Challenges for chain based finance in the Romanian dairy chain

Agata Pieniadz[1], Jon H. Hanf[1], Dan Marius Voicilas[2], Linde Götz[1]

[1] Leibniz Institute of Agricultural Development in Central and Eastern Europe
Halle (Saale), Germany
(Contact: A. Pieniadz: pieniadz@iamo.de)
[2] Romanian Academy, Institute of Agricultural Economics
Bucuresti, Romania

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[2] Romanian Academy, Institute of Agricultural Economics
Bucuresti, Romania

Abstract. This paper investigates the different types of vertical coordination mechanism and the spread institutional arrangements (i.e. contracting) as well as identifies opportunities to expand innovative solutions that help to create and maintain the linkages among the famers and downstream businesses for dairy in Romania. In particular, we address the various modes of access to production factors, such as capital, specific inputs and know-how, as reasons for the varied development of Romanian dairy supply chains and its respective actors (farmers, processors). The paper draws on results from a recent study supported by the World Bank. The findings are based on semi-structured telephone and face-to-face interviews conducted in January-March 2009. The interviews indicate that large and prosperous dairy chains have better access to all production factors, which allows the strengthening of their relationships, especially in the upstream stages (farmers), and supports their competitive advantages in the domestic market. Many barriers exist in the domestic market, particularly for small and medium-sized dairy chains, which hampers their potential exploitation of particular stages in the chain. In the same way the findings indicate that virtually only large companies and farms benefit from public support regarding access to capital (EU-funding, governmental programs) and know-how (extension service).

Keywords: vertical coordination, structural change, farm assistance, Romania, dairy**.**

1. Introduction

The increasing demand for high value dairy products and investments by foreign companies in processing and retailing have led to a diffusion of higher quality standards in Romania. This, together with globalization and EU integration, has had considerable overall effects on the domestic agricultural sector. Especially, in the context of retail internationalization it can be observed that ‘western’ retailers are taking their own business models into the new markets (Hanf and Pieniadz, 2007; Palmer, 2005; Roberts, 2005). Thus, one can say modern management concepts and their demands on the business partners are exported. This results in the following changes: The traditional, local, store-by-store procurement must be shifted to centralized, large, and modern distribution centers and external specialized logistic firms must be used. Furthermore, modern retailers set their own private standards of food quality and safety that are often much higher than those of the local governments (Dries et al., 2004, Fulponi L. 2006). Moreover, the requirements of the newly established procurement systems demand that suppliers be able to guarantee both disruption-free product flows and delivery of products of a certain quality. Thus, domestic producers must keep up with the demanded quantity and quality or products will be imported instead. Thus, foreign direct investments are particularly regarded as a catalyst for vertical coordination (Gorton 2006, Swinnen and Vandeplas, 2008).

In Romania, a majority of raw milk deliveries still come from smallholders (Fritzsch et al 2008, van Berkum 2005). At the same time, purchaser (retailers, processor) requiring a certain quality of raw materials apply their standards equally to all suppliers regardless of their size. To adjust production technology and meet the higher quality standards, farmers require access to different production factors as well as to input and output services on reasonable terms. As Hertel (2007) indicated, “If one element of the set is missing, then investments in all the others will be lost or significantly reduced”. Thus, both private (i.e., dairies) and public (EU, Romanian government) stakeholders have recognized these needs, and different forms of assistance have been provided so far. These forms include support for investments in agricultural holdings and food processing (i.e., to facilitate the adoption of EU standards); setting up producer groups (horizontal integration); and improving vocational training for actors in the agri-business (knowledge transfer), (World Bank, 2005 a, 2005 b).

The aim of this paper is to analyze the vertical coordination between dairy farmers and the downstream businesses and to identify opportunities and challenges, as well as possible development paths for different types of dairy chains and farmers. Since smallholders face major challenges regarding access to production factors and hence integration within modern supply chains, the main part of the paper, as well as our recommendation, focus on issues affecting small dairy chains/farmers. One research question is whether the CAP is able to correct the market failures or rather increase the disparities among chains, processors and farmers.

The remainder of the paper is organized as follows. The next section elaborates on the general developments on the Romanian dairy markets and the particular actors involved in the markets (consumer, processors, producers, public service). The third section focuses on vertical coordination, and especially on the position of small farmers in modern supply chains; The results presented in this section are based on the semi-structured interviews conducted in January /March 2009. The fourth section concludes and suggests possible extensions.

2. Characteristic of the Romanian Dairy market

2.1 Developments on the product market

The economic, legal, and political adjustment processes induced by globalization and EU-integration have had a considerable effect on the dairy sector, a market with 21.5 million consumers. The average consumption of dairy products is still far behind the European average, but is constantly growing as consumer purchasing power increases. Additionally, roughly 55% of raw milk (about 3 million tons) are still marked as individual consumption and losses. However, the majority of this quantity is reckoned to be sold on the black market. These figures indicate that there is a considerable demand for milk products, and hence an unexploited potential for high value products.

In the retail sector, German (Metro, Rewe, Real, Kaufland), French (Carrefour, Auchan, Interrex/Intermarche Group), and Belgian (Cora) retailers, all of which require IFS standards, dominate the Romanian market. Meanwhile, multinationals are increasingly switching their focus from Bucharest and other large cities (which have already reached a certain degree of saturation) to other regions, and they are also targeting smaller towns, depending on their profile. Regarding the processing sector, top international dairy producers have already entered the domestic market via Greenfield investments (Danone, Tnuva) or acquisitions (Lactalis, Campina, Nordex Food) or both (Friesland, Hochland). Even some dairies from eastern European countries (e.g. the Hungarian company Sole-Mizo) are also considering investing in the Romanian dairy market.

