The Russian Federation

Review of the Dairy Sector

FAO INVESTMENT CENTRE

COUNTRY HIGHLIGHTS

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Eugenia Serova
Senior Adviser, Investment Centre Division, FAO
Natalia Karlova
Dairy Expert

COUNTRY HIGHLIGHTS PAPER
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European Bank
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Director
Investment Centre Division
FAO
Viale delle Terme di Caracalla, 00153 Rome, Italy
or by e-mail to: Investment-Centre@fao.org

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ACRONYMS

AE	Agricultural enterprise
AWU	Annual work unit
CFU	Colony-forming unit
CIS	Commonwealth of Independent States
cm	centimetre
CMR	Calf milk replacer
EU	European Union
g	gram
GOST	State quality standard
kg	kilogram
LU	Livestock unit
mg	milligram
pg	picogram
RUB	Russian rouble
SMP	Skim-milk powder
TNVED	Classification of Foreign Trade Goods
µg	microgram
UHT	Ultrahigh temperature
WBD	Wimm-Bill-Dann
WMP	Whole-milk powder
WTO	World Trade Organization

ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

Positive trends in the dairy sector

In recent years, positive trends have been noted in the dairy sector in the Russian Federation. The national average milk production rose 60 percent, from 2.2 tonnes in 1997 to 3.5 tonnes in 2007. Regions of intensive production have emerged in the Northwest and Central federal okrugs, which are near centres of industrial milk processing around Moscow and St. Petersburg. These regions are characterized not only by high yields per cow but also by increasing production volumes. There has also been significant progress in smoothing out the seasonality of milk production, which has been completely overcome in some regions, in particular in the Leningrad Oblast, Moscow Oblast, Krasnodar Krai and in the Republic of Tatarstan. Both private and public investments in the sector have increased, enabling the creation of large dairy farms with modern technology. Against a background of increasing consumer demand, the milk processing industry has developed rapidly. The increase in the per capita consumption of dairy products, although still laging behind consumption levels in European countries, is an indicator of the high potential of the domestic dairy market.

Challenges to growth in milk production

In spite of some positive trends in dairy farming, the daily sector continues to face a number of unresolved problems. In addition, the development of the sector has slowed down since the onset of the global financial crisis.

Shortage of raw milk. The number of cows in the Russian Federation has declined by more than 50 percent, from 20.5 million head in 1990 to 9.1 million in 2008 and milk production in the dairy sector has become more intensive. The implementation of the National Priority Development of the Agro-industrial Complex Project has facilitated the establishment of modern, individual dairy farms where yields are high at 4 to 6 tonnes/cow/year. However, the average yield in the Russian Federation is 3.5 tonnes/cow/year and still lags behind the average yield worldwide, largely due to the inadequate development of domestic dairy

genetic resources and the highly deteriorated condition of most dairy farm facilities. As a result, increasing milk yields have not compensated for the reduction in the number of milk cows and for the entire country, milk production in 2008 was 41 percent below 1990 milk production.

High seasonality of milk production. The high seasonality of milk production has been a problem for dairy farms since Soviet times. Shortages of milk in autumn and winter followed by surpluses of milk in the summer caused fluctuations in market prices. Although positive changes in recent years have evened out the high and low production levels of the seasons in some regions of the country, the uneveness of seasonal milk supplies remains a significant problem. Part of the difficulty in reducing the variations in the levels of milk production from season to season relates to the lack of dairy farm specialists and skilled managers, and to the antiquated industry structure. To redress the lack of a skilled workforce and antiquated structure would require more resources and new equipment.

Small-scale average milk production. Over one-half of the milk produced in the Russian Federation (52 percent in 2008) is produced on household farms where plots of land are cultivated for subsistence. The rest of the milk comes from agricultural enterprises (43 percent) and individual farms (5 percent). Production on household farms with only one or two cows is small-scale. Household farms have limited access to financial resources and the average yields per cow and the quality of the milk produced are much lower than those of other types of farms.

More than 80 percent of the agricultural enterprises producing milk commercially in the Russian Federation are relatively small farms with less than 500 cows and around 40 percent of these enterprises have less than 100 cows. The smaller, unprofitable dairy enterprises are gradually disappearing. The need for an increase in the country's milk supply coupled with the increase in government support to the dairy sector have made investment in the construction of mega-farms attractive, although the financial crisis has likely limited or delayed new, large investment in animal husbandry projects.

Shortage of high-quality milk. In spite of some improvement in milk quality, the share of premium-grade milk sales to total raw milk sales remains low (37 percent in 2008). The generally low quality of raw milk is the result of the low-quality requirements imposed on milk output during Soviet times, when the only criterion influencing the pricing of raw milk was the fat content of milk. The shortage of high-quality raw milk for the processing enterprises is exacerbated by the high proportion of milk produced on household farms, the quality of which is difficult to control.

Lack of efficient links between raw milk producers and processors. The lack of an efficient system for marketing raw milk, especially that produced on household farms, reduces the amount of high-quality milk available to the processing industry. The development of an efficient system for marketing raw milk is hampered by the inadequacy of equipment at collection stations and the poor road networks in many regions, as well as by other factors. Furthermore, often processing companies are the only buyers of milk in the basin where they operate. Therefore, they may dictate procurement prices to milk producers and limit incentives to improve milk distribution.

Challenges and opportunities in milk processing

The output of basic dairy products has grown since 2000. The fastest-growing segments of the dairy sector are cheese and whole-milk products, the output of which grew by 195 percent and 166 percent, respectively, between 2000 and 2008.

Intense international trade competition

High percentage of imports for some dairy products. Although the industrial output of dairy products is growing, imports of some products are still important. Relatively high domestic input prices for raw milk and especially the cheap dairy product imports from the Republic of Belarus and Ukraine, with which countries the Russian Federation has duty-free trade, are a challenge for the Russian dairy sector. Domestic processors cannot compete on equal terms with Belarusian products, which are subsidized by the Belarus government.

Potential export opportunities to Southeast Asia. At present, the exportation of Russian dairy products is not well developed and Russian exports are not competitive in the European Union (EU). Wimm-Bill-Dann is the only Russian dairy company certified to export dairy products to the EU. However, in the future, opportunities may emerge for certain Russian dairy products – such as cheese, yoghurt and butter – to be exported to China, Japan and the Near East.

Growth in the consumption of dairy products

Positive trend in per capita consumption from 2000 to 2006. The steady rise of real disposable household incomes since 2000 has driven the growth in dairy product consumption in the Russian Federation. The per capita consumption of dairy products reached a maximum of 250 kg in 2006, but remains far lower than it was during Soviet times (e.g. 386 kg in 1990) and far lower than in European countries. Furthermore, the growth in demand for dairy products has exceeded production growth, leading to an increase in the share of imports in total consumption.

Recent reduction in consumer demand. In 2008/2009, due to the the global financial crisis, the rate of increase in real household income slowed down in the Russian Federation, resulting in reduced consumer demand for dairy products. This slowdown has been one of the factors constraining further development of the dairy sector in the Russian Federation.

Volatile prices of milk and dairy products

Decline in the purchasing prices of raw milk in 2008/2009. In recent years, the dairy sector has been considerably affected by significant fluctuations in raw milk prices. In 2007 and at the beginning of 2008, the price rose sharply, peaking in March 2008 at RUB12.8 per kg. The market then reversed and the raw milk price dropped to RUB 9.6 per kg in September 2009. At the same time, the retail prices of dairy products rose. This had a negative effect on consumer demand, which was also undermined during the financial crisis by a drop in real household incomes. To stabilize the situation in the dairy market, the government took a number of measures aimed at limiting imports of dairy products, stimulating consumer demand and improving the efficiency of milk production. This led to some recovery in the price of raw milk.

Domestic competitive environment is mixed

High fragmentation of milk production. The dairy sector in the Russian Federation is highly fragmented, with a large number of small farms. In recent years, however, unprofitable dairy farms have withdrawn from the raw milk production market and larger farm complexes with modern equipment and at least 1 000 cows have emerged.

A highly concentrated milk processing sector. The three leading processing companies – Wimm-Bill-Dann, UniMilk and Danone – control about 50 percent of raw milk processing, indicating a rather high concentration of the milk processing sector.

Active government support to the dairy sector

In 2006/2007, animal husbandry was selected as one of the priority areas for the National Development of the Agro-industrial Complex Project. The milk and dairy products market was actively regulated in 2008/2009. Government measures taken to stabilize the dairy market include the government Program for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012, which supports milk production in particular. In 2008, a specific government Program for the Development of Dairy Cattle Breeding and the Stimulation of Milk Production in 2009 to 2012 was adopted to provide additional government support to the dairy sector. This programme allows government purchasing interventions in the ultrapasteurized milk, butter and hard cheese markets.

Regarding customs regulations, import tariffs on certain types of dairy products have been raised and changes in trading conditions with the Republic of Belarus have been introduced, limiting imports of cheap dairy products from that country.

New federal technical regulation for milk and dairy products took effect at the end of 2008. These regulations set requirements for milk and dairy products to ensure that production, storage, transportation, points of sale and utilization of dairy products are safe. They also introduced standardized terminology for the dairy sector, as well as packaging and labelling standards for milk and dairy products.

At the time of writing this report, the State Duma of the Russian Federation was considering a federal law on Principles for the Government Regulation of Commercial Activities in the Russian Federation. This law seeks to resolve existing problems in the relations between food product manufacturers and retail chain operators.

The implementation of a government-financed advertising campaign to increase the consumption of milk products began in 2009. Additional measures are needed for the development of the dairy sector. In spite of the many measures that the government has taken to support the dairy sector, problems remain regarding low consumer demand, the seasonality of raw milk production and availability of long-term credit to milk producers. To ensure that the sector realizes its full potential, continous government support is seen as essential and complementary to the efforts made by private investors in the sector.

Technical standards need further refinement; more targeted government-financed promotion campaigns could be launched; and long-term lending programmes for the development of dairy cattle breeding are recommended.

In this continuously improving environment, the creation of dairy farms with modern equipment, better feed supplies and more efficient breeding stock could present an interesting opportunity for private investors and would contribute to the overall modernization of the dairy sector in the Russian Federation.

Chapter 1 – Introduction: basic trends in the dairy sector

Milk is one of the main products of animal husbandry in the Russian Federation. It accounts for about 40 percent of the gross product of animal husbandry (in value terms). During the Soviet era, milk was produced throughout all the regions of what is today the Russian Federation, with almost no region specializing in milk production. The policy then was for each region to achieve self-sufficiency in the production of agricultural and food products, which policy resulted in the growth of milk production even in areas with limited feed supplies. Milk consumption was relatively high in Soviet times, with per capita consumption at 386 kg/year, and was supported by large subsidies.

When social and economic reforms began in 1992, the price of milk was liberalized and the subsequent price increase significantly reduced consumer purchasing power. Although the price elasticity of demand for dairy products is lower than that for meat, dairy product per capita consumption fell sharply in the early 1990s: in 1992, consumption was 282 kg.

Price liberalization also made animal husbandry unprofitable in regions of the country where it was not traditionally practised. As a result, the positive trend in the livestock population became a negative one. In the early 1990s, as meat production declined, so milk production declined creating a shortage of dairy products in the domestic market and because regulation of imports of dairy products was not well developed, the government was prevented from limiting imports. It was not until 1994 that import duties were introduced on some products made from milk.

The situation in the sector changed significantly after the Russian financial crisis of 1998. As a result of devaluation of the Russian rouble, a period of recovery and growth began in the agriculture and food sector. Temporary cessation of imports fostered growth in the demand for domestic milk on the Russian market, encouraging the development of dairy production.

Production of cheese and certain types of whole-milk products grew at the fastest rate but the dairy industry's positive growth rate lagged behind that of real household incomes and the growth of domestic demand. As a result, the share of imports in the consumption of certain dairy products, primarily cheese and butter, rose to a high level. However, the decline in consumer demand resulting from the global financial crisis of 2008–2009 has had a negative effect on the development of the entire dairy sector.

Presently the dairy industry is facing a shortage of raw milk. Nevertheless, during the years of recovery positive trends in milk productivity were established in the dairy sector. First, milk yields rose sharply and have reached their historical maximum. Second, regions of intensive milk production were established and are currently not only achieving high levels of productivity but also driving a positive trend in milk productivity in the country's dairy sector as a whole. Modern dairy farms with up-to-date production technologies have also appeared. Third, significant improvements were made to help smooth out the seasonality of milk production.

Chapter 2 – Raw milk production

Changes in the number of dairy cows and raw milk production

In 2008, the Russian Federation was the world's fifth largest producer of milk after India, the United States, China and Pakistan.[1] However, in terms of per capita milk production and average consumption of dairy products, the country lags behind many developed countries. In 2008, 229.6 kg of milk per capita were produced on farms of all categories in the Russian Federation, while the figures for other countries were 582 kg for the Republic of Belarus, 345 kg for Germany, 309 kg for Poland, 302 kg for Ukraine and 265 kg for the United States.[2]

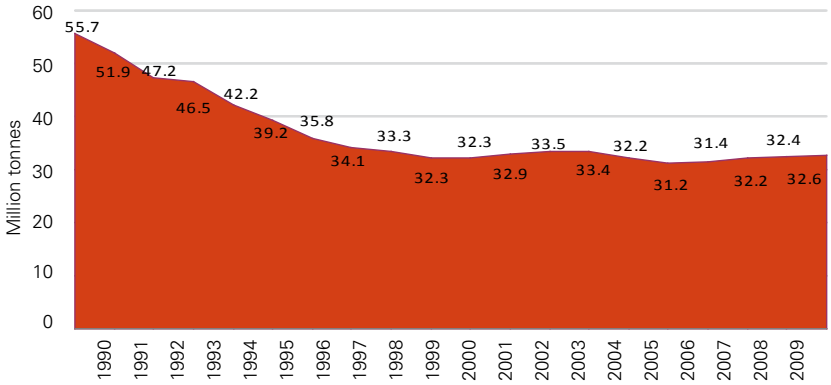
The insufficient supply of raw milk is the main problem in the dairy industry in the Russian Federation. In the 1990s, there was a steady trend of decreasing milk production, although this decline lessened after the Russian financial crisis of 1998, when the first investments in Russian farms were made and the first steps towards intensification of dairy farming were outlined. In 2006, the decline in milk production stopped, owing to the successful implementation of the Priority National Development of the Agro-industrial Complex Project and its Accelerated Development of Animal Husbandry subproject. As a result, between 2005 and 2009, the volume of milk produced in the Russian Federation rose by 4.5 percent, reaching 32.6 million tonnes per year (Figure 1). However, this was still 41.5 percent below the 1990 production level.

