study aims for a comparative analysis on the economic efficiency of the Ruby'n Penssion located in a rural area and the Casa Mica Penssion from the urban area. The reason for choosing these two units is that the types of tourism they represent are significant areas of operation, namely leisure tourism ("Ruby'n" Penssion) from the Vatra Dornei area and business tourism ("Casa Mica" Penssion) from Bucharest [5]. Based on the existing methodology in the specialized literature we computed specific indicators in order to highlight economic efficiency [4]. Based on the analysis of the main financial standing indicators and the evolution of income and expenditure one may conclude that both companies are profitable.

Key words: customers, economic efficiency, Penssion, tourism.

INTRODUCTION

Two Penssions were studied: Ruby'n and Casa Mica Penssions.
"Ruby'n" Penssion is located in Vatra Dornei area, established in 2000 as for a rural Penssion, within the category of 3 daisies, having a capacity of 8 rooms, and a 24 seats restaurant, and the average fee was of 100 lei/double room. 94% of the clients come for leisure and touristic objectives sightseeing, and only 6% of them come for business purposes [5]. Meals are ensured in 27% with products from own production. The occupancy rate of "Ruby'n" Penssion is high enough, falling between the interval 73%-87% for all of the three years analysed, and average length of stay is 3.5 days.
"Casa Mica" Penssion was established in September 2003, as the first Penssion in Bucharest at that moment. Presently the Penssion has 21 beds and a restaurant with a capacity of 36 seats. Given that it is an urban Penssion, from the 3 daisies category, the average fee is higher, respectively 140 lei/double room. The Penssions' tourists are, in proportion of 96% business tourists and Romanians are predominant, only 22% being foreign tourists. The products are ensured in proportion of 97% from the supermarket [5]. The occupancy rate varies between 61-83% and the average length of stay is 2 days at "Casa Mica" Penssion.

MATERIAL AND METHOD

This study on the economic efficiency of a Penssion from the urban environment on one side and of one from the rural environment on the other side, by the activity these develop, are based on the technical-economical processing of the existing data, by using specific analysis methods [4].

RESULTS AND DISCUSSIONS

Table 1. Situation and evolution of the monthly occupancy rate

Specification	2009	2010	2011	2010 /2009	2011/ 2009	2011/ 2010
January	87	71	88	81.61	101.15	123.94
February	62	53	67	85.48	108.06	126.41
March	83	74	89	89.16	107.23	120.27
April	79	67	86	84.81	108.86	128.36
May	53	65	68	122.6	128.30	104.61
June	80	75	85	93.75	106.25	113.33
Average-sem. I	74	67	80	90.54	108.11	119.40
July	99	88	98	88.88	98.99	111.36
August	99	94	99	94.94	100	105.32
September	76	75	80	98.68	105.26	106.66
October	57	62	63	108.7	110.53	101.61
November	54	65	68	120.3	125.92	104.61
December	92	90	94	97.82	102.17	104.44
Year average	77	73	82	98.81	106.49	112.32

Table 2. Occupancy rate of "Casa Mica" Pension

Specification	2009	2010	2011	2010/ 2009	2011/ 2009	2011/ 2010
January	19	60	64	315.7	336.8	106.6
February	41	81	85	197.5	207.3	104.9
March	57	79	85	138.9	149.1	107.5
April	43	56	83	130.2	193.0	148.2
May	80	89	96	111.2	120.0	107.8
June	65	74	93	113.8	143.0	125.6
Average-sem. I	51	73	84	143.1	164.7	115.0
July	60	87	88	145.0	146.6	101.1
August	51	75	79	147.0	154.9	105.3
September	77	96	94	124.6	122.0	97.9
October	79	92	93	116.5	117.7	101.0
November	90	95	97	105.5	107.7	102.1
December	19	60	64	315.7	336.8	106.6
Year average	41	81	85	197.5	207.3	104.9

Correspondingly, for the "Casa Mica" Pension a similar table was prepared (Table 2.), in which the values of occupancy rate were listed for each month of the past three years, followed by a calculation of this indicators' evolution.

The comparative study shows that, unlike the "Ruby'n" Penssion, where the lowest occupation rate was over 50%, the "Casa Mica" Penssion drops to an occupation rate of 19% (2009) during the winter months, when there are no conferences and business meeting.

Subsequently, through sustained marketing campaigns, an occupation rate of over 50% was attained also for these months, although a visible difference is kept between the summer months and those with winter holidays compared to the rest of the year, when the occupation rate is much higher.

Table 3. Comparative situation on the average stay

Year / Month	"Ruby'n" Penssion			"Casa Mica" Penssion		
	2009	2010	2011	2009	2010	2011
January	2.7	2.3	3.3	1.8	1.43	2.54
February	2.5	2.9	3.1	2.2	1.95	1.78
March	3.2	3.5	3.5	3.3	2.20	2.81
April	3.1	3.7	4.1	4.0	1.70	2.63
May	3.0	2.8	3.9	2.3	3.08	2.75
June	4.2	3.6	4.7	2.3	2.36	2.76
July	5.5	5.8	5.3	1.6	1.96	1.77
August	5.8	5.7	5.6	4.1	2.69	1.61
September	3.5	3.3	3.4	2.4	2.78	4.30
October	2.1	2.3	2.0	2.9	2.68	2.10
November	2.4	1.9	2.2	3.0	2.86	2.38
December	3.6	3.0	3.5	1.8	1.87	1.88
TOTAL	3.46	3.44	3.72	2.6	2.36	2.30

In Vatra Dornei we observed that the average stay is higher than in Bucharest in all 3 analysed years. The fact that the stay is in average on day longer, in case of "Ruby'n" Penssion, highlights the fact that transit tourism is almost non-existent, the leisure vacation) and weekend tourism being prevailing.

The operating revenues for both Penssions have significant percentages, while the financial and extraordinary revenues are inexistent for both Penssions.

From the comparative point of view, the evolution of the revenues was much more spectacular in the case of "Casa Mica" Penssion, and figures are concluding in this respect.