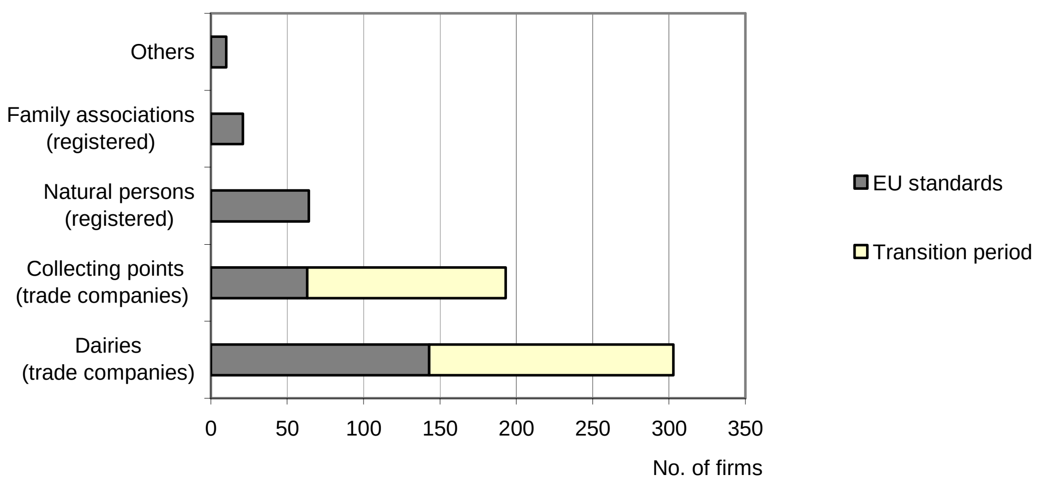
At the same time, the traditional domestic dairies still face complex challenges regarding adoption of their current business strategy to the changing environment. Considerable investments have been allocated to reconfiguring the production system (technology, management) within the firm and improving the quality of inputs, as well as redesigning the food chains. Because economies of scale have become an important factor in the milk sector, the largest Romanian enterprises strive to expand in the milk market by applying various growth strategies. The most common strategy is internal growth via entering more new (export) markets, coupled with market penetration. For example, LaDorna exports about 20% of its products to countries such as Greece, Great Britain, Germany, Spain, and the US, with the focus on organic products. Some dairies decide to expand by building a new processing plant (i.e. “Albalact” in Oiejdea) or through mergers and acquisitions (i.e. Albalact and Raraul). In addition to rapidly increasing revenue, this allows them to use economies of scope, e.g. the transfer of capital, technology, and know-how within the company, as well as synergies associated with using common brand names. However, buy-outs of relatively well-performing dairies by foreign investors still dominates in Romania; this seems to be a more effective method of external growth, since this gives domestic dairies access to approved technologies and business concepts. Experts expect further consolidation in the dairy market via mergers and acquisitions.

Increasing demand for high value dairy products attracts further investments in the production process as well as in marketing and logistics. Some domestic companies, such as Albalact (“Zuzu,” “Fulga”), LaDorna ("LaDorna"), Brailact ("Brenac"), and Lacta Prod ("Paco") have successfully managed to create several distinct brands in the last five years. Today their products are listed in almost all large, modern retailers located in urban areas. Other domestic dairies are also planning to increase their portfolio of products and brands. Investments into brand, reputation, and the reduction of information asymmetry about product quality are becoming a priority for the large companies. Thus, significant players in the market (foreign, domestic) use much diversified campaigns (TV advertisements, food exhibitions, etc.) and allocate considerable shares of their budgets to advertising and marketing activities. Tnuva, Friesland, and Albalact are among the companies with very aggressive and ongoing marketing campaigns. The required capital for these activities is (or was) usually supplied through bank credit, SAPARD[1] funds, and the company's resources. The intensive promotion campaigns generate additional demand for products, and hence strongly increase the market shares of those firms. Despite some successes, some of the domestic leaders may become easy takeover targets within the next few years, which is consistent with the increasing consolidation process in the European market. However, local brands that have managed to build significant brand equity will stand a good chance of being preserved or even promoted to international status, thereby increasing the acquisition value of their owners.

2.2 The quality of raw milk

The adaptation of EU hygiene rules for food of animal origin is still one of the biggest challenges for the majority of actors involved in the Romanian dairy market. The EU regulations contain various obligations for construction, layout, and equipment in enterprises (called structural requirements) and organization of the supply chain that requires extensive investments. Transitional arrangements based on those of the past were agreed upon with Romania (and Bulgaria) to ensure the smoothest possible integration into the EU. Of all the companies that were registered in February 2009, half of the dairies (trade companies) and 70% of the collecting points are still in the transition period, and hence obliged to comply with community structural requirements until the end of 2009 (see Figure 1). All of the collecting points in the transition period are located in Transilvania; most are located in Cluj County and belong to the Napolact company, which is owned by Friesland Romania. The share of dairies not complying with EU standards ranges between 48% in Transilvania (57), to more than 51% (45) in Moldova, to 60% (58) in South Romania.

Figure 1: State of compliance with the EU standards in the Romanian dairy sector



Source: Own illustration based on Romanian Ministry of Agriculture, Forestry and Rural Development.

Due to the high restructuring need it is likely that until the end of 2009, more dairies and collecting points in Romania will have to cease business activities altogether due to delays in their modernization process. The above-mentioned figures indicate that the most relevant structural changes are expected in

[1] SAPARD: Special Accession Program for Agriculture and Rural Development.

