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# INTERESTING EXPERIENCES IN WHEAT AND MILK CHANNELS IN A COUNTRY UNDER THE EU ACCESSION

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## Abstract

The wheat chain went through a significant restructuring in terms of ownership and operation. Among the agri-food processing sub-sectors, milling and bakery saw the largest development, in terms of employment, turnover and investment, both FDI and domestic capital. The milk sector saw even more fundamental changes during the transition period. It has been the only agricultural product that recorded continuous increase in both yield and total output during the past decade. The restructuring of the downstream sector was among the most difficult in the country's agri-food sector. Considered as well as staple food, together with wheat, milk has been submitted to heavy intervention policies.

**Keywords:** Romania, wheat channel, milk channel, FDI Q13

## 1. Introduction

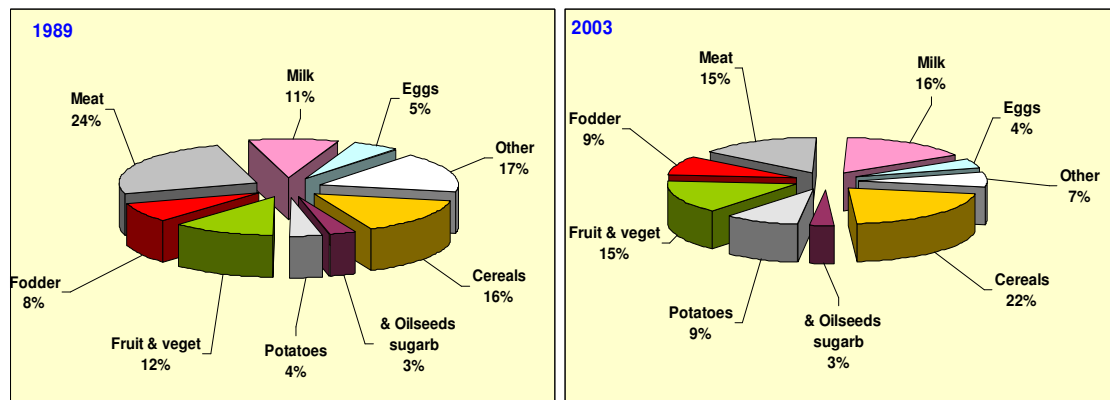
In the early transition period, the profound changes in the ownership structure – firstly in the agricultural sector (privatization of land and livestock) - pushed the restructuring “wave” downstream the product channels. More recently, that is in the last 5 years, the emergence and very rapid development of modern retailing and the subsequent changes in the consumers' behavior started to set pressure on the product channels from the opposite end. Finally, the EU accession requirements hastened the institutional and legislative changes along the products channels.

Two commodities have been selected - wheat and dairy milk - and detailed evolution of the various stages of the channels have been analyzed (dynamic analysis). The main factors of influence have been identified, with focus on the changes triggered by the growing concentration in the processing and retail areas, as well as by the EU accession requirements.

## 2. Wheat chain

During the transition period, the agricultural sector experienced significant changes in all its basic structural elements, such as: ownership structure, farming structure, crop / livestock output ratio, structure of agricultural products supply etc.

Between 1989 and 2003, the share of the crop sector increased by almost 10% at the expense of the livestock sector; in the private sector, the change was even stronger: the livestock sector lost 20% in favor of the crops. The above mentioned trend is clearer when analyzing the structure of the agricultural production value by main products: a significant increase for cereals (16 to 22%), and milk (11 to 16%), along with a significant drop in meat (24 to 15%) (figure 1).



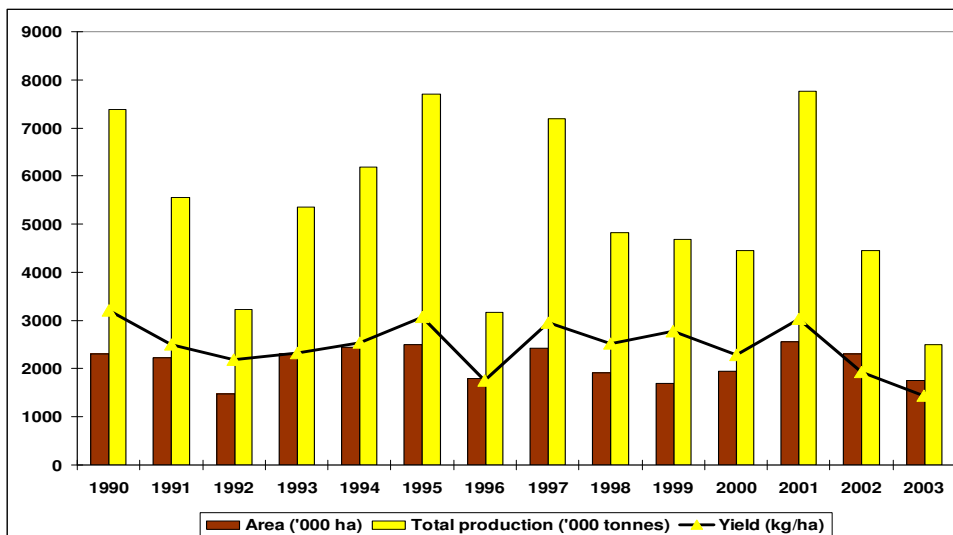
**Figure 1. The structure of the agricultural production value by main crop and livestock products, in 1989 and 2003**

### 2.1. Production base for wheat

For more than 2000 years, cereals have been the most important crops in Romania's agriculture. With a share of about 1/4 in the arable area and representing 35-40% of the area under cereals, wheat is the main cereal for human consumption cultivated in Romania.

The share of the private sector in the area cultivated with wheat in 1990-2000 was 75-85%; it started increasing again since the enforcement of the second stage of the Land Law and the privatization of the state farms (up to 90% in 2001).

The production is still very much dependent on the weather conditions, mostly on the draught. The average total production during the transition period was about 5.6 million tonnes, with variations of  $\pm 30\%$  (e.g. from 3.16 million tonnes in 1996 to a peak of 7.76 million tonnes in 2001, the historically highest production in Romania) (figure 2).



