

OVERVIEW OF STRUCTURE AND PROGRESS ON ROMANIAN SWINE SECTOR IN THE E.U. CONTEXT

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Abstract

Summary analysis of theoretical and operational issues regarding the economic organization and operation of swine breeding holdings highlights a general conclusion regarding the need to address it as a cybernetic system where all the components have linear and non-linear relations among one another. The evolution of this dynamic system is often unpredictable and difficult to assess. Thus, previous actions underlying the present which, in turn, prefigure future trajectories of organizations on the principles of reverse connection. Therefore, in each such economic organization several impact factors have major impact on the system's stability and order. The EU context, in terms of structure of agricultural holdings, namely the swine breeding farms, has significant impact on the Romanian animal breeding farms, small, medium and large size one, which have to deal with the actual market competition (local and international) in order to integrate successfully within the community structures.

Key words: *Swine, breeding, agricultural holdings, EU structures.*

Introduction

The economic activity is carried out on the background of some organizational, institutional and legal institution common to all the subjects of different form of property existing at a certain moment in the society. Presently the representatives of these forms of ownership, which co-exist and act in various fields of activity of the social-economical life, carry out their activity within organizational entities generically defined as **organization**. Depending on the nature, the domain and the purpose of its activity the organization can be public or private, economical or political, military, cultural, educational etc.

Through the activities and functions it carries out the enterprises represent a system organized by a decisional center which has a certain autonomy and depending on their

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physical assets and the human resources are able to provide various goods, works and services.

One of the characteristic of the enterprise is that their entire activity is under the impact of the internal and external environment showed through several endrogen and extrogen factors. Therefore the study of an enterprise requires a detailed acknowledgement of its functions, factors in terms of economical –social, technical, technology, ecological, sociological, legal and historical aspects. The most accepted definition of the enterprise is “an entity which accomplish the combination of the production factors in order to achieve an accepted result based on its capacity of rational using of the economic resources included in the production activity and the decisional factor through a proper application of the management and marketing as neo-factors of production where the bi-univocal relationships among the enterprises and markets have a key role regarding the ensuring of the economical performance.

For a detailed analysis of the activity of enterprises they are grouped depending on criteria such as: object activity, affiliation to a certain type of production (extensive and/or intensive); affiliation to a certain field/sector of activity; dimension of the production, etc. Thus, the size of the enterprise reveals the capacity of the economic organizations to deal with the competition on the local and international market.

Presently the global economy includes a large variety of economic units and activities generated by the development of the social division of labor and as a result of the economical-social progress.

As a result of the overall progress of the human society the process of appearance of new social needs is emphasized as well as the increase of the amount of economic goods, improve of the quality of the products offered to the consumers and their structural diversification including mutations regarding the way of production capitalization and consumption.

In this context the enterprises are separated based on a set of scientific criteria. A first criterion is the one related to the ownership regime; number of ownership subjects of and the way of making up and operation the enterprise’s patrimony; national membership (national companies, joint ventures); enterprises owning to an economic group which operates in several countries (multinational, international or transnational enterprises).

The second criterion is the one related to the purpose of the activity operated. Thus, the companies aim to obtaining certain profits whereas the small size holdings (family associations) and joint companies aim to achieve certain revenues correlated with the real expenditures. However in many cases the expenses exceed the revenues resulted from the production selling.

In comes out that the animal holdings represent groups of persons organized in accordance with certain legal, economical, technological, ecological and management needs and requirements which, by mean of the specific labor processes, correlated with some natural –biological processes, combine the specific production factors available to produce economic goods aimed to market selling with the purpose to maximize the profit given the concrete social conditions of their activity. These economic units

manage to stay on the market as long as the competition environment is not too strong for them and as long as their activity is socially useful.

Thus, the criterion of enterprise's size is the one which emphasize the capability of the economical organizations to deal with the competition the internal and international markets. From this point of view a significant advantage have the large size enterprises established under the influence of some economical and technical factors. In comparison with the small and medium size companies large enterprises can approach successfully peak science domains as boosters of technical and technological progress. At the same time they have the advantageous possibilities to ensure the supply with poor production factors, own and attracted financial resources used alternatively in various fields of activity which ensure them a large economic mobility as well as important financial resources to organize social actions in the benefit of their employees, etc.