Table 4. Revenues situation for the two Penssions

Specification	"Ruby'n" Penssion			"Casa Mica" Penssion		
	2009	2010	2011	2009	2011	2011
Operating revenues	285982	166010	323230	151019	243303	389130
Financial revenues	-	-	-	410	17	450
Extraordinary revenues	-	-	-	-	-	-
Total revenue	285982	166010	323230	151429	243320	389580

Table 5. Evolution of expenses for the two companies

Name	"Ruby'n" Penssion			"Casa Mica" Penssion		
	2010/ 2009	2011/ 2009	2011/ 2010	2010/ 2009	2011/ 2009	2011/ 2010
Operating expenses	71.2	124.7	175.2	192.9	330.9	171.5
Financial expenses	-	-	-	-	-	-
Extraordinary expenses	-	-	-	-	-	-
TOTALE EXPENSES	71.2	124.7	175.2	192.9	332.1	172.0

Total expenses had, in overall, an upward evolution during the analysed period, with small particularities: in 2010, "Ruby'n" Penssion expenses dropped compared with 2009, by a percentage of 28.8%. Reported also to 2009, the expenses of the company in Vatra Dornei increased in 2011 by 24.79 %, and for the same year, 2011, to increase by 75.27% compared to 2010;

"Casa Mica" Penssion benefits from significant increases over the analysed years: 2010 brings about an increase of the expenses of 92.98% compared to the reference year, 2009; in 2011 there was an increase of 232.12% compared to the same year (2009) and of 72.09% compared to 2010.

The main reason for which the "Ruby'n"'s Penssion is higher than the one of "Casa Mica" Penssion is related to the fact that the expenses are considerable lower in comparison to the revenues attained.

Table 6. Comparative situation on the year result

Specification	"Ruby'n" Penssion			"Casa Mica" Penssion		
	2009	2010	2011	2009	2010	2011
Gross result	65 609	9 104	48 210	41 952	32 046	25 982
Net result	57 030	4 124	41 842	36 606	31 508	25 982

Table 7. Evolution of the Penssions' year result

Specification	"Ruby'n" Penssion			"Casa Mica" Penssion		
	2010/ 2009	2011/ 2009	2011/ 2010	2010/ 2009	2011/ 2009	2011/ 2010
Gross result	13,87	73.48	529.5	76,.39	61.93	81.08
Net result	7.23	73.37	1015	86.07	70.98	82.46

There are significant fluctuations as regards to the profits recorded by the two companies: from a profit drop of 93.77%, to increases of 915%, fact that indicates an activity that has not been constant from the financial point of view. Slightly different is the case "Casa Mica" Penssion, where, although the profits decreased, it happened gradually and it was generated especially due to the very high expenses recorded.

CONCLUSIONS

Notable is the establishment of a Penssion in Bucharest fact that entails a whole new approach and is problematic compared to the same process happened in the rural environment.
Only the problem of cost and finding a plot of land in Bucharest must be mentioned, compared to the utilities problem in the rural environment. To the same extent there is also the problem of expenses that are much higher in Bucharest than in Vatra Dornei [2].
On the other hand there is an interesting social aspect of operating a Penssion such as "Casa Mica". By marketing actions the efficient counteracting of finding a hotel problem was accomplished by attaining a

very satisfying occupancy of up to 96%
(May 2011).

ACKNOWLEDGEMENTS

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ECONOMIC APPROACH ON FAST-FOOD UNITS - CASE STUDY

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Abstract

The globalization phenomenon that characterizes the century we are living in includes even the food we consume which is mostly fast-food products. Fast-foods are internationally expanding at an amazing pace. In the century of speed, when the modern man is in a permanent rush for confirmation, success, money and the time is passing unbelievably fast, the fast-food is a perfect alternative for having a meal out in the city or for preparing dinner at home [5]. Because fast-food products are delicious, abundant, relatively cheap and available in any moment of the day, this type of restaurants are found almost everywhere, and in addition, these have home delivery options, are appreciated and consumed by all age categories, so that fast-food has become a worldwide appreciated phenomenon. In support of the previous mentions, we shall emphasize an economic analysis performed for the Burger King Plaza Restaurant during 2010-2011. The results of the analysis may be appreciated as for being satisfying, although there is a need for improvement if this unit is to cope to the current and future conditions.
In order to attain customer satisfaction level increase, as well as to decrease the risk of losing constant customers towards a strong competition, variety, quality and diversity of the product range are means to ensure the efficiency of the activity carried out.

Key words: fast-food units, economic approach, efficiency activity

INTRODUCTION

Today, fast-food doesn't need any introduction. In the century of speed, when the modern man is in a permanent rush for affirmation, success, money, and time is passing incredibly fast, fast-food is a perfect alternative to cooking dinner at home [5].
On the other hand, the fast-food products are delicious, abundant, relatively cheap, and available in any moment of the day, reasons for which fast-food has become a phenomenon appreciated worldwide [2].

MATERIAL AND METHOD

In the present study the technical-economic activity developed by Burger King Plaza restaurant in Bucharest has been analysed during 2010-2011, using the methodology existing in specialized literature [1, 3].
The profit and loss statement, as well as other internal data provided by the Financial Accounting Department of the restaurant have allowed the performance of this analysis [4].

RESULTS AND DISCUSSIONS

Table 1.Daily client structure in 2011

No.	Specification	No. of clients/day	%
1.	Children	225	15
2.	Youth	975	65
3.	Adults	225	15
4.	Elders	75	5
	Total	1500	100

Source: Internal data of the Burger King Plaza Restaurant

Analysing the daily client structure in 2011 it is observed that youngsters were the ones who have stepped into the Burger King Plaza restaurant the most in 2011, representing a share of 65%, followed by children and adults with a share of 15%, and the lowest share is that of the elders, with only 5%.
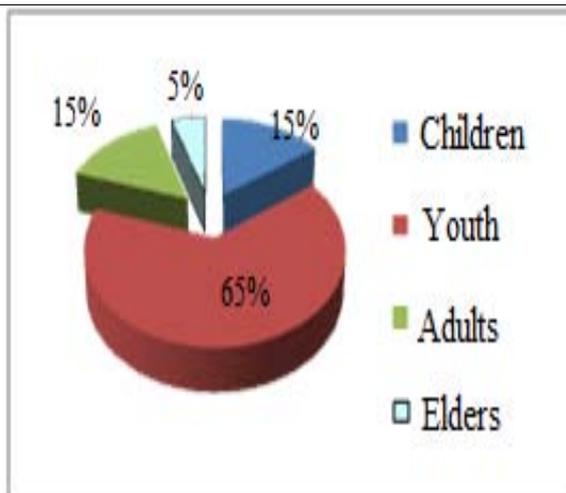
Fig. 1 Graphical representation of the daily client structure

Table 2. Expenditure structure and dynamics

Specification	Years		Structure %		Dynamics %
	2010	2011	2010	2011	2011/2010
Expenses total	1,016,952	1,837,058	100	100	180.64
Operating expenses	994,577	1,813,419	97.79	98.71	182.33
Financial expenses	22,375	23,639	2.21	1.29	105.64
Extraordinary expenses	0	0	0	0	0

Source: Data provided by the Accounting Department

As one may observe, the largest share, of approximately 98% is the one of operating expenses, the difference being represented only by the financial expenses.