**Figure 2. Wheat production in Romania during the transition period**

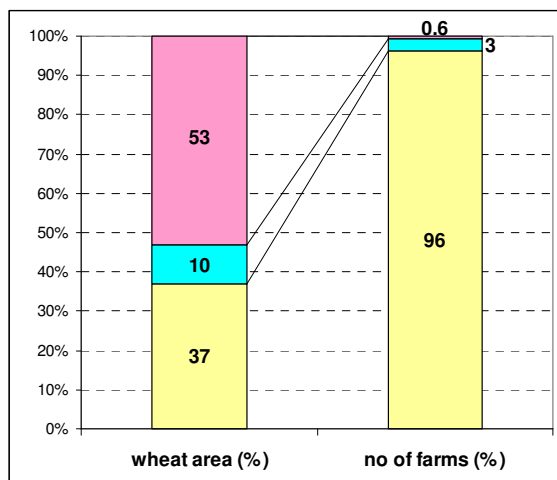
Such a production (5.6 million tonnes) is about enough to meet the domestic needs for consumption. In the pre-transition years, Romania was a net exporter of cereals, wheat included. In 1990, the exports were banned, therefore in 1990-1994 no wheat exports are reported. Since 1995, Romania became again a net exporter of wheat, the only exception being in 2000 when some almost 400,000 tons were imported to cover the gap between the low production and the domestic needs. The self-sufficiency index for cereals was in most of the transition years well over 100%, except the few years of low domestic harvests.

As a result of the land reform, Romania has currently about 4 million farms, of 2.3 hectares in average. There are three main types of farms growing wheat: small peasant households, agricultural associations and large agricultural farms.

The results of the agricultural census allow us to figure out the pattern of farming (figure 3).

The structure is quite interesting: about half of the wheat area is highly fragmented, while the other half is highly concentrated. The fragmented „pole” shows that 37% of the wheat area (that is about 915,000 hectares) is cultivated in 96% of the total number of farms (that is in 960,000 farms), having each less than 10 hectares. The concentrated „pole” shows that 53% of the wheat area (1.31 million hectares) is cultivated in 0.6% of the total number of farms (that is in 38,000 farms), having each more than 100 hectares.

A general conclusion could be that the proportion of the marketed wheat production is rather low for the the individual agricultural households: in 1993-2002, it did not exceed 32% of the production, while in the same period it was in average 59% in the private agricultural associations and over 2/3 in large agricultural farms. A secons conclusion would be that wheat is being cultivated largely in small-size farms, rendering less efficient the mechanical operations included in its technology, with repercussions on quality and cost of the product.



**Figure 3. Structure of farms cultivating wheat**

On the other hand, the farmers started leasing some of their plots to large commercial farms, or including their plots among those one which are jointly worked in agricultural associations in order to ensure that the land is properly cultivated.

The way the farms are using their wheat production, that is how much they consume on farm, and how much they sell is shown in table 1.

**Table 1. Use of wheat production, by farm type (% of total output)**

| Use                                     | Individual agricultural households (small-size) | Agricultural associations (medium-size) | Large agricultural units |
|---|---|---|--------------------------|
| Sales                                   | 0-32  | 45-72                                   | 66-80                    |
| Distributed to members and shareholders | -   | 22-40                                   | 7-14                     |
| Feed consumption (on-farm)              | 5-23  | 1-3                                     | 8                        |
| Seed consumption (on-farm)              | 3-12  | 6-12                                    | 5-12                     |
| Human consumption (on-farm)             | 60-65   | -                                       | -                        |

Source: calculations based on National Institute of Statistics data

## 2.2. Storage

In the first years of the transition period, Romania's monopsonistic grain trading organisation, Romcereal R.A. (Regie Autonome) used to be the player on the grain market. With its country-wide network of grain collection, storage (which held the total storage capacity for grains 10.5 million tonnes) and transportation, it acted as the major input supplier, distributor of directed credit, grain purchaser, storage and marketing agent. This way, the government maintained full control over the grain market, preventing the private sector from entering the cereal market.

The splitting up and privatisation of started in 1996 and came to an end in 2001. The privatization process in the grain storage sector was long time awaited by the private sector operating on the cereals market, including local and international traders.

The new private ownership structure in the grain storage sector is currently composed of about 100 companies, but is not fully stable yet, and the funding of purchase and storage is still limited. The warrants (storage certificates) system is for the moment inoperant, since the guarantee fund which was supposed to be created from the public budget failed to do so, and neither the wholesalers nor the producers are willing to contribute to its creation. The current grain trade system is still risky and uncertain for the actors involved, due to high seasonal price fluctuations and low prices paid to the

agricultural producers, thus offering them no real incentives for obtaining higher and better quality harvests.

### 2.3. Milling

After 1990, the milling sector went through a substantial restructuring process both through the privatization of the former state-owned milling enterprises, and through the emergence of new, modern mills. In the privatization process, some former state-owned enterprises broke up and privatized in smaller „pieces”; other privatized in compact structure. This process was accompanied by the emergence of new milling commercial companies.

Besides the milling facilities, these new companies built as well storage facilities (so-called „technological storage”, that is capacities covering the necessary wheat for the mills to fully function for 5-30 days). They generally own transportation means as well, which allows them to reduce transportation costs, and also to go and negotiate directly with the producers; in this case, generally, they would pay lower prices as compared to contract prices.

During the transition period, apart the privatization of former co-operative mills, a large number of small-capacity private mills (0.5-2 tons/day) emerged mostly in the small towns and rural areas; this was facilitated by a law enforced in the first years of transition which was offering a 5 year profit tax exemption for the newly established private production activities. There are in function as well several bigger mills of relative larger capacities, up to 1,000 tons/day, much more competitive. The local small-capacity mills (about 400-500 all over the country) are accompanied by thousands of small bakeries that proved to be useful if taking into account the benefit coming from covering the local needs, as well as reduced transportation costs or their location in isolated areas. But along with the penetration and diffusion of large international and domestic milling and baking companies in small towns and in the rural areas, many of them are expected to get out of business in the next decade.

To summarize, the current milling sector is composed of: (a) large commercial companies with mixed capital (foreign and domestic); (b) private mills and bakeries in villages and small towns; (c) mills and bakeries belonging to agricultural companies; and (d) co-operative rural mills and bakeries (belonging to the handicraft co-operative network). Up to now, the Ministry of Agriculture, Forests and Rural Development issued around 6000 functioning authorizations, out of which not as much of are still active.

In 2002, the milling sector comprised a total number of 1528 enterprises, with 12,649 employees and another 901 persons members of family associations (non-paid staff, which is running some of the small-size mills) (table 2).

**Table 2: The Romanian milling industry in 2002 – selected indicators**

|  | <b>Large enterprises<br/>(over 50 employees)</b> | <b>Small and medium<br/>enterprises<br/>(with less than 50 employees)</b> |
|--|--|---|
| Number of enterprises                              | 46   | 1,482   |
| Number of employees                                | 5,681  | 6,968   |
| Turnover (US\$ million)                            | 122.2  | 112.4   |
| Direct exports (US\$ million)                      | 1.82   | 0   |
| Gross Added Value at factor cost<br>(US\$ million) | 23.1   | 11.0  |
| Investments (US\$ million)                         | 16.5   | 5.5   |

Source: National Institute for Statistics

The SME-s are rather „volatile”, their number varies significantly from year to year (table 3). The total turnover of the small and medium enterprises (SME-s) is equalling the total turnover of the large enterprises operating in the sector.

In the SME-s, the unpaid staff (members of the family associations running some of the mills) decreased from 20% in 1999 to 11% of the total staff number in 2002. The modernizing trend could be seen in the SME-s also, since the investment (mostly in equipment and technology) increased significantly during the last years.

**Table 3: Small and medium enterprises in the milling industry (1999-2001)**

|   | 1999   | 2000  | 2001  |
|---|--------|-------|-------|
| Number of enterprises                           | 1,260  | 1,326 | 1,381 |
| Number of employees                             | 13,806 | 7,718 | 7,621 |
| Number of non-paid staff                        | 3,250  | 1,398 | 1,039 |
| Turnover (US\$ million)                         | 94.4   | 106.0 | 93.2  |
| Direct exports (US\$ million)                   | 0.59   | 0     | 0.52  |
| Gross Added Value at factor cost (US\$ million) | 15.65  | 18.5  | 9.5   |
| Investments (US\$ million)                      | 0.7    | 3.6   | 7.8   |

Source: National Institute for Statistics

For efficiency reasons, but also for resisting to market competition, after 1990 all private economic agents invested in new or modernized technological equipments. Generally, the invested capital was domestic, but the equipment is state of the art from Switzerland, Germany and Italy. The SME-s increased their investments despite the high concentration in the milling industry.

The overall installed milling capacity in Romania is currently 12,500-12,800 tones/day, while the actual necessary milling capacity is about 5,500 tones/day.

The investments volume decreased in 1999-2001, than it went up again significantly. The main source for the investment funds have been the own resources of the companies, covering 62-77% of the total amounts, while the share of domestic credit in the investment funds dropped by 2/3. An important infusion of foreign capital, covering almost 30% of the total investment amount occurred in 2000. The largest part of the investment funds (40-70%) have been used for new and modern equipment and technology; 20-45% of the funds have been used for buildings, and 7-15% for new transportation means.

These investments in the large enterprises in the milling industry resulted in a significant increase of the concentration in the sector, the CR5 increased by 15% in four years only (table 4).

**Table 4: Concentration ratio in the milling industry, 1999-2002**

|   | 1999  | 2000  | 2001  | 2002  |
|---|-------|-------|-------|-------|
| Number of large enterprises (over 50 employees) | 49    | 44    | 45    | 46    |
| Average number of employees                     | 6,574 | 5,284 | 5,398 | 6,430 |
| Turnover (US\$ million)                         | 81.4  | 106.3 | 110.4 | 122.2 |
| Cumulated in % of total turnover                |       |       |       |       |
| - top 5 (CR5)                                   | 40.53 | 53.50 | 57.91 | 54.57 |
| - top 20 (CR20)                                 | 81.83 | 87.00 | 90.27 | 88.75 |

Source: National Institute for Statistics

#### 2.4. Bakery

Since the early '90s, small bakeries were the first private productive activities to emerge in the food industry. They were generally new investments, many of them with foreign capital (Turkish, Italian, German etc.). They produced only a few products, mainly bread, and several bakery products. They were indeed meeting an important demand, both in urban and rural areas, since the bread production in the state-owned enterprises was limited and submitted to strict price regulations. These small production units were selling their products directly to the public. As long as they did not use subsidized wheat, they were not submitted to the price limitations imposed to the state-owned enterprises.

Some state-owned agricultural farms which were located close to towns tried to obtain higher profit through vertical integration on the wheat chain. They didn't sell any more their wheat production as such, but they processed it in a small-size mill, and the flour was further processed in a small-size bread & bakery production unit, which, in its turn was selling the products in the nearby town. There were several advantages involved in this model: the producers are entitled to get the subsidies for the wheat production, which is sold entirely; the storage facilities are on-farm as well,

and the bakery is constantly supplied with raw material. The transaction costs diminished substantially along the chain, and on the whole, the companies managed to make profit every year out of the wheat chain, which did not happen if they just produced and sold wheat as such.

Privatization in the bakery sub-sector went in fact together with the milling sub-sector, since the large state-owned enterprises were including both subsectors. Investments in bread production were very important (estimated as to 100 million US\$), generally by domestic capital, mostly in new machinery and technologies. They are producing large range of products, but during the last few years, the consumers could notice without effort a significant improvement in the quality of the bread, in terms of freshness, taste and packaging.

Large foreign investments in this sub-sector came later, in the second half of the '90s, when the privatization of the large enterprises was coming close to an end, and the politic, economic and legislative environment improved and stabilized. These foreign investments targeted less the bread production, but other bakery products, such as biscuits, chips, wafers, pasta and, more recently, cereals for breakfast. Most of them used older locations which they modernized, but there are some brand new production units as well.

To date, in Romania there are about 4,000 bakery units, all of them in private property (with very few exceptions, which belong to co-operatives). Most of them have also wheat/flour storage spaces in order to ensure the continuity of the production process.

### *2.5. Trade with bread and bakery products*

The market of bread and bakery products is mostly domestic. Minor quantities of specialties are imported, generally highly processed products which are not domestically produced or are produced in insufficient quantities (special types of chips, breakfast cereals, dietetic products etc.).

The economic operators involved in the trade of bread and bakery products belong to the private sector. There are the specialized companies producing bread and bakery products, units belonging to agricultural commercial companies, to village mills and bakeries, to co-operatives, and all the types of food shops (hypermarkets, supermarkets, cash & carry, mixed shops, specialized shops).

The large bread and bakery producers sell through their networks of specialized shops, and also to supermarkets and mixed shops in large cities. They also have their own fleet of lorries which are making the distribution of the products. They generally avoid having contracts with small shops, they prefer dealing with specialized local distribution companies which are making the link with the small retailers.

Several types of bread are produced, targeted to specific groups of consumers: the standard type of white bread (300 grams), which is targeted to consumers of lower income groups (and which consume it in large quantities), sold at a low price (including a minimum of profit margin). Its price is generally settled through negotiations in the professional association (ROMPAN, Romanian Employers Association from milling, bread and bakery products industry), with representatives of the farmers, the grain traders, and of the Government. It is sold in the company's shops, in mixed shops and in small shops, and it is not to be found in supermarkets. This type of bread has a short shelf life and is generally not packed. Sometimes, the shops pack it in simple, cheap plastic bags.

Better quality bread, white or whole cereal, with various ingredients (cereals, milk, onion, olives etc.), with longer shelf life, sold as loaf or sliced for toasting and hygienically packed in special paper, is targeted to medium and high income groups of consumers, which have lower consumption of bread, but increased demand for quality. The price is up to three to five times higher than for the standard type of bread. These types of bread are to be found in hypermarkets, supermarkets, cash & carry, and mixed shops.

The small-size bakeries mentioned earlier, that started their activity in the early '90s, are still active today mostly in small towns and in rural areas. In the large cities, most of them disappeared, not being able to compete with the large companies. Those which are still left, are generally located in agrifood markets, and in neighborhoods inhabited by lower-income groups.

The co-operative owned bakeries, those belonging to agricultural commercial companies, the bakeries in small towns and villages are very important: they cover the local needs, they use the local wheat resources and they cover a specialized demand, since in different parts of the country, the local traditional bread varies widely in terms of recipes, shapes and sizes.



If in the case of the milling subsector, the penetration of large companies and the diffusion of their branches and activities to smaller towns is expected in the next decade, along with the diminishment of the number of small and medium-size mills and the confinement of the remaining ones to the rural areas, it is very unlikely that a similar process should occur in the baking sector.

Bread prices have been submitted to severe price regulations in 1990-1996. The bread price has been fully liberalized in February 1997, and since, they are free, regulated under the market rules, by the laws of competition. Yet, since bread is staple food in the Romanian food consumption model, as mentioned above, the price of the standard type of bread is negotiated by representatives of all the stages of the wheat chain, together with representatives of the Government. The prices for all the other bread and bakery products are completely free.

### **3. Milk chain**

#### *3.1. Production base for milk*

During the transition period, significant changes occurred in the cattle sector. Three different phases can be distinguished in the evolution of the number of heads:

- (i) *First phase (1990-1992)*: the former cooperatives were dismantled, and land and animals went back into private ownership. Cattle herds decreased by 2.7 million heads (by 41.5%). All old, sick and not productive animals were slaughtered with no restrictions.
- (ii) *Second phase (1993-1996)*: the decreasing trend continued in the state sector only, but much slower: in three years the number of heads went down by 162,000 heads only (4.5%). The private sector showed a slight increasing trend, most probably as a response to incentives provided through specific policies (price premiums for milk sold to specific processors, grants for purchasing dairy cows and heifers for milk production etc.).
- (iii) *Third phase (1997 up to now)*: the decreasing trend resumed, and the number of heads in the private sector was by 8.1% lower in 2001 as compared to 1997. The support for milk production and for animal husbandry activities was phased out in 1997 and only partially reintroduced in 2000. The dairy state farms almost disappeared; in 2001, 98.3% of the cattle were in private ownership.

The herds are not equally distributed all over the country. The shift from large dairy farms (quite production-intensive), state-owned or within former cooperatives, to very small size private households (rather production-extensive) (most of them averaging 1-3 cows), together with the scarcity of compound feed induced a change in the distribution in the country. Thus, herds increased substantially in the mountain and high-hill areas, with large pastures and meadows, and decreased in the plain zones, where fodder is scarce.

The shift to private ownership resulted into continuously increasing yields and total milk production. After 1997, when support for milk production was removed, the trends went slightly downwards (figure 4).

Romania is a net importer of dairy products. The 2000 trade deficit in dairy products was estimated at \$15.5 million. The reduced Romanian dairy exports are due to reduced domestic production, high production costs, and to quality issues. The main suppliers of dairy products to Romania are Germany (butter and cream), France (powdered milk) and Hungary (yogurt and butter).

Of the total milk production, about 95% is produced in households (small size farms). Due to feeding low protein rations, the milk yields per dairy cow are low compared to the EU. Low productivity does not allow capitalization; producers are not able to purchase equipment or compound feed, and milk production is labor intensive. The share of on-farm consumption is about 70-75%, so less than 1/3 of the total milk production is marketed. Only several percentages of the raw milk currently meet EU standards in terms of hygiene and quality.

The preliminary results of the recent agricultural census allow us to figure out the pattern of farming (table 5). Out of the total number of cattle farms, 99.85% (that is 1.4 million farms) are agricultural individual households, 0.014% (185 farms) are agricultural associations, and 0.073% (994 farms) are agricultural commercial companies.

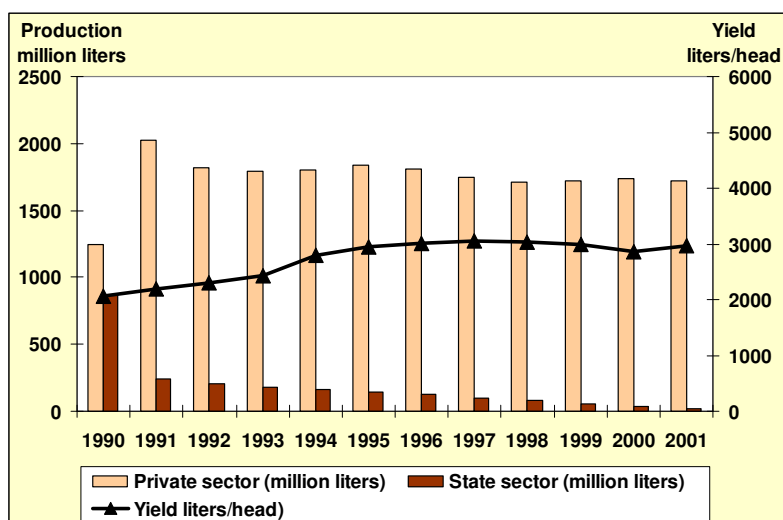


Figure 4: Dairy milk production, 1991-2000

In terms of cattle number, 95.3% (2.7 million heads) are located in the agricultural individual households, 0.52% (14.8 thousand heads) are in agricultural associations and companies, and 3.3% (95 thousand heads) are in agricultural commercial companies.

Table 5. Farms with cattle and the number of heads, by cattle size classes

| Cattle size classes          | Type of farm                       |                           |                                   |               | Total            |
|------------------------------|------------------------------------|---------------------------|-----------------------------------|---------------|------------------|
|                              | Agricultural individual households | Agricultural associations | Agricultural commercial companies | Other         |                  |
| <b>NUMBER OF FARMS</b>       |                                    |                           |                                   |               |                  |
| 1 - 2                        | 1,090,470                          | 22                        | 103                               | 237           | <b>1,090,832</b> |
| 3 - 9                        | 257,306                            | 29                        | 188                               | 237           | <b>257,890</b>   |
| 11 - 19                      | 7,675                              | 26                        | 153                               | 237           | <b>7,999</b>     |
| 20 - 29                      | 1,412                              | 19                        | 94                                | 237           | <b>1,577</b>     |
| 30 - 49                      | 741                                | 22                        | 109                               | 237           | <b>909</b>       |
| 50 - 99                      | 325                                | 26                        | 124                               | 237           | <b>519</b>       |
| 100 - 499                    | 77                                 | 38                        | 180                               | 237           | <b>319</b>       |
| > 500                        | 1                                  | 3                         | 43                                | 237           | <b>58</b>        |
| <b>Total</b>                 | <b>1,358,007</b>                   | <b>185</b>                | <b>994</b>                        | <b>237</b>    | <b>1,360,103</b> |
| <b>CATTLE HEADS (NUMBER)</b> |                                    |                           |                                   |               |                  |
| 1 - 2                        | 1,560,566                          | 39                        | 171                               | 375           | <b>1,561,151</b> |
| 3 - 9                        | 985,817                            | 161                       | 973                               | 1874          | <b>988,825</b>   |
| 11 - 19                      | 97,048                             | 385                       | 2,125                             | 1948          | <b>101,506</b>   |
| 20 - 29                      | 32,912                             | 445                       | 2,294                             | 1233          | <b>36,884</b>    |
| 30 - 49                      | 27,387                             | 874                       | 4,182                             | 1441          | <b>33,884</b>    |
| 50 - 99                      | 21,109                             | 1,751                     | 8,746                             | 2,935         | <b>34,541</b>    |
| 100 - 499                    | 11,123                             | 8,759                     | 38,303                            | 5,831         | <b>64,016</b>    |
| > 500                        | 680                                | 2,430                     | 38,019                            | 8,846         | <b>49,975</b>    |
| <b>Total</b>                 | <b>2,736,642</b>                   | <b>14,844</b>             | <b>94,813</b>                     | <b>24,483</b> | <b>2,870,782</b> |

Source: Agricultural Census, 2004, National Institute of Statistics.

In the total number of cattle farms, the agricultural individual households with 1-2 cattle heads account for 80% the total number of cattle farms, while those with 1-9 cattle heads account for 99.1%.

Some 54.4% of the cattle heads in Romania are located in very small-size farms (1-2 heads), and 88.8% are to be found in farms of less than 10 heads.

Table 6 is showing the classification of dairy milk farms by size classes: 95.8% of the dairy farms are of very small-size (1-2 heads), and hold 83.8% of the dairy cows heads.

**Table 6. Classification of dairy milk farms by size classes**

| Size class         | Number of farms  | % in total | Number of dairy cows | % in total |
|--------------------|------------------|------------|----------------------|------------|
| 1-2 heads          | 1,131,733        | 95.845     | 1,326,891            | 83.82      |
| 3-9 heads          | 45,940           | 3.891      | 170,501              | 10.77      |
| 10-19 heads        | 2,153            | 0.182      | 27,520               | 1.74       |
| 20-29 heads        | 446              | 0.038      | 10,248               | 0.65       |
| 30-49 heads        | 245              | 0.021      | 8,900                | 0.56       |
| 50-99 heads        | 148              | 0.013      | 9,847                | 0.62       |
| 100-499 heads      | 130              | 0.011      | 25,797               | 1.63       |
| 500 and over heads | 6                | 0.001      | 3,361                | 0.21       |
| <b>TOTAL</b>       | <b>1,180,801</b> | <b>100</b> | <b>1,583,065</b>     | <b>100</b> |

Source: Agricultural Census, 2004, National Institute of Statistics.

This enormous scattering of the production farms is probably the very first main hindrance in the development of the milk and dairy industry.

The way the farms are using their milk production, that is how much they consume on farm, and how much they sell is shown in table 7.

**Table 7. Use of milk production, by farm type (% of total output)**

| Use                                     | Individual agricultural households (small-size) | Agricultural associations (medium-size) | Large agricultural units |
|---|---|---|--------------------------|
| Sales                                   | 26-35   | 61-79                                   | 75-84                    |
| Human consumption (on-farm)             | 45-52   | 10-25                                   | 9-15                     |
| Feed consumption (on-farm)              | 14-18   | 11-18                                   | 14-18                    |
| Distributed to members and shareholders | -   | 1-3                                     | 1-2                      |

Source: calculations based on National Institute of Statistics data

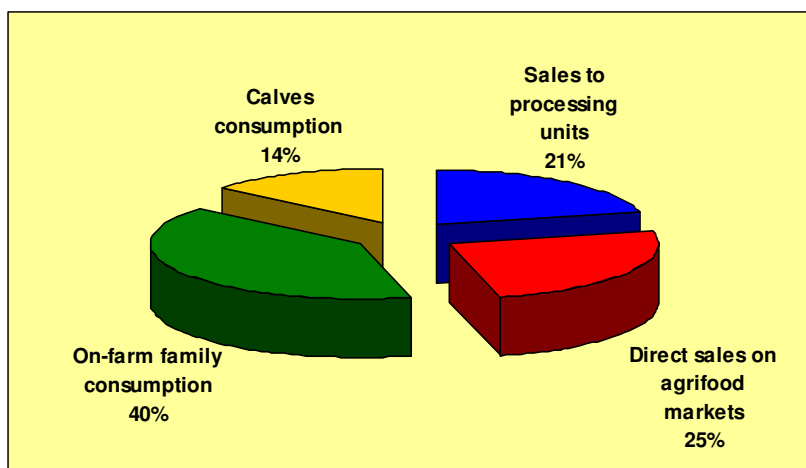
In the last decade, the total milk production has been increasing, especially in the period 1992-1995, registering a rather stable trend after this period. Even if average yields are in general below the genetic potential, a positive trend was registered across this period, mainly as a result of better approach of agricultural practices in animal feeding and husbandry.

Anyhow, the low productivity did not allow capitalization, and producers were not able to purchase equipment or compound feed, with a direct impact low productivity, while milk production is labour intensive activity.

Raw milk sales to processing enterprises milk account for about 1/5 of total milk production; the rest is used for self-consumption (animal feed and human consumption) and for direct sales on the peasant (agrifood) markets (figure 5). Only several percentages of the raw milk currently meet EU standards in terms of hygiene and quality.

### 3.2. Collection

In the process of former co-operatives dismantling, the livestock farms have been the first ones to disappear. Animals have been distributed to the members of the co-operatives and in a few years time, the animal husbandry became an activity almost completely privatized. Once the large co-operative farms disappeared, the subsequent collection system for milk has fallen apart, since the new owners



**Figure 5: Destination of milk production in year 2002**

used the animals to feed their own families and the minor surpluses were sold as such or as cheese made on farm. They didn't want to sell anymore to the large processing units (still state-owned in the early years of transition), despite the subsidies offered by the Government, mainly because of the huge delays in payments.

The private agricultural associations which emerged after de-collectivization and had dairy farms organized their own collection points with basic cooling facilities (if any), on the premises of the old ones. The large dairy companies organized their collection system in collection centers, placed around the factories locations; these are supplied with milk from the collection points located in villages. There are currently in operation many collection points, which deal with small quantities of milk, thus increasing the collection and transportation costs for the large processors.

But on the whole, the existing collection system is very deteriorated and fragmented, and has a shortage of cooling facilities and poor (if any) facilities for quality checking of the raw milk.

### 3.3. Milk processing

In the early years of transition, the milk and dairy products were sold in specialized state-owned shops and in the peasant (agrifood) markets. The price for drinking milk (pasteurized, 1.8% fat content, bottled in 1-liter glass bottles) was controlled, as well as for butter. In the large cities, there was a permanent shortage of dairy products.

After 1990, the dairy processing sector was among those where privatisation of the state-owned enterprises progressed slowly (in 1999, only 75% of the state-owned enterprises in the sector were privatized); the privatization process in the sector has been completed by the end of 2000. In the same period, a large number of new, private, small and medium-size milk and dairy processing units emerged, which produced mainly drinking milk, with higher fat content and packed in plastic bags, and cheese (white and yellow). They were supplied with raw milk by the local agricultural associations and family associations. Some state-owned commercial companies located nearby towns developed their own small-size processing units in order to process their milk production, since no milk producer (large or small-size) was happy with the state-owned county milk and dairy processing enterprises, due to huge delays in payments for the raw milk and the fixed prices. These companies were selling the dairy products in their own shop network.

In 2002, the milk and dairy processing sector comprised a total number of 835 enterprises (table 8), with 16,202 employees and another 640 persons, members of family associations (non-paid staff, which are running some of the small-size processing units).

The structure of processing industry is very fragmented (for a processed volume of raw milk of 500,000 hectolitres/year, there are about 800 processing units).

There are some very large processors that operate in the dairy industry (processing 100,000 to 300,000 litres/day). They seem to share some common feature, such as: a decrease in their number, along with a decrease in the number of employees – a clear indication of the fact that they seek for productivity gains; enlargement of their capital basis, since the value of their shares almost doubled in

**Table 8: The Romanian milk and dairy industry in 2002 – selected indicators**

|   | <b>Large enterprises (over 50 employees)</b> | <b>Small and medium enterprises (with less than 50 employees)</b> |
|---|--|---|
| Number of enterprises                           | 55   | 780   |
| Number of employees                             | 11,569                                       | 4,633   |
| Turnover (US\$ million)                         | 300.5  | 93.2  |
| Direct exports (US\$ million)                   | 7.8  | 0.2   |
| Gross Added Value at factor cost (US\$ million) | 65.0   | 6.7   |
| Investments (US\$ million)                      | 29.5   | 7.4   |

Source: National Institute for Statistics

2002 as compared to 1999; an increase in their turnover, of the Gross Added Value, as well as of the operational income (total sales minus variable costs); an increase of the investments, meaning that their businesses have fair perspectives in time of rather high inflation.

The small and medium-sized processing units (with a yearly average processing capacity of 1,000-5,000 hl) were processing 90% of the total milk purchased by the processing industry in 2002. On the other hand, their cumulated turnover reached only 30% of the cumulated turnover of the large enterprises (table 9).

**Table 9: Small and medium enterprises in the milk and dairy industry (1999-2001)**

|   | <b>1999</b> | <b>2000</b> | <b>2001</b> |
|---|-------------|-------------|-------------|
| Number of enterprises                           | 909         | 766         | 725         |
| Number of employees                             | 1,731       | 8,456       | 4,448       |
| Number of non-paid staff                        | 403         | 1,671       | 697         |
| Turnover (US\$ million)                         | 25.4        | 23.4        | 65.8        |
| Direct exports (US\$ million)                   | 0.0         | 7.6         | 0.1         |
| Gross Added Value at factor cost (US\$ million) | 3.6         | 21.2        | 4.5         |
| Investments (US\$ million)                      | 2.9         | 38.6        | 6.1         |

Source: National Institute for Statistics

The SME-s in the milk and dairy industrial sector are very “volatile”, the number of processing units changes significantly from year to year, as well as the other indicators (number of staff, volume of investments etc.). The labor is asymmetrically distributed - more than 90% of the processing units have less than 50 employees. In 1999-2001, the number of enterprises decreased from 909 to 725 (by 25%), along with the diminishing of the social capital value, of the turnover and of the investment. The indicators regarding the output, the gross value added and the operational income diminished in 2001 as to 1999.

Thus, the data is depicting of the whole milk processing sector. Obviously, the individual performance might differ substantially and are depending, among other, on their scale, their efficiency in resource use, the quality and range of products, as well as on their management and marketing skills.

The total processing capacity is 30 billion hl per year, at an average using rate of 35%. The experience in the EU countries suggests that a milk processing unit is economically efficient if it is processing more than 100,000 hl yearly. The fact that in Romania, the production capacities in most of the processing units are about 3,000-4,000 hl yearly, and their use rate goes rarely over 50%, makes their future viability questionable, because in the years to come, these units will be unable to develop and perform efficient activities.

The investment volume decreased since 1999 even in large units, and recovered in 2002 (table 10).

**Table 10: Investments in the large enterprises in the milk and dairy industry, by sources and destinations, 1999-2002**

|   | 1999  | 2000  | 2001  | 2002  |
|---|-------|-------|-------|-------|
| <b>Investments by sources of the funds (US\$ million)</b>     |       |       |       |       |
| Total, <i>of which:</i>                                       | 25.45 | 14.10 | 14.69 | 25.92 |
| - from own sources  | 25.10 | 13.13 | 13.39 | 22.97 |
| - domestic credit   | 0.13  | 0.41  | 0.88  | 1.15  |
| - foreign credit  | 0.00  | 0.00  | 0.16  | 1.34  |
| - budgetary subsidies   | 0.02  | 0.00  | 0.01  | 0.17  |
| - foreign capital   | 0.15  | 0.00  | 0.22  | 0.00  |
| - other sources   | 0.05  | 0.56  | 0.03  | 0.29  |
| <b>Investments by destination of the funds (US\$ million)</b> |       |       |       |       |
| Total, <i>of which:</i>                                       | 25.45 | 14.10 | 14.69 | 25.92 |
| - in buildings  | 7.74  | 3.15  | 3.52  | 6.03  |
| - in equipment and machinery                                  | 14.36 | 9.36  | 8.14  | 16.64 |
| - in transportation means                                     | 3.19  | 1.42  | 2.70  | 2.97  |
| - other   | 0.16  | 0.17  | 0.33  | 0.28  |

Source: National Institute for Statistics

The main source for the investment funds have been the own resources of the companies, covering 88-99% of the total amounts, while the share of domestic credit in the investment funds didn't exceed 1%. No significant foreign investment has been made during this period. The largest part of the investment funds (55-65%) have been used for new and modern equipment and technology; 22-30% of the funds have been used for buildings, and 10-19% for new transportation means.

These investments in the large enterprises in the milk and dairy industry resulted in a significant increase of the concentration in the sector (CR5, by 11% in four years) (table 11). The degree of concentration is yet lower than the one in the milling industry.

**Table 11: Concentration ratio in the milk and dairy industry, 1999-2002**

|   | 1999   | 2000   | 2001   | 2002   |
|---|--------|--------|--------|--------|
| Number of large enterprises (over 50 employees) | 64     | 65     | 66     | 55     |
| Average number of employees                     | 13,828 | 12,775 | 11,741 | 11,196 |
| Turnover (US\$ million)                         | 180.5  | 176.3  | 220.6  | 264.2  |
| Cumulated in % of total turnover                |        |        |        |        |
| - top 5 (CR5)                                   | 35.65  | 42.25  | 43.54  | 46.55  |
| - top 20 (CR20)                                 | 87.00  | 74.63  | 78.45  | 81.54  |

Source: National Institute for Statistics

#### 3.4. Distribution and trade with milk and dairy products

The abolishment of the compulsory milk sales by the individual households in 1990, together with the dismantling of the former agricultural co-operatives in 1991 meant the disappearance of about 60-70% of the raw milk supply to the state-owned milk and dairy processing enterprises. This resulted in a significant drop (by 60-80%) in the use of the existing processing capacities. The high inflation period and the delays in subsidies payment contributed as well to put these enterprises into serious financial difficulties. Since 1997, after or during their privatization (which has been completed in 2000), important foreign investors came in the industry (Danone, Hochland etc.). Their arrival meant important investments in machinery and technologies, new products on the market, significantly improved quality, packaging, management and marketing of the products. It meant as well a reduction in imports, due to the fact that they started to produce locally various products which were previously imported (such as yoghurts, UHT drinking milk, low fat dairy products etc.). It meant as well a serious impulse given to the other competing companies to invest in new equipments and

technologies (especially in packaging, quality and diversification of products). The large companies are currently selling their products to hypermarkets, supermarkets, cash & carry, and to mixed shops. They also have their own fleet of lorries with cooling facilities which are making the distribution of the products. As in the case of milling and baking large companies, the large milk and dairy processing companies generally avoid having contracts with small shops, they prefer dealing with specialized local distribution companies which are making the link with the small retailers.

Currently, the drinking milk packed in plastic bags has a price of about 0.25 Euro/liter, while the locally produced UHT milk is 2.5-3 times more expensive; the imported UHT is about 6 times more expensive. Since the quality of all products on the dairy market improved significantly during the last 4-6 years (even for the cheaper products), the price remains the main driver of the purchases by the consumers belonging to different income groups.

The SME-s have a local importance in the small towns, mostly where the distribution network of the large companies is less developed. They also meet a specific demand for local specialities. Also, the SME-s are constant suppliers for the small shops (with which the large companies are reluctant to deal due to high transaction costs).

About 25% of the total raw milk production of the country is sold by the producers directly in the agrifood (peasant) markets, either as such, or as cheese (white and cottage cheese). These sales in the agrifood markets are submitted to sanitary inspections by the sanitary-veterinary local authority, yet their general quality is rather poor. In the large cities, the quantities of dairy products sold in the agrifood markets diminished continuously during the last couple of years (together with the rapid expansion of hypermarkets, supermarkets and cash & carry stores).

Currently, all prices for all dairy products (and for all agrifood products in general) are completely free.

#### **4. Factors hindering the development of competitive development of agricultural products markets and chains**

Since 1990 on the population employed in agriculture has been starting to keep on growing, particularly due to the personnel redundancy following the restructuring of industrial sectors (from 28.18% in 1990 to 40.87% in 2000). Agriculture became the activity with the highest share in the total employed population while in the same time its output has not followed an ascending trend. Part-time employment in total employment in the rural area represented 26.6% in the year 2000.

The exit of the communism from the agrifood economy was marked by the emergence of small agricultural producers, and the gradual bankruptcy of the large distribution and agrifood production organizations, generating a disorderly rhythm in the structure of the chains.

The normal market rules all along the road from the producer to the consumer encountered more difficulties in setting up due to inconsistencies in approaching the reforms. Hence, **strongly distorted market relationships** occurred between small, uninformed and non-performant producers and the increasingly exigent consumers' demand.

Under these conditions, a misbalance appeared, inhibiting the producers' commercial appetite and stimulating the production for self-consumption. Hence, a coherent restructuring of the chains didn't take place; moreover, some monopolistic enclaves appeared (intermediate and final distribution).

One of the issues that was a secondary consideration (or mostly neglected) in the agricultural policy in the transition period is the establishment and development of competitive markets. Since the early years of transition till early 1997, the gradual liberalization of prices for most agrifood products and the continuation of administered prices for basic food products (such as pork and poultry meat, dairy milk, wheat), the monopoly/monopsony positions held by the "integrators", the way which the crediting policy was conceived and applied, the non-significant progress in the privatization of state farms, the restrictions imposed to the adjustment of economic operators to the world market requirements and flows (export restrictions, extremely high imports customs tariffs, etc.) have created and perpetuated significant **blockages in the establishment and development of competitive markets**. The first steps on the way to a genuine reform in this field, initiated in 1997: total price

liberalization, significant relaxation of protectionist measures in the agricultural trade; removal of state intervention – as main buyer or seller on the grain market, concurrently with the initiation of demand demonopolisation; the attempt to place on competitive basis the credit subsidised from the state budget; deblocking the land market, etc.), proved to be insufficient, mainly under the conditions in which the achievement of expected reforms was affected by hesitations, inconsistency (non-completed reform and/or reform abandoned at a certain moment).

As a result, one of the prevailing characteristics of the agricultural sector at present is the maintenance of an underdeveloped and extremely distorted competition environment, to the detriment of farmers.

As a consequence of the distorted structure at farm (household) level, the supply of the peasant households is, to a great extent, extremely fragmented into small and heterogeneous batches - that except for certain cereal and livestock products – go mainly to local, relatively isolated markets. It is worth mentioning that neither in the case of other types of farms is the supply adequately organized.

The associations or the professional/**inter professional producers' organizations** by products or groups of products are relatively weakly represented and cannot have a decisive influence in supply organization. As regards demand, the situation is quite opposite, as it is concentrated in the hands of an extremely low number of processing operators, often having a local monopoly position.

We must not omit another constraint, namely a rudimentary and completely **insufficient material and informational infrastructure**. Furthermore, there is an extremely low connection to world markets, with quite an obvious negative impact.

## 5. Needed policies in view of the EU accession

In our opinion, the following could bring a favorable contribution to the establishment and development of competitive markets and of food chains by products, taking into account as well the rather short time until EU accession:

- Complete the legislation harmonization with the CAP;
- Supporting modern cooperation in order to allow small and medium-size farmers increase their bargaining power;
- Imposing observance of grades and quality standards, since the quality requirements seem to be among the main hindrances to Romanian agricultural products accession on the EU markets;
- Imposing observance of contracts (payments in due time);
- Imposing the observance of market regulation and contracts (rules of the game);
- Delivery of public goods (market information, extension, phytosanitary and veterinary services, education and adult training);
- Support agricultural investment (credit, fiscality etc.)
- Support commercial farms formation and development, by agricultural investment (e.g. through easing access to SAPARD measures), improvement of the land market;
- Support local processing units development – organic products, products with denomination of origin;
- Promoting well-designed rural development policies.

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