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THE MARKET PARTICIPATION DEGREE OF THE ROMANIAN FARMS

GRADUL DE PARTICIPARE LA PIAŢĂ AL EXPLOATAŢIILOR AGICOLE ROMÂNEŞTI

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Abstract: *In order to assess the subsistence or the commercial character of the farm, the destinations of the farm output, together with the farm income are both important indicators. The present paper is analyzing these features of the activity in some Romanian farms. The study is based upon data from two complex surveys in 800 and 400 farms respectively (both physical and juridical entities) in all development regions in Romania. The analysis has been carried out for the main crops and livestock products. The results are showing significant regional disparities and various correlation degrees with the influencing factors under analysis.*

Key words: *farm output destination, market participation, farm income*

INTRODUCTION

The globalisation and concentration of the retail sector, the shift from supply driven agro-food production to demand driven food chains, together with the growing importance of standards and quality and food safety requirements have had a huge impact upon the primary producers in Romania and their links with the market. While international chains of super- and hypermarkets are trying to induce standardization processes to create uniform and efficient supply structures, the national agri-food supply patterns remain diverse and fluid.

Producers' organizations are still poorly represented and therefore are not able to significantly influence the supply organization.

MATERIAL AND METHOD

The present paper is empirically examining the economic relationships of the farms, more precisely the market linkages and the insertion of the farm production activities with the upstream and downstream activities along the marketed products channels.

The evaluation is based upon the analysis of a large data set obtained from surveys (that included 774, respectively 409 validated farms), conducted in two research projects coordinated by the Institute of Agricultural Economics:

- (CEEX Project (2006-2008) "Modeling the response of the agricultural holdings farms to the integration of economic and environmental principles through the sustainable management of soil resources";
- CNCSIS Project (2006-2008) "Complex research models and methods of the sustainable rural development in Romania".

RESULTS AND DISCUSSIONS

Establishing and developing competitive agri-food markets is one one the main challenges Romania is currently facing. Since the structural reforms did not tackle the upstream and downstream sectors according to the needs of the majoritary small farms, the input and output markets did not adapt to the farmers' needs and requirements.

In order to quickly adapt to the rapid growth and supremacy of the supermarkets, the farmers need to „grow", either individually or collectively, in order to enhance their technical and functional quality.

The excessive fragmentation of land is a serious hindrance to family farms productivity, taking into account that the latter are providing 2/3 up to ¾ of the total crop production. The land fragmentation, together with difficulties in entering various markets result in low efficiency, high costs, hence a low income level, favoring the increase in on-farm consumption at the expense of output marketing.

Most of the farmers are involved in subsistence farming and only a relatively small part are producing a surplus for sale.

Subsistence and semi-subsistence farms

Although small farms have been and are present in the EU Member States, they hold a small portion of agricultural land use and comprise a small part of the rural population. EU enlargement from 15 members to 25 (27) members brought in the Community agriculture million of small farms, largely as a result of the application of land law of restitution / restoration of old properties which existed before the installation of the communist system in the Central and Eastern European agriculture.

Despite their presence in all EU countries, practically one does not see a clear and universally accepted definition of small, subsistence or semi-subsistence farms.

Council Regulation (EC 1698/2005) on Rural Development Support by the European Agricultural Fund for Rural Development, defines the semi-subsistence farms as "agricultural holdings which produce primarily for their own consumption and also market a proportion of their output". It is up to the member countries to establish the precise limits of physical or economic size of agricultural holdings for inclusion in these categories, but this is a very sensitive operation, since a difference of 0.5 or 1 ha around these limits may result in the inclusion or exclusion of hundreds of thousands of farms, at least for Romania and Bulgaria.

Three criteria are used primarily for the classification of farms: (i) physical size, (ii) economic size, and (iii) market participation.

The physical measure used is the Utilized Agricultural Area (UAA). Farms operating an agricultural area of 5 ha or less are holding over 50% of the countries' UAA in 10 of the 12 new Member States (NMS) (except Estonia and Latvia), as well as in 4 of the old Member States (OMS): Greece, Italy, Portugal and Spain. Except for Malta (totally insignificant for EU agriculture), Romania has the largest share of the areas held by subsistence and semi-subsistence farms (35.1%, that is 5.15 million hectares of UAA).