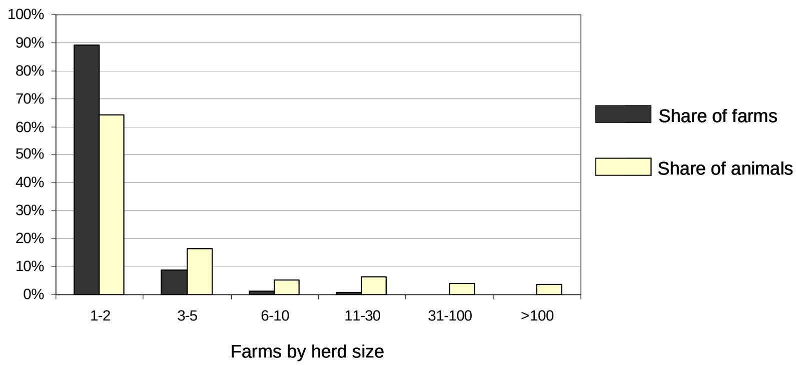
Transilvania. Additionally, it is likely that the most frequently affected will be small and medium sized entities that are not registered - in other words, those operating in the black market.

2.3 The structure of the dairy farming

During the first phase of transition in Romania, there was an immediate and strong increase of individual farms, while on average, agricultural labor use also increased. Further, parts of the collective land were restituted to members and workers of collective farms. In a second phase, labor use in agriculture started to decline while the shift to individual farms slowed (Swinnen 2005). On the other hand, many households already possessed small plots and some animals for their own production before transition.

Today the Romanian farm structure is still highly fragmented especially in the dairy production (see Figure 2).

Figure 2: Structure of the cow milk production in Romania, April 2009



Source: Own illustration based on Romanian Ministry of Agriculture, Forestry and Rural Development.

In April 2009, the MAPDR reported that there were roughly 850 thousand dairy producers; 89% still hold one or two cows. The interviews indicated that small dairies in particular still procure the milk from these farmers. The procurement occurs both legally and on the black market. The majority of those suppliers are older farmers without a successor. Some of them do not (or are not willing to) understand the quality requirements and have problems with adjusting to new organizational rules (contracting, farm economics). The delivered milk usually does not comply with the mandatory standards. The small farms rarely discontinue their production. Rather, they reduce their stock to one or two cows to ensure self-sufficiency. Relatively low incomes in rural areas and rising unemployment, particularly in under-developed regions (i.e. Carpathian region), contribute to the persistence of subsistence producers. Thus, part-time livestock still breeding plays a significant role in Romania. Due to the high entry barriers, those farmers are not expected to surpass their subsistence status. However, they can still contribute to the persistence of the black market.

However, despite a general fragmentation, a gradual increase in average farm size can be observed. This is especially true in the case of full-time enterprises, where there is a general tendency toward forming fewer but larger units. Adopting the EU standards and activities of the focal companies are the driving forces behind the dynamic development of more competitive and sustainable agricultural structures. Because the Romanian milk quota[2] has not yet been reached, specialized dairy farms are not restricted in their growth. Thus, the role of specialized, large-scale milk producers (>30 cows) is recently disproportionately increasing in this market.

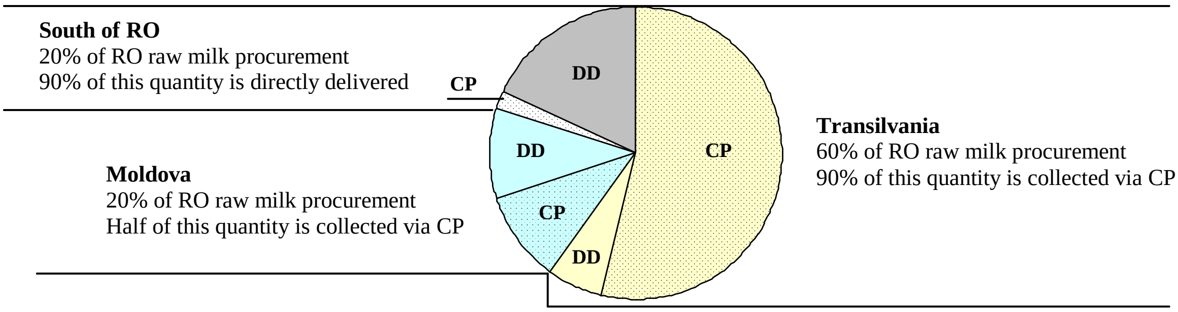
At the same time it is evident that the middle class (those with three to five cows) is declining, whereas the shares of relatively larger and smaller milk producers are increasing. Hence, a polarization in the

2 For the 2007/08 quota year, the total quota for deliveries to dairies in Romania was 1.34 million tons, which was used in 70%. There is also a separate quota of 1.72 million tons for direct sales to consumers. The registered direct sales indicate that 83% of the direct quota was utilized in this period. In 2008 the total production in Romania accounted for 5.5 million tons. This implies that about 3 million tons are still marked as individual consumption and losses, and is indeed again an indication of the existence of a large black market.

production structures can already be observed. This development is similar to processes observed in other countries with a similar agricultural structure.[3]

As the structure of the dairy production changes, there is an increasing tendency toward replacing the indirect method of milk collection with direct deliveries from the farm to the processor. However, the choice of the procurement channel depends on the production structure in each individual market. In areas that still have fragmented farm structures (such as Transilvania), the indirect channels dominate. Generally, this structure impedes cost reduction and quality improvement. On the contrary, in areas such as South Romania (around Bucharest), direct deliveries dominate. Some dairies such as Danone no longer procure raw milk via collecting points; today, Danone procures raw milk directly from (relatively large) farmers. Some additional quantities are provided by an intermediary (from another region or country). Likewise, other foreign investors prefer to deal with a few larger suppliers to reduce the transaction costs (collection/transportation costs, quality risks). For the southern portion of Romania, it can be said that the higher demand for quality products and hence the respective activities of retailers and leading companies have had a significant influence on consolidation of the procurement base. The relevance of milk procurement and the structure of deliveries with regard to direct and indirect (collecting points) deliveries is shown in Figure 3.

Figure 3: Regional structure of the milk procurement in Romania in 2008/2009**.**



Notes: DD: Direct deliveries from farm to dairy, CP: Collecting points.
Source: Own illustration based on estimations of an APRIL representative.

3 The Common Agricultural Policy

The EU has recognized the specific needs of the NMS with regard to the restructuring demand and the characteristic dualistic structure of the agri-food markets. Thus, financial aid has been provided and allocated to those countries to support sustainable development of this sector. Prior to EU accession, the SAPARD program in particular focused on the agri-food sector and rural infrastructure, and under this program both the agricultural administration and the beneficiaries (farmers, processors) gained first-hand experiences with measures similar to those provided under the CAP. The majority of these funds were allocated to particular stages of the marketing channel. For example, the support focuses on investing in agricultural holdings and food processing (i.e. to facilitate the adoption to minimum [mandatory] quality standards), setting up producer groups (horizontal integration), or improving vocational training for actors in the agri-business (knowledge transfer). However, few financial resources have been allocated to foster the relationships between producers and downstream businesses to create sustainable partnerships. Additionally, some studies indicate that mostly large units (farmers, processors) benefited from these measures due to their improved access to information and possibilities to pre-finance and/or co-finance the investment projects (Luca, 2007). On the contrary, for most of the small and medium-sized units, the reduced capacity to co-finance the investment was one of the main limiting factors that delayed the absorption of the SAPARD funds, especially in the first period of the program's implementation.

[3] For example, in Poland around the time of the EU accession, the number of farms with four to five cows started to decline. Currently (2007/2008) it can be observed that the group of farms with fewer than 10 cows is decreasing. At the same time, many households still hold one (maximum two cows). The relevance of these semi-subsistence farms continually increased in the last decade; for example, their share of the total number of milk farms increased from 40% in 1996 to 48% in 2007.

Since Romania's EU accession, agricultural policy implementation has been based on the CAP structure (two pillars). In each country, the organizational structure follows the administrative requirements of each of the two pillars.[4] For the NMS, additional transitional measures have been introduced into the second pillar, such as supporting semi-subsistence agricultural holdings undergoing restructuring and setting-up producer groups. Romania and Bulgaria, the newest member states, can potentially benefit from these measures until 2013. The objective of these measures is to improve the competitiveness of the agricultural sector by bringing small and semi-subsistence farms into the market (NRDP, 2008).

4 Vertical coordination and access to production factors

The findings discussed in this chapter are based on semi-structured interviews conducted across different stakeholders in the Romanian dairy supply chain and representatives of the Romanian agricultural administration in early 2009.

The representatives from the dairy sector were usually processors, producers, and experts in relevant organizations; the goal of the survey was to identify the design of vertical coordination and the use and sources of farm assistance instruments to provide access to production factors such as know-how/information, capital, and specific inputs. Additionally, the intention was to identify opportunities and challenges fostering or hampering access to production factors and hence vertical coordination.

The conducted surveys indicated that vertical coordination takes very heterogeneous forms in the Romanian dairy market. The main findings are summarized below.

4.1 Spread of farm assistance instruments

Since the investigated dairies show considerable heterogeneity with regard to the chosen quality strategy and hence the utilized instruments, we identified three groups: (1) key players/top 5, (2) domestic large and medium sized dairies, and (3) medium sized and small chains. Because the top dairies provide the most sophisticated instruments in the investigated sample, we consider this group (Danone, Albalact), in more detail while discussing the use of the farm assistance instruments in the dairy sector.

For the top dairies, modern retail chains are the core distribution channel. The top dairies, which sometimes take on the role of the focal firm in a dairy chain, act to escape from price competition by setting themselves apart and bringing quality to a differentiating parameter. The investigated companies (Danone, Albalact) posses their own strong brands, which enjoy excellent awareness countrywide and are sold in all modern retail chains in Romania. Whereas Danone distributes the majority of its products via retail chains, Albalact also supplies wholesalers. Marketing contracts are used for all distribution channels. Both companies participate in a special governmental program "milk for schools" ("cornul si laptele"), which involves a relatively stable contract with the local government. Danone additionally exports a portion of its products, currently to Moldova and Serbia.

