DAIRY CONSUMPTION AND PRODUCTION TRENDS

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Abstract

According to the NACE classification, the dairy industry belongs to the processing industry, production of food products, and is one of the most important industries in Latvia's national economy. The research aim is to identify the newest trends in processing dairy products and in consumer behaviours. To achieve the aim, the following research task is set forth: to analyse the output, import, export, and consumption of dairy products in Latvia in 2005–2010. The following methods are applied in the research: general research methods: analysis and synthesis, documentary analysis, monographic and graphic methods. Statistical analysis was applied for social and economic studies. Materials used in the research: data of the Latvian Central Statistical Bureau, the Rural Support Service of the Ministry of Agriculture, and the Latvian Central Union of Dairy Farmers. The main conclusions: The dairy industry of Latvia meets the consumption needs of its population. The export of dairy products exceeds their import. More and more dairy products of low value added are exported or the proportion of raw milk increases in the total export of dairy products.

Key words: dairy, production, consumption, Latvia

Introduction

According to the NACE classification, the dairy industry belongs to the processing industry, production of food products, and is one of the most important industries in Latvia's national economy. The production of dairy products in 2010 compared to 2009 had positive trends – there was a 10% increase in output and an 8% increase in sales, whereas an opposite trend was observed for food products in total, as a slight decrease was still observed for the entire food industry. Yet the proportion of the food industry in the processing industry increased over the recent years. In 2008 it was approximately one fourth (23%), but in 2010 it reached one third (32%) if measured by output. The research aim is to identify the newest trends in the production and consumption of dairy products. To achieve the aim, it is necessary to analyse the output, import, export, and consumption of dairy products in Latvia in 2005–2010; the household consumption of dairy products is analysed for the period 2004–2009.

Materials and Methods

The following methods are applied in the research: general research methods: analysis and synthesis, documentary analysis, monographic and graphic methods. Statistical analysis was applied for social and economic studies. Materials used in the research: data of the Latvian Central Statistical Bureau, the Rural Support Service of the Ministry of Agriculture, and the Latvian Central Union of Dairy Farmers.

Results and Discussion

Output quantities of dairy products

The year 2005 is chosen as the base year, and in general there are the following trends in the production of dairy products in Latvia: in 2005, the output of milk for consumption was 100.4 thousand tons, and there was an almost 4% increase in 2006 and 2007, but since 2008 its output decreased. An especially sharp decrease by approximately 29% was in 2009 when the output of milk for consumption amounted to only 71.6 thousand tons. A stabilising trend was observed in the year 2010. If the output of milk is measured per capita in litres, its quantity decreased from 46 l per capita in 2007 to 32 l per capita in 2009 and 2010, taking into account the real decrease in the number of residents.

Over 10 months of 2010, compared to the same period a year ago, the output of cream fell by 15%, the output of sour cream declined by almost a third (31%), while the monthly output of yogurt fluctuated over the respective months of 2010, reaching the same quantity as a year

ago. Yet over the 10 months of 2010 compared to the previous year, the outputs of ice-cream and dry whole milk fell respectively by 4% and 31%, whereas the output of dry skimmed milk almost doubled (172%); the production of condensed skimmed milk was almost stopped in 2010; the output of butter increased by 14%, but the output of butter mixtures fell by 27%; a 22% decrease in the output of whole milk curd was observed, yet the outputs of curd products and skimmed milk curd increased by 29%. In total, the outputs of curd and curd products increased by 7%, but the output of cheese rose by 60%. The total output of cheese and curd rose by 37%.

There is no stable trend regarding the changes in the output of all types of cheese (including curd). Their output fluctuated from 38.1 thousand t in 2007 to the smallest quantity of 28.8 thousand t in 2009 (see Fig.1). The cheese exports were greater than its imports in the period 2005-2009, but the situation changed in 2009 and the cheese imports exceeded its exports by 2.1 thousand t.

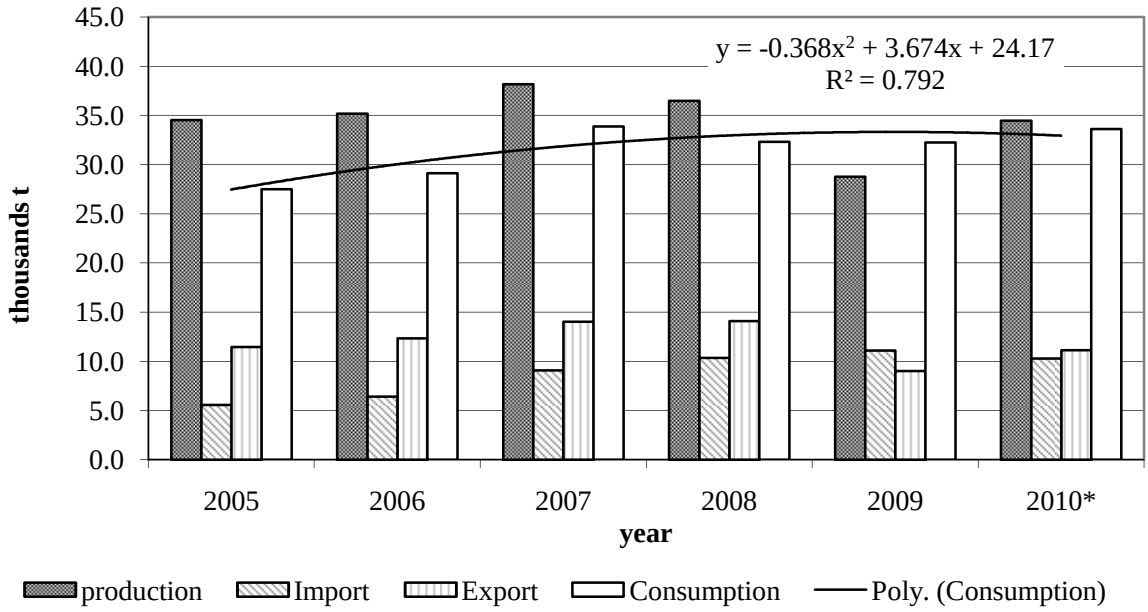

Figure 1. Output, import, export, and consumption of all types of cheese in Latvia in 2005–2010 (thsnd.t)

*provisional data

Over the recent five years in Latvia, the output of cheese was greater than its consumption, except the year 2009 when Latvia's population consumed 32.2 thousand t, which is 3.4 thousand t more than the quantity produced (28.8 thousand t). Producers of cheese explained that by the massive imports of cheap cheese (1.6-1.9 LVL/kg) from Germany in 2009 when local producers were not able to compete and then it was not profitable to produce cheese in Latvia.

The consumption of cheese can be better forecasted than its output quantities. The changes in the recent five years can be expressed by a medium strong polynomial correlation

(R^2= 0.7928).

y=-0.3684x2+3.6473x+24.17 (1)

Not sharply, but the total cheese consumption tends to decrease. It is very possible that it can be related to the decrease in the number of Latvia's population.

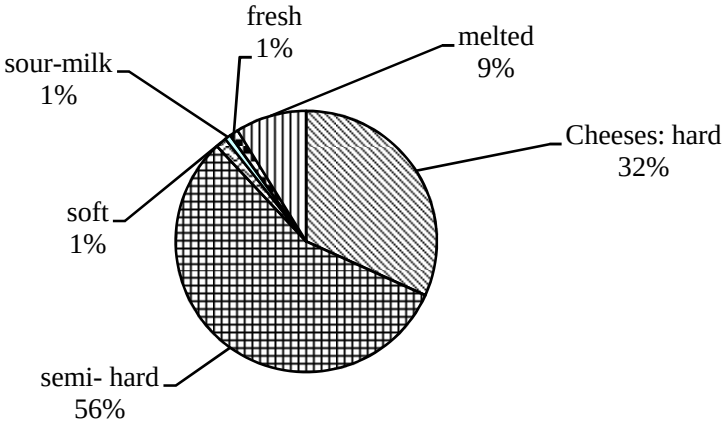

Figure 2. Assortment of cheeses produced in Latvia in 2010 (tons)

Hard, semi-hard, soft, sour-milk, melted, and fresh types of cheese are produced in Latvia. After analysing the assortment of cheese, one has to say that more than half (56%) of the output of cheese consists of semi-hard sorts of cheese. Approximately a third is composed of hard sorts of cheese, but a tenth is made up of melted cheeses.

Exports of milk and dairy products

All groups of dairy products are exported by Latvia. However, the sharp change in economic conditions in 2008 and 2009 significantly impacted the export structure of dairy products. The changes in exports of cheese and curd in 2004–2009 were not as substantial as it was observed for butter, milk, cream, and other dairy products. The highest prices were in 2008, but the largest export quantities were in 2007. There was a sharp decrease in the exports of cheese and curd and also in the prices in 2009, yet their exports were greater than in 2004.

Over the recent three years (2008-2010), in terms of value (LVL), the largest exports are: milk and cream, uncondensed and free of sugar or other sweeteners (41–44%); cheese and curd (27-36%); milk and cream, condensed and with sugar or other sweeteners (9–16%).

The most important export markets for milk and dairy products in nine months of 2010 were Lithuania (41%), Germany and Russia, followed by Estonia, Italy, the Netherlands, and Azerbaijan. Other countries compose only 9%.

Imports of milk and dairy products

Latvia imports all types of dairy products. Approximately half of the imported dairy products, in terms of value, consist of cheese and curd (45–51% in 2008–2010). The second place in 2010 was taken by milk and cream, uncondensed and free of sugar or other sweeteners.

Cheese and curd are imported by Latvia from Austria, Belgium, Bulgaria, the Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Italy, Lithuania, the Netherlands, Poland, and Sweden. In terms of value, the largest imports of cheese are from Lithuania (41%), the second place belongs to the Netherlands (17%), followed by Germany, Estonia, and Poland with 9% each. The proportions of the other countries in the imports are insignificant.

Export-import ratio

The exports of dairy products exceed their imports during both the recent year and the recent six years.

In terms of volume (measured in tons), the exports of milk and dairy products exceed their imports according to a linear progression. It is a very positive trend on the one hand, but a different trend is observed if exports are measured in terms of value. It is a positive fact that the exports exceed the imports. Therefore, the dairy industry contributes to the country's government budget. Yet a sharp decrease in the export-import gap, in terms of value, is

observed. It indicates that dairy products of low value added are more and more exported or the export proportion of raw milk increases. It can be explained by a decrease in the purchase price of raw milk and by Latvia's inability to compete regarding raw milk purchase with neighbouring countries, first of all, Lithuania.

Per-capita consumption of dairy products

The Central Statistical Bureau's Household Budget Study Department regularly and continuously collects data on consumption behaviours of residents. The latest data are available for the year 2009. Household studies are conducted since 1952. In the period 2008–2009, data were collected on the following types of dairy products: whole milk (l), lower fat milk (l), yogurt (kg), cheese (kg), homemade cheese, curd (kg), and cream (kg). Consumption calculations are done per one household member a year.

Table 1

Consumption of the main dairy products in households in 2008 and 2009

(per household member a year)

Dairy products	All households		Towns		Rural areas	
	2008	2009	2008	2009	2008	2009
Whole milk, L	43.95	39.84	35.22	32.71	62.70	54.90
Lower fat milk, L	7.54	10.78	9.27	12.46	3.84	7.24
Yogurt, kg	7.50	6.83	8.94	8.05	4.40	4.26
Cheese, kg	6.08	6.32	6.57	7.00	5.02	4.88
Homemade cheese, curd, kg	7.85	8.05	8.11	8.46	7.30	7.18
Cream, kg	12.52	12.06	11.98	11.73	13.67	12.75

In 2009, every Latvian resident on average consumed 39.84 l of whole milk, 10.78 l of lower fat milk, 6.83 kg of yogurt, 6.32 kg of cheese, 8.05 kg of curd or homemade cheese, and 12.06 kg of cream. Whole milk was more popular among rural residents, whereas urban residents mostly consumed skimmed milk. Rural residents consume more cream than urban residents.

Over the recent five years, the consumption of milk per capita tended to decline, yet the year 2009 can be regarded as the year of change in the food consumption behaviour of Latvia's population.

The total consumption of milk (whole milk + lower fat milk) decreased by almost 12 l per capita a year during the period 2004-2009. Every Latvian resident consumes on average 1 l of milk less a month than six years ago. An especially substantial decrease in the consumption of whole milk – by 24 l – took place in Latvia's rural areas. Yet an increase in the consumption of skimmed milk by 2 l per rural resident does not compensate for the amount of calcium absorbed from milk.

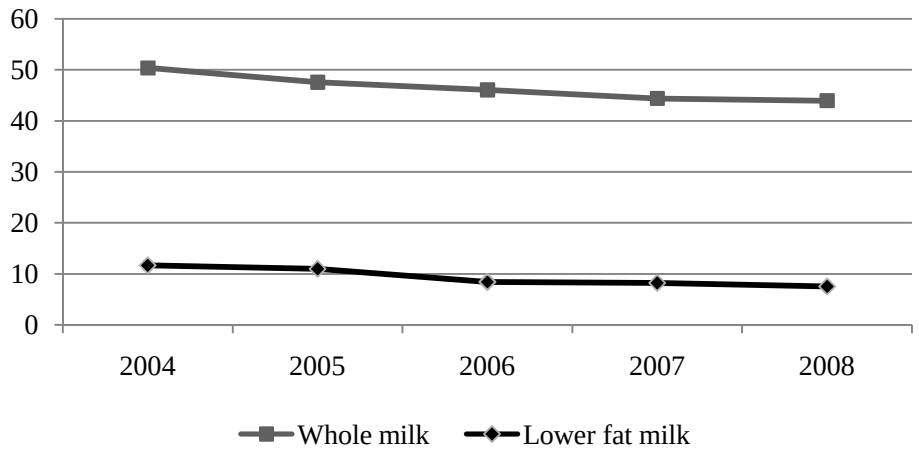

Figure 3. Consumption of whole milk and lower fat milk (kg per capita a year)

Urban residents consumed skimmed milk almost twice as much as rural residents in 2004, it means that this difference decreased. In 2009, an urban resident consumed 12.46 l, while a rural resident consumed 7.24 l of lower fat milk. A very surprising trend was observed for the consumption of cheese and yogurt over the recent years. During the recent five or six years, the consumption of cheese increased by a whole 1 kg/year per capita, thus exceeding the level of 6 kg per capita. The consumption of yogurt reached its highest level (7.5 kg) in 2008. It was followed by a decrease of almost 700 g in 2009. It has to be noted that urban residents consume yogurt twice as much as rural residents.

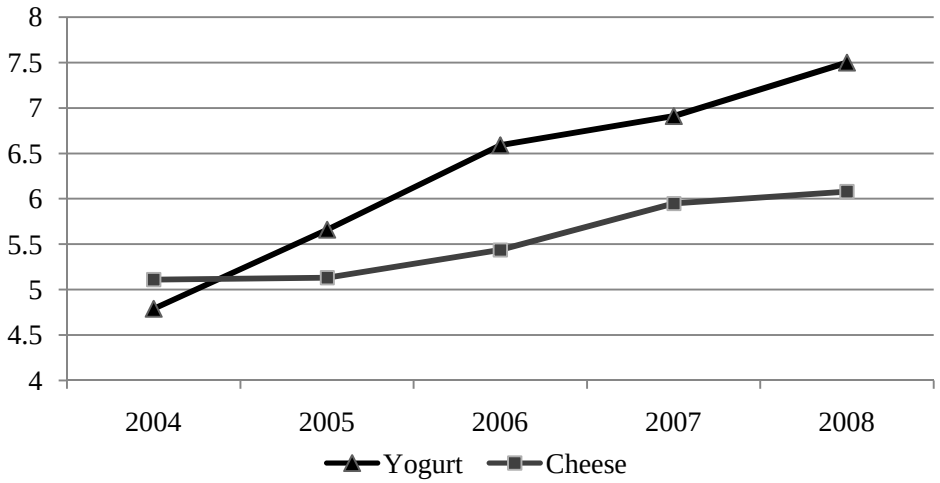

Figure 4. Consumption of yogurt and cheese (kg per capita a year)

An increase in the consumption of cheese in 2009 occurred owing to urban residents. On average, urban residents consume 7.0 kg of cheese a year, while rural residents consume only 4.88 kg year^{-1}. Rural residents consume homemade cheese and curd also less than urban residents. Every urban resident consumes also 8.46 kg of homemade cheese and curd a year, while a rural resident consumes only 7.18 kg of these products. The consumption of curd by rural residents decreased in 2009 compared to 2008, whereas urban residents consumed more of it.

The food industry became even more significant over the recent three years, as its share in the processing industry increased. The dairy industry is of great importance in developing Latvia's industry. The dairy industry was and still is one of the most important export industries. Over the recent years, the exports of raw milk increased, yet the dairy products of higher value added increase their proportion in the export-import balance in 2010.

During the recent 5-6 years, the output of dairy products reached its highest level in 2007 in both absolute and relative figures. According to the data for 9–10 months of 2010, the dairy industry's output reached its lowest level in 2009 during the period of five recent years.

Changes took place in the assortment of dairy products in 2010. The output of dry skimmed milk significantly increased. The production of condensed skimmed milk stopped. The outputs of cheese (almost by 2/3), curd, curd products, skimmed milk curd, and dry skimmed milk increased. A decrease was observed in the outputs of sour cream (-31%), dry whole milk (-31%), butter mixtures (-27%), whole milk curd (-22%), cream (-15%), and ice-cream (-4%).

The quantity of cheese produced in Latvia completely meets the domestic demand for it, except the year 2009. According to the Ministry's of Agriculture forecast, the quantity of cheese produced in the country in 2010 has to exceed the domestic demand for it.

Latvia's cheese is exported to 14 countries, while cheese is imported from 15 countries. The total exports of cheese and curd exceeded their imports in 9 months of 2010. This year, the most significant export markets for cheese and curd are in Germany, Russia, Italy, and

Estonia. Almost half of the imported cheese and curd come from Lithuania, which can be explained by the invasion of a Lithuanian supermarket chain in Latvia.
In the group of milk and dairy products, the consumption of whole milk decreased, while that of lower fat milk increased in 2009 compared to 2008.

Conclusions

1. Latvia's dairy industry meets the domestic demand for dairy products.
2. In terms of volume, the exports of raw milk and dairy products exceeds their imports, thus the dairy industry provides revenues for the country's government budget. Yet a sharp decrease in the export-import gap, in terms of value, is observed.
3. It indicates that dairy products of low value added are more and more exported or the export proportion of raw milk increases.
4. Rural residents, compared to urban residents, more consume cheaper and relatively fatter dairy products.
5. The changes in the economic situation affected the choices of individuals and their food consumption behaviours as well.

Acknowledgment

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