To measure the economic size, Eurostat uses the Economic Size Unit (ESU). The economic size of a farm is calculated based on its standard gross margin (Commission Decision 85/377/EEC), and is presently evaluated at EUR 1200 for 1 ESU. For statistical purposes and international comparison, Eurostat is using the following thresholds:

- farms smaller than 1 ESU are regarded as subsistence farms;
- farms between 1-8 ESU are regarded as semi-subsistence farms;
- farms larger than 8 ESU are regarded as commercial farms.

This classification has been adopted by Romania as well for the measure 141 (support for semi-subsistence). In other EU Member States, different limits are being used (e.g. Bulgaria defined as semi-subsistence farms those farms having between 1-4 ESU, while in Lithuania between 2-4 ESU).

Taking into account data and groupings used by Eurostat, in the EU, there are seven old Member States (OMS) (Austria, Finland, Greece, Ireland, Italy, Portugal and Sweden) where farms having less than 8 ESU hold over 20% of the UAA. Among the new Member States (NMS), 9 fall into this category, except the Czech Republic, Hungary and Slovenia.

The marketing level (the market participation), as measured by the share of marketed output, is the indicator that best separates farms, in order to include them in the "semi-subsistence" or "commercial" category. According to Wharton [3], a farm is "purely subsistence" if its production is for own consumption exclusively (marketing degree 0). The farm is regarded as "purely commercial" if it sells 100% of its output, while all the other farms are somewhere in-between these two extremes. Wharton established a conventional threshold of 50% (proportion of output for sale) to include farms in "semi-subsistence" class (if the marketing level is below 50%) and in "commercial" class (if the farm is selling more than 50% of its output). The method Wharton proposed has the merit of best capturing the actual position of a farm in the market, providing as well a clear measurement criterion.

If the economic size criterion is used, Romania has the largest share of subsistence (less than 1 ESU) and semi-subsistence farms (between 1 and 8 ESU); their combined number is thus reaching 99.4% of the total Romanian farms number, while operating 62.2% of the UAA, that is 9.1 million hectares.

The marketing degree of the agricultural output

By analyzing the use of agricultural products, five possible destinations of the agricultural output were identified:

- sales to wholesalers, processors and retailers;
- sales on peasant markets (local markets, permanent or periodic fairs);

- in kind lease payments;
- feed for on-farm livestock;
- human consumption in the household (on-farm consumption of primary or processed agricultural products for the family's own consumption);
- other destinations (gifts, losses, etc.).

The existence of an extremely high number of small farms that are cumulatively holding an important agricultural area, but are unable to provide large quantities of standardized agricultural products, increase the role the peasant markets play in the distribution of food products.

The analysis of the marketing degree of the crop production (cereals, sunflower) was performed on a sample of 774 farms (66% subsistence and semi-subsistence farms and 33% commercial farms). Here are the main results.

Across the family private farms, the on-farm consumption (human consumption and consumption for feed) is 26.8%, while the outgoing output has accounted for 73.2%, mostly representing sales (62.8%) and lease payments (8.3%).

By crop, maize and barley showed high on-farm consumption (38%), clearly intended for on-farm livestock feeding. For wheat, the on-farm consumption is 21%.

By developing regions, the highest on-farm consumption (40% for wheat and 11.5% for maize) was found in Region 4 - SW. High rates of on-farm feed consumption for maize are to be found in Region 3 - S (76%), Region 6 - NW (70%) and Region 7 - Center (68%), used mostly for pig growing in the subsistence farms.

Small and medium-size farms with important contributions to the market were found in Region 5 - W (70% for wheat, 81% for barley, 72% for maize) and Region 8 - Bucharest-Ilfov (82% for maize). Most of the sunflower output (91%) in the family farms is for sale.

In the commercial farms (legal entities) crop production, both grain and especially oilseeds were for sale. For barley and maize only, agricultural companies and associations retained 7 - 7.5% of the output for on–farm feed consumption.

Wheat. Overall, wheat is intended primarily for sale, but differences occur among the 8 development regions. The largest share of sales is located

in the most favorable areas for the wheat crop, i.e. in Region 3 - S, 5 - W and 2 - SE.

All private family farms, regardless of size, are storing grains for on-farm consumption; the highest share is in Region 4 - SW. In Region 8 - Ilfov, many farms have been affected by adverse climatic conditions (excessive drought) in spring and summer 2007, severely affecting the quality of the output that had to be diverted to animal feeding.