Nevertheless that trade companies differ from one another in terms size, quality of products and structure as well as in terms of surface and economic power on the market, profile and specialization, level of spreading over the geographical area (local and global), technical – technological endowment, way of carry out the process and decisions, way of behavior within a certain environment etc. However, despite these differences the animal holding, including the meat branch, have to be approached as an **open cybernetic system**.

Such an approach reveals, nonetheless, the structural elements of the agri-food chain (livestock, food industry, distribution, trade market, etc) as well as the direct or indirect connections (reversed) which determine the unitary character of the meat branch oriented toward a determined objective i.e. **ensuring ultimately the food safety of the population**. As a result the meat branch acts as an assembly of complementary relations specific to the system in its whole. The system appear after all like a complex grid/fabric extended both horizontally and vertically with a multitude of horizontal, vertical and oblique interconnections.

The open character of this ecosystem is also given by the fact that the activity of the meat branch is carried out under the direct influence of the status and evolutions of the inputs of biological and artificial origin, the conditions of capitalization of the outputs determined mainly by the market competition environment. The activity in the swine sector is carried out under direct impact of some ecological, economical and social factors through which several operations of transforming and transfer are carried out which continuously influence one another starting with pre-production and production activities until the distribution, market trading and consumption which are specific links of a swine meat branch.

These activities are carried out by several economic agents, organizations and public institutions which interfere upstream or downstream of the swine meat branch. These activities pertain, however, to tertiary, quaternary sectors as well as to trade agents directly involved in the production activities direct and related circumscribed in the secondary and primary sectors.

It is well known that among all these links often occur discrepancies among the

participants to the swine meat branch. The most affected are the swine breeders followed by the meat processing companies whereas the less affected are the one within the distribution and trading chain of the meat and meat products.

The complex character of the economic organizations in the swine sector is given not only by the existence of a multitude of components and functions of these economic entities but mainly by the existence of some determinant which characterize the organization as a whole.

These **determinants** refer to:

- Unpredictability of the input variables under the market influence (reducing of the market share, evolution of the exchange rate), changing of the ownership form regarding the share holders or modifications of the share from this share package;
- Existence of a significant number of reaction loops which allow the system to restructure and to alter the interactions among its variables;
- The degree of centralization – de-centralization of the decisional process which aim authority dispersions al hierarchical levels which requires a complex and efficient coordination of the connections within the ecosystem;
- Profound interactions among the system’s components which result in serious difficulties in decomposing in distinct parts of the system which can lead to ignoring and malfunction of the interconnections; in this situation any neglect of any of the system’s part affects essential aspects of inter-independence related to the structure and behavior of a certain system would automatically lead to neglect of the relations among some components of the unitary system with serious effects over the entire ecosystem.

With regard to the membership of an economic organization to a certain sector of the national economy there are obvious differences between those enterprises having as object of activity producing of different economic and those made in agriculture sectors, including among various types of holdings of the economic resources (agriculture, forestry, vineyards, tree farming, animal farms etc).

Regarding the Romanian animal farming sector, including the swine sector, the subject of the herein study, following the reconstruction of the private property of a part of the animal farms patrimony, several economic organizations were established. They are presently operational and different from one another depending on their legal status, degree of complexity, type of operation and efficiency. They are generally known as agricultural holdings. According to Law 72/2002, animal breeding is an activity carried out by animal breeders (farmers), regardless their legal status, with the purpose of specific animal products. These structures are classified depending on the size, complexity, type of production:

- Family partnerships and individual swine breeders;
- Small and medium size companies, known as legal entities.