The main reason for the drop in milk production was the considerable reduction in the size of the dairy herd in the country, with a steep decline in the number of cows until 2005. Since then, new investment projects in dairy farming have helped to slow the rate of decline. In 2007, against a background of price increases for raw milk,

1 The figures for India and Pakistan include buffalo milk.
2 Figures for these five countries are from Russian Dairy Union data, 2006

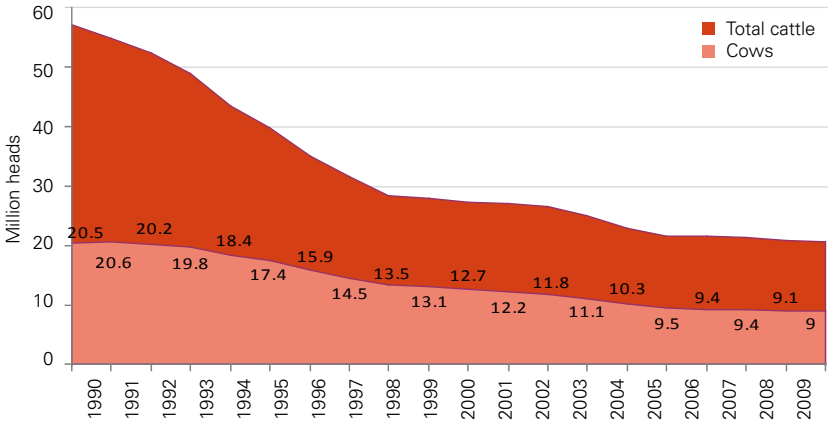
the negative trend in the number of dairy cows stopped for the first time in many years, with cows on farms of all categories totalling 9.4 million head. However, in 2008, a decrease in the price of raw milk prompted another reduction in the size of the dairy herd and the number of cows fell to 9.1 million head and to 9.0 million head in 2009. This is 56.1 percent below the pre-reform level (Figure 2).

Figure 1
Milk production of farms of all categories, 1990–2009



Source: Rosstat.

Figure 2
Number of cows on farms of all categories, 1990–2009 (at year end)*



* 2006 and 2007 are estimates based on results of the All-Russian Agricultural Census of 2006.
Source: Rosstat.

Regional specialization in dairy farming

Depending on their natural and economic conditions, certain regions of the Russian Federation specialize in specific types of animal husbandry. Dairy farming is the leading animal husbandry sector in regions where natural conditions are favourable for raising grasses and silage crops and where there is much pasture, a comparatively large supply of labour, and many large cities with a demand for milk. Historically, dairy cattle breeding was concentrated in the central regions of European Russia; dairy/meat cattle breeding in the Central Chernozem, Ural, North Caucasus, Western Siberia and Far Eastern regions; and meat/dairy cattle breeding in the Eastern Siberia and Volga regions. This regional pattern of specialization in the dairy sector has persisted to this day.

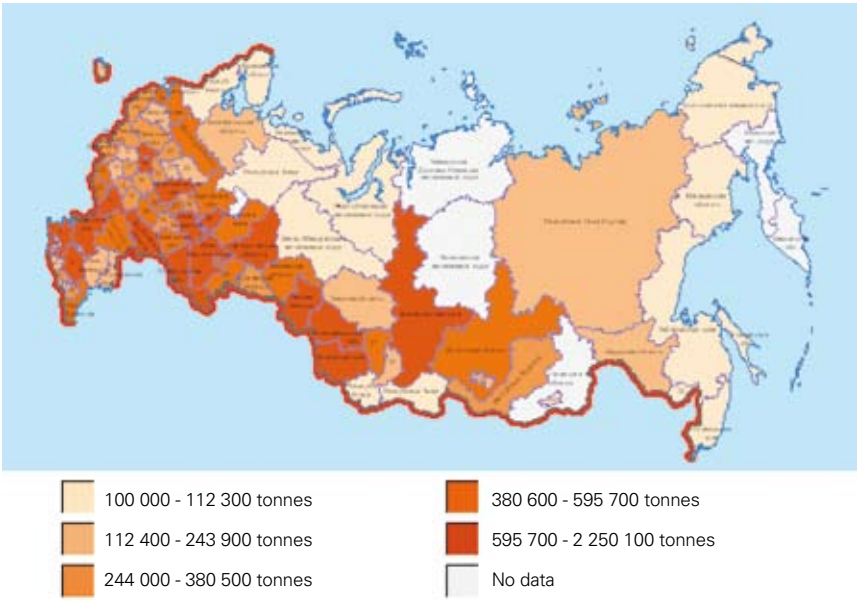
Although milk production was carried out around the entire country during the Soviet period, in the last decade of Soviet power, the dairy herds in Magadan and Murmansk Oblasts, Kamchatka and Sakhalin (which are dependent on shipped fodder) were built up very rapidly. Today, the Volga, the Central, the Siberian and the Southern federal okrugs now produce the most milk (Table 1; Figure 3). Ten oblasts produce about 37 percent of the country's total milk output (Table 2) and 20 percent is produced in Bashkortostan, the Republic of Tatarstan, Altai Krai and Krasnodar Krai.

Table 1
Total milk production by federal okrug

Federal okrug	Production of farms in all categories		Production of agricultural enterprises	
	% of total volume (2009)	2009/2008 (%)	% of total volume (2008)	2008/2007 (%)
Volga	33.2	101.9	32.1	101.0
Central	18.4	97.3	26.6	99.8
Siberian	17.5	100.8	15.6	102.4
Southern	17.1	102.3	8.7	98.9
Ural	6.4	102.0	6.5	100.4
Northwest	5.5	98.8	9.6	100.6
Far Eastern	1.8	100.1	0.9	102.6

Sources: Rosstat; the Russian Dairy Union.

Figure 3
Distribution of milk production of farms of all categories by region, 2007



Source: Rosstat.

Table 2
Regions leading in milk production, 2008

No.	Oblast	Production ('000 tonnes)	% of total volume
1	Republic of Bashkortostan	2 298.6	7.1
2	Republic of Tatarstan	1 821.9	5.6
3	Altai Krai	1 375.1	4.2
4	Krasnodar Krai	1 367.8	4.2
5	Rostov Oblast	995.5	3.1
6	Saratov Oblast	928.1	2.9
7	Moscow Oblast	889.6	2.7
8	Omsk Oblast	852.2	2.6
9	Orenburg Oblast	849.5	2.6
10	Novosibirsk Oblast	800.9	2.5
	All other Oblasts	20 194.26	62.4

Sources: Rosstat data

Eastern and northern areas of the Russian Federation – the Republic of Karelia, Murmansk Oblast, the Nenets, Yamalo-Nenets and Khanty-Mansi autonomous okrugs, and the Komi Republic – have the least advanced dairy farming. To a certain extent, the production of dairy products in these regions depends on deliveries of dairy products and dried milk from other regions.

Regional specialization in dairy farming is one of the factors causing raw milk prices to vary among different regions of the Russian Federation. In regions with low raw milk production – the Far Eastern, Ural and Northwest federal okrugs – the purchase price of milk is generally higher than the national average (Table 3).

Recently, a trend has been noted towards increased total milk production from agricultural enterprises in regions with traditionally low volumes of milk production (Table 1) and in less populous and urbanized oblasts. This has been made possible by the intensification of dairy farming.

Productivity of dairy farming and zones of intensive milk production

While the cow population decreases, the dairy herd's productivity is rising, as milk production in the dairy sector is intensified. In Soviet times, the dairy herd was also a source of meat, and therefore the lower milk yields were supported by the planning center (planificator) in order to maintain a meat supply. With liberalization of

Table 3
Purchase price of raw milk, June 2008*

Federal okrug	Average purchase price (RUB/kg)
Russian Federation	**9.9**
Far Eastern	18–30
Ural	10.4
Northwest	10.2
Central	9.8
Siberian	9.7
Southern	9.3

* Milk with 3.4 percent basic fat content.
Source: The Russian Dairy Union.

the economy, the dairy business has become market-oriented and meat has become a marginal by-product of dairy farms. Released from the necessity to deliver beef, dairy farmers started to increase milk production.

Over the last ten years, the annual average milk yield per cow in the country has increased 67 percent, from 2 239 kg in 1997 to 3 737 kg in 2009 (Figure 4). Since the implementation of the Priority National Development of the Agro-industrial Complex Project began, the intensification of dairy farming has become more pronounced, especially in agricultural enterprises, among which some individual modern dairy farms are achieving high productivity. The average milk yield from agricultural enterprises reached 3 758 kg in 2007, 3 892 kg in 2008 and 4 089 kg in 2009. However, this positive trend in milk yield does not offset the reduction in the number of cows.

As part of the Priority National Development of the Agro-industrial Complex Project and the programme for agricultural development up to 2012, Western technologies are being introduced in the construction and equipping of farms, and dairy cattle are being supplied from abroad. Nevertheless, a large portion of the equipment and facilities now operating on dairy farms is very old and worn out, and, therefore, low in productivity. The inadequate development of domestic breeding makes it necessary to purchase breeding stock from other countries to improve the breeding base in the Russian Federation. As a result, average milk yields for the country as a whole still lag behind world yields. For example, annual yield per cow is higher in those countries of the EU with traditionally well-developed milk production: 7 990 kg in Finland, 7 088 kg in Germany, 6 340 kg in France, 4 914 kg in Lithuania and 4 337 kg in Poland (Figure 5). In the Republic of Belarus – the Russian Federation's main competitor for milk products on the national market – the reconstruction and re-equipment of large dairy farms between 2003 and 2006 led to considerably more farms achieving milk yields greater than 4 000 kg/cow and the average yield has now reached 4 023 kg/cow.

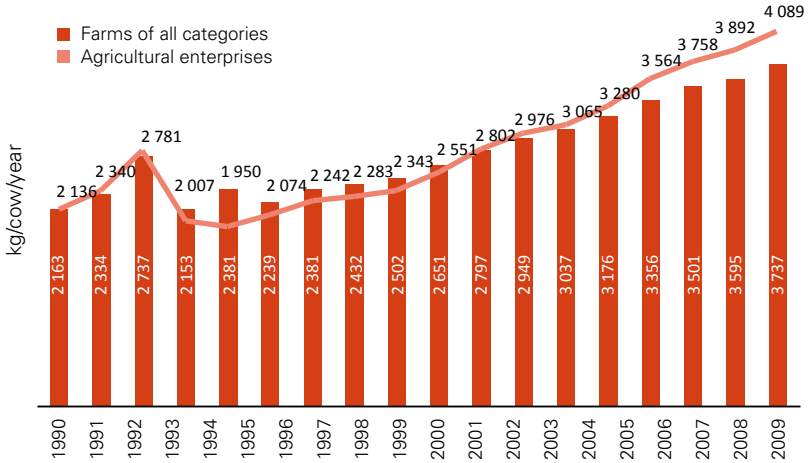
The creation of intensive milk production zones is another important trend of recent years. Such zones include regions of the Northwest and Central federal okrugs, which are close to the industrial milk processing centres of Moscow and St. Petersburg (Figure 6). Yields are as much as 4 000 to 6 000 kg/cow/year in these areas.

Some regions can be singled out for the particularly extensive nature of their dairy sectors. In Eastern Siberia, Far Eastern and some mountainous regions of North Caucasus, milk yields do not exceed 3 000 kg/cow/year (Figure 6).

Characteristics of milk producers: size of dairy farms

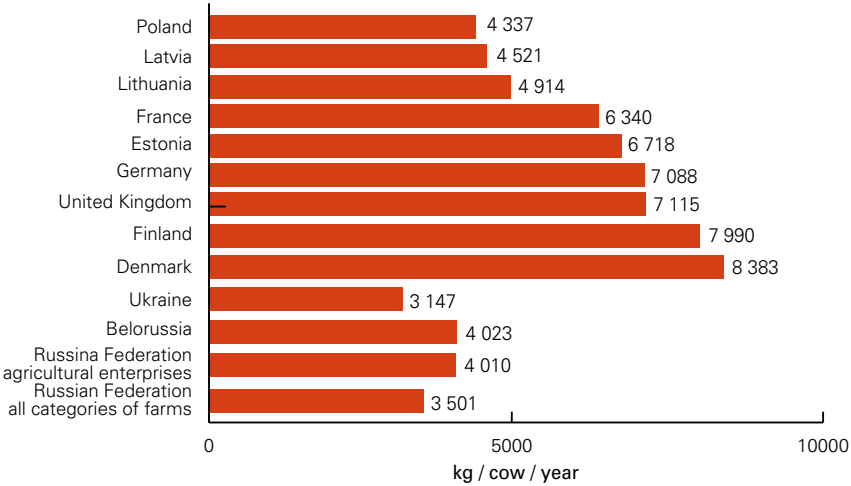
Another special feature of the dairy sector in the Russian Federation is that a substantial portion of national milk production – about 50 percent – comes from household farms (personal subsistence plots)(Figure 7). On farms of this category, production is semi-commercial, with products being mainly consumed on the farms or sold at farmers' markets. Some processing plants accept milk from this category but the small-scale production means that the quantities and quality of milk that household farms produce are generally lower than those from up-to-date farms applying modern production processes. According to the results of the All-Russian Agricultural Census, 72.8 percent of household farms have only one cow each and 20 percent have two cows.

Figure 4
Dairy herd productivity on farms of all categories, 1980–2009



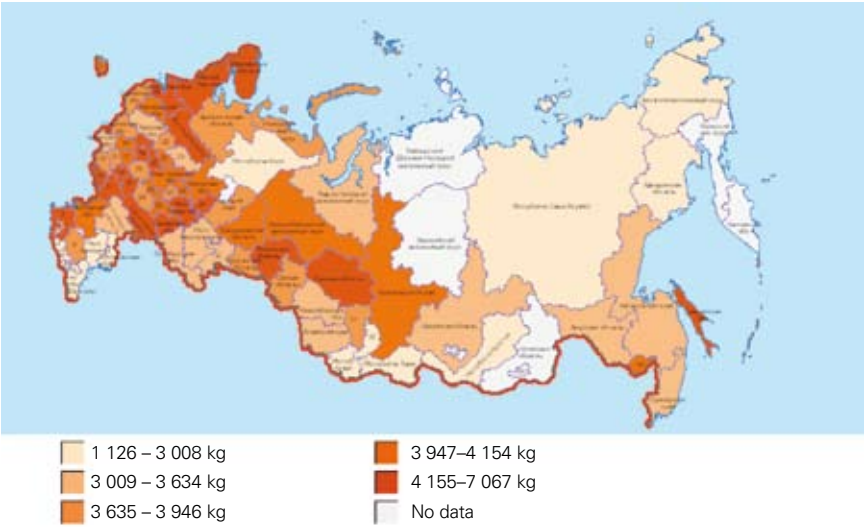
Source: Rosstat.