In the case of farms – legal entities, the share of sales is varying between 35-80%, depending on the region. Only in few cases agricultural companies keep some of their wheat output for on-farm consumption (up to 10% of the output). Small quantities of the output are used for on-farm livestock feeding, the only notable exception being Region 1 - NE, where most farms have a mixed profile (crops and livestock). In all development regions, 12-24% of the wheat output is earmarked for in kind lease payment.

According to Wharton's method, the significant marketing threshold is 50% of the output. In the family farms, the critical 5% threshold of output marketing is placing the farm at the limit of on-farm consumption coverage. The analyzed data show polarization phenomena in Regions 1 - NE and Region 5 - W, meaning that wheat-growing farms are either strictly covering their own consumption needs, or are largely selling the output.

Barley. The share of farms growing barley is much lower (24.9%), both for family farms and legal entities. Overall, the family farms sell almost half of the barley output, while a significant part (40%) is used for animal feed. This is the average country-wide trend, but there are some significant regional disparities.

Private family farms in Moldova, Muntenia and Oltenia (Regions 1 - NE, 2 - SE, 3 – S and 4 - SW) prefer to secure on-farm their livestock feed, while the farms in Transylvania (Regions 5 - W, 6 – NW, and 7- Center) are directing the barley output mainly to the local breweries.

Legal entities farms producing barley are selling most of the output (up to 85% in regions with predominantly plain terrain), but farms with mixed profile (crop and livestock), prevailing in the Region 1 – NE, Region 4 - SW and Region 6 - NW use at least 40% of their output as on-farm feed. As compared to wheat, barley is used to a lesser extent for in-kind lease payment.

The analysis of the marketing degree in the barley-growing farms using the Wharton methodology shows that most of the family farms are using the barley output to cover the on-farm feed need. Only farms in Regions 5 – W and 8 – Ilfov are exceptions to this general trend, showing a higher degree of sales.

As regards legal entities farms, mainly those located in areas with hilly terrain (Regions 1 - NE, 4 - SW and 7 - Center), generally having a mixed profile (crops and livestock) show also a lower degree of output marketing (varying between one quarter and one third of production).

Maize. Among the cereals grown in Romania, maize is taking the largest area and is grown in over 70% of the investigated farms; at country level it is grown on 2.5-3 million hectares. Farms – legal entities growing maize are fewer than the family ones (1/4 compared to 3/4).

Country-wide, the main destination of the maize output of the family farms was for sale (almost half) and animal feed (33%). This trend is more evident in the lowland regions (2 - SE, 5 – W and 8 - Ilfov), while the prevalence of the output intended for livestock feed can be found in the hilly areas, with higher load of animals. Human on –farm consumption can take up to 8-10% of the maize output, particularly in eastern and southern regions. In-kind lease payment is present in most regions, more than for barley, but less than for wheat.

In farms – legal entities, most of the output (about 65%) is for sale, while about 10-25% is used for in kind lease payment.

The frequency of maize cultivation in the family farms studied is higher than of all other crops (77% as compared to only 63% for wheat and 49% for barley). The distribution of family farms by the marketing degree of maize output is more uniform than for the other cereals. Only in Region 7 – Center, the family farms tend to use the maize output mainly for on-farm livestock feed. In the other regions, maize is holding an average 2.5 hectares at least per farm, up to 12-13 hectares per farm (regional average) in the main cultivating areas (such as Region 2 – SE and 5 – W).

In case of large corporate farms, there is a significant trend of marketing the maize output, such as in the main production regions (5-W), 80% of these farms sell more than half of their output.

Sunflower. It is cultivated in 25% of total agricultural holdings, mostly in companies and associations - legal entities. In most of the family farms that have grown sunflower, the output has been intended, in good measure, for sale, except for Regions 1 - NE and 7 – Center, where limited areas have been cultivated with sunflower and the output has been directed mainly for on-farm livestock feeding.

In the case of holdings – legal entities, sales of the sunflower output are predominant, exceeding 90% in all regions except Region 4 - SW, where only a small number of farms are growing sunflower on small areas.

Looking at the marketing level for sunflower, in the large cultivating regions such as Region 5 - W, over 66% of the family farms are selling most of their output. More than 80% of the holdings - legal entities are trading over 50% of their output (with the exceptions mentioned above).

The marketing degree of crop production

Calculations made for the surveyed farms include other crops as well (in addition to the products described in detail above) such as potatoes, sugar beets, field vegetables, fodder plants - annual hay and maize silage; their cumulated areas representing over 90% of the utilized agricultural area in the farms. Table 1 shows the classification of the farms by marketing classes.