Table 3 Revenues structure and dynamics

Specification	Years		Structure %		Dynamics %
	2010	2011	2010	2011	2011/2010
Revenues total	1,547,582	2,495,209	100	100	161.23
Operating revenues	1,517,042	2,460,000	98.03	98.59	162.15
Financial revenues	30,540	35,209	1.97	1.41	115.28
Extraordinary revenues	0	0	0	0	0

Source: Data provided by the Accounting Department

Total revenues show an upward trend starting from 1,547,582 lei in 2010 and reaching the amount of 2,495,209 lei in 2011, increasing with 61.23%. The largest share, over 98% of the revenues total is that of the operating revenues.

Table 4. Turnover structure and evolution

Specification	Years		Structure %		Dynamics %
	2010	2011	2010	2011	2011/2010
Net turnover	1,517,042	2,460,000	100	100	162.15
Sold production	1,005,818	1,708,521	66.30	69.45	169.86
Revenues from the sold production	511,224	751,679	33.70	30.55	147.03

Source: Data provided by the Accounting Department

In 2011 the turnover has recorded an increase of 62.15% compared to 2010 due to the increase of the production sold, from 1,005,818 lei to 1,708,521 lei.
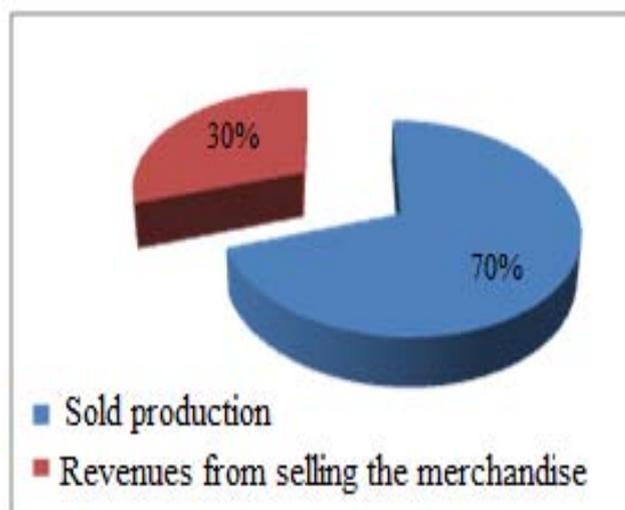

Fig. 2 Graphical representation of the turnover structure in 2011

The largest share in the turnover total is of 70% and it represents the production sold, followed by the revenues from selling the merchandise, of only 30%.

The operating result had an upward trend during the years of the study, increasing from 522,465 lei in 2010 to 646,581 lei in 2011, representing a 23% growth.

The financial result recorded a growth of 41.70% compared to 2010, respectively from 8,165 lei to 11,570 lei.

The financial-economic result is a positive one for the entire activity. The net profit had an upward trend; in 2011 there was a growth of 24.03% compared to 2010.

Table 5. Profit dynamics analysis

Specification	Years		Dynamics %
	2010	2011	2011/2010
Operating revenues	1,517,042	2,460,000	162.15
Operating expenses	994,577	1,813,419	182.33
Operating result	522,465	646,581	123.75
Financial revenues	30,540	35,209	115.28
Financial expenses	22,375	23,639	105.64
Financial result	8,165	11,570	141.70
Extraordinary revenues	0	0	0
Extraordinary expenses	0	0	0
Extraordinary result	0	0	0
Gross profit	530,630	65,151	124.03
Profit tax	84,900.8	105,304.16	124.03
Net profit	445,729.2	552,846.84	124.03

Source: Data provided by the Accounting Department

Table 6 .Return rate evolution

Specification	Period	
	2010	2011
Gross profit	530,630	658,151
Net profit	445,729.2	552,846.84
Turnover	1,517,042	2,460,000
Operating revenues	1,517,042	2,460,000
Total revenues	1,547,582	2,495,209
Operating result	522,465	646,581
Total expenses	1,016,952	1,837,058
Revenues return rate	34.28	26.37
Expenses return rate	43.82	30.09
Gross economic return rate	34.43	26.28
Commercial return rate	34.97	26.75

The return rates record average values that vary between 26% and 44%, fact that indicates the development of an efficient activity, based on a competent and efficient management.

CONCLUSIONS

Dramatic changes are unlikely on the Romanian fast-food market, finding itself currently in a phase of maturation, materialized through the development of a range of varieties adjusted in report to the customers' needs.

Enlargement of the Burger King products on different criteria of the range of varieties, enlargement of the range of varieties through offering differentiated quantities represent strategic alternatives of the producers as regards to drawing the attention and obviously drawing the revenues of potential customers.

Burger King Products have suffered a metamorphosis over the time in Romania, successively going from the *no name* stage to the stage where their choice involves identification, attitude and decision.

The fast-food product offer for the Romanian market must be adjusted to the Romanian consumer profile.

The Burger King products price is recommended to the level of revenue of the targeted segment but also to the economic situation from the past period, the variation margin of the price being this way determined.

As regards to distribution the company is oriented towards large commercial areas, this being a solution to support company profitability.

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THE IMPORTANCE OF THE COMPETITIVENESS OF THE COUNTRY TO COUNTER THE ECONOMIC CRISIS

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Abstract

In the current environment characterized by global competition in an increasingly integrating world markets, dynamism, scale and sustainability of technological development have become the decisive factor in recovery after the crisis and improve the competitiveness of the economy. Providing innovative character of technological development is especially important because only in this way can accelerate the creation of a new modern upgraded facilities and the development of competitive products. The experience of developed countries shows that one of the factors of sustainable human development in the Third Millennium is an effective and targeted use of scientific developments in production, as well as their active involvement in the production process.

Keywords: economic development, innovations, technological development, competitiveness of the economy.

INTRODUCTION

The complexity of today's global economic environment has made it more important than ever to recognize and encourage the qualitative as well as the quantitative aspects of growth, integrating such concepts as inclusiveness and environmental sustainability to provide a fuller picture of what is needed and what works.

MATERIAL AND METHOD

The studies were conducted mainly on the materials of Global Competitiveness Report 2011-2012, and was used the official data of the National Bureau of Statistics of the Republic of Moldova. The subject of the study is the analysis of economic competitiveness rates and scores of the country.
Were used the following methods of economic research: a comparative and economic - statistical methods, the method of logical conclusions, analysis.