Figure 5
Milk yields per cow in selected countries, 2007*



*For the Russian Federation – large- and medium-sized enterprises.
Source: The Russian Dairy Union

Figure 6
Milk yields per cow of farms of all categories by region, 2008



Source: Rosstat.

The percentage of the total number of cows on household farms grew each year because of the decreasing size of the dairy herds of agricultural enterprises; the total number of animals on household farms since 1994 did not increase sharply (Table 8). However, following the sharp rise in milk and dairy product prices in 2007, increases in total milk yields and number of cows on household farms have been noted in the country as a whole. Higher consumer prices are encouraging household farmers to sell their products at village and town markets. At the same time, the demand for products from household farms (milk, curd cheese, sour cream) is also increasing, especially among low-income groups, owing to the lower production costs and, therefore, prices for these products. In the near future, this type of consumption by households will continue to play an important role among low-income groups of the population.

Southern and Far Eastern federal okrugs are characterized by a particularly high proportion of milk production from household farms, accounting for 68 and 66 percent, respectively.[3] In Central and

3 In 2006, according to Rosstat data.

Figure 7
Share of total milk production by type of farm, 1995–2009 (%)

Source: Rosstat.

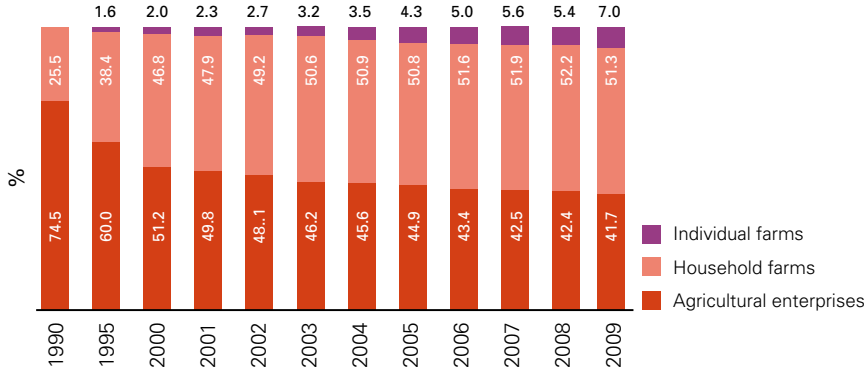
Northwest federal okrugs, individual household farms play a smaller role, accounting for only about 30 percent of total milk production of these regions.[4] The largest dairy processing enterprises in the country are concentrated in these federal okrugs and are set up to work with modern dairy farms.

Regions with large-scale production and high percentages of breeding stock in the total animal population achieve higher herd productivity levels (Table 4). On household farms, breeds are upgraded slowly, milk production is more labour-intensive and feeds do not contain an optimum balance of nutrients. In regions with predominantly small-scale production, the productivity of cows is, therefore, lower by a factor of 1.5 to 2.5 than in regions with intensive milk production on large dairy complexes and farms.

In recent years, agricultural enterprises have produced about 44 to 45 percent of the raw milk output in the Russian Federation. The majority of agricultural enterprises in the dairy sector (88 percent in 2006) are small farms with up to 500 cows (Figure 9).

4 Ibid.

Figure 8
Percentage of cows on farms of different categories, 1990–2009 (at year end)



Source: Rosstat.

Table 4
Distribution of regions by percentage of milk production from agricultural enterprises

% of total milk production of AEs	Number of regions	Average % of total milk production of AEs	Average milk yield per cow kg	Region
				Tambov Oblast, Republic of Adygeya,
				Republic of Dagestan, Republic of Ingushetia,
				Kabardino-Balkar Republic, Republic of
				Kalmykia, Karachaevo-Cherkess Republic,
				Republic of North Ossetia-Alania,
				Chechen Republic, Stavropol Krai,
				Astrakhan Oblast, Volgograd Oblast,
				Rostov Oblast, Republic of Bashkortostan,
Up to 30	30	13.3	2 872	Chuvash Republic, Samara Oblast,
				Saratov Oblast, Ulyanovsk Oblast,
				Kurgan Oblast, Khanty-Mansi
				Okrug – Yugra, Altai Republic,
				Republic of Buryatia, Republic of Tuva,
				Republic of Khakasia, Transbaikal Krai,
				Irkutsk Oblast, Sakha Republic (Yakutia),
				Primorskii Krai, Amur Oblast,
				Jewish Autonomous Oblast
				Bryansk Oblast, Voronezh Oblast,
				Kursk Oblast, Smolensk Oblast,
				Komi Republic, Kaliningrad Oblast,
				Marii El Republic, Orenburg Oblast,
				Penza Oblast, Tyumen Oblast (except for
31–50	18	41.9	3 417	the Khanty-Mansi Autonomous Okrug – Yugra
				and the Yamalo-Nenets Autonomous Okrug),
				Chelyabinsk Oblast, Altai Krai,
				Krasnoyarsk Krai, Kemerovo Oblast,
				Omsk Oblast, Kamchatka Krai, Magadan
				Oblast, Sakhalin Oblast
				Belgorod Oblast, Ivanovo Oblast,
				Kaluga Oblast, Kostroma Oblast,
				Lipetsk Oblast, Orel Oblast,
				Ryazan Oblast, Tver Oblast, Tula
				Oblast, Yaroslavl Oblast, Republic of
				Karelia, Arkhangelsk Oblast, Novgorod
51–80	26	64.0	4 051	Oblast, Pskov Oblast, Krasnodar
				Krai, Republic of Mordovia, Republic of

				Tatarstan, Udmurt Republic, Perm
				Krai, Kirov Oblast, Nizhegorod
				Oblast, Sverdlovsk Oblast, Yamalo-
				Nenets Autonomous Oblast, Novosibirsk
				Oblast, Tomsk Oblast, Khabarovsk Krai
				Vladimir Oblast, Moscow Oblast,
More than 80	6	89.3	5 508	Vologda Oblast, Leningrad Oblast,
				Murmansk oblast, Chukchi Autonomous
				Okrug
Total	80	41.9	4 024	

Source: Ministry of Agriculture. 2009. Progress and results of implementation in 2008 of the Government Program for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012.

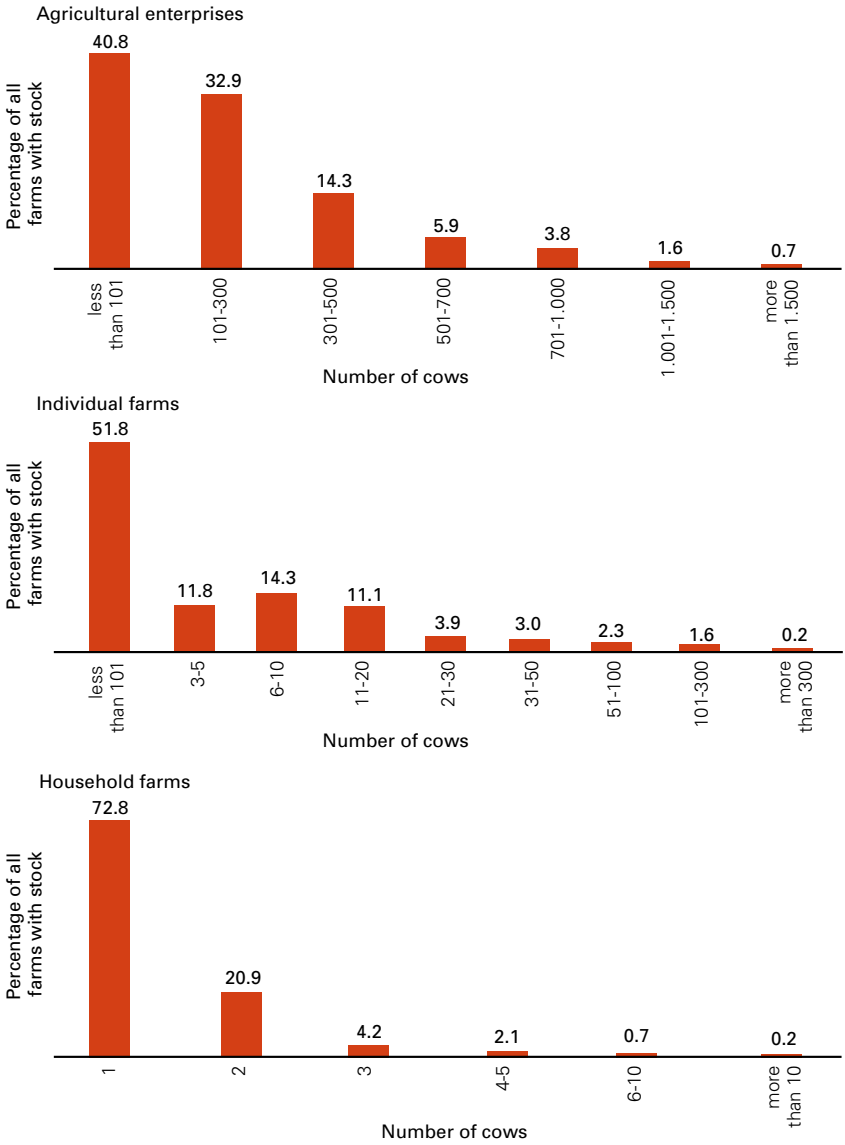
According to the data of the National Union of Milk Producers, milk production ceases to be profitable on farms with fewer than 500 cows. In 2008/2009, as the purchase price for milk declined, most Russian farmers were on the verge of unprofitability and reduced the size of their cow herds. Larger farms (more than 500 cows), where production costs are lower, constitute only 20 percent of agricultural enterprises in the Russian Federation.

Modern dairy farms with more than 1 000 head are referred to as mega-farms in the Russian Federation. The percentage of such enterprises is low, at 2 to 3 percent of all agricultural enterprises (Figure 9). Because of the raw milk deficit on the domestic market many investors found it profitable to build dairy farms. The National Development of the Agro-industrial Complex Project supported only the big and huge investment projects that motivated investments for mega-farms.

In the opinion of market experts, large dairy farms guarantee higher profitability and quicker return on investment. The largest dairy farming projects in the Russian Federation are Krasnyi Vostok Agro (Republic of Tatarstan) and Russkie Fermy (Belgorod Oblast), each of which has 5 000 to 6 000 cows.

The National Union of Milk Producers estimates that there is also a maximum size for a profitable dairy farm: managerial problems arise on farms with more than 3 000 head. The lack of skilled specialists who know how to manage such large farms is one of the main problems facing the animal husbandry industry in the

Figure 9
Distribution of farms by number of cows, 1 July 2006



Source: Rosstat based on results of the All-Russian Agricultural Census of 2006.

Russian Federation. There are also difficulties in selecting the locations for such farms, as they need large areas of land. Farms that are distant from population centres face difficulties with water and power supply. The disposal of manure is another major problem for such gigantic farms. Dairy farm size is also limited by a feed supply shortage. Another issue is the lack of qualified labour in the sector. The factors promoting and hindering the development of mega-farms are summarized in Table 5.

Due to the specific nature of land reform in the Russian Federation, access to land by investors is coupled with great monetary expense and heavy investment of time.[5] New legislation, adopted in the early 2000s, imposed very sophisticated and extremely bureaucratic procedures for land consolidation and registration. This legislation is also a serious obstacle to the consolidation of dairy production in the Russian Federation.

From 2005 to 2007, each of the 100 largest milk producing enterprises in the Russian Federation (Annex 1) had from 800 to 6 000 head,[6] with 63 enterprises each having 1 000 to 2 000 head (Figure 10). For the largest milk producers, the average profit margin on product sales was 41.1 percent; for other agricultural enterprises producing milk in the Russian Federation it was 12.6 percent. So these 100 top farms are the most efficient milk producing enterprises. This confirms the hypothesis that the largest milk producers achieve significantly higher efficiency of production than do other farmers in the sector. There is no direct relationship between the profit margin on products sold and the number of cows (Figure 11).

The productivity of cows is considerably higher in the largest agricultural enterprises than in smaller enterprises, at about 6 000 kg/year against about 4 000 kg/year on average for all types of farms. A study of such large enterprises has shown that they also produce higher-quality products and sales of their products are better organized. This results in prices higher than those obtained by other agricultural enterprises in the Russian Federation. Most leading dairy farms are located around Moscow, St. Petersburg and other large cities.

5 Shagaida, N. 2004. Agricultural Land Market in Russia: Living with Constraints. Comparative Economic Studies. Volume 47(1). pp. 1–14.

6 All-Russian Institute of Agrarian Problems and Informatics. 2008. Ranking of large and medium-sized agricultural enterprises in Russia for 2005–2007.

Table 5
Factors promoting and hindering the development of mega-farms

Factors promoting	Factors hindering
1. Declining number of cows and shortage of raw material on the milk market	1. Long payback period
2. Availability of favourable leasing programmes	2. Difficulties attracting investment partners
3. Possibility of obtaining subsidized loans guaranteed by local authorities	3. Difficulties with selection of appropriate locations
4. Use of equipment, animals and the farm under construction as collateral	4. Lack of infrastructure
5. Lower milk production costs: lower percentage of fixed costs than for traditional dairy complexes	5. Lack of managers experienced in operating mega-farms, particularly regarding production and operating processes
6. Industrial production of raw material for large processors, with a stable supply and high-quality products	6. Shortage of qualified workforce
7. Payback period 10–15 percent shorter than for traditional farms	7. Inadequately developed feed supply
	8. Possible problems with sales, if the mega-farm does not have its own processing facilities
	9. High risk of animal diseases
	10. Problem disposing of manure
	11. Need for land to raise feed and dispose of manure: 2 000–4 000 ha for every 1 000–1 200 cows

Sources: Data from the mass media of companies, experts and equipment suppliers.

The beginning of the global financial crisis in 2008/2009 reflected a drop in the number of new investment projects in dairy farming and some projects that were already under way were suspended. In 2008, establishing a farm with 1 000 to 1 500 head required an investment of RUB500 to RUB800 million, with a payback period of eight years. At present,[7] loans for 10 to 15 years, with 100 percent compensation of the Central Bank's refinancing rate, are needed before a mega-farm can recoup its investment and make a profit. Small enterprises operating at a loss will gradually disappear from the dairy sector.