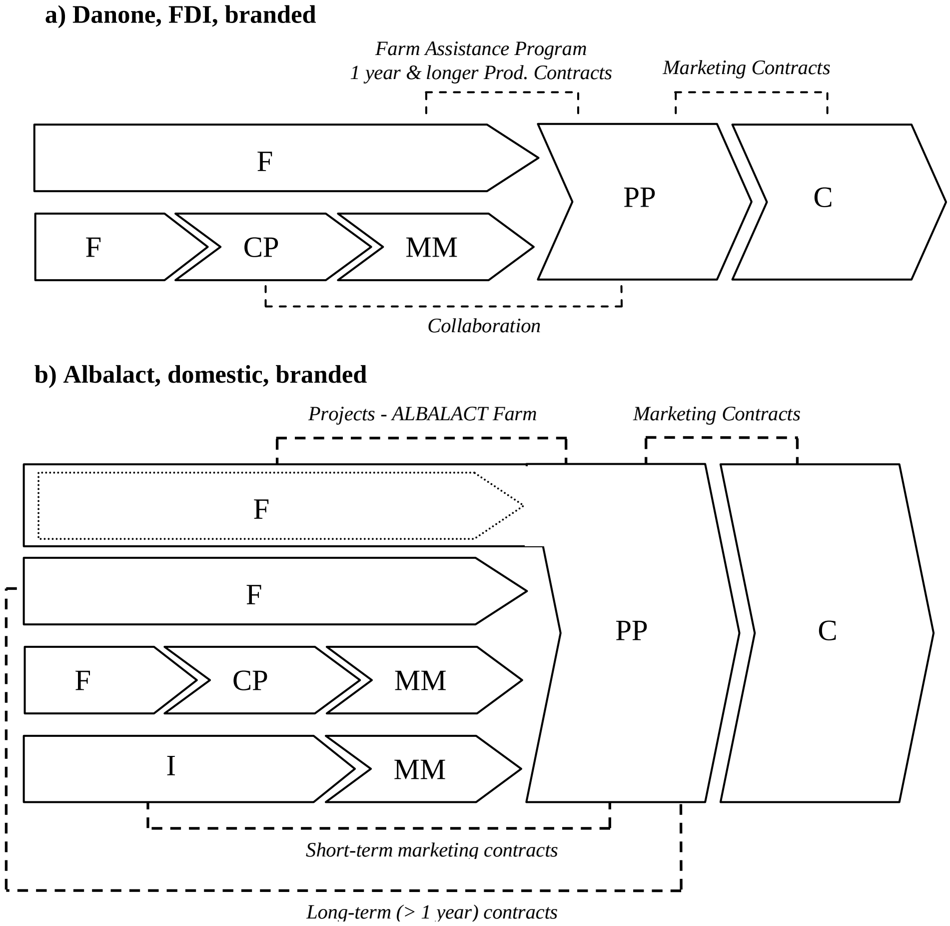
Despite the fact that both companies follow a premium-quality strategy and possess modern processing facilities, they still face significant problems regarding securing the quality of raw milk. The most significant problems concern microbiological standards. Indeed, Danone complies with EU standards (since 2009); however, it still must use separate processing lines and marketing channels, as 40% (Jan. 2009) of the procured milk does not meet the EU standards. The company Albalact complies only partly with the mandatory standards: The new processing plant in Oiejdea (county Alba) is one of the most modern in Romania and approved for EU trade. Furthermore, two plants from the recently (2009) acquired regional dairy company Raraul (counties Cluj and Suceava) comply with EU standards; however, some adjustments are still needed regarding the quality of procured milk. The traditional formerly state-owned plant in Alba Julia is still in the transition period. Thus, increasing the quality of raw milk is one of the highest priorities for both companies.

Network efficiency is fortified by the partners' selection and provision of assistance to farmers. Regarding partner selection, especially FDI prefer to deal with fewer, larger suppliers to reduce the transaction costs. For example, Danone now procures milk from farmers delivering at least 250 liters of milk a day, which indicates that the threshold (the smallest dairy farm) possess about 15 cows (assuming a yield of 6 thousand liters a year per cow). Additionally, according to a representative of Danone, the

[4] COUNCIL REGULATION (EC) No 1290/2005, Regulation (EC) no. 1698/2005).

dairy only contracts with commercial farms (=legal units) and not individual farms (=natural persons), since “commercial farms better meet Danone’s requirements regarding the quality, quantity and have better business culture” such as contract enforcement, technical know-how, general understanding of market economy, and farm economics. Consequently, Danone's procurement structure has changed significantly over the last decade. The share of direct deliveries from farmers increased to 85% in 2009. The transportation risks and costs by this procurement channel are usually covered by the processor. The dairy does not have its own collecting points. However, it cooperates with a few independent CPs, Ltds. or farmers’ associations (see Figure 4a). The transportation of this milk (including costs and risk assurance) is outsourced to independent conveyors. The share of the milk deliveries from those CPs on the total milk procurement is 5%.

Figure 4: Vertical coordination and farm assistance instruments in the dairy sector in Romania, 2009



Notes: F: farmer; MM: Middleman; CP: Collecting Point; PP: Processing Plant; I: Imports; C: Customer.
Source: Own illustration based on conducted surveys, 2009.

Another way to fortify network’s efficiency is to provide assistance to farmers. Building and maintaining the leading position with regard to quality production requires a development of adequate governance and mechanisms, relationship-specific investments, and initiatives for necessary changes in the partnership structure. The largest dairies use different mechanisms (instruments) to induce incentive-compatible behavior in the upstream stages. Generally, bilateral contracts dominate at the procurement stage. However, a representative of the APRIL indicated that the Romanian dairies usually use bilateral contracts in a triangle scheme (between processors and farmers on one side and between processors and other entities on other side).

Bilateral contracts with farmers include several elements regarding quality issues, delivery obligation, and arranged farm assistance instruments. Both dairies contract with farmers in writing and usually use long-term (more than one year) and medium-term (annual) contracts with all farmers, regardless of their size.

Both dairies provide special assistance programs to farmers. The programs include technical assistance (vocational training) to directly support farmers by introducing and applying modern techniques and technology. Additionally, Danone provides an extension service, which includes cows' feeding plans, herd management, and more. In some cases, Danone's extension service takes an indirect form, for instance, giving farmers feedback on a business plan (see below).

Once the company sets assistance instruments, two conditions need to be fulfilled. First, the processor needs sufficient funds and cash flow to finance the arranged instruments with suppliers. Second, the processor needs to enforce the (new) contracting system. The first factor seems to have declining relevance with the progressing development of financial institutions and increasing offers of governmental and private support. Additionally, the interviews indicate that large companies have better access to credits and various kinds of alternative financial means. Because contract enforcement is still a significant problem in Romania, the top two investigated dairies prefer to focus on instruments that address short- and medium-term financial assistance.

For example, both dairies (i.e., Danone, Albalact) provide short-term 'symbolic' financial assistance for operating resources such as feed compounds and energy costs to overcome temporal illiquidity, faced by some farmers, usually during the winter. The dairy buys the farmer's estimated milk production in advance, providing the farmer with respective bar money or cash remittance (Danone). In return, the farmer draws an order check (voucher), which the dairy can cash by the farmer's bank if he or she does not deliver the 'contracted' milk. The partners (farmer, dairy) use the traditional (bilateral) contract and supplement it with the additional pre-payment agreements, usually in form of an appendix. The farmer pays back the commitments with milk deliveries. The duration of pre-payment is usually one or two months.

Another type of assistance refers to specific inputs such as feed compounds, detergents, medicines or other veterinary service, and machinery. In this case, Danone applies triangular contracts. The special agreements involve three entities: Danone, the farmers, and the companies delivering goods and services to the milk sector. Based on this contract, farmers can purchase the respective goods or services directly from the indicated input provider. Danone pays for the respective goods and service at the time of purchase. The farmer repays the financial obligations to Danone by milk deliveries, usually within one year. However, one respondent indicated that large farmers are generally preferred, as far as access to the financial assistance is concerned. Additionally, in some cases farmers even have an influence on the choice of the inputs provider. In this case the farmer receives the respective money from the dairy or asks the dairy to pre-pay the respective inputs. In some cases, however, the farmer selects cheaper inputs; however, low quality feed can negatively affect the quality of raw milk. Indeed, being informed about the production technique is important for the dairy processor since it decreases the probability of the incorrect allocation of raw material to a production line.

There is evidence that some dairies no longer wish to act as financial institutions. This is especially true with regard to long-term investments in specific resources such as equipment (cooling, milking) as well as the purchase of animals; some dairies refuse to provide these respective credits to farmers. Whereas Albalact still provides credits for purchase of animals directly to a farmers, Danone acts only as an intermediate between the farmer and bank and provides a loan guarantee to the bank. For this reason, Danone's suppliers first must develop a convincing business plan. Danone usually do not help their farmers to develop their business plans; however, it assists selected suppliers in improving or updating their plans. The processors' acceptance of the plan is very important for the farmers, since this increases his or her credibility in view of the bank, and hence usually his or her access to a discounted interest rate for specific investments within given programs (i.e., Fermierul Programme).

4.2 Access to input and output markets

Access to quality control service

The interviews indicated that (some) farmers (chains) have restricted access to any kind of veterinary support and quality control, even those which are required by law. The production holdings should undergo periodic inspections to ensure that the nationally regulated hygiene requirements for the production of raw milk are fulfilled. For example, a milk holding is given an appropriate health certificate as a result of a positive inspection To our knowledge, only a small share of farmers possess an appropriate certificate, which indicates considerable quality risks at the procurement stage.

The farmers in Romania generally have three alternatives for control of his raw materials:

1) The farmer can receive the respective service free by the milk processor. However, the large processors (initiators of contracting) have their own quality system, including a lab and milk inspectors. The milk inspectors (employed staff) usually monitor and assist farmers at their request. Thus, farmers delivering their products to processors that provide this service have certain cost advantages.

2) The farmer can use the service of the Veterinary Sanitary County Department (DSV), which can be provided at least once per month. However, this service is not free. Some respondents mentioned that the service provided by DSV is "very expensive"; the subjective costs assessment indicates that the threshold for this service is too high for many, in particular the less profitable farmers and firms. Thus, the alternative for those entities is to 'have a trusted man' at the collecting point or to operate on the black market. Some respondents (usually from domestic chains) argued that because some quality standards and controls are obligatory, the government should enforce these regulations, and at least provide a minimum of the service for free. It must be noted that historically, farmers did not have to pay for this service; thus, some still feel that they should not have to.

3) The farmer can use the service of an independent lab. However, according to the APRIL representative, there is just one independent lab in Romania, located in Cluj. The lab was established by Dutch investors and is operated and managed in collaboration with the DSV in Cluj as an NGO. The price charged by this independent service is five times smaller than the DSV price. We did determine whether there is another interdependent lab in Romania, since no other respondents mentioned use of such a service. The interpretation is that either there is just one (or just few) of them, and hence equal access by the numerous farmers is hardly possible. Alternatively, the stakeholders in the milk chain are not well-informed about the private service possibilities, which would indicate the existence of asymmetric information, which again hampers the effective development of the chain. Because quality controls in independent institutions are both efficient and equally beneficial, establishment of similar independent labs should be encouraged.

Access to know-how

The provision of a technical advisory service appears to be more effective in well-functioning supply chains. Whereas the top companies usually provide a well-structured extension service and vocational training, the large and medium-sized domestic dairies focus on "informal information exchange" and usually give "…oral advice to farmers who wish to expand their milk holdings and specialize stronger in milk production," (respondents' answers). It also holds that the larger the farm, the larger the processor's willingness to advise the farmer. Respondents that represent small chains claimed that neither processors nor farms receive any kind of technical advice. It is interesting to note that the majority of small and medium-sized processors did not consider providing and do not wish to provide education to their suppliers. They indicated, however, that "…the system should solve the major problems first," while providing more extension services and vocational training to the farmer. In some cases, they indicated that even education on basic farm economics and business culture is needed.

Access to capital

In order to exploit the full potential of the value chain, the initiators of contracting require sufficient funds and cash flow to finance the arranged instruments with suppliers. Again, the prosperous dairies have better access to financial sources originating from both i) private and ii) public providers.

We found that farmers and processors linked to foreign investors have the best access to capital. International foreign investors (Danone, Firesland) have access to their own companies' capital. Furthermore, we found that domestic processors who have links with international finance through contracts with international companies (such as Fiesland/Napolact and Covalact/Campina) can more easily access money from the parent company. Our findings suggest that only a part of domestic companies and farms benefit from governmental support. The interviews indicated that small and medium-sized dairies have restricted access to governmental programs because not all domestic companies were or are eligible for different governmental programs.