RESULTS AND DISCUSSIONS

For more than three decades, the World Economic Forum's annual *Global Competitiveness Reports* have studied and benchmarked the many factors underpinning national competitiveness. From the onset, the goal has been to provide insight and stimulate discussion among all stakeholders on the best strategies and policies to overcome the obstacles to improved competitiveness.
In the current challenging economic environment, our work is a critical reminder of the importance of taking into account the consequences of our present actions on future prosperity based on sustained growth.[2]
Since 2005, the World Economic Forum has based its competitiveness analysis on the Global Competitiveness Index (GCI), a comprehensive tool that measures the microeconomic and macroeconomic foundations of national competitiveness.[3]
The concept of competitiveness thus involves static and dynamic components: although the productivity of a country determines its ability to sustain a high *level* of income, it is also one of the central determinants of its returns to

investment, which is one of the key factors explaining an economy's *growth potential.* [3] In the ranking of the GCI Republic of Moldova occupies 93 places, rising to a position as compared to last year:

Table 1. Main indicators of competitiveness of the Republic of Moldova

Indicators	Rank (out of 142)	Score (1–7)
GCI 2011–2012	93	3.9
Basic requirements	102	4.1
Efficiency enhancers	103	3.6
Innovation and sophistication factors	127	2.9

Indicators derived from the executive research are always expressed as scores on a 1–7 scale, with 7 being the most desirable outcome.

On the basic parameters of competitiveness of Moldova did not reach tangible successes in 2011 and occupies the last positions mainly. [1] There are many determinants driving productivity and competitiveness. Understanding the factors behind this process has occupied the minds of economists for hundreds of years, engendering theories ranging from Adam Smith's focus on specialization and the division of labor to neoclassical economists' emphasis on investment in physical capital and infrastructure, and, more recently, to interest in other mechanisms such as education and training, technological progress, macroeconomic stability, good governance, firm sophistication, and market efficiency, among others. While all of these factors are likely to be important for competitiveness and growth, they are not mutually exclusive — two or more of them can be significant at the same time, and in fact that is what has been shown in the economic literature. [1]

This open-endedness is captured within the GCI by including a weighted average of many different components, each measuring a different aspect of competitiveness. These components are grouped into 12 pillars of competitiveness:

> **Institutions -** the institutional environment is determined by the legal and administrative framework within which individuals, firms, and governments interact to generate wealth.
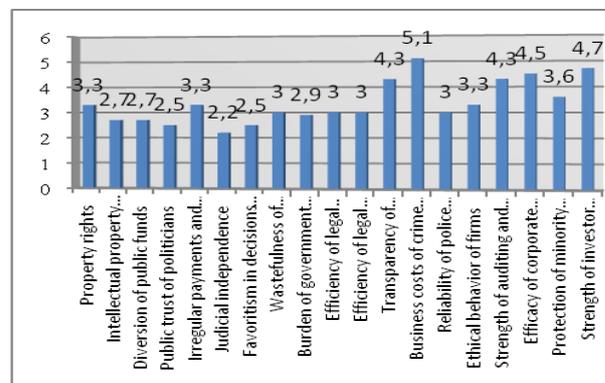

Fig.1. Structure of institutional environmet in the Republic of Moldova

The quality of institutions has a strong bearing on competitiveness and growth. The level of development of the institutional system of Moldova is ranked 106 among 142 countries in a position.

> **Infrastructure** - extensive and efficient infrastructure is critical for ensuring the effective functioning of the economy, as it is an important factor determining the location of economic activity and the kinds of activities or sectors that can develop in a particular instance. [3]
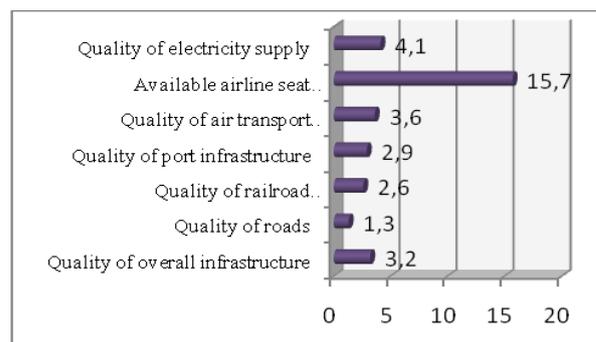

Fig.2. Level of infrastructure development in Moldova

Rating of Moldova in this indicator is 3.3 points or 96 positions among 142 countries. Effective modes of transport, including quality roads, railroads, ports, and air transport, enable entrepreneurs to get their goods and services to market in a secure and

timely manner and facilitate the movement of workers to the most suitable jobs.

➢ **Macroeconomic environment** - the stability of the macroeconomic environment is important for business and, therefore, is important for the overall competitiveness of a country.
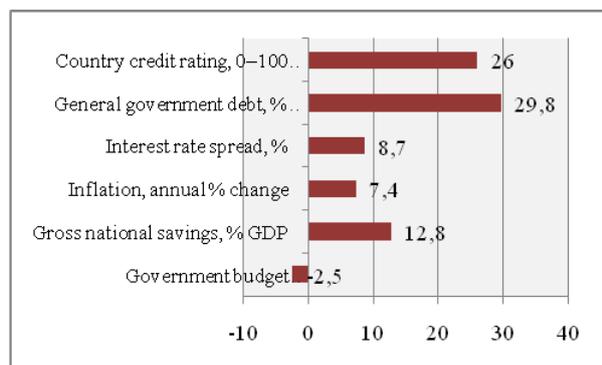

Fig.3. The score of macroeconomic environment of the republic

In this figure, our country occupies 103 place and 4.3 points out of 7 possible. Macroeconomic stability alone cannot increase the productivity of a nation, it is also recognized that macroeconomic disarray harms the economy, as we have seen recently. [1]

➢ **Health and primary education -** a healthy workforce is vital to a country's competitiveness and productivity. Workers who are ill cannot function to their potential and will be less productive.
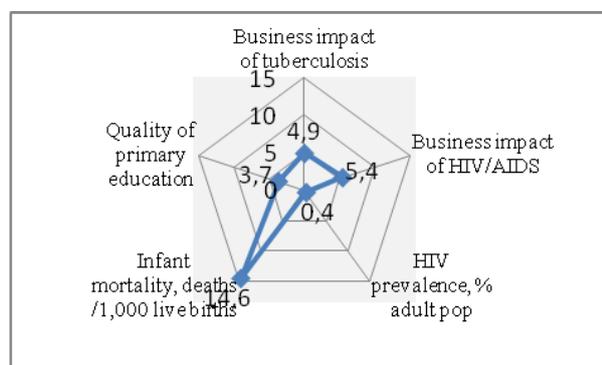
Fig.4. Health and primary education development in the Republic of Moldova

A healthy workforce is vital to a country's competitiveness and productivity. Workers who are ill cannot function to their potential and will be less productive. Poor health leads

to significant costs to business, as sick workers are often absent or operate at lower levels of efficiency. Health and primary education development in the Republic of Moldova is characterized with 86 positions among 142 countries and score of 5.5 (1-7). Investment in the provision of health services is thus critical for clear economic, as well as moral, considerations.

➢ **Higher education and training** - quality higher education and training is crucial for economies that want to move up the value chain beyond simple production processes and products.
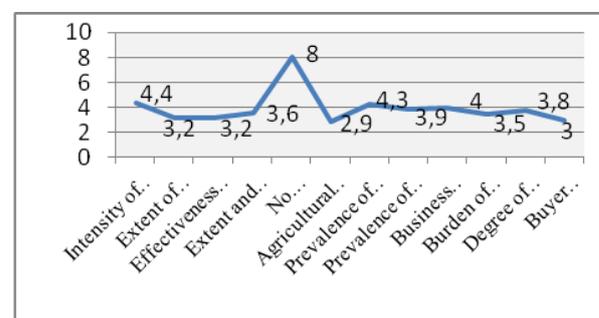

Fig.5. Higher education and training in Moldova

According to the level of higher education RM takes 83 places and the score of our country is 3.9. In particular, today's globalizing economy requires countries to nurture pools of well-educated workers who are able to adapt rapidly to their changing environment and the evolving needs of the production system.

➢ **Goods market efficiency** - countries with efficient goods markets are well positioned to produce the right mix of products and services given their particular supply-and-demand conditions, as well as to ensure that these goods can be most effectively traded in the economy.

The recent economic crisis has highlighted the degree of interdependence of economies worldwide and the degree to which growth depends on open markets. [6] Protectionist measures are counterproductive as they reduce aggregate economic activity. Market efficiency also depends on demand conditions such as customer orientation and buyer sophistication.

Healthy market competition, both domestic and foreign, is important in driving market efficiency and thus business productivity by ensuring that the most efficient firms, producing goods demanded by the market, are those that thrive.
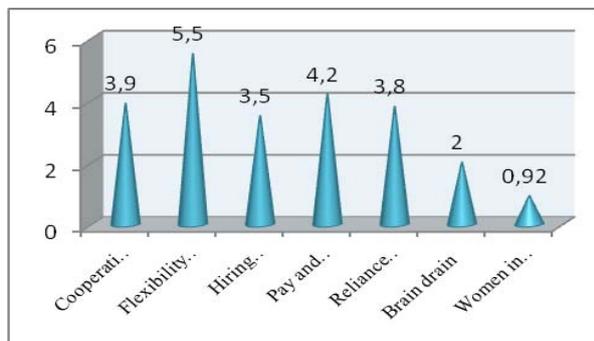

Fig.6. Goods market efficiency in Moldova

On the effectiveness of market development Moldova occupies 98th place or 3.9 points by GCI out of 7 possible. The best possible environment for the exchange of goods requires a minimum of impediments to business activity through government intervention.

➢ **Labor market efficiency** - the efficiency and flexibility of the labor market are critical for ensuring that workers are allocated to their most efficient use in the economy and provided with incentives to give their best effort in their jobs. Labor markets must therefore have the flexibility to shift workers from one economic activity to another rapidly and at low cost, and to allow for wage fluctuations without much social disruption.
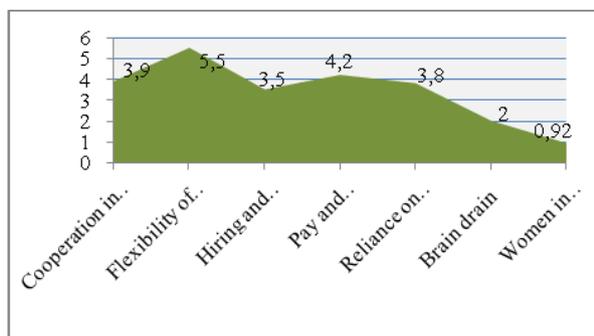
Fig.7. Labor market efficiency in Moldova

Rating of the Republic of Moldova on this indicator is 75 positions on the GCI. Labor

markets must therefore have the flexibility to shift workers from one economic activity to another rapidly and at low cost, and to allow for wage fluctuations without much social disruption.

➢ **Financial market development** - the recent economic crisis has highlighted the central role of a sound and well-functioning financial sector for economic activities.
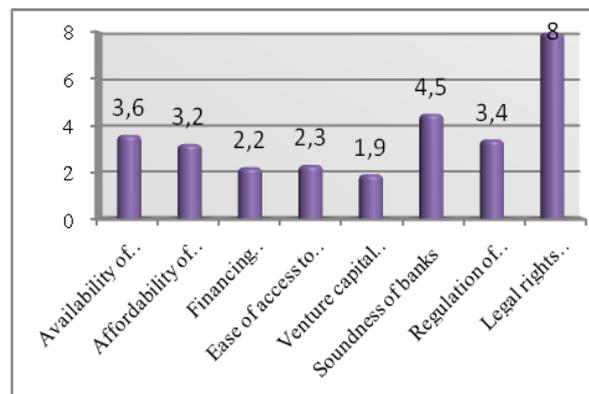

Fig.8. Moldova's financial market development

According to this index, our country occupies position 105, which is the lowest rate as the effective functioning of financial markets affects the intensity of economic growth. An efficient financial sector allocates the resources saved by a nation's citizens, as well as those entering the economy from abroad, to their most productive uses.

➢ **Technological readiness** - In today's globalized world, technology is increasingly essential for firms to compete and prosper. [5]
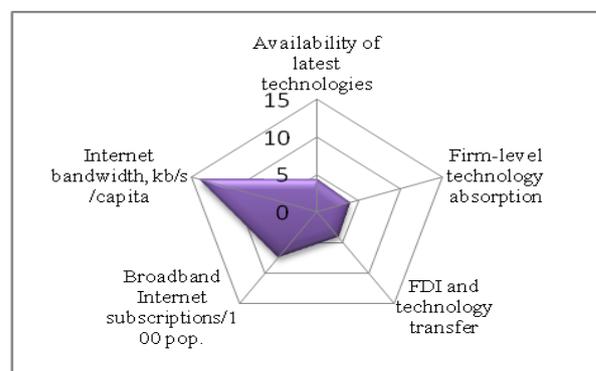

Fig.9. Technological readiness of the Moldovan economy

The central point is that the firms operating in the country need to have access to advanced products and blueprints and the ability to use them. [5] The technological potential of the economy in the country gives us a 78 position in the GCI.

➢ **Market size** - the size of the market affects productivity since large markets allow firms to exploit economies of scale. In the era of globalization, international markets have become a substitute for domestic markets, especially for small countries.

Domestic market size index in Moldova is the 2.3 point, and foreign market size index is the 3.0 in the framework of 1 to 7. There is vast empirical evidence showing that trade openness is positively associated with growth. Even if some recent research casts doubts on the robustness of this relationship, there is a general sense that trade has a positive effect on growth, especially for countries with small domestic markets.

➢ **Business sophistication** - there is no doubt that sophisticated business practices are conducive to higher efficiency in the production of goods and services. Business sophistication concerns two elements that are intricately linked: the quality of a country's overall business networks and the quality of individual firms' operations and strategies.
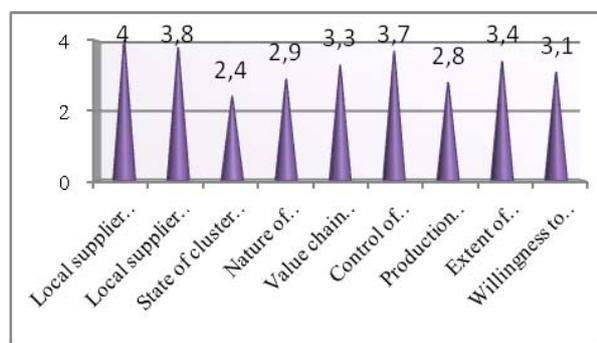

Fig.10. Business sophistication of the Moldovan economy

The quality of a country's business networks and supporting industries, as measured by the quantity and quality of local suppliers and the extent of their interaction, is a very important factor for sustainable economic development.

Global Competitiveness Index of business sophistication of the RM is equal to 3.3, and our country places on 117 positions.

➢ **Innovation** - the final pillar of competitiveness is technological innovation. Although substantial gains can be obtained by improving institutions, building infrastructure, reducing macroeconomic instability, or improving human capital, all these factors eventually seem to run into diminishing returns. [4]
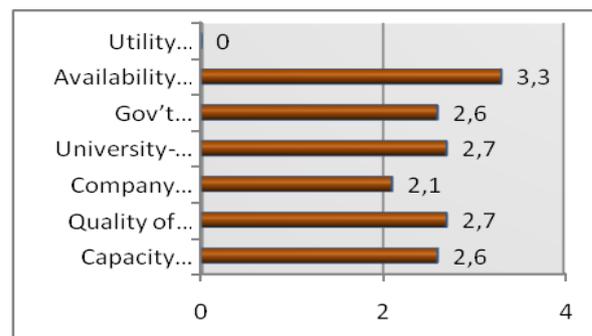

Fig.11. Technological innovation of the Moldovan economy

According to this index, our country is one of the last positions (128 of 142 countries), and the coefficient of innovation is equal to 2.4. Although less-advanced countries, such as Moldova can still improve their productivity by adopting existing technologies or making incremental improvements in other areas, for those that have reached the innovation stage of development this is no longer sufficient for increasing productivity. Firms in these countries must design and develop cutting-edge products and processes to maintain a competitive edge. This progression requires an environment that is conducive to innovative activity, supported by both the public and the private sectors. [4]

CONCLUSIONS

The GCI takes the stages of development into account by attributing higher relative weights to those pillars that are more relevant for an economy given its particular stage of development. The GCI aims to capture the complexity of the phenomenon of national competitiveness, which can be improved only through an array of reforms in different areas

that affect the longer-term productivity of a country. That is, although all 12 pillars matter to a certain extent for all countries, the relative importance of each one depends on a country's particular stage of development.

As country move into the innovation-driven stage, wages will have risen by so much that they are able to sustain those higher wages and the associated standard of living only if their businesses are able to compete with new and unique products. At this stage, companies must compete by producing new and different goods using the most sophisticated production processes and by innovating new ones.

The present context makes it more important than ever for Republic of Moldova to put into place the fundamentals underpinning growth and development. The GCR contributes to this process by providing a detailed analysis of the productive potential of nation. The Report offers policymakers, business executives, and academics, as well as the public at large, valuable insights into the policies, institutions, and factors that enable robust economic development and long-term prosperity.

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LEVEL AND STRUCTURE OF PRODUCTION EXPENSES FOR THE WHEAT CROP - REGIONAL DISPARITIES -

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Abstract

The objective of research focused on the level and structure of production expenses for the wheat crop in the eight development regions of Romania. The study was based on the data collected from 270 surveyed households during different IAE projects. Well-known methods and procedures were used for the calculation of production costs, and the analysis used the criterion of regional location and the standard economic size. Regardless the physical and economic size of holdings, the structure and size of input expenses for the wheat crop reveal a positive aspect referring to the respect and application of basically the same specific technological consumptions, under the conditions in which throughout the year, the prices for seeds, fertilizers and phyto-sanitary substances slightly varied across regions. At the same time, in more than one quarter of the small and medium-sized holdings in the Region West, the investment expenses are oversized compared to the declared operation capacity.

Keywords: *agricultural holding, production costs, wheat production, economic size*

INTRODUCTION

Although they are favorable on medium term, the forecasts on the agricultural markets indicate that these will feature greater uncertainty and increased volatility in the future.

Furthermore, the future CAP will operate in a post-crisis economic period, which will greatly prejudice agriculture and rural areas, linking them directly with the larger macro-economic evolutions, which will affect the *agricultural production cost.*

The farming practice in our country [4, 5] proves that in the context of competitive market economy, obtaining high yields, labor productivity increase and increase of the economic efficiency of production costs and finally, obtaining competitive and sustainable economic-financial results largely depend on the size, structure, quality and efficient management of the technical-material resources, as well as on the level of prices on the agricultural input market.

MATERIAL AND METHOD

Following the processing and analysis of the collected data [4, 5] in all the statistical regions, a large amount of information resulted on the structure and level of production costs for the main crops cultivated in our country.

The investigated sample consists of 400 commercial farms, out of which 277 farms were cultivating wheat, and are the object of the present analysis.

In a first stage, the total economic size of each holding in the sample was calculated, by multiplying the cultivated areas and animal herds expressed in LLU, by the STANDARD OUTPUT SO 2007 coefficients for Romania, calculated by the national RDCA, according to the EC Regulation 1242/2008 [6].

In the second stage, through repeated filtering, the holdings that cultivate crops were selected, together with all the information regarding the harvested crops, harvest quantities by destinations, including those

sold on different markets, the variable and fixed production costs and the production costs for the main production (Table 1).

Table 1. Structure of the income-expenditures budget for WHEAT

INDICATORS	Unit
a) Cultivated area	ha
b) Primary production	kg
c) Secondary production	kg
d) Selling price – primary production	lei/kg
e) Selling price – secondary production	lei/kg
A. PRODUCTION VALUE	lei
A1. Of which, primary production [A-(c*e)]	lei
B (+) SUBSIDIES	lei
C (=) GROSS PRODUCT (A+B)	lei
D (-) TOTAL EXPENDITURES (I+II)	lei
D_1 Of which, for primary production [D-(c*e)]	lei
I. VARIABLE COSTS (1+2+…+6)	lei
1. Raw materials and other inputs	lei
- seeds and seedlings	lei
- fertilizers	lei
- pesticides	lei
2. Mechanical operations	lei
3. Irrigation	lei
4. Supply costs	lei
5. Temporary labor	lei
6. Insurances	lei
II. FIXED COSTS (1+2+3+4)	lei
1. Permanent labor	lei
2. General costs	lei
3. Interest rates	lei
4. Amortization	lei
E.(=) GROSS INCOME (C-D)	lei
E_1 Taxes (E*16%)	lei
F. (=) NET INCOME + subsidies (E-E_1+B)	lei
G. GROSS INCOME RATE (E/D_1*100)	%
H. PRODUCTION COST (D_1/b)	**lei/kg**

In this case, the procedure of the remaining value and the structure of the budget of incomes and expenditures for the crop production were used [2, 3].

When this calculation method is used, one should first establish the value of the secondary production:

a) Calculation of secondary production value
*Cost of q_s = q_s (internal) * P + q_s (external) * P – ChS*
where:
q_s = secondary production;
P   = price;
ChS = additional costs for secondary production.

b) Calculation of unit cost for primary production

$$Cost\ Q_P = \frac{Ch - Cost\ q_s}{Q_P}$$

where:
Ch = total production cost;
Q_P = primary production.

In the third stage, the sample was divided into two sub-samples according to the positive or negative economic results (gross profit or gross loss).

RESULTS AND DISCUSSIONS

Positive results were obtained in 34% of holdings, which had gross profit by comparing the production costs and the selling prices. The other holdings had negative results, due to either higher production costs than selling prices, or to unsold stocks (Table 2).

This requires a more detailed analysis. At the moment when the survey was conducted, not in all the cases the wheat quantities unsold on the market should automatically have lead to negative results, as a large part of these holdings have a mixed production and declared the establishment of stocks for feeding their animals, part of the harvest was devoted to the payment in kind under the rent system, and another part went to self-consumption. However, there was a significant number of holdings that had losses due to the extremely low harvests, under 1000 kg per hectare, as a result of natural weather disasters, in the conditions of allocating financial resources for a year with normal

weather conditions and in areas suitable for wheat cultivation.

Table 2. Average areas under wheat per holding and number of holdings by regions

Item	No. of wheat ha /farm		No. of farms	
Economic results Region	P+	P-	P+	P-
NE	123	24	7	19
SE	148	164	10	29
S	274	152	17	43
SW	18	4	11	23
W	511	28	13	16
NW	3	18	9	30
Center	73	20	23	20
Buc-If	49	212	3	4
Subsample average	320	77	93	184
Sample average	108		277	

Source: authors' calculations based upon data from database

The analysis of the structure of variable costs for the wheat crop, by regions and economic size of holdings (Figures 1 and 2), reveals decreasing input costs in regions with higher suitability conditions for wheat cultivation and on larger-sized farms.
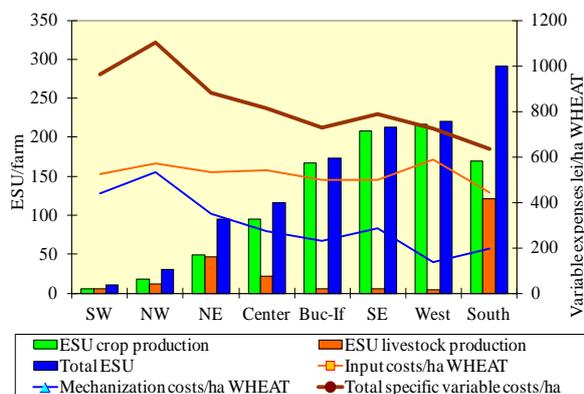

Fig. 1. Structure of variable expenses for Wheat crop on the investigated farms, by regions
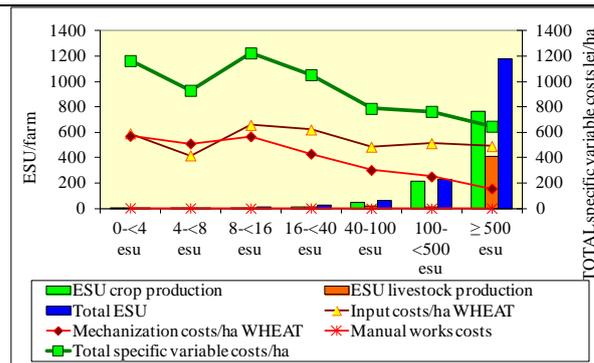

Fig. 2. Structure of variable expenses for Wheat crop on the investigated farms, by the economic farm size

The analysis of the structure and size of input costs for the wheat crop reveals a positive aspect referring to the application of the same specific technological consumptions by most farms, regardless of their economic and physical size (Figure 3).
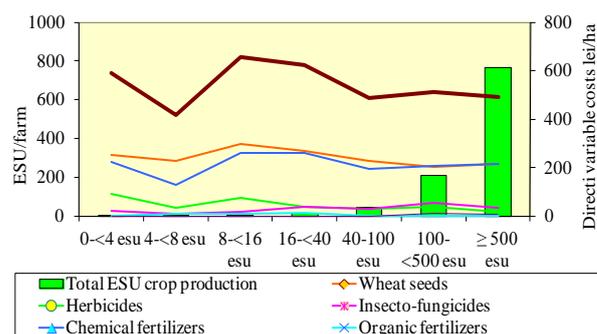

Fig. 3. Structure of direct variable expenses by the economic size of the crop production sector on holdings

This reverse proportionality is mainly influenced by the mechanization costs, which are lower on the area unit when the economic power of holdings is higher, as a result of financial possibilities to buy highly performant equipment with low energy inputs and great operation capacities/time unit and area unit.

At the same time, the prices of seeds, fertilizers and phyto-sanitary products slightly differ across regions (Fig. 4).
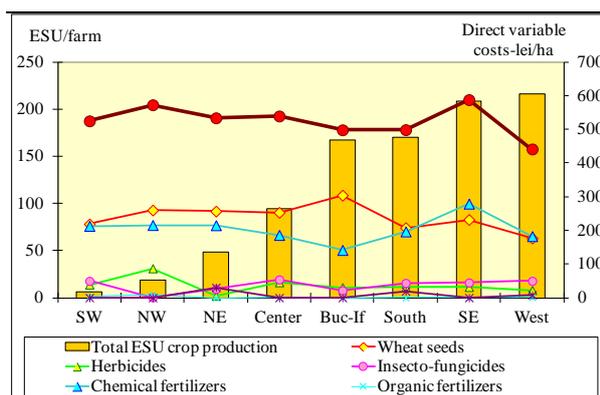
Fig. 4. Structure of direct variable expenses by the economic size of the crop production sector on holdings, by regions

From the analysis of average data by regions (Table 3), it results that the regions West, South and Bucharest-Ilfov have lower expenses for inputs per hectare, both compared to the other regions and compared to the sample average.

Table 3. Structure of variable and fixed expenses for holdings with profit (P+) for the Wheat crop, by regions (lei/ha)

Region	Total direct variable costs	Mechanization costs	Services third parties	Supply costs	Wages	Amortization	General expenses
NE	524	325	21	38	40	281	45
SE	501	199	1	31	26	237	36
S	362	154	22	24	20	174	28
SW	578	443	7	45	38	341	53
W	551	124	0	30	25	228	35
NW	549	283	235	47	39	250	55
Center	545	217	0	34	30	258	39
Buc-If	241	315	0	25	20	188	29
Sample average	507	194	27	32	27	231	37

Note: the calculations were made on a sub-sample of 93 holdings (34% of total wheat sample), which had profit per hectare of wheat

Source: authors' calculations based upon data from database

The mechanization costs per hectare, representing the expenses for diesel oil, lubricants and spare parts for tractors and agricultural machinery had lower values in the regions well-known for the wheat crop,

cultivated on large-sized farms in the regions South-East, South and West, with 150, 275 and over 500 hectares cultivated per farm on the average.

At the same time, the surveyed holdings from the region North – West, which are cultivating 3 hectares of wheat on the average, declared that they had significant expenses for the payment of agricultural services rendered by third parties.

Material costs higher than the sample average could be seen in the NW, SW and NE regions, while the amortization costs per area unit in the SW and NE regions only (Figure 5).
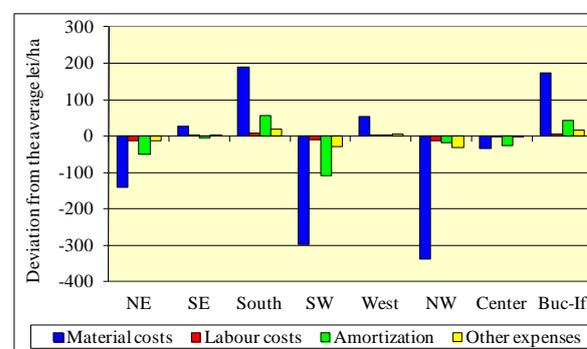

Fig. 5. Deviations of the production costs from the sample average for the wheat crop with profit, by regions

The analysis of the production costs structure for the wheat crop on the holdings without profit from the sample (Table 4) and the graphic representation of the negative deviations compared to the sample average (Figure 6) reveal that the holdings from the region West, which cultivate wheat on areas under 30 ha on the average, have input costs per hectare more than twice as high compared to the sub-sample average.

Table 4. Structure of variable and fixed expenses for holdings without profit (P-) for the Wheat crop, by regions (lei/ha)

Region	Total direct variable costs	Mechanization costs	Services third parties	Supply costs	Wages	Amortization	General expenses
NE	552	202	155	40	35	215	47
SE	500	258	47	35	30	248	41

S	511	176	33	32	26	220	37
SW	412	248	162	36	31	177	42
W	1133	276	15	63	53	471	73
NW	571	318	222	49	41	256	57
Center	516	464	48	45	38	327	53
Buc-If	543	216	0	33	28	257	39
Sample average	507	194	27	32	27	231	37

Note: the calculations were made on a sub-sample of 184 holdings (66% of total wheat sample), which had negative results from sales or from stocks per wheat hectare

Source: authors' calculations based upon data from database

This category of holdings (P-) also includes the region Center with the highest mechanization costs, the regions North – East, South - West and North – West with the payments to third parties for rendered services and the regions West and Center with amortization costs per hectare, in the conditions of average areas under wheat per holding of only 20-30 hectares.

This reveals an over sizing of mechanization means compared to the operated area.

In the conditions of negative economic results (P-) (Figure 6), the total material costs have been by 700 lei per hectare higher in the West region compared to the sample average, and by 400 and 300 lei/ha respectively higher in the NW and Center regions.
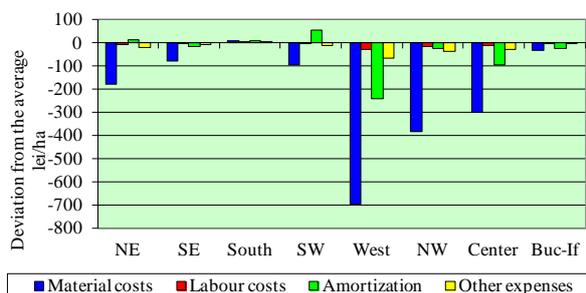

Fig. 6. Deviations of production costs from the sample average for the wheat crop without profit, by regions

Many small holdings, mostly in West and Center regions have bought unusually many tractors and agricultural equipment, thus increasing excessively the amortizations costs. Since the amount of equipment seems far more than necessary for their own mechanical operation needs, it is likely that they are supplying various transportation and mechanical services in order to increase their revenues.

CONCLUSIONS

From the analysis of the sample of holdings sample that cultivate wheat, 70% of them totally or partly sell the harvested production, while the remaining 30% use the harvested quantities for the family consumption or for feeding the animals on the holding. The expenses for inputs are increasingly low, when they are made in the regions with higher suitability for the wheat crop and on holdings with increasingly large size.

This reverse proportionality is mainly influenced by the mechanization costs, which are increasingly low per area unit as the economic power of holdings is higher, as a result of the financial possibilities for buying performant equipment, with low energy consumption and high operating capacity per time unit and area.

Other smaller holdings (20-25%) buy performant machinery and tractors, yet expensive for the operation capacity they have, which result in a high share of "calculated" amortization costs in the production costs.

Regardless of the physical and economic size of holdings, the structure and size and input costs for the wheat crop reveal the positive aspect referring to the respect and application of the same specific technological consumptions, in the conditions in which, throughout the year, the prices of seeds, fertilizers and phyto-sanitary products were slightly different across regions on the average.

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