7 This report reflects the staus quo of November 2009.

Seasonality of milk production

The seasonality of milk production, with volumes dropping sharply in the autumn and winter, is a problem for Russian dairy farming (Figure 12). The problem has persisted since the Soviet era, during which time there was an ongoing deficit of feed. Also during that time, procurement prices were fixed by the state and remained constant throughout the year, so it was advantageous for kolkhozes and sovkhozes to produce greater volumes of milk in the summer, when their costs were lowest. During the "big milk" season, raw milk was processed into butter, cheese and dried products, and put into storage in the state reserve.

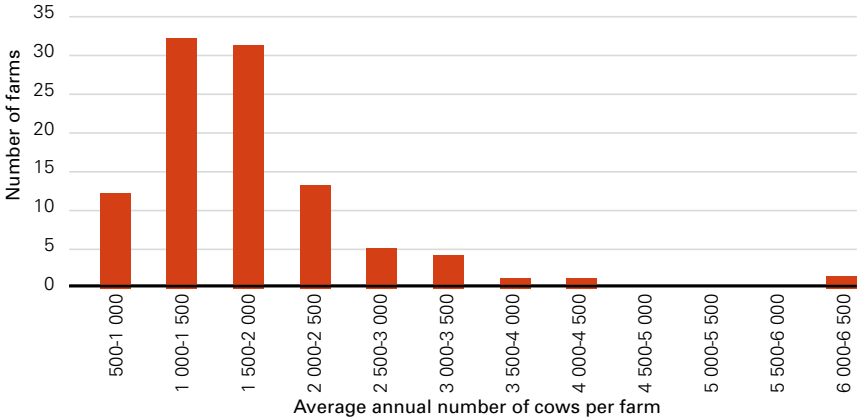
With liberalization of the economy in the 1990s, planned state purchases came to an end and agricultural producers began to sell their milk on the open market. This made clear the negative effects of the seasonality of milk production. Shortages of milk in the autumn and winter, with surpluses in the summer, cause market prices to fluctuate (Figure 13).

To overcome this problem, summer milk surpluses were dried for use during the autumn and winter when raw milk shortages occurred. However, in recent years, dried milk produced in the Russian Federation has not been able to withstand the price competition with analogous products from the Republic of Belarus, and many processing enterprises began using cheaper imported raw material to meet the price competition.

The traditional seasonal pattern of milk production has continued to this day but positive changes in recent years are starting to even out production year-round (Figure 12). The seasonal index of milk production from agricultural enterprises was an average of 1.57 in 2008, down from 2.8 in 1998.

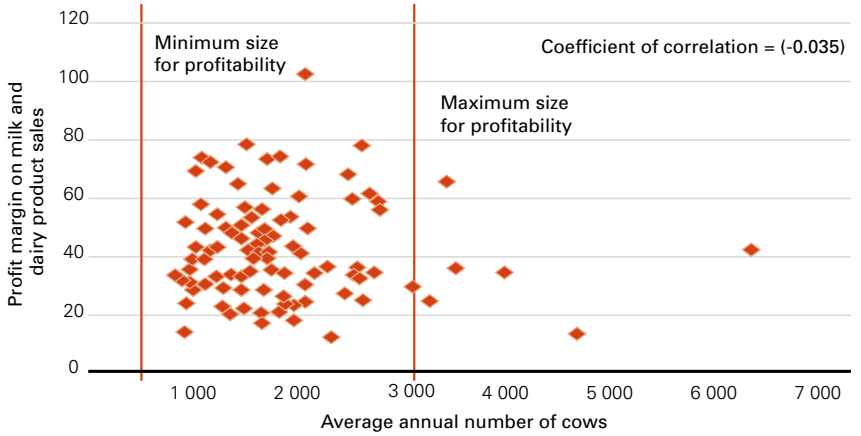
Seasonality varies greatly in different regions of the Russian Federation. The smallest declines in total milk production in autumn and winter occur in Moscow and Leningrad Oblasts, Krasnodar Krai and the Republic of Tatarstan, where agricultural enterprises are among the leaders in milk production (Figure 14). Leningrad Oblast provides an example of stable dairy farming development. There the seasonality index has been lowered from 1.36 to 1.05 in eight years

Figure 10
Distribution of the 100 largest and most efficient milk producing agricultural enterprises by average annual number of cows, 2005–2007



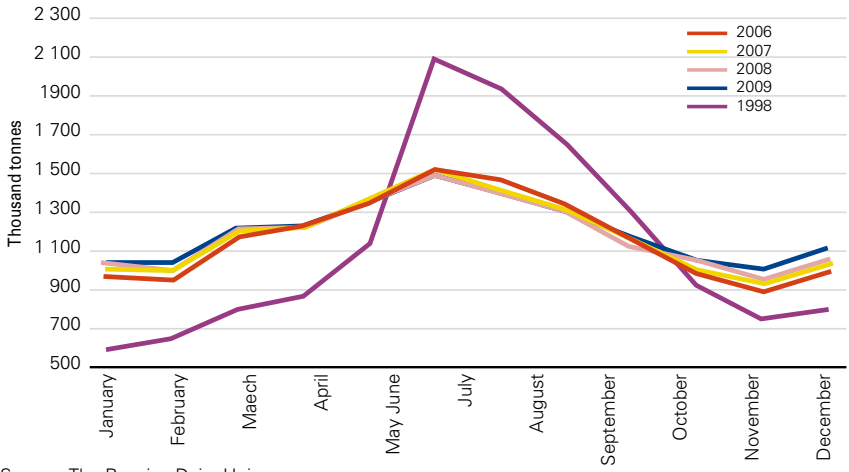
Source: Calculated from the Nikonov All-Russian Institute of Agrarian Problems and Informatics, Milk-100 Club rating data for 2005–2007

Figure 11
Relationship between farm size and profit margin on product sales, 2005–2007



Sources: Calculated from Nikonov All-Russian Institute of Agrarian Problems and Informatics, Milk-100 Club rating data for 2005–2007; and data of the National Union of Milk Producers.

Figure 12
Month-by-month milk production of agricultural enterprises, 1998–2009



Source: The Russian Dairy Union.

Figure 13
Seasonal fluctuation in the price of raw milk (national averages), 2001–2009

Source: The Russian Dairy Union.

thanks to the joint efforts of producers, processing enterprises and the local administration (Box 1).

However, milk production is still uneven from season to season in other regions, some of which are leaders in milk production (Nizhegorod Oblast, Republic of Bashkortostan and Altai Krai) (Figure 15). The severest winter shortages of domestic raw material for dairy plants occur in the Central Chernozem region, the Middle Volga region and Western and Eastern Siberia.

One of the factors hindering the solution to the dairy sector's seasonality problem is the lack of skilled specialists (livestock specialists, veterinarians, inseminators) and effective managers in the dairy farming industry. Another factor is the need to organize optimum year-round feeding of the animals, which requires the use of appropriate resources and new equipment. This problem is already less acute in regions where investments in dairy farming are being made.

Organization of the milk collection system for industrial processing

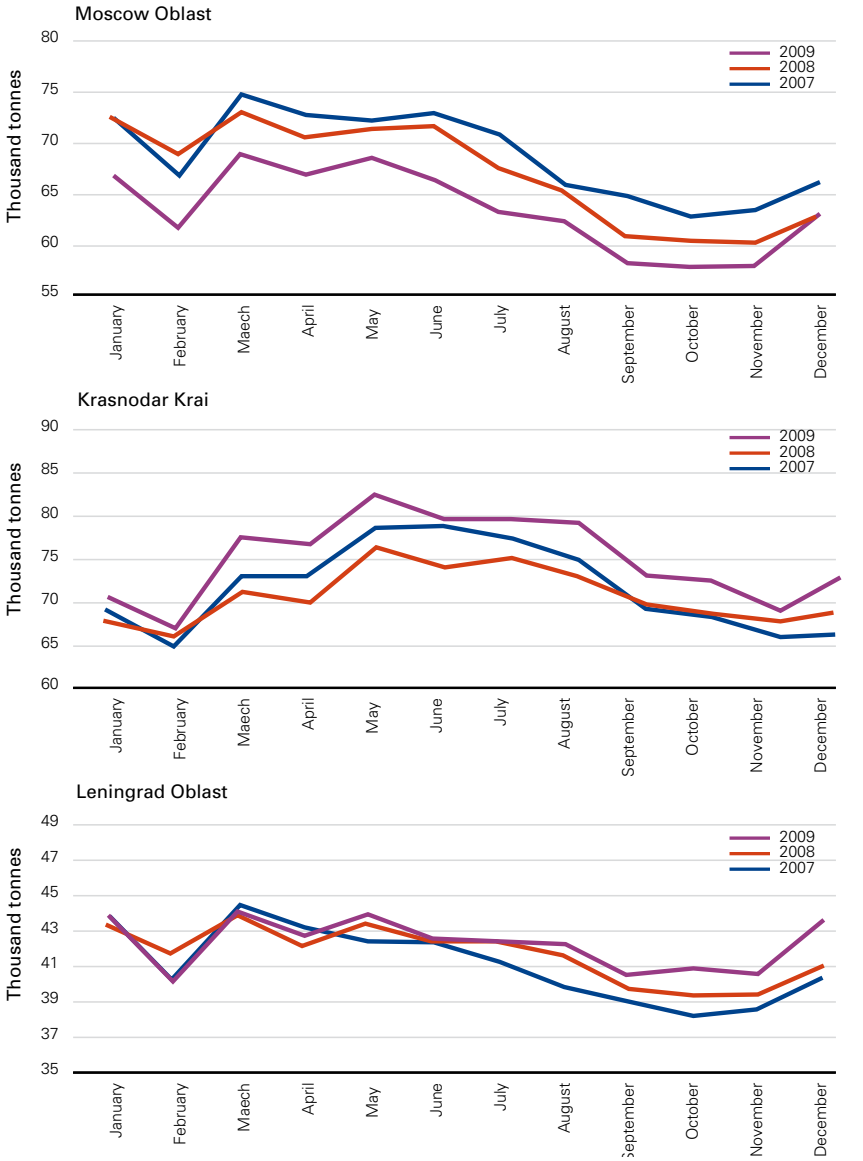
One of the factors restraining development of the Russian dairy products market is the lack of efficient links between raw milk producers and processors. The lack of an efficient system for

Box 1
Solving the problem of seasonality in milk production in the Leningrad Oblast

"The Petmol Company (a purchaser of milk), Alfa Laval Agri (now DeLaval, an equipment producer) and Swed Agri (a consulting company), with the assistance of the governments of Leningrad Oblast and Sweden, organized the Baltic Sea Programme, in which 12 partner farms, including PZ (Breeding Farm) Grazhdanskii, PZ AgroBalt and PZ Plamya, installed more than US$3 million-worth of equipment for milking and primary processing of milk: milking machines, refrigerator tanks, plate coolers, etc. The project also included the training of the farms' specialists (livestock specialists, agronomists, technical specialists) in efficient feed procurement, optimization of feeding rations, use of bioadditives and premixes, and a new system of pasture use."

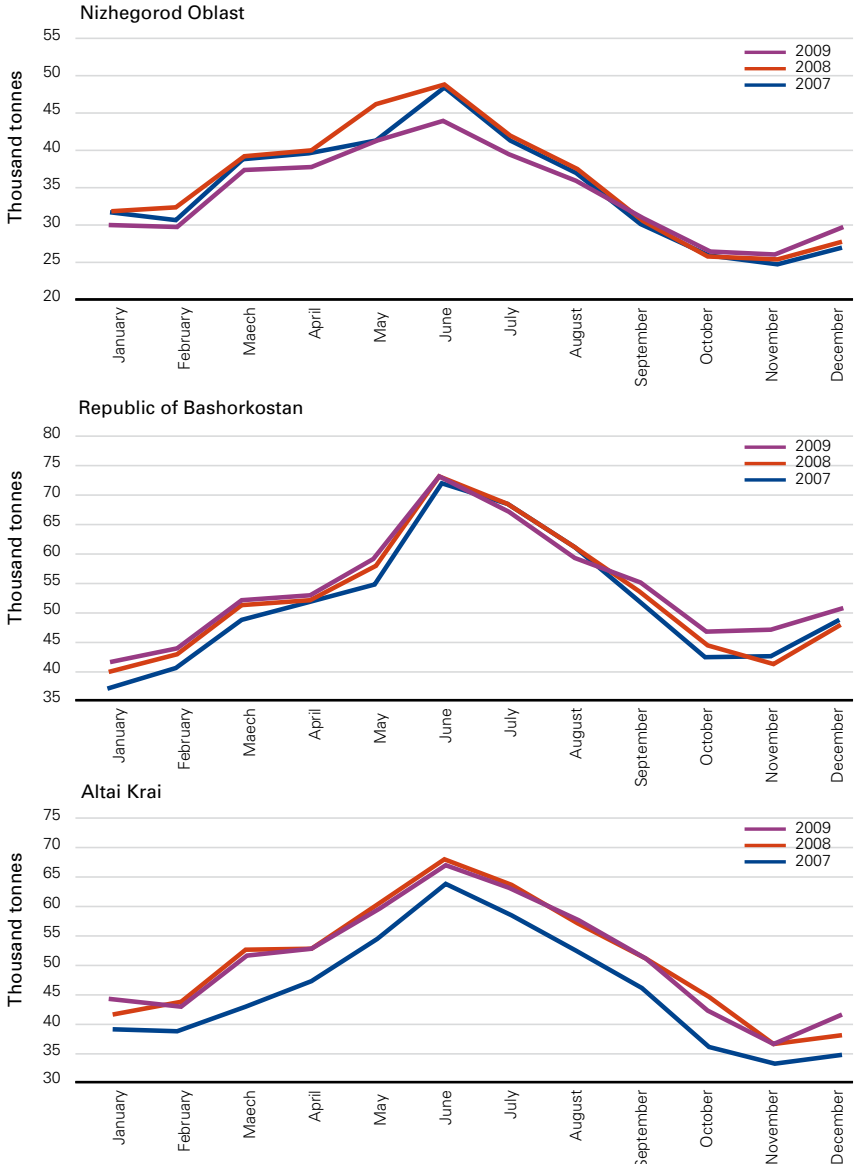
Source: Agrotekhnika i Tekhnologiya, No. 3, May–June 2009.