At present in Romania over 80% of the swine pertain to individual breeding farms which

mainly use traditional ways and methods of animal breeding. The swine are maintained for growing and fattening for periods which usually exceed one year. This type of breeding, however, requires high amounts of fodders which mainly include raw corn. After age of about 6 months as the daily growth rate of the swine decreases and the kg/weight cost shall exceed by far the average market trade price so that the final product cannot be considered competitive. In fact, most part of the sacrificed swine is aimed to self-consumption and, therefore, in overall, the expenses in connection to breeding these swine are high and the organizations involved operate inefficiently. However, the existence of these subsistence farms for a period of time in future, which is difficult to assess, shall determine the maintaining of these traditional methods of swine breeding and shall continue to generate more problems in terms of small incomes for these producers and mostly in terms of national economy and the inefficient use of the arable surfaces of the country. Besides these individual subsistence semi-subsistence holdings and owned by the most of the swine farmers there are also economical organizations established as family partnerships and legal trade partnerships. The first ones are simple forms of associations established based on the principle of free agreement between two or more families with the aim of commonly breed of swine as well as purchase, storage and trade of the resulted products. The last ones are animal breeding farms type associations based on the private property of one part of the animal farm patrimony. Unfortunately forming of these types of associations is in incipient stage as in 2007 only 1,475 units of this type were in operation which included a number of 117,632 heads. However, at present the state is little involved in the forming and consolidation of these farms. That is why in the circumstance of the actual economic crisis they proved to be vulnerable and many of them are in bankruptcy. However, the organizational structure also includes a small number of breeding farms which were established as large size trade companies registered in the local capital ownership, most of them with foreign capital or mix capital. These trade companies, which produce for the internal and external market, are strongly connected to the specific swine meat process flows having upstream and downstream links to their activity. The survive of these companies is dependent on the intensification of the production line relationships and on the improve of the relations with the export traders who aim to be more and more competitive in terms of quality and products' cost and to gain profit and efficiency. The components of the economical structure and the system's links operate like an open cybernetic system which is permanently under the impact of the environmental factors as well as under the influence of the characteristics of these economical organizations completely integrated within the unitary system of the swine meat flow (from breeding to processing). Such approach has to consider mainly two general aspects:

- Interaction among the sides and constitutive elements;
- The overall approach which gives the economical organizations within the swine flow the quality of a system characterized by several features. The open character of the swine ecosystem is given by the fact that its activity carried out within several economic sectors (economic, social, ecology etc) is influenced by the stage and evolution of biological and artificial inputs as well as by the conditions of capitalization the outputs

strongly determined by the market environment. Such determinants include:

- Unpredictability of the inputs variables which are under the market's influence (reducing the market share, currency exchange rates), modifications of the property over the capital share or of a part of it;
- Existence of several reaction loops which allow the system to restructure and to modify the interactions among its variables;
- Deep interactions among the system's components which to serious difficulties in splitting the system in distinct parts which consequently can generate disturbance of the interface's relations.

The economic organization of swine breeding and products processing has a profound probability character. Consequently the swine breeding market is permanently under the economic risk. Analysis of some theoretical and operational aspects in the swine breeding and processing sector allows us to approach this economy sector as a cybernetic system where the interacting components have non-linear relations whose effects are often unpredictable and difficult to assess. Within such a dynamic and non-linear system the previous actions are the basis of the present actions which, in their turn, prefigure the following trends of the organizations according to the principles of the reverse connection. Nevertheless, the phenomena previously mentioned occur distinctly and differently within the economic organizations worldwide, depending on the economical-social and political conditions with the afferent fluctuations determined by these conditions. The property in general, mostly the private one, represents the support of the enterprise's viability, the urging factor necessary to achieve a rational and efficient economic activity. After 2002 Romania had to deal with significant changes regarding the size and the structure of the swine breeding farms. In this respect the data in Table 1 are relevant.

Table 1. Evolution of swine breeding farms on class of used surface (ha)

Class of used surface (ha)	Breeding farms with swine livestock			Swine livestock (no. of heads)		
	2002	2005	2007	2002	2005	2007
Total	2694234	1753423	1697575	8259680	4935657	4708809
> 0.1	364504	143925	150227	1239375	837206	600953
0.1-0.3	251914	122169	123513	533289	229125	207255
0.3-0.5	157314	79262	80856	319325	135443	130113
0.5-1	399184	240836	224447	842325	405727	356310
1-2	582643	387604	360305	1364917	709734	633464
2-5	696951	552571	321438	2113602	1300033	1105747
5-10	160747	173941	179478	813900	594913	511179
10-20	25719	39460	42820	347705	213897	191984
20-30	3702	6398	6165	129470	88850	63800
30-50	2451	3527	4064	143934	48201	56638
50-100	1902	2385	2367	68898	130779	146902
< 100	2203	1795	1865	343042	241794	704465

Source: Statistic Annual, 2008, pg. 596-597

The main conclusion coming out from the data above is the excessively fragmented characteristic of the swine holdings. Thus: the number of the swine holdings diminished during 2002-2007 with 36 %, out of which the ones in the class of used surface of >1% until 5 ha diminished with over 1 million units whereas the number of units with surface of < 5 ha increased with about 42,000 units. Regarding the swine heads an overall diminish of 43 %, i.e. 35,500 heads on the background of an increase with over 430,000 heads in the classes with over 50 swine, out of which in the <100 swine class with over 360,000 heads. Consequently, the holdings owning over 50 heads recorded in 2007 a weight of 18% in the total of swine, i.e. 13% more than in 2007. In 2008 out of the total of 4,242 heads > 50% are registered in the intensive breeding holdings whereas the rest of 50% are found in the domestic holdings and include local breeds with low biologic value. Further on, the data in Table 2 present the size structure of the fattening swine holdings in 2008.

Table 2. Dimension structure of the fattening swine holdings in 2008.

Specification	Total sectors				
	No. of holdings	% of total	Total (heads)	% din total	Total on holding (heads)
Total	1,195,345	100.0	3,295,717	100.0	2.76
> 3 heads	111,436	93.20	1,777,130	53.91	1.59
4-10 heads	68,437	5.73	397,599	12.06	5.81
11-25 heads	8,932	0.75	148,599	4.50	16.61
26-50 heads	2,367	0.20	81,572	2.48	34.46
51-75 heads	709	0.06	43,348	1.32	61.14
76-100 heads	445	0.04	39,081	1.19	87.82
10-500 heads	123	0.01	24,020	0.70	195.36
< 500 heads	96	0.1	784,569	2.389	8,172.59

Source: Ministry of Agriculture and Rural Development

On sector overall, only 2.76 heads/holding on average are registered. High discrepancies appear depending on the number of heads within the holding. Thus, 93.20% of the number of holdings owning >3 swine heads include only 53.91 of the total of swine consequently only 1.59 heads/holding are registered. On the other the holdings owning <51 heads have a weight of only 0.12% and include 27.5% of the swine's total. The highest concentration is registered in the holdings owning <500 heads. Their weight is of only 0.01% of the total of holdings and 23.81% of the total of fattening swine and the average on holding is of 8,200 heads.

Analysis of the evolution of the swine breeding holdings and the number owned of swine emphasizes two contradictory phenomena. One showing the fragmentation of the swine breeding sector and the second is the deepening of the trend of swine concentration in modern trade companies. This last phenomenon became obvious after the integration of Romania within the E.U. agriculture structures. This process of re-sizing the swine

holdings requires the increase of the concerns of the state competent institutions and mostly of swine breeders from Romania so that to reach as soon as possible the EU parameters in this sector. The dimension of excessive fragmentation of the agriculture holdings, mostly in the swine breeding sector, is emphasized by comparison with the EU situation. The family holdings represent in the EU states the basic economic entities in the agriculture sector, including the animal breeding sector, which is under the positive impact of modern technologies in terms of widely using of principles of animal breeding management and marketing. Such animal breeding holdings, based on poly-culture, are presently under a large process of efficient re-sizing regarding the fodder cultivated surfaces, turnover as well as the increase of their market connections. In the sector of swine breeding most of the community consolidated states own a swine sector strongly connected to the market demands. The main concerns of these holdings are the increase of the swine number and focus of this activity on widely using of an efficient technical know-how. The economic pressure, generated by the increase of the competition within the national and international agro-food markets, requires the improvement of the swine breeding and processing by merging and establishing of some modern and performing economic organizations. The data in the Table 3 show the trend of the number of holdings and number swine during 2000 – 2007, at EU level.

Table 3. Trend of swine number on holdings within 2000-2007 at EU level

Specification	UE-27		UE-25		UE-15	
	2005	2007	2003	2005	2000	2002
Swine holdings (thou)	5,125	3,822	2,197	1,878	672	573
Number of swine (thou)	159,494	154,626	149,956	148,968	118,780	120,171
Swine/one holding	31.1	40.5	68.3	79.2	176.8	209.6

Source: EC Eurostat

Within this period the number of swine holdings decreased with 25.5% at the level of EU 27, with 14.6% (EU 25) and only 15% at EU 15. During the same period the number of swine at the level EU 27 decreased with 3%, with 3% (EU 25) whereas at the level EU 15 increased with about 1.2%. From this oscillate trend of the two indicators the increase of heads number per holding in EU 27 with 9.4%, with 10.9% in EU 25 and with 27.8 heads in EU 15. The absolute and relative differences among these indicators shows the evolution of the integration process regarding the EU accessing where EU 15 proved to be the most consolidated period in terms of swine breeding process development as well as economic efficiency. This process is also relevant in terms of modifications occurred within the swine breeding holdings on size classes (see Table 4).

Table 4. Trend of swine number on holdings within 2003-2005, in terms of number of swine, at EU 27 level

Specification	No. of holdings (thou)		No. of swine (thou)	
	2003*	2005	2003*	2005
Total	2,197	3,822	149,956	154,626
1-9 heads	1,502	2,821	12,185	14,331
10-49 heads	267	258	12,302	11,759
50-99 heads	45	41	6,073	5,672
100-199 heads	30	27	7,313	6,773
200-399 heads	28	25	12,346	11,393
400-999 heads	35	33	33,078	31,020
≥ 1000 heads	20	21	61,538	68,283

Source: EC Eurostat. * E.U.-25

It can be seen an increase of the E.U. holdings at the class 1 – 9 heads concomitant with the increase of the swine heads and a decrease of these at classes of 10 – 999 heads, except the categories 200 -399 heads. The category over 1000 heads recorded a decrease of number of holdings concomitant with the increase of the animals number which highlights increase trend of the process of concentration of the agriculture holdings along with the number of swine. The trend of decrease the number of holdings, namely the increase of the swine number is given by the process of EU enlargement after 2004. The fact that in the period prior 2004 suffered a strong process of concentration is given by the considerable decrease of the number of holdings together with the increase of the number of swine. Thus, during 1995 – 2000 a large scale process of resizing the agricultural holdings and the concentration of the number of livestock took place. On overall during EU 15 the number of agricultural holdings decreased with 604,000 heads whereas the number of swine/holdings decreased during 1995 – 1999 with 30.1 heads. The most heads/holding were recorded in Ireland (1,763) followed by Nederland (847, 9 heads), Denmark (775), Belgium (700, 5), UK (584, 2 heads) and Sweden (352, 5). The lowest level were recorded by Portugal (18, 1 heads), Greece (27), Italy (33, 4), Austria (39, 9) and Spain (325, 5). Considering this general context the elimination of the high discrepancies regarding the degree of holdings' concentration and the number of swine represents a major objective of the Romanian agricultural policy which takes place under the stronger and stronger competition on the local and international agro-food markets as well as under the actual necessity of integration of the Romanian structures within the community structures. However, to accomplish this requirement needs time and important financial efforts along with the financial support of E.U. In this context, after our country's accession to EU the concerns of the competent institutions were intensified, including the animal breeders' efforts, aimed to improve the economic organizations and swine holdings in terms of quantity, quality and structure. At the same time a special attention should be paid to a radical restructuring of the family

holdings in order to create the necessary conditions to connect these holdings to the demands of the modern technologies of the actual market and the achievement of viable and efficient economic entities.

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