Some of the initiatives were again hampered by the lack of capital needed to cover the farmer's own participation in the investment. Commercial banks usually refused to provide credits to cover the farmer's own participation. The banks did not accept any farmer's pledge or mortgage as a loan guarantee. The respondents mentioned that banks did not consider livestock, equipment, or buildings owned by farmers as eligible criteria for credit. The only factor increasing the farmers' ability to secure credit was a large area of land. Hence, the majority of farmers are unattractive to banks. In some cases the dairies offered to provide respective pre-financing to the affected farmers. An interesting issue is that some of the farmers did not accept this offer, because they were afraid of "…becoming too dependent on both the processor and the bank."

Challenges for small chains

The investigated small and very small dairy chains usually provide generic products at the cheapest possible prices. They usually distribute their products via their own outlets (60%), wholesalers and food services, and small shops, usually "…by its own car from gate to gate of the purchasers." Oral contracts dominate. Some of the chains are not registered, as was the case of one investigated farmer-processor involved in black market operations. The main reason for the low competitiveness of these products and their marketing to small shops is the low quality of raw materials. The respondents indicated that many of their suppliers are not certified producers, and provide milk quality that is far below EU standards. Additionally, the quantity produced is low, as there is a lack of both specialized dairy cow breeds and "…prospective to grow for small farmers". Quality control is a challenging issue for these chains. Some of the dairies provide a 'trusted' man at the collecting point, who supports the dairy while controlling for quality and preventing any fraud. However, "…even if at the collecting point the quality of delivery is controlled (fat, protein) it does not restrain some small suppliers from ongoing cheating," e.g. by adding water to the milk. To reduce the hazards of providing low quality products, some small processors provide certain financial assistance to the farmer (e.g. financial support to renovate farmers' residences).

4.3 Institutional development

The responses of the representatives of the Romanian dairy market argued at many stages that the institutional framework should still be improved to support the efficiency of market coordination mechanisms. In this part of the study we consider how the business environment works.

Our findings suggest that there are major impediments regarding the scale of the black market, contract enforcement as well as lack of producers' associations..

On generally we argue, that the black market is not effectively addressed by governmental institutions. The increasing requirements implemented in the course of EU accession have intensified dairy milk operations on the black market. Additionally, certain farmers and small processors avoid paying taxes, and hence avoid registering their business activities. Some respondents mentioned that the numerous middlemen especially contribute to the persistence of the black market. Many of the interviewees indicated that governmental institutions must provide instruments to reduce the scale of the black market. It is interesting to note that the call for such solutions was not very intensive and was very seldom, even though the share of raw milk sold on the Romanian black market is considerable (30% to 40% of milk production).

Enforcement is crucial to make any of the contracts or supplier-assistance programs sustainable. Enforcement is especially problematic in environments in which public enforcement institutions are essentially absent. Evidence from the interviews suggests that all dairies – regardless of their size – face contract enforcement risks. For example, some farms diverted their pre-paid inputs for other uses. In other cases, despite being provided assistance instruments on a contractual basis, the suppliers sold all or part of their produce to other companies or traders. Trust is also often lacking within the large chains. Even within the small chains, contract enforcement is still a challenge. The small dairies usually use short-term (monthly) contracts with small (one or two cows) and medium (11 or 20 cows) farmers. The biggest farm is seldom larger than 40 cows. Contracts are mainly trust-based, even if they are written. The respondents indicated that they do not pay much attention to the formal (written) contract. The low contract enforcement is also one reason that the small chains see vertical integration via the establishment of farms as one solution to overcoming delivery problems within one firm (internalization of market transactions). Thus, the government should be encouraged to create the proper institutional conditions for successful contracting. Alternatively, the initiators of contracting must find an innovative way to design self-enforcing contracts. This, however, requires extensive knowledge of the local partner.

The strongest organizational body in the dairy market at the national level is APRIL,[5] which associates the largest processors providing 70% of the procured raw milk in Romania. Small dairies are usually not associated with any organization. In general, farmers do not have clear means of claiming their interests and there is a lack of farmers' associations that represent small (dairy) farmers. Due to their experience with cooperatives during the socialist era, most farmers are skeptical of associations or producer groups. Farmer and expert interviews revealed once again that lacking trust is still a problem for increased cooperation among farmers. Nevertheless, there are some success stories, and some newly-founded farmers' associations such as the LAPAR[6], which represent farmers' interests at the national level, but thus far they represent mainly large farms. However, since 2004-2005, among small farmers there is a slightly increasing positive attitude regarding creating or joining different associations. This holds primarily for the sheep and goat milk producers, however, and is mostly a reaction to changes in the operational environment (e.g. governmental policy to reduce and stop the direct selling and selling of unprocessed milk). The respondents indicated that the small farmers increasingly see the need to cooperate, but because they are very skeptical about any success of cooperation at the beginning, they need a help to overcome the 'sticking point' prohibiting any cooperative action.

5 Conclusions and recommendations

The results indicate that the dairy market, likewise the whole agri-food business in Romania, is characterized by a dualistic production and processing structure; In dynamically changing market conditions, the relatively small chains (farmers, processors) are usually disadvantaged regarding access to input and output markets. Following Hertel (2007), targeted policy interventions that correct the underlying market failures might be win-win solutions for efficiency and equity. The development of (dairy) farmers requires sufficient access to different production factors, i.e., land, labor, technical skills and information, purchased inputs, and fixed and working capital. We found that growth for some large dairy producers, especially in relatively prosperous regions (Bucharest area) is increasingly restricted by access to additional land (only) (as in the majority of producers in Western countries). On the contrary, the majority of farmers and dairy chains are restricted by almost all other production factors. The majority are small or medium-sized units, all of them demanding a complete set of these factors of production and input and output services on reasonable terms.

This situation raises three key questions: i) how can agricultural policy measures adjust to the unique circumstances of the New Member States and what are the unique service demands of the different groups of farms; ii) what strategies are needed to deal with the large number of small entities (Fritzsch et al. 2008) to help with adjustment and modernization or exit from agriculture; iii) how to increase competitiveness of the few medium-sized farms?

How can the CAP effectively engage in the problem?

Our first conclusion is that two years after accession, the CAP has successfully supported many investments to upgrade the dairy chain in Romania. However, this support seems only to facilitate the development of relatively large and financially strong farms and firms, which usually have sufficient financial means to access modern agricultural supply chains. At the same time, the traditional financial instruments do not help establish mechanisms to connect small producers and producer organizations with food processors, marketers, and traders. Thus, the gap between the prospering chains and small or medium- sized dairy chains seems to have increased over the last two years. This result questions the effectiveness of the traditional CAP instruments, which seem to be unsuitable for the dualistically-structured NMS.

Since EU accession, the NMS have additionally benefited from transitional measures such as aids for semi-subsistence farmers and support for producers' groups. However, the effectiveness of these measures in the Romanian case seems to be low or should be questioned. For example, our results indicate that the access of potential beneficiaries to semi-subsistence aids is relatively restricted, indicating this measure's low impact. Additionally, we argue that these measures probably encourage some nonviable small farms to stay in agriculture (in the dairy market). Since the majority of these farmers do not comply with mandatory EU standards, their existence contributes to the persistence of the

5 APRIL: Romanian Dairy Processors Association.

6 LAPAR:Romania Agricultural Procedures Associations League.

black market, which hinders the allocation of resources (i.e., land) to more effective units, and hence the competitiveness of the Romanian dairy supply chain.

The case of active entrepreneur (small commercial farms)

The need for governments to support commercially-oriented small farms (chains) to exploit growth opportunities is less obvious. In functioning markets, one expects that the government should stand back and let the 'invisible hand of the market' coordinate the behavior of economic agents. In theory, this process should ensure the optimal allocation of production factors to the most efficient commodities, regions, organizational forms and farm sizes. Hazell et al. (2007) argue that in this case, "…policy interventions would focus on providing an enabling economic environment for market-led development, typically by providing stable and undistorted economic incentives and essential public goods and services". However, our results indicate that both Romanian institutions and markets show many failures, which can lead to discriminatory and inefficient outcomes.

Generally, the importance of improving the delivery of service in Romania to reduce market distortions is obvious. However, even with effective institutions, transaction costs cannot be reduced to zero. Looking at the various marketing channels in the Romanian dairy chain, a self-enforcing dualism exists: The large supply chains (and commercially-oriented farmers) that use direct marketing channels usually face lower transaction costs (higher quality, lower transportation costs per unit and quality risks). In contrast, small farmers whose production does not considerably exceed the subsistence level incur relatively high (per unit) transaction costs when selling their produce on local markets or via collecting points.

In our opinion, the government should help maintain the dualistic structure of the dairy sector in Romania, due to the various advantages of such a structure (competition, landscape, job opportunities, etc.). These are our suggestions:

…provide financial aid to support niche marketing. Through negotiations with the EU, Romania obtained brand recognition and protection for the name of origin (PDO) and geographical designation (PGI) of several types of products (i.e., some yoghurt sorts and semi-hard cheeses). However, there is need for a better understanding of these protected products, as well as a general regard for the 'traditional/organic agriculture' meeting of European standards. Some respondents indicated that lacking know-how and experience, as well as the complexity of applying for potential aid, are the major challenges to the development of marketable regional food production. For the producers it is important to change the thinking from a production orientation to market orientation to successfully target the market niches. Additionally, the provision of additional capital is needed to first invest in the local brand and finally to collectively promote the local products.

… however, **target active farmers only.** Effective policy measures (extension, financial support) should target active farmers or business starters with a high level of entrepreneurial skills and good business concepts. "Investing in education of farmers which are averse regarding any change is a waste of money."

… do not mix agricultural and social policies. Some small chains still procure raw milk from very small farmers (with only one or two cows). However, the quality of the milk is low, and the farmers are usually advanced in age and are neither flexible nor willing to adjust to changing market conditions (quality requirements, farm economics, contracting). The majority of these farmers do not possess milk quotas. Thus, for them it will be difficult to even enter the legal market. Due to these additional market entry barriers, it cannot be expected that those small farmers will ever be vertically integrated into modern supply chains. The case of the small farmers should not be the responsibility of the Romanian Ministry of Agriculture since they represent a social problem ("If the Ministry allocates money for them, the money is lost forever"). A solution for the dairy farms would be to help them diversify their production portfolios or to include them in the European retirement programs.

In this context, the EC should consider an expanded range of eligible measures under Pillar II to provide advisory services geared exclusively towards the needs of smallholders who do not qualify for farm payments and who may want to explore off-farm employment, or alternative enterprise options while maintaining a semi-subsistence operation, or to exit agriculture altogether". After the health check of the CAP there are some additional opportunities to engage in, and received financial support is available to diversify the incomes of the rural population.

However, at this stage one might question the role/effectiveness of the 2nd pillar measures, since some of them are linked to agricultural production. Since a clear differentiation between the agricultural and social (regional) policy is not given, it is likely that this structure contributes to the persistence (scale) of the currently observed paradigms such as the freezing of agricultural structures and the black market. Perhaps for the next CAP reforms (after 2013), joining the cohesion policy and the 2nd pillar measures should be considered (especially the measures regarding water, landscape management, etc.) to guarantee a more clear direction and clearer goals of the particular EU policies. At the same time, the scale of the paradigms such as the freezing of agricultural structures and the black market could be reduced and the effectiveness of the EU policy measures increased.

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