Figure 14
Total milk yields of agricultural enterprises in regions with low milk production seasonality, 2007–2009



Source: Russian Dairy Union.

Figure 15
Total milk yields from agricultural enterprises in regions with high milk production seasonality, 2007–2009



Source: The Russian Dairy Union.

marketing raw milk aggravates the shortage of high-quality raw material for the processing industry. Household farms – from which, as already noted, as much as 50 percent of the Russian Federation's total milk production originates – face serious problems in marketing their milk. Owing to the lack of available sales channels, a large part of the milk produced on household farms is used on the farms themselves, never reaching the milk market.

At present, raw milk for industrial processing is purchased in the following ways:

1. A dairy plant collects and transports milk from the producer. The raw milk may be transported by either the processor's own fleet of vehicles or a transport company. Either all of the raw milk collected is processed at the dairy plant or some of it is sold to other processors.
2. Agricultural enterprises deliver their own raw milk for processing, as well as milk collected from household farms.
3. Specialized enterprises provide milk collection and delivery services.
4. Producer cooperatives deliver milk to dairy plants.

The relationships between milk producers and processors are based on contracts that specify quality indicators for the milk to be delivered for processing, the method and procedure for its acceptance, the delivery schedule, the form of payment, and the price of the milk to be delivered.

The large processors prefer to obtain raw milk from large farms to ensure delivery of the necessary volume and quality. The quality of dairy products produced depends on the quality of the milk entering the dairy plant. Therefore, to ensure a reliable supply of raw material, large processors establish partnerships with their regular suppliers, contribute towards purchases of equipment and feed and provide advice and loans for farming.

For example, in 1999, one of the leaders in the dairy products market, Wimm-Bill-Dann (WBD), initiated the Milk Rivers Programme, which installed milking and cooling equipment on 65 farms in the Moscow Oblast (with additional participants in subsequent years) in exchange for guaranteed deliveries of set amounts of raw milk for processing. The equipment was leased,

and the agricultural producers had to pay for it in eight years. In addition to milking equipment, WBD also provided the farms with fodder harvesting equipment (on a three-year instalment plan), feed and interest-free loans for purchasing fuel and lubricants. However, some of the farms sponsored by WBD did not comply with the terms of their contracts and delivered raw milk to competitors.

Another leader in the raw milk processing industry, UniMilk LLC, re-equipped 14 farms in Leningrad Oblast from 2004 to 2006, in cooperation with DeLaval. In exchange for milk deliveries, each farm received milking equipment under a leasing contract on a one- to five-year instalment plan and calf milk replacers (CMRs), and feed additives at the supplier's price, with deferred payments.

The disadvantages for processors collecting milk from household farms are additional transportation costs, the low quality of the raw milk produced and the risk that suppliers might sell to other purchasers. There are also disadvantages for the household farmers, such as their lack of influence on the selling price of milk, owing to their small production volumes, and the lack of guarantee that their sales channels will remain open, as processors do not often enter into contracts with household farmers. However, where there is a shortage of raw milk for processing, especially in regions where household farms play a leading role in milk production (in the south of the country, for example), processing enterprises purchase from household farms. Dairy plants have special departments for collecting milk from household and individual farms, where milk may also be sold directly to the residents of nearby population centres. The plants also have special collection stations for receiving milk from household farmers.

A few agricultural producers deliver their milk themselves. In recent years, however, transportation costs have risen significantly, owing to the steady increase in the price of petrol, spare parts, etc. Specially equipped milk trucks are needed for transportation over long distances and they cost more than some farms can afford. In addition, many raw milk producers do not have the capacity to store and process milk. They lack refrigeration units, which may considerably limit their opportunities for delivering milk, depending on the buyer's proximity.

Raw milk may also be collected from producers by intermediaries, who are individual entrepreneurs working mostly with small agricultural producers and individual farms.

Attempts are being made to create milk cooperatives as a way of organizing product sales (Box 2). The cooperatives are used as a system for collecting raw milk from small (individual and household) farms. Since the economic reforms, milk has almost ceased to be collected from villages, but these cooperatives are now re-establishing such collections.

The National Development of the Agro-industrial Complex Project calls for the creation of producers' cooperatives and supports their development by providing subsidized loans, administrative assistance and advice. Milk cooperatives collect milk and deliver it to the dairy plants. The cooperatives' activities are not limited to serving cooperative members; they can also provide services to other milk producers.

As part of a national project, the governments of many regions have instituted programmes to promote producer cooperatives. Milk collection enterprises that pay more than a set minimum for the milk they collect from household farms can receive from the regional budget a subsidy per litre of milk purchased. Some regional budgets (e.g. in the Rostov Oblast, where about 80 percent of milk is produced on household farms) reimburse milk collectors at a rate of 90 percent for their purchases of milk trucks and coolers for collecting raw milk from household farms. The main condition for receiving this payment is to buy at least a set volume of milk each year per unit of equipment purchased.

Organizing milk collection from household farms is socially important, as it provides an additional source of income for households with cows and creates additional jobs in rural areas. However, several factors hamper the development of an efficient milk collection system that would encourage household farmers to increase their milk production:

1. low prices paid for the milk purchased from household farms;
2. inefficient organization of milk purchases from villages. Purchases of raw milk from household farms can be organized most efficiently in villages with at least 100 head of cows on household farms;

3. low quality of milk from household farms;
4. lack of traceability of milk to origin – no tracking of milk collection, transportation and sale;
5. lack of adequate equipment at milk collection stations;
6. inconsistent and low volumes of milk delivered from household farms;
7. irregular milk collections from villages;
8. lack of specialists capable of managing agricultural consumer cooperatives and ensuring their successful operation.

Interrelations between milk producers and processors face the following challenges:

1. Payments to producers for raw milk deliveries are often late.
2. Long distances exist between processing enterprises and the farms where raw milk is produced. Although it is economically beneficial for both agricultural producers and milk processing enterprises to keep the transportation cost of milk deliveries to a minimum, dairy plant operators are forced to transport milk over long distances due to the shortage of raw milk (Table 6).

Box 2
Producer cooperatives* in the Russian Federation

Producer cooperatives are non-profit organizations comprised of individuals who own household or individual farms and corporations producing agricultural products. Their purpose is to lower costs and increase incomes for their members by managing the sale, supply and processing of products, and to provide other services. To allow a cooperative to carry out these functions, its members set up a mutual fund with cash and other contributions. The cooperative owns its own facilities and equipment, and its members produce agricultural products independently on their own farms, using the cooperative's services. The cooperative acts in the interests of its members, and the income from its activities is distributed among its members. Members pay an annual fee to finance the cooperative's staff, facilities and development activities. An agricultural consumer cooperative may also serve farms whose owners are not members. The profits from activities belong to the cooperative and are taxable in accordance with the national law.

*In Russian legislation, producer cooperatives are called "consummer cooperatives" to distinguish them from collective farms, which were also treated as cooperatives in soiet times. This paper uses the international term and refers to them as producer cooperatives.
Source: Conceptual Framework for Development of Agricultural Consumer Cooperatives developed as part of the Priority National Development of the Agro-industrial Complex through Stimulation of the Development of Small Businesses in the Agro-industrial Complex Project, 2006.

Table 6
Distances for delivery of raw milk*

Company	Region	Distance (km)
Rosmolprom	Moscow	1 000–2 000
Avrora	Vologda Oblast	700
Velikie Luki Dairy Plant	Pskov Oblast	300–600
Campina	Moscow Oblast	150
Mozhaiskii	Moscow Oblast	70
Russkoe Moloko	Moscow Oblast	30

* For instance, in the United States, milk can be delivered over a distance of 1 500 km. (www.ams.usda.gov/amsv1.0/getfile?ddocname=steldev3019918).
Source: Agrobiznes, based on companies' own data.

This makes it very important that the transportation equipment used is in good condition. To recoup their expenses, the companies that deliver milk use large milk trucks with capacities of 10 to 20 tonnes and only large companies can afford to purchase the modern milk trucks with refrigeration equipment that are necessary for delivering milk over long distances. On average, transportation over a distance greater than 100 km increases the cost of raw milk by 3 to 8 percent.[8]

3. The poorly developed road system in the regions of the Russian Federation makes it impossible to transport milk in some areas and where possible, transport of milk over the poor roads degrades its quality.
4. In regions where the milk-processing sector has retained its Soviet-era structure, with one processing plant operating in each raw material area, the dominant position of processing enterprises implies that milk producers are to a certain extent dependent on the processor and must accept the prices and terms of delivery it sets.

Milk quality

The generally low quality of raw milk, given the low-quality requirements and lack of efficient enforcemenet of the standards imposed on milk output in Soviet times, is a major problem with regard to the raw material base of the Russian dairy industry. The permissible maximums for bacterial contamination and somatic cell count in raw

8 National Union of Milk Producers.

milk are higher than those in European countries and comparable with those in developing countries such as India and Brazil.[9]

In Soviet times, the only criterion affecting the price of raw milk was its fat content, not its percentage of protein by weight. This resulted in Russian milk having a lower protein content than that of other countries (Table 7).

The problem of compliance with standards for the Russian Federation's dairy sector is exacerbated by the difficulty of controlling the quality of the high percentage of milk produced by household farms. In addition, the mixing of milk batches collected from household farms increases bacterial contamination. The raw milk obtained from individual producers is generally grade B. At present, the main regulatory documents that set requirements for raw cow's milk intended for industrial processing are GOST (state standard) R 52054-2003 and Federal Law 88-FZ, Technical Regulations for Milk and Dairy Products of 12 June 2008. According to these requirements, the basic nationwide standard for the percentage of fat in milk by weight is 3.4 percent and that for protein is 3.0 percent. These requirements are still lower than the 4.2 percent fat and 3.4 percent protein requirements set by the EU.

The chemical and radiological parameters of raw milk must not exceed the established permissible safe levels, the microbiological safety parameters and the somatic cell count (Table 8). Russian standards with these parameters are still not harmonized with European standards, although in some cases they are stricter.

9 Data of the the Russian Dairy Union.

Table 7
Average fat and protein content of milk in selected countries, 2007

Country	Fat %	Protein %
Australia	4.10	3.20
France	4.10	3.20
Germany	4.10	3.50
New Zealand	4.85	3.63
Russian Federation	**3.50**	**2.80**
Sweden	4.30	3.50
United Kingdom	4.00	3.25
United States	3.50	3.10

Source: The Russian Dairy Union.

The quality of the raw milk delivered to enterprises depends on the requirements that the milk processing plants impose on milk producers. Compliance with GOST is voluntary, but processors' requirements for the raw material delivered to them must be at least as high as those specified in the Technical Regulations. In recent years, dairy plants have introduced increasingly higher-quality requirements for raw milk, which exceed those specified in Russian regulatory documents, thereby raising the quality of finished dairy products. This is because some products require higher quality raw material. Higher requirements are also the result of the entrance of Western companies (Danone, Campina, Ehrmann) into the Russian market, where their support for equipment and feed purchases and their provision of loans are encouraging agricultural producers to improve the quality of the raw milk they deliver. Many large Russian processors are also imposing higher quality requirements, particularly with respect to protein. In 2005, the average protein content of milk arriving at processing plants was already higher than the basic requirements shown in Table 9. The Central region, where the largest Russian and foreign dairy industry enterprises are concentrated, has the best quality of raw milk, with more than 90 percent being of premium quality.

These higher quality standard has been achieved by making the protein content of raw milk one of the parameters that affects its price. The purchase price for milk is now determined by both its fat and protein content:
actual fat/basic fat×0.4 (40%) + actual protein/basic protein × 0.6 (60%).

For instance, UniMilk has adopted a unified system for calculating the price based on fat/protein quality parameters:[10]

P = BP×(0.6×PP/3.0 + 0.4×PF/3.4) ×QF + M, where:
BP = base price (RUB/kg);
PP = percentage of protein in the milk;
PF = percentage of fat in the milk;
QF = quality factor;
M = mark-up (RUB/kg).

10 UniMilk LLC presentation at the Dairy Industry Forum, 2007.

Table 8
Raw milk standards in the Russian Federation and the EU

Potentially harmful substance (mg/kg or litre)	Permissible maximum	
	Russian Federation	EU
Toxic element		See note 1
Lead	0.1	0.020
Arsenic	0.05	Not specified
Cadmium	0.03	Not specified
Mercury	0.005	Not specified
Mycotoxin		
Aflatoxin M1	0.0005	0.050 µg/kg
Antibiotic		
Levomycetin	Not permitted	Not permitted
Tetracycline group	Not permitted	Not permitted
Streptomycin	Not permitted	Not permitted
Penicillin	Not permitted	Not permitted
Inhibitory substances	Not permitted	Not permitted
Pesticides (in terms of fat)		See note 2
Hexachlorocyclohexane (alpha-, beta- and gamma-isomers)	0.05	0.01
Dichlorophenyl-trichloroethane, insecticide and its metabolites	0.05	0.01
Radionuclides		
Cesium-137	100 Bq/litre	Not specified
Strontium-90	25 Ci/litre	Not specified
Mesophilic aerobic microorganisms and facultative anaerobic microorganisms (CFU*/cm^3 or g)		See note 3
Premium	1 x 10^5	≤100 000
Grade A	5 x 10^5	≤100 000
Grade B	4 x 10^6	≤100 000
Somatic cell count (g/cm^3)		
Premium	2 x 10^5	≤400 000
Grade A	1 x 10^6	≤400 000
Grade B	1 x 10^5	≤400 000

*CFU = colony-forming unit.
Notes:
1. Regulation 1881/2006 also sets limits for dioxins at 3.0 pg/g.
2. Regulation 396/2005 specifies a default limit of 0.01mg/kg. Specific product limits are covered in Regulation 839/2008.
3. Council Directive 92/46/EEC specifies detailed health rules applicable to raw milk.
Source: Federal Law of the Russian Federation of 12 June 2008, # 88-FZ, Technical Regulations for Milk and Dairy Products.

Unscrupulous producers have raised the percentage of protein in raw milk by adding dried milk, which has created unfair competition for producers of completely natural milk. The Technical Regulations clearly distinguish natural milk – without additives – from milk that has been reconstituted from a dried product. However, this law has not yet taken effect because the GOST has yet to be developed which determines the percentage by weight of dry matter in milk (for more details, see the section on Technical Regulations in Chapter 7).

In spite of the improved quality of milk, the percentage of premium milk to total milk produced in the Russian Federation is still low (Table 10) and this shortage of high-quality raw milk is inhibiting development of the country's dairy product market. Under these conditions, dairy enterprises must take delivery of raw milk that meets lower than required standards. In order to comply with the standards for dairy products, the processors apply additional technology to process the raw milk – pasteurization, bacterial centrifugation, filtration, purification – that increases the cost of the final product.

Table 9
Russian processing enterprises' requirements for fat and protein content of milk received from producers, 2005

Processor	Average % by weight	
	Fat	Protein
Campina	3.81	3.17
Danone	3.77	3.21
Ehrmann	3.77	3.21
Istra-Nutritsiya Subsidiary Company	3.64	3.10
Onken	3.83	3.33
Vologda Food Company	3.71	3.15
WBD	3.63	3.18

Source: The Russian Dairy Union.

Table 10
Total sales of different qualities of milk, 2005–2008 (%)

Quality	2005 %	2006 %	2007 %	2008 %
Premium	25	30	37	37
Grade A	68	63	57	57
Grade B and ungraded	7	7	6	6

Source: The Ministry of Agriculture.

Chapter 3 – Milk processing

Basic milk processing

Contrary to the pre-reform period, the volume of dairy products produced industrially in the Russian Federation declined. However, recovery of production started in the early 2000s, and since then output of the main dairy products has grown. In 2007, dairy industry enterprises produced 15.1 million tonnes by natural weight of dairy products, amounting to 53.3 percent more than in 2000. From 2000 to 2008, the greatest increases were in production of full-fat cheeses (94.7 percent), whole-milk products (66.1 percent), dried-milk products (47.2 percent) and canned milk (35.9 percent). Production of butter and ice cream has hardly increased and the production figures for ice cream and non-fat milk have actually fallen in recent years (Table 11). In 2008/2009, dairy plants were negatively affected by the decline in consumer demand. The drop in production of dried-milk products is due to a decline in the demand for them following the introduction of the Technical Regulations.

In spite of the recent positive trend in production of individual dairy products, production of many of them has still not reached their 1990 level, when the dairy industry recorded its highest output. Cultured-milk drinks, sweet curd and sweet creamed curd cheese, and melted cheeses are the only products whose production has exceeded the 1990 level (Figure 16).

The Russian dairy industry faces a shortage of high-quality raw milk and the seasonality of milk production in the country leads to fluctuations in the output of dairy products. The processing industry reaches its peak production in June, when the supply of raw milk is at its maximum (Figure 17).

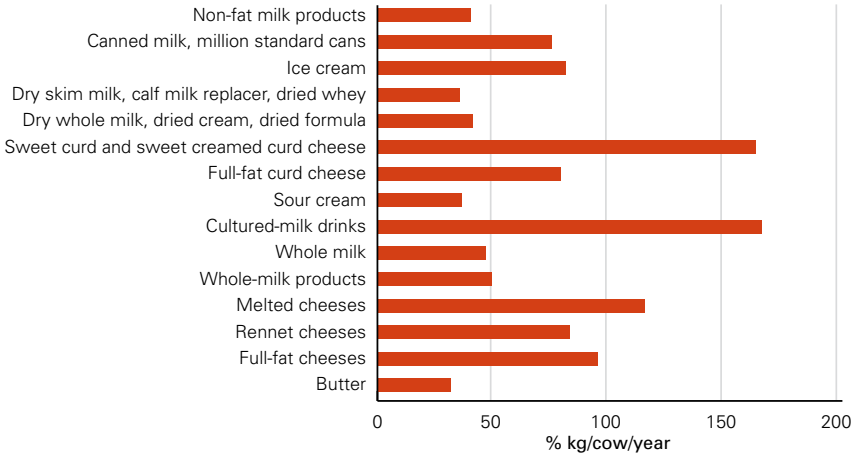
Almost 50 percent of the milk procured by dairy industry enterprises is used to produce whole-milk products, about 30 percent to produce butter and 14 percent to produce rennet cheeses (Figure 18).

Table 11
Production of main dairy products, 2000–2009 (thousand tonnes)

Product*	2000	2005	2006	2007	2008	2008/2000 x100	2009	2009/2008 x100
Full-fat cheeses, incl. Bryndza	220.7	378.3	421	436.6	429.8	194.7	436.1	101.5
Whole-milk products, as milk equivalent	6 214.7	9 732.6	10 020.8	10 514.6	10 322.7	166.1	10 473.4	101.5
Dried skim milk, CMR, dried whey	96.7	123.2	135.7	149	142.3	147.2	107.9	75.8
Canned milk, million standard cans	623	897	833	759	865.4	135.9	830.6	96.0
Dried whole milk, dried cream, dried formula	74.5	79.7	75.3	78.8	83.2	111.7	49.9	60.0
Ice cream	346.2	406.5	388.6	382.9	367.7	106.2	343.5	93.4
Butter	267.2	253.9	267.8	272.4	271.8	101.7	245.9	90.5

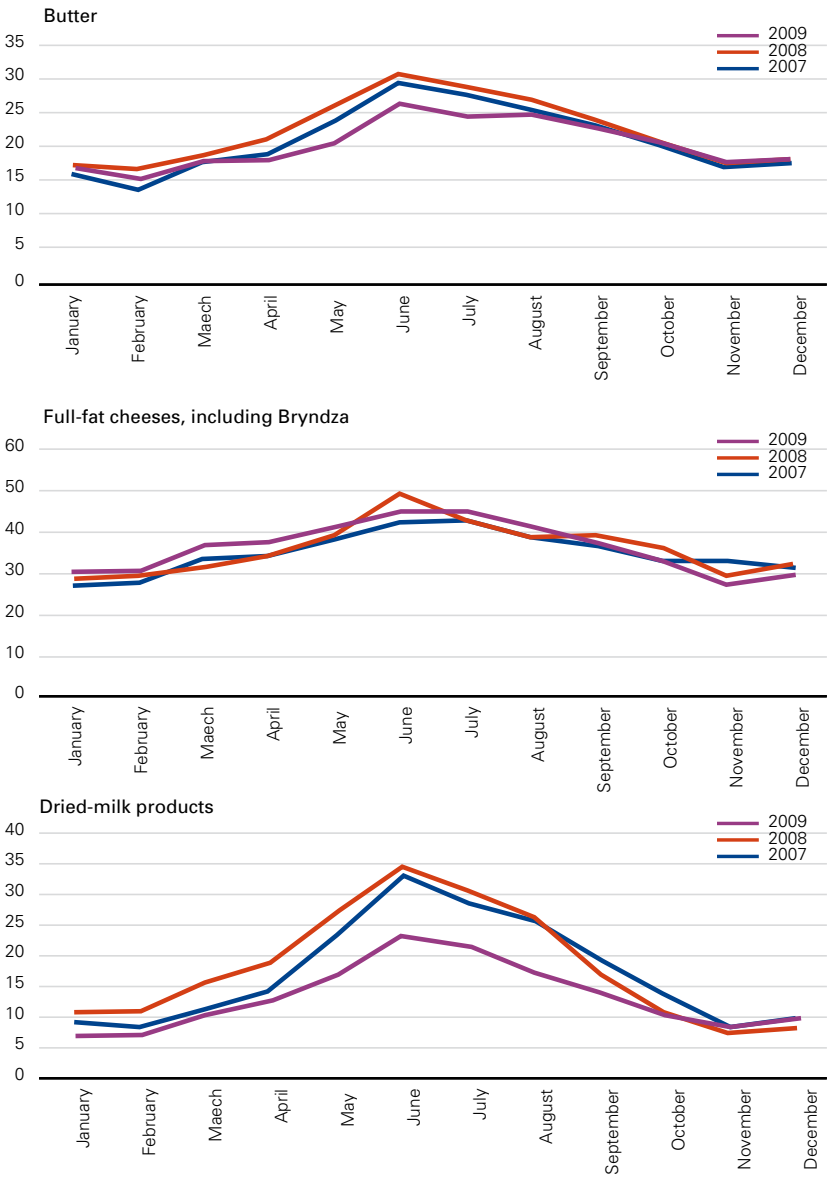
Source: Rosstat.

Figure 16
Dairy product production in 2007 as a percentage of 1990 production



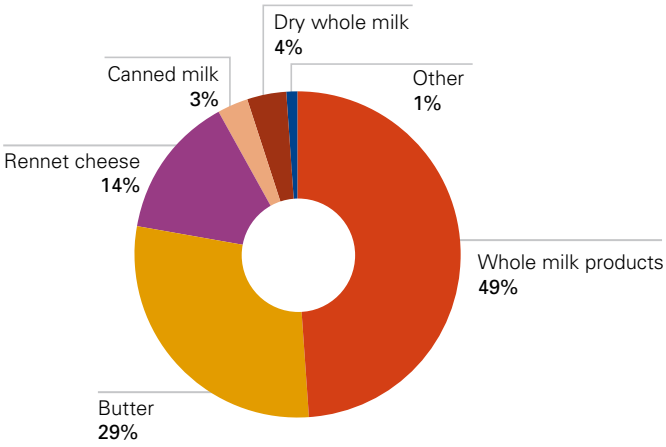
Source: The Russian Dairy Union.

Figure 17
Production of butter, cheese and dried milk products, 2007–2009



Source: Rosstat.

Figure 18
Dairy products processed in 2007 as a percentage of raw milk processed



Source: The Russian Dairy Union

As is the case for raw milk production, milk processing capacity is unevenly distributed throughout the country. The dairy industry's main production occurs in the Central, Southern and Volga federal okrugs (Table 12).

Along with the creation of areas of intensive raw milk production, geographic concentration is also occurring in the dairy processing industry. Depending on the product, from 45 to 80 percent of production is concentrated in ten oblasts. Production of dried-milk products and canned milk have the highest degree of regional concentration (Table 13).

Regional milk processing markets are also characterized by varying degrees of monopsony: 47.9 percent of regional milk markets can be classified as highly concentrated in the hands of a few processors, 31.3 percent as moderately concentrated, 12.5 percent as slightly concentrated and 8.3 percent as oligopsonic.[11] In regions where one processor has a large market share, that processor sets the purchase price, thereby taking advantage of its monopsonistic position.

11 According to 2005 data from regional offices of the Russian Federation's Federal Antitrust Service.

Table 12
Regional breakdown of dairy product production, 2007

Product	Central	Southern	Volga	Northwest	Ural	Siberian	Far Eastern
Butter	24.4	12.1	41.6	4.3	2.8	12.9	2.0
Cheeses and curd cheeses	43.3	9.4	21.9	6.3	2.6	15.3	1.2
Full-fat cheeses	40.3	10.9	23.4	4.5	0.7	20.0	0.2
Whole-milk products	34.4	10.9	19.6	11.2	9.2	12.3	2.5
Dried whole milk, dried cream	40.7	5.2	23.6	3.7	0.9	25.9	0.0
CMR	20.8	0.0	66.5	4.0	8.7	0.0	0.0
Non-fat milk products	25.1	11.4	33.1	8.6	7.8	6.8	0.8
Ice cream	26.7	11.8	21.3	9.1	3.8	24.9	2.4
Canned milk	57.3	7.4	5.5	1.9	11.9	16.0	0.0

Source: Calculated from Russian Dairy Union data.

Table 13
Share of total production of the top ten dairy processing regions, 2007

Product	% share
Dried skim milk, CMR, dried whey	81.3
Canned milk	77.3
Dried whole milk, dried cream, dried formula	77.1
Full-fat cheeses	61.5
Butter	47.7

Source: Calculated from Russian Dairy Union data.

Production of whole-milk products

From 2000 to 2007, the dairy industry showed a consistent positive trend in the production of whole-milk products, which increased by 3 to 7 percent each year. In 2008, however, the demand for dairy products declined for the first time since 2000, leading to a drop in the output of whole-milk products.

Whole milk accounts for about 40.9 percent of total whole-milk products, and cultured-milk drinks account for 20.9 percent (Table 14). More than 17 percent of all whole-milk products are produced

Table 14
Production of whole-milk products, 1990–2008

Product	1990	2000	2005	2006	2007	2008	%
Whole-milk products: total	20 800	6 214.7	9 732.6	10 020.8	10 514.6	10 322.7	100
Milk	8 784	2 778	4 188	4 106	4 188	4 218	40.9
Cultured-milk products	1 308	1 083	1 856.2	2 046	2 188	2 159	20.9
Sour cream	1 313	355.2	475.7	460.6	486.9	471.8	4.6
Full-fat curd cheese	404	146.9	2 59.8	305.2	322.4	315.4	3.1
Sweet curd and sweet creamed curd cheese	84	46.9	118.57	116.8	138.3	133.9	1.3
Cream	405	42.6	63.1	75.1	80.4	69.5	0.7

Source: The Russian Dairy Union.

Table 15
Leading regions in the production of whole-milk products, 2007 (%)

Region	% share
Moscow	10.2
Moscow Oblast	7.5
Krasnodar Krai	6.5
St. Petersburg	4.5
Sverdlovsk Oblast	3.5
Voronezh Oblast	3.3
Novosibirsk Oblast	2.7
Republic of Bashkortostan	2.5
Krasnoyarsk Krai	2.4
Republic of Tatarstan	2.3
Other	54.6

Source: Calculated from Russian Dairy Union data.

by enterprises in Moscow and Moscow Oblast: Lianozovo Dairy Plant, Tsaritsinskii Dairy Plant, Ochakovo Dairy Plant, Danone, Ehrmann, etc. (Table 15).

Butter production

Over the last five years, there has been little change in butter production, and annual output has stabilized at 270 000 tonnes (Table 11). The regions leading in butter production are shown in Table 16.

There is not enough domestic butter to satisfy consumer demand and about 40 percent of demand is met with imports.

Production during Soviet times was about three times greater than the current level. Butter production in the Russian Federation is still not very profitable and sometimes even incurs a loss. Therefore, raw milk is used to produce more profitable products and butter remains a by-product of dried-milk and cheese production. Very few enterprises produce large amounts of real butter.

In addition, the consumption of butter has declined in recent years in favour of margarine or so-called "lite" butters. A large amount of the butter on the market is produced with vegetable additives – Agency for Health and Consumer Rights (Rospotrebnadzor) estimates the market share of this butter to range from 20 to 40 percent of the total market for butter.

Cheese production

The market for cheese is the fastest growing in the dairy sector. Cheese consumption has increased greatly and in the last ten years the production of full-fat cheeses has more than doubled to 436 100 tonnes in 2009. However, cheese imports are also growing at an even faster rate and now account for about 40 percent (mostly hard cheeses) of the total cheese market, reaching 60 percent of sales in large cities.

The production of melted cheeses is increasing at the fastest rate (Table 17), primarily because of the shortage of high-quality raw milk needed to produce European varieties of hard cheese. Production of rennet cheeses is growing more slowly, although these cheeses still account for the dominant share of the Russian cheese-making sector at about 56 percent.

Important regions for cheese making are Altai Krai (ZAO Rubtsovsk Dairy Plant, OAO Aleisk Butter and Cheese Plant, OAO Lori), Voronezh Oblast (AOZT Yantar), the Republic of Tatarstan (OAO Kazan Dairy Plant, OAO Mamadysh Dry Dairy Plant, Baltasa Butter and Dairy Plant, OAO Tatarstan Sete), Krasnodar Krai (ZAO Syrodel, ZAO Kalinin Cheese Plant, ZAO Leningrad Sugar and Cheese Plant, OAO Timashevsk Dairy Plant), and Moscow Oblast (Hochland Russland

Table 16
Leading regions in butter production, 2007 (%)

Region	% share
Republic of Tatarstan	8.6
Udmurt Republic	6.3
Ivanovo Oblast	6.2
Samara Oblast	5.0
Ulyanovsk Oblast	4.4
Altai Krai	4.1
Nizhegorod Oblast	3.5
Republic of Bashkortostan	3.5
Krasnoyarsk Krai	3.4
Tver Oblast	2.6
Other	52.3

Source: Calculated from Russian Dairy Union data.

Table 17
Full-fat cheese production, 2000–2008 (thousand tonnes)

Cheese type	2000	2005	2006	2007	2008	2009
Full-fat	222	378	421.0	436.7	429.8	436.1
Rennet	143	221	248.7	245.9	239.5	No data
Melted	80	158	172.2	190.7	No data	No data

Source: The Russian Dairy Union.

LLC, Laktalis Istra LLC). These regions account for 45 percent of all cheese produced in the Russian Federation (Table 18). The largest rennet cheese producer, Rubtsovsk Dairy Plant, is in Altai Krai (market share about 4.8 percent) and is part of WBD. The traditional leader in melted cheese production is AOZT Yantar, in Voronezh Oblast, with a 22.4 percent market share in 2007.

The main problems restraining development of cheese-making in the Russian Federation have been the lack of sufficient high-quality raw milk, poor equipment, the lack of up-to-date technology and competition with cheap imports from the Republic of Belarus, Ukraine and the Baltic region. Some of these problems remain.

In 2007, the Russian cheese market became more attractive for investment when the EU repealed its export subsidies for butter and cheese, and imports of European cheeses into the Russian

Federation declined. Before the global financial crisis, many cheese-making enterprises upgraded their equipment and improved the quality of their products, and a process of import substitution with domestically produced cheeses began in the sector. Since the onset of the crisis, however, a number of producers have suspended investment projects aimed at modernizing cheese production. A drop in consumer demand, restoration of cheese export subsidies in the EU in 2009, and imports from the Republic of Belarus and Ukraine make it significantly more difficult to develop the sector. To improve this situation, import duties on certain types of cheese were raised in 2009, but these did not apply to cheeses from the Republic of Belarus and Ukraine, with which the Russian Federation has duty-free trade. At present, Ukrainian and Belarusian cheeses – which are RUB 25 to 30 cheaper than domestic chesses – are pushing Russian products out of the market.

A large share of the Ukrainian cheeses coming into the Russian market are produced in Ukraine by European cheese-making companies that purchased undervalued assets in Ukraine. Since the Russian Federation increased its custom duties on cheese deliveries from more distant countries, cheese production in Ukraine is becoming an even more attractive business for European companies. Belarusian producers are also in a more favourable position than Russian producers because their production is subsidized by the state.

Table 18
Leading regions in cheese production, 2007 (%)

Region	% share
Altai Krai	13.3
Voronezh Oblast	9.9
Republic of Tatarstant	8.1
Moscow Oblast	8.0
Krasnodar Krai	5.7
Ryazan Oblast	4.1
Bryansk Oblast	3.5
Udmurt Republic	3.3
Pskov Oblast	3.0
Republic of Bashkortostan	2.7
Other	38.4

Source: Calculated from Russian Dairy Union data.

Production of dried-milk products

Dried-milk production has fallen by more than 50 percent since Soviet times. The only dried-milk product to realize an increase in production is dried whey.

During the reform years, a sharp decrease in the number of cattle in the Russian Federation led to a complete decline in the production of CMR. After 2000, with the revival of animal husbandry, demand for CMR returned and companies began to produce it in the Russian Federation. By 2005, the output of CMR had tripled and peaked (Table 19). The CMR market will grow in the future if the price of raw milk increases. Tver and Moscow Oblasts account for 80 percent of the CMR produced in the country. The market leaders are Mustang Ingredients and Tagris.

The appearance on the market of cheap dried milk from the Republic of Belarus has made domestic production economically unprofitable. Given the low dumping price of dried milk from the Republic of Belarus and the market price of domestic raw milk, milk drying plants operate at a loss. Introduction of the Technical Regulations will lead to a decrease in dried-milk production.
The production of skim-milk powder (SMP), CMR, and non-fat and low-fat milk products depends on the output of butter, production of which is very low.

Table 19
Production of dried-milk products, 2000–2009 (thousand tonnes)

Product	2000	2005	2006	2007	2008	2009
WMP, dried cream and dried formula	74.5	79.7	75.3	78.8	83.2	49.9
SMP, CMR and dried whey, of which:	96.7	123.2	135.7	148.9	142.3	107.9
SMP	90.4	91.8	95	94.5	90.7	5.8
CMR	3.6	11.6	11.6	10.1	8.1	n.a.
Dried whey	2.6	19.8	29.1	44.3	43.4	n.a.

n.a. = not available.
Sources: Rosstat; the Russian Dairy Union.

Production of dried-milk products is fairly heavily concentrated in certain regions of the Russian Federation. About 30 percent of the production of whole-milk powder (WMP), dried cream and dried formula is concentrated in Moscow Oblast and the Republic of Bashkortostan (Table 20). In the Moscow Oblast, the Istra-Nutritsiya Company has a monopoly on the production of WMP. The regions leading in the production of SMP, CMR and dried whey are shown in Table 21.

Table 20
Leading regions in the production of WMP, dried cream and dried formula, 2007 (%)

Region	% share
Moscow Oblasti	19.4
Republic of Bashkortostan	12.9
Altai Krai	9.6
Smolensk Oblast	7.9
Saratov Oblast	7.8
Republic of Tatarstan	6.0
Belgorod Oblast	4.7
Krasnoyarsk Krai	3.8
Krasnodar Krai	2.7
Nizhegorod Oblast	2.3
Other	22.9

Source: Calculated from Russian Dairy Union data.

Table 21
Leading regions in the production of SMP, CMR and dried whey, 2007 (%)

Region	% share
Republic of Tatarstan	11.3
Tver Oblast	6.6
Udmurt Republic	6.6
Krasnodar Krai	6.3
Altai Krai	5.6
Belgorod Oblast	5.2
Novosibirsk Oblast	4.5
Bryansk Oblast	3.7
Vologda Oblast	2.5
Tyumen Oblast	2.3
Other	45.4

Source: Calculated from Russian Dairy Union data.

Production of canned milk

After growth averaging an annual rate of 7 percent, canned milk production began to decline in 2006 (Table 11). This owed to a sharp decrease in demand for this product because of its unsatisfactory quality and because people abandoned the habit of using canned milk. Young people in the Russian Federation are not familiar with such products as evaporated milk (without sugar). The product could be rebranded, which would entail financial costs, but in the meantime, canned milk production is becoming less profitable every year.

More than 40 percent of all canned milk production capacity is concentrated in Belgorod, Smolensk and Omsk Oblasts (Table 22).

Table 22
Leading regions in the production of canned milk, 2007 (%)

Region	% share
Belgorod Oblast	19.9
Smolensk Oblast	10.9
Omsk Oblast	10.2
Orel Oblast	8.6
Krasnodar Krai	8.1
Tyumen Oblast	6.0
Tula Oblast	4.1
Kurgan Oblast	3.5
Mordovia	3.4
Voronezh Oblast	2.7
Other	22.6

Source: Calculated from Russian Dairy Union data.

Chapter 4 – Imports and exports of dairy products

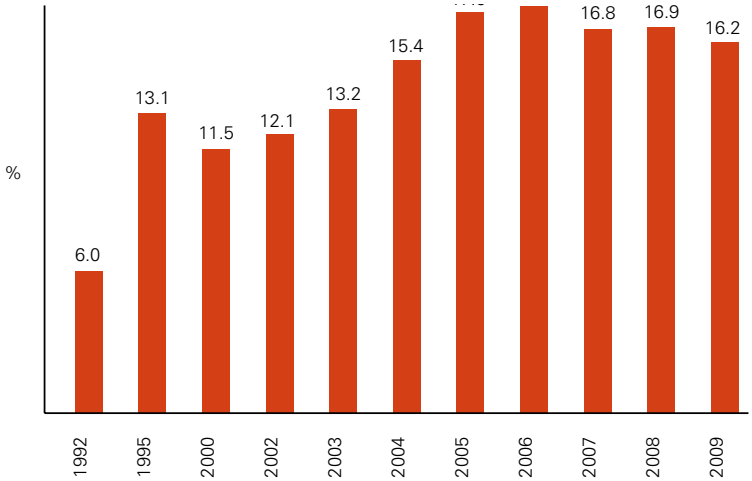
Imports

At the beginning of the 1990s when the Russian economy was liberalized, imports accounted for no more than 6 percent of total dairy products consumed in the Russian Federation (Figure 19). Food trade thereafter grew steadily and by 1995 the share of food in overall trade reached 13.1 percent. After the 1998 Russian financial crisis and the fourfold devaluation of the rouble, there was a temporary decline in imports and the increased demand for domestic products promoted the development of domestic dairy production. Within a few years, however, the national currency strengthened and this window of opportunity for domestic dairy producers closed. By 2006, imports of dairy products met 17.9 percent of aggregate demand (personal and for production purposes) – the highest figure in the history of dairy market development since liberalization of the Soviet economy. This share began to decline when dramatic price increases on the international market led to decreased imports (Figure 20).

In 2008, the global crisis and rising prices for food products revived the government's concern for national food security. The Food Security Doctrine was prepared, arguing that the achievement of food security depends, above all, on ensuring that food is economically accessible. The document also sets goals for reducing imports, including decreasing the share of imports in dairy products consumption to 10 percent.

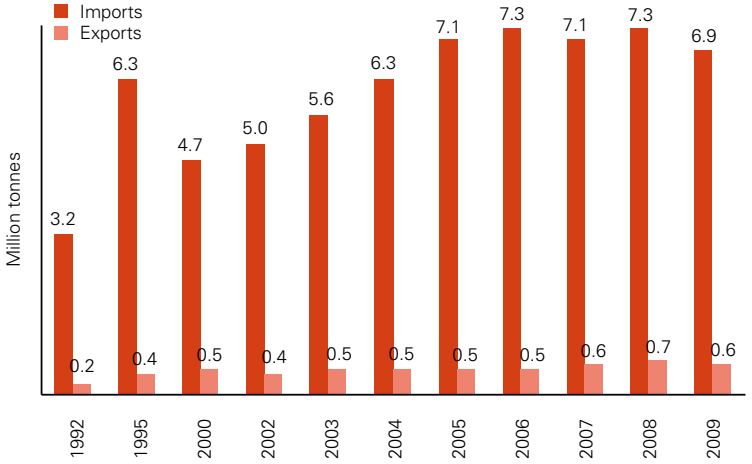
The Russian Federation's self-sufficiency in milk in 2008 was 83.2 percent (Table 23). Although the overall dairy products market is characterized by a relatively high level of self-sufficiency, this figure varies among individual products and regions. Among the regions, domestic consumption is almost completely met by local production in the Volga, Southern and Siberian federal okrugs. In the Far Eastern, Northwest and Central federal okrugs, from

Figure 19
Share of net imports in domestic consumption of milk and dairy products, 1992–2009* (%)



* Imports minus exports, divided by total domestic consumption, including personal consumption, products used for processing, losses and change in inventories.
Source: Calculated from Rosstat data.

Figure 20
Trend in Russian dairy product imports and exports, 1992–2009 (million tonnes)



Source: Rosstat.

Table 23
Self-sufficiency in milk and dairy products by federal okrug, 2002–2008 (%)

Okrug	2002	2003	2004	2005	2006	2007	2008
Russian Federation	88	86.6	85.4	83.4	82.3	83.3	83.2
Volga	101.6	100.3	100.3	98	97.1	101.9	102.3
Southern	98.8	97.0	95.8	95.3	94.2	96.4	96.9
Siberian	98.5	97.2	96.3	96.1	95.4	95.7	95.3
Ural	80.2	80.5	81.4	78.7	76.3	75.8	75.1
Central	77.8	75.4	74.1	70.1	68.6	67.4	66.1
Northwest	61.4	61.0	57.9	54.5	51.7	50.0	49.5
Far Eastern	56.5	52.7	52.7	50.4	48.3	45.6	45.4

Source: The Russian Dairy Union.

34 to 55 percent of the dairy products consumed are imported (Table 23). These are areas on the country's borders, through which the main imports are delivered.

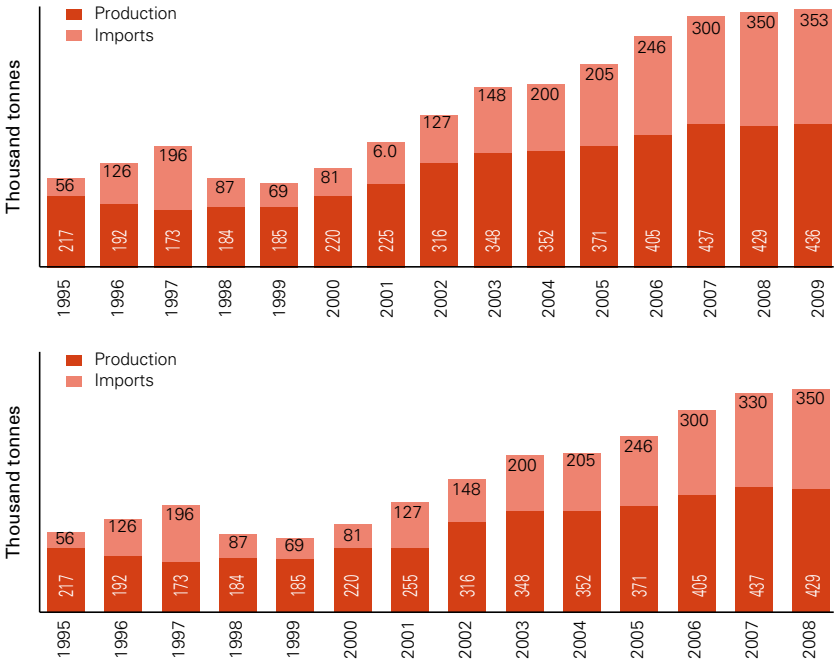
While the industrial output of Russian dairy products is growing, imports maintain a significant share of the market for some products: cheese (40 percent); butter (35 to 40 percent); and dried-milk products (24 to 30 percent) (Figures 21, 22 and 23). The Russian Federation's own production meets nearly the entire domestic demand for cultured-milk products.

In 2009, government measures were taken to limit imports of specific types of cheese, butter, condensed milk and cream, and canned milk (see the section on Customs tariff regulation in Chapter 7). However, these limits on imports did not apply to deliveries from the Republic of Belarus and Ukraine, with which the Russian Federation has duty-free trade.

Cheap imports of Belarusian products are a problem for the domestic dairy sector. Domestic producers cannot compete on equal terms with Belarusian agricultural enterprises, which are heavily subsidized by the state at 24.3 percent of the raw milk price compared with the Russian Federation's subsidy of 3 percent of the raw milk price (see Box 3).[12]

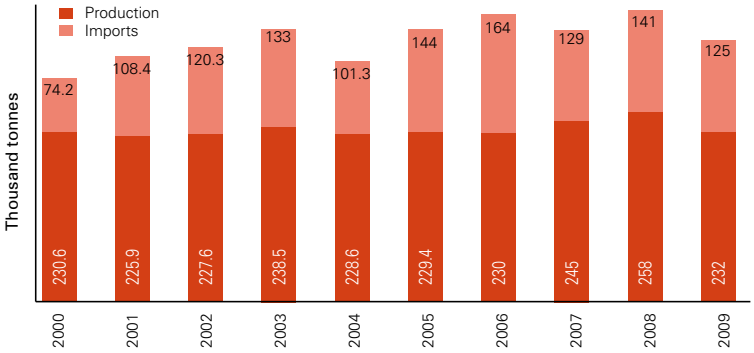
12 According to Russian Dairy Union data.

Figure 21
Cheese imports and production, 1995–2009 (thousand tonnes)



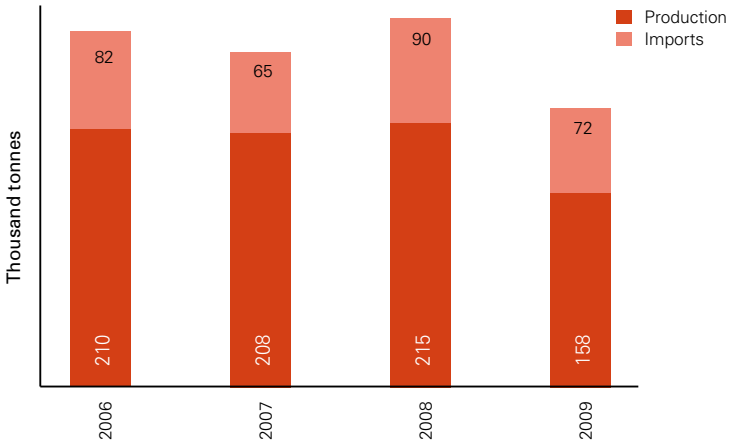
Source: The Russian Dairy Union.

Figure 22
Butter imports and production, 2000–2008 (thousand tonnes)



Source: The Russian Dairy Union.

Figure 23
Dried-milk products imports and production, 2006–2009 (thousand tonnes)



Source: The Russian Dairy Union.

Box 3
Belarus' support for farms

To a certain extent the current agrifood policy in the Republic of Belarus is a continuation of the Soviet policy. As in other countries in transition, the Republic of Belarus mainly supports agricultural input use (including subsidized credit and cross-subsidizing of inputs) rather than subsidies output. As the majority of other countries, the Republic applies tax concessions for agriculture as a tool of support.

Prices in the Republic are the subject of deep state regulation that is established by the Law On Price Regulation.[1] The law states the major principles of price regulation, which are the following:

- state regulation of prices;
- co-existence of free and regulated prices;
- distribution of authority in price regulation;
- setting the prices for goods at a level that enables companies to have normal profitability (together with state subsidies and compensations).

The companies that violate the state-regulated prices and price rules are subject to confiscation of the revenues acquired with applied incorrect prices.

Special pieces of legislation regulate price formation in agriculture, food retailing and other elements of the food chain.

Farmgate prices are subject to strict state regulation. The legal base for this regulation is laid by the Instruction for Defining the Procurement Prices for Agricultural Products adopted by the government.[2] In accordance with this Instruction, procurement prices for crops and livestock products, which are sold for the state needs, are fixed by the government.

1 Law # N 255-3 of 10 May 1999.

2 Government Decree #19/8 of 31 January 2006.

The government of the Republic of Belarus fixes procurement prices for almost all agricultural products at the beginning of the agricultural season. These prices are eligible for the state procurement, which still comprises 60 to 100 percent of total sales. For sales other than to the government, the government also sets so-called "recommended prices". These prices are recommended for all purchases of agricultural products. Officially, the application of these prices is not mandatory but the procurement enterprises must seek approval for their price formulas at the local committees of agriculture and the agreement with agricultural enterprises on prices is also subject to approval by these committees.

In addition to the prices received, the enterprises obtain output-based subsidies for quality products. These subsidies are not always paid to the producers but are used for centralized purchases of the inputs for farms (fertilizers, chemicals and repayment of previous debt for these inputs).

Processing enterprises, in addition to agreed procurement prices, are obliged to pay delivery costs to the farmers. The basic fat and protein content of milk, as well as the amount of the additional payment for quality is also fixed by the government. The milk delivered by the household farmer is paid as 1 class milk regardless of the actual class of the milk. All these additional payments are made at the expense of the processors.

The legal basis for regulating retail food prices was established by government decree as per the Law On Price Regulation of 1999. The decree established the list of prices of socially important products, prices which are regulated by the state. In subsequent years, the list was slightly modified but the core content remains valid. It includes milk and dairy products, ice cream, butter and cheese. Until 2001 the prices for these foodstuffs were fixed by the state but thereafter, the government started to set ceiling prices. These prices are re-evaluated by the state from time to time. They are mandatory for all retail outlets in the territory of the republic.

State investment in the agriculture and food industry is an important element of agrifood policy in the Republic of Belarus. The government makes the decisions on the construction of facilities based on its development strategy. It selects enterprises to invest in, and these investment are made with return on investment.

In addition to ordinary investments, there are special investment projects. Thus, the latest national investment project is in dairy farms. In June 2008, by Presidential decree,[3] 118 dairy farms were to be constructed in 2008 and 2009. The government determined the sites where these farms would be constructed (the sites of these "gold-plated farms" were selected by the rayons with consideration for equal distribution – 2 sites per rayon) and designated the construction companies that would construction the farms (30 percent or more of the overall work should be done by enterprises itself). The government (Ministry of Agriculture and regional authorities) committed to supplying the farms with livestock and to facilitating construction of all needed technical and communication infrastructure for these farms. The government controls the price of the construction materials supplied for farm construction.

This policy undoubtedly facilitates entrance of dairy product exports into the Russian domestic market because the Russian dairy sector does not enjoy such subsidies.

3 Presidential Decree RB #332 of 13 June 2008 On Construction of Dairy Farms.

The Republic of Belarus and Ukraine account for about 90 percent of Russian imports of condensed milk and cream and about 50 percent of cheese imports. The Republic of Belarus is also the source of 38 percent of butter imports (Figure 24). From January to July 2009, imports of cheese, butter and dried milk fell, while deliveries of Belarusian butter and cheese rose (Table 24).

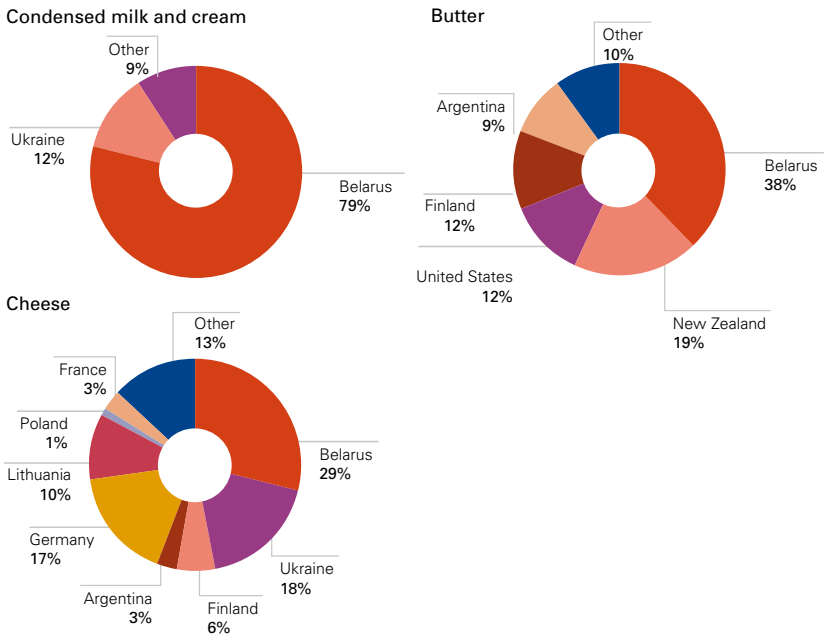
Global dairy markets have long been highly distorted by government interventions in the form of both trade measures and domestic price supports (Figure 25). Prices in world dairy markets in the 1990s and early 2000s were depressed owing to these measures and supports. Dairy prices of the Russian raw milk production and processing sectors have not been competitive with global market prices. On the contrary, prices of dairy products produced in the EU were competitive and the EU exported significant quantities with the assistance of large export subsidies. The EU was the world's largest exporter of dairy products. As support in the EU diminished, its exports stagnated and its share of trade on the international markets fell (Figure 26). As the policy landscape has changed, world dairy prices have shown an increasing trend in recent years. This has implications for the Russian Federation, which remains one of the world's largest importers of milk products, specifically cheese and butter, because higher import prices will lead also to higher domestic prices, which may in turn stimulate domestic processing and milk production. However, continued domestic supports for the dairy sectors in the Republic of Belarus and Ukraine may tend to offset this impact, as greater imports from these countries may crowd out domestic growth in the Russian dairy sector. If a more equitable policy effort is achieved among trading countries, growth prospects for the Russian dairy sector would improve.

Exports

The Russian Federation is a traditional net importer of dairy products (Figure 20). The regulation of exports of dairy products is not well developed and exports do not currently have a noticeable effect on the Russian dairy market. Dairy product exports do not exceed 2 percent of milk production.

The greater part of dairy exports include cultured-milk products, condensed milk and cream, and cheese (Figure 27), of which the Russian Federation is a net exporter. More than 90 percent of all

Figure 24
Russian imports of dairy products by country of origin, 2008 (%)



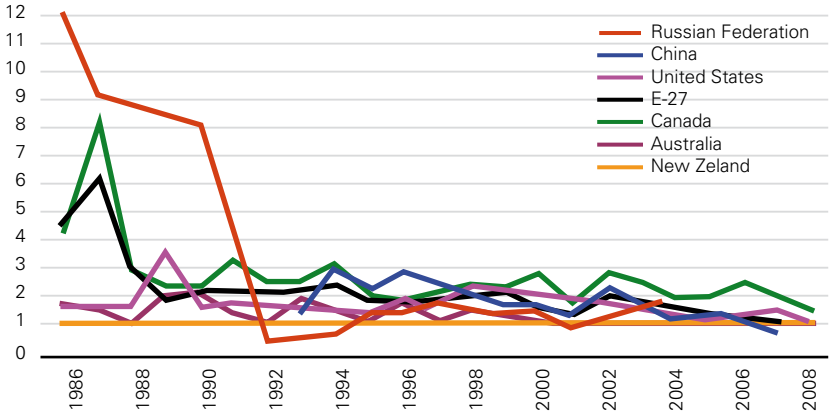
Source: The Russian Dairy Union.

Table 24
Russian imports of dairy products, 2009 (thousand tonnes)

Product	January–July 2008	Jananuary–July 2009	% 2009/2008
Cheese and curd cheese	209.8	195.5	93.2
From the Republic of Belarus	52.6	66.0	125.5
Butter	86.6	76.5	88.4
From the Republic of Belarus	26.6	30.7	115.4
Dried and condensed milk	95.4	73.3	76.8
From the Republic of Belarus	79.7	71.7	90.0
Whole milk	43.0	58.4	135.8
From the Republic of Belarus	35.7	51.5	144.3

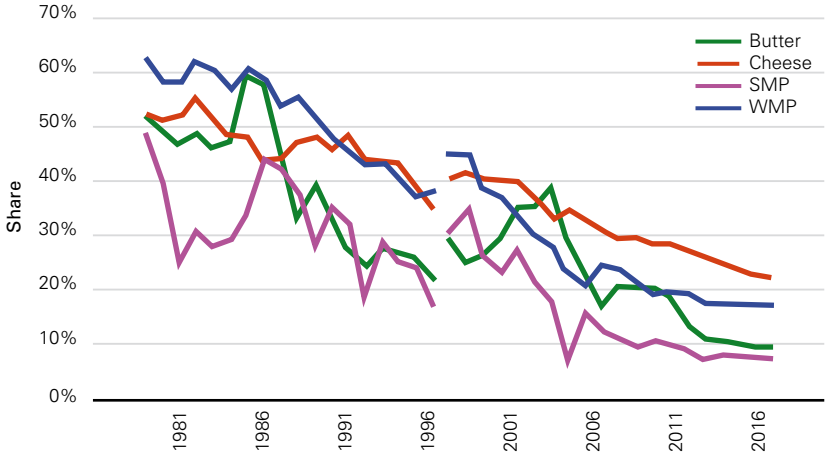
Source: The National Union of Milk Producers.

Figure 25
Nominal rates of government assistance in the dairy sector (%)



Source: OECD.

Figure 26
The EU share of the international dairy market (%)



Source: OECD.

Russian dairy product exports go to countries of the Commonwealth of Independent States (CIS), especially Kazakhstan and Ukraine (Figure 28).

According to market participants, dairy products with promising export potential include cheese (for its comparatively long shelf-life), yoghurt (for its high margin) and butter. Exports of cