DEVELOPMENT AND CHALLENGES OF BULGARIAN DAIRY INDUSTRY IN THE LAST TWO DECADES

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Abstract

This paper provides an overview of the dairy sector in Bulgaria and discusses the challenges and opportunities faced by this sector in the last two decades. The dairy sector in Bulgaria has passed through several phases: transition period (1990-1999), EU pre-accession period (2000-2006) and post-accession period (since 2007). Each of these periods strongly impacted the development of this sector. Review of existing literature and data were used for the analysis of the dairy sector in Bulgaria. New market, economic and organisational environment negatively impacted this sector. However, EU membership has presented some opportunities for revitalising the dairy sector and for improving the competitiveness of the Bulgarian dairy products.

Keywords: Bulgarian dairy industry, Bulgaria, Bulgarian agriculture, dairy supply chain

Subtheme: Farm management

1. Introduction

The agricultural sector plays an important part in the Bulgarian economy. During the last two decades, the contribution of agriculture and forestry to Gross Domestic Product (GDP) fluctuated substantially, ranging from 17% in 1990 to 26% in 1997 and down to around 11% in the last few years. In 2008, the share of milk production in gross agricultural output was 12.8% (OECD, 2000; MAF, 2007; MAF, 2009).

In the last few decades, agricultural industry in Bulgaria has undergone dramatic changes including the Communism period with centrally planned economy, economic reform from a centrally planned to a free market economy (transition period), the EU accession process and joining the EU in 2007.

During the period of Communism (1945-1989), agriculture was characterised by large state-controlled and over-specialised Agricultural Industrial Complexes (AICs), centrally determined prices, guaranteed markets and no recognition of market forces. During that time, the main goals of agricultural policies in Bulgaria were to provide an adequate supply of basic food products, at low prices, to the domestic market. There were several hundred large livestock state farms/collectives and the livestock was diverse with productive dairy animals. The milk produced was processed in large processing establishments (less than 50) (EC, 1998; OECD, 2000).

Following the collapse of the communism the transition period (1990-1999) began with an agricultural reform that was characterised by the liquidation of the large AICs, development of a private sector, land restitution, privatization and price liberalization. The farming structure that emerged after the liquidation of the AICs consisted of a large number of small private farms (mainly semi-subsistence types) and private production co-operatives. During this period, the dairy sector in Bulgaria faced radical transformations which resulted in a huge decline of the number of dairy animals, milk production and dairy products (FAO, 1999; MAF, 2000; MAF, 2001).

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The EU accession process (2000-2007) began with the introduction of SAPARD (Special Accession Programme for Agriculture and Rural Development) which aimed to prepare Bulgaria for the entry into the EU. The first signs of recovery were apparent as the agricultural policies became more consistent with long-term goals of developing an efficient, competitive and export-orientated agricultural sector and improving the incomes of those working in agriculture. The effective use of SAPARD funds and natural resources together with the establishment of newly private dairy farms and processing plants led to the limited revival of the dairy sector in Bulgaria. The National Plan for Agriculture and Rural Development (2000-2006) defined the dairy sector as a priority sector for EU funding and investments and its main objectives were to revitalise the dairy sector and improve the quality and competitiveness of the Bulgarian dairy products. EU funds under this program were mainly used for modernization of the dairy farms and improvements of the dairy products. Despite all the efforts and EU funding, the dairy sector could not fully recover. Dairy farmers were confused with all new regulations for health and hygiene standards and EU quality control requirements. They questioned the ability of the sector to cope with all these new challenges as well as to take advantages of the forthcoming EU membership. Despite many positive changes in the dairy sector in 2000s, the lack of clear long-term national policy for the dairy sector, weak institutional and business training, poor management of the EU funds were among the main reasons for the limited absorption of EU funds for modernization and innovation of dairy farms (MAF, 2000; MAF, 2007; Bachev 2008; Bencheva, 2008; WWF, 2009).

Bulgaria joined the EU in 2007 and the Common Agricultural Policy (CAP) was introduced applying all requirements and mechanisms concerning livestock products, particularly milk and milk products. The CAP policy imposed strict hygiene requirements which demanded substantial efforts and investment from ordinary producers to accomplish them. Individual milk quotas for market supply to dairy plants and for direct marketing were also allocated as part of the CAP quota system tool. Since the CAP introduction in 2007, the dairy sector has continued to drive the concentration and modernisation of Bulgarian dairy farms and processing plants; the implementation of CAP requirements in the production and marketing of animal products; development of the dairy sheep, cattle and buffalo breeding; the introduction of a milk quota transfer system and introduction of rules for good practice in raising agricultural animals. The EU accession revealed significant economic, financial and market opportunities for change in the direction of modernization of the dairy sector in Bulgaria (Ivanov, 2009; WWF, 2009).

This paper provides an overview of the dairy sector in Bulgaria and discusses the challenges and opportunities faced by this sector in the last two decades. The discussion and analysis are based on official statistics from the Ministry of Agriculture and Food, National Institute of Statistics, FAO and existing literature. This paper is divided into six sections. The next section reviews the dairy farming in Bulgaria. The dairy processing structure is described in section three. Dairy products, dairy consumption and trade are discussed in section four. Section five outlines the main challenges and opportunities, while the final section draws some conclusions.

2. Dairy farming

2.1 Milk production

The milk production in Bulgaria followed a rapidly decreasing trend in the past 20 years. In 2008, the total milk production was 1.4 million tonnes, only 60% of the milk production in 1989. In the 2000s, about 85% of the total milk production comes from cows, followed by sheep and goat milk with about 7% each. Bulgaria also produces buffalo milk, which accounts for about 1% of the total milk production in the last 10 years (Figure 1).

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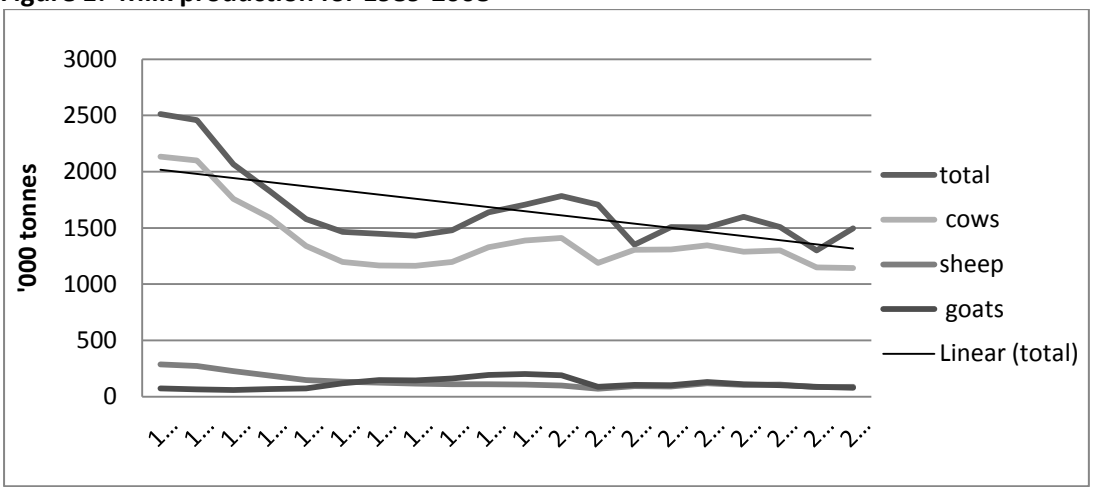
Figure 1: Milk production for 1989-2008

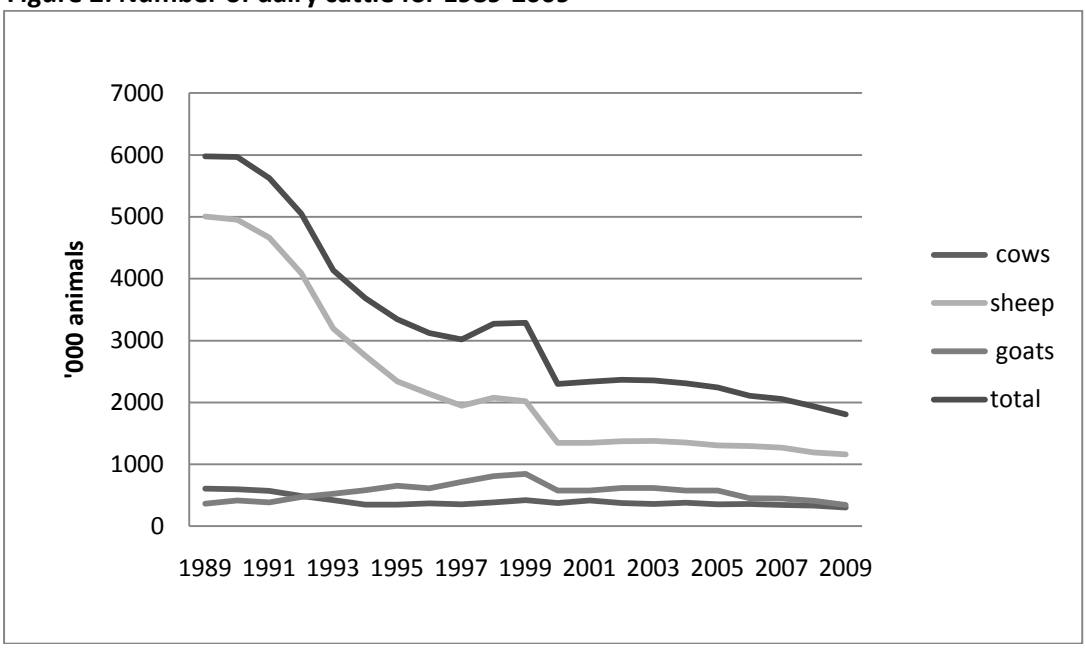


Source: MAF, Agro statistics Directorate, 2009, Faostat data

2.2 Dairy animals

During the last 2 decades, the number of dairy animals decreased more than three times from 6 million in 1989 to 1.8 million in 2009 (Figure 2). The sheep sector was most affected by the agricultural reform. The sheep population in 2009 was reduced 4.6 times, and ewes 4.2 times compared to 1989. The greatest decrease (over 60%) of sheep was observed during the transition period. In the 1990s, the number of goats doubled and then slowly decreased to the pre-reform levels to 346,000 goats in 2009 (Figure 2).The goat sector was the only one sector with positive trends during the transition period due to cheap way of semi-subsistence milk and meat for the rural population (WWF, 2009).

Figure 2: Number of dairy cattle for 1989-2009



Source: MAF, Agro statistics Directorate, 2009, Faostat data

The reduced number of dairy animals and milk production over the last two decades were a result of continued farm restructuring, farm consolidations, lack of financial resources, low purchasing prices of milk and high prices of animal feed. Many farmers were forced to either reduce their number of animals or cease their livestock operations. Furthermore, numerous small-scale farms have been

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unable to meet the EU quality and safety standard and liquidated (Bachev, 2008; Ivanov, 2009; WWF, 2009).

The trend of reducing the number of dairy animals and milk production continued at slower pace since Bulgaria joined the EU. The average milk per cow in 2008 was 3,404 L, which is about two times lower than the average for other EU countries. Poor feeding is the main factor affecting the low average productivity. Drought occurred in 2007 and the subsequent increase in feed prices impacted negatively the average yield of milk (Ivanov, 2009; MAF, 2009).

The farm gate price of milk after 2000 varied between 0.18-0.27 Euro per L while the direct sale price was about 0.15 Euro higher than the farm gate price. The price for goat, sheep and buffalo milk was a little higher (between 0.05-0.10 Euro) compared to cow milk (Ivanov, 2009).

2.3 Dairy farming structure and herd size

After the collapse of communism in 1989, the structure of dairy farms was dynamic and resulted in two main types: a large number of small semi-subsistence type farms (1-2 animals) and a small number of large farms, which grow more than 20 dairy animals. In 2007, almost 80% of the livestock farms (97 538 farms) in Bulgaria kept between 1-2 dairy animals while the number of animals in these semi-subsistence farms made up 36% of the whole herd. Furthermore, 93% of the goats were kept by semi-subsistence type farms (MAF, 2009). This type of structure of primary production is very adverse, suggesting serious challenges in terms of farm modernization, quality, safety and production efficiency (Bachev, 2008; Ivanov, 2009).

The first two years of EU membership appeared to be very difficult for the dairy sector – farmers and processors. However, there was a positive change as the number of small farms (1-5 dairy animals) has slowly decreased in favour to the larger farms (over 20 animals), which is evident for the sheep farms. The number the large farms with over 100 sheep increased by 21.8% in 2008 compared to 2007 (MAF, 2009)

Although a trend towards farm consolidation has been apparent in the last few years, livestock production structures have remained fragmented after the EU accession. Restructuring, consolidation, modernization and optimization of production process in dairy farms continued under the pressure of the struggle for survival and the effects of CAP instruments. Due to the large degree of fragmentation in livestock production only a few large farms have benefited from the implementation of the CAP (Bachev, 2008; Bencheva, 2008).

Farms for production of milk in Bulgaria can be divided into three categories/groups. The first group are those farms who adopted the EU hygiene and quality standards. The second group are farms in transition to attaining the EU quality standards. The third group of farms produces milk not reaching the EU standards. There are limited number of farms in groups one and two with limited production capacity so Bulgaria is one of the EU member country that cannot fulfils its designated EU milk quota (Ivanov, 2009).

The low level of specialization of farms has been another serious structural problem of the dairy industry in Bulgaria, which has led to low efficiency, low level of adoption of new technologies and low competitiveness. If the milk quality problems are not solved there will be a real risk of drastic contraction of small-scale production, which will adversely affect the entire sector. Furthermore, mass bankruptcy of small farms may trigger a large social problem in many rural areas of the country because it has been either the only or a major source of incomes (WWF, 2009).

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3. Dairy processing structures

In the end of 1990s, only about 25% of the produced milk was processed due to market difficulties and low purchasing prices offered to the farmers (OECD, 2000). However, during the accession period, the share of the processed milk increased as a result of improved product mix and market structures, and increased exports of value added dairy products (e.g. cheese). In 2006, almost 60% of the total produced milk was processed by dairy plants, while the share of the processed sheep and goat milk was only 12% and 3% respectively. These types of milk were not a priority for the industrial dairy plants in Bulgaria (EC, 2007; Ivanov, 2009). In Bulgaria, sheep and goat milk is used for brined cheese and other specialty products.

Dairy processing structures were also affected by the economic reform in the country. At the beginning of the reforms, dairy processing was highly concentrated in about 50 processing enterprises, which were inherited from the period of socialism. As a result of the privatization in the 1990s, many small businesses were created together with a number of big players, who were established by privatization of the state-owned companies. In 1995, there were 826 dairy processing companies but none of them were eligible to sell products to the EU market due to poor quality. In the end of 1990s, there were only 40 industrial type dairies with processing capacity of more than 30 tonnes milk per day. However, their average capacity utilization was between 20-40% due to low milk supply, fragmented markets and poor milk quality. Since 2000, the number of processing enterprises has been decreasing and in 2008 they were 230 dairies. Only 54 companies (mainly large dairy processing enterprises) managed to match the EU standards and were eligible to sell on the EU markets (Table 1). The other dairies were small, having had difficulties to expand and undertake investments to improve quality standards (Dries and Noev, 2006; Ivanov, 2009).

Table 1: Dairy processing enterprises (DPE)

Years	Number of DPE	DPE eligible to sell on the EU market
1989	53	none
1995	826	none
2005	303	21
2008	230	54

Source: MAF, Agro statistics Directorate

In 2008, almost 90% of all processed milk was processed by commercial companies (68%), followed by sole trader (29%) who processed 10% of the total milk. Only 0.6% of all processed milk was processed by enterprises with other legal status, which includes cooperatives (Ivanov, 2009).

According to several authors (Bencheva, 2008, Bachev, 2008), dairy industry in Bulgaria can benefit by establishing vertically integrated dairy cooperatives (existing in NZ, USA,UK and many other countries) which will not only collect milk but also process it. Cooperatives will be successful in the rural areas with greater fragmentation of dairy farms as cooperation will enhance the market power of small farms through finding better marketing channels for their manufactured dairy products. The issue of overcoming the problem of the non-cooperation is very serious in Bulgaria due to the failure of the former socialist cooperative system (OECD, 2000; MAF, 2000).

The dairy sector in Bulgaria attracted foreign direct investments in the 2000s and in 2008 foreign owned companies (e.g. Danone - France, Vivartia - Greece) purchased and process about 18% of all industrial processed milk and own the biggest milk processing plants in the country (Ivanov, 2009).

As with the farms above, DPE in Bulgaria can be divided into three categories based on the quality of raw milk supply.

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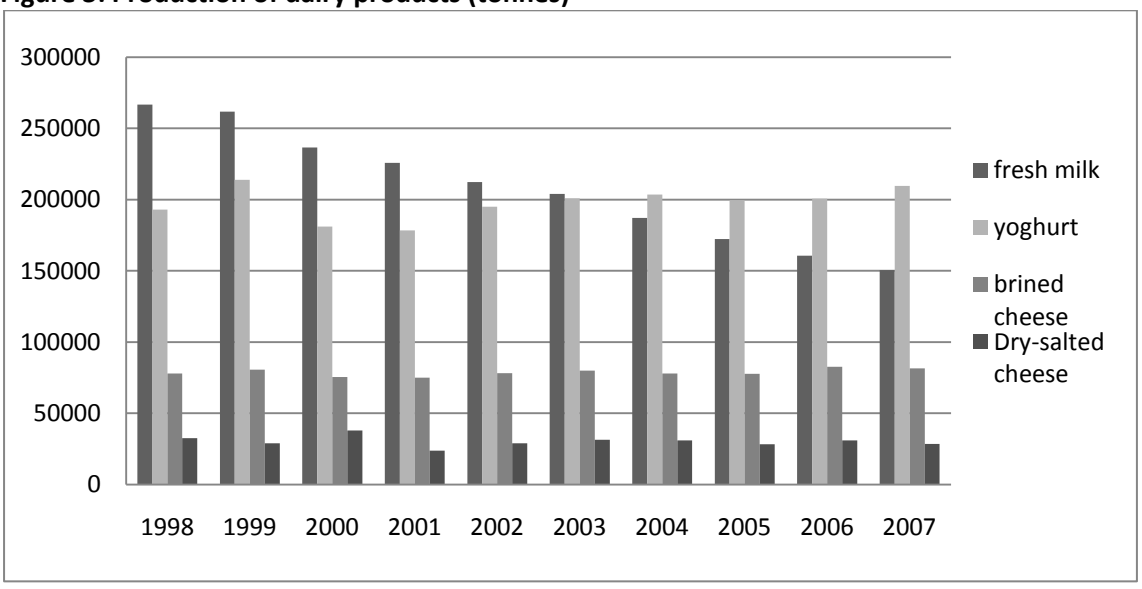
1) DPE who process raw milk meeting the EU hygiene standards. They are the only companies that can export their products to the EU.
2) DPE with two processing lines – one that meet and one that does not meet European standards of raw milk. Dairy products from the first line can be exported to the EU, and from the second line are only for the internal market.
3) DPE who process milk, which does not meet EU standards. Their products are supplying the domestic market only.

The DPE faced many difficulties over the last 20 years but the greatest challenge was the poor quality of milk supply. Some farmers intentionally mixed different types of milk - cows, sheep, goats, which created difficulties for the dairy processor to ensure good quality of milk supply. This problem forced many dairy processors in Bulgaria to purchase better quality milk from neighbouring countries. Many small milk processing companies were forced to source milk from hundreds of kilometers away, forcing them to increase the price of their dairy products or to underpay the farmers for the purchased milk. Furthermore, they were collecting milk from a large number of small semi-subsistent farms (Dries and Noev 2006; Ivanov, 2009).

4. Milk products, dairy consumption and trade

The main Bulgarian dairy products are fresh milk, yoghurt, brine cheese called 'sirene' and dry-salted cheese called 'kashkaval'. During the transition period, production of all dairy products decreased except for kashkaval due to the rapid decrease of milk supply. Between 1989-1999, fresh milk production halved and brined cheese decreased by 35% (MAF, 2000). Fresh milk production decreased by another 46% in the last 10 years. Production of cheese (dry-salted and brined) remained relatively stable over the last decade. Production of yoghurt increased in the last 7-8 years from 181,000 tons in 2000 to 209,000 tons in 2007 (Figure 3).

Figure 3: Production of dairy products (tonnes)



Source: MAF, Agro statistics Directorate, 2009

Consumption of dairy products in the country in 2009 declined compared to 1990 level. However, after 2000 the annual consumption of dairy products (yoghurt and cheese) increased slightly due to the country's economic growth and increased incomes. In 2007, the dairy consumption per person of households was 62.7 kilograms, of which over 27kg was the yoghurt consumption and about 15 kg was the cheese ('sirene' and 'kashkaval') consumption (MAF, 2009).

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The trade volume of dairy products increased in the last decade. Almost 7,000 tonnes of dairy products were exported in 1999 compared to 23,240 tonnes in 2007. One fifth of the total cheese production (sirene and kashkaval) was exported in 2005 and there has been a growing trend. Brined cheese is exported to Greece, USA, Romania, Lebanon, Australia and others (Ivanov, 2009; MAF, 2009).

Imports of milk and milk products increased more than twice in the last 10 years reaching almost 30000 tons in 2007. Most important import products in 2007 were milk powder (35% of the total dairy imports), cheese and butter mainly from Germany, the Netherlands, France, Poland and Hungary. In 2007, Bulgaria was a net exporter in terms of value (value of export bigger than the value of imports) and net importer in terms of quantity (volume of imports bigger than the volume of exports) (Ivanov, 2009).

5. Challenges and opportunities of the dairy sector in Bulgaria

The dairy sector in Bulgaria had faced serious challenges and problems in the last two decades, including:

- low productivity and efficiency in the sector due to the use of primitive technologies and lack of research and development in the dairy sector
- semi-subsistence type of dairy farms – more than half of the produced milk is consumed by the household
- the vast majority of the dairy farms in Bulgaria are small and fragmented - it is very difficult for them to meet the increasing requirements for high quality, animal welfare and food safety introduced by the CAP
- very limited collective organisations (e.g. cooperatives) that could increase the competitive power of the small dairy farms
- lack of effective and active industry associations who can provide innovative industry leadership

On the other hand, the implementation of the CAP also presented some opportunities related to:

- wider market access of Bulgarian dairy products
- increased foreign investments in the dairy industry
- introduction of new technologies for production and processing of milk;
- stable and predictable macroeconomic environment
- promotion of better milk quality, safety and hygiene; animal welfare and environmental protection
- better access and effective use of the EU funds.

6. Conclusion

The dairy industry in Bulgaria had been badly affected and had faced serious challenges in the last two decades, which were a result of new organizational, market and economic environment influenced strongly by the EU accession. However, the EU membership also presented some opportunities for increasing the efficiency and competitiveness of the Bulgarian dairy farms and dairy products.

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