Table 1 – Classification of farms by the marketing degree of crop production

Development region	Marketing degree		
	0 - 5%	**5 – 50%**	**50 – 100%**
Total farms			
1 – NE – North-East	80.0	6.1	13.9
2 – SE – South-East	35.1	12.3	52.6
3 – S - South	45.1	14.2	40.7
4 – SW – South-West	56.6	26.3	17.2
5 – W - West	28.0	19.5	52.4
6 – NW – North-West	44.7	28.9	26.3
7 – Center	47.0	23.9	29.1
8 – Bucharest-Ilfov	50.0	5.0	45.0
Total	**48.8**	**18.2**	**32.9**
Family farms (individual holdings)			
1 – Northeast	88.0	4.3	7.6
2 – Southeast	54.7	10.9	34.4

Development region	Marketing degree		
	0 - 5%	**5 – 50%**	**50 – 100%**
3 – South	57.1	10.4	32.5
4 – Southwest	57.3	28.0	14.6
5 – West	43.4	26.4	30.2
6 – Northwest	42.4	33.7	23.9
7 – Center	55.3	23.7	21.1
8 – Bucharest-Ilfov	66.7	0.0	33.3
Total	**58.2**	**19.2**	**22.6**
Farms (holdings) – legal entities			
1 – Northeast	47.8	13.0	39.1
2 – Southeast	10.0	14.0	76.0
3 – South	19.4	22.2	58.3
4 – Southwest	52.9	17.6	29.4
5 – West	0.0	6.9	93.1
6 – Northwest	54.5	9.1	36.4
7 – Center	31.7	24.4	43.9
8 – Bucharest-Ilfov	25.0	12.5	62.5
Total	**26.1**	**15.9**	**58.0**

Source: author's calculations

CONCLUSIONS

As a consequence of the distorted structure of family farms, their product supply is largely fragmented and heterogeneous, coming in small batches, which, except for some cereals and livestock products are marketed mainly in small, local and relatively isolated markets, while more than 70% of individual producers are not included in an organized marketing system. One should be noted that neither for the other types of farms the marketing systems are not properly organized. The producers' professional or inter-professional associations by products or product groups are relatively poorly represented, thus not being able to influence the supply decisively. By contrast, the demand is concentrated in a relatively small number of wholesalers, processors and retailers, having often a local monopsonistic position.

Supermarkets are targeting mainly the medium and high-income family consumer groups. At the same time, low income consumers are a good outlet for farmers who have not adapted to the restructuring requirements imposed by modern food chains. Low-income families tend to buy cheaper products from the peasant markets, which are channels for the

sale of unregistered products for farmers. The lack of an adequate tax system is thus favoring the gray market, allowing the movement of large amounts of agricultural products subjected neither to taxation, nor to normal food safety controls.

Physical and informational infrastructure is both insufficient and weak. To these are added a weak connection to global markets, with obvious negative impact. Therefore, competition between market players is rather unidirectional (this being present mainly on the supply side) and also extremely unbalanced, to the detriment of farmers. They are thus disadvantaged in terms of economic power, negotiating capacity, awareness, etc., in comparison with the storage and processing agents, respectively with major operators in the retail industry.

Current market signals are pretty "pale" and distorted. The lack of proper market signals, in combination with relatively low perception opportunities in the large mass of farmers, makes the latter to practically move in a highly uncertain economic environment, where resources allocation is following rather traditional models of distribution than those required by the market requirements.

REFERENCES

1. **GAVRILESCU CAMELIA** (coordonator), 2010, Managementul economic şi ecologic al resurselor de sol, Ed. Academiei Române, Bucureşti.
2. **GAVRILESCU CAMELIA, TURTOI CRINA, TOMA CAMELIA**, 2009, Relation of the Romanian farms with traditional and modern food supply chains, 113-th EAAE Seminar, Chania, Greece.
3. **WHARTON C.,** 1969, Subsistence agriculture and economic development, Aldine.
4. *** (2010), Semi-subsistence farming in Europe: Concepts and key issues, Background paper for the seminar „Semi-subsistence farming in the EU: Current situation and future prospects”, Sibiu, Romania, Aprilie 2010.
5. *** (2007), Statistics in focus - Farm structure in Romania – 2005, in Eurostat - Structure of agricultural holdings, no.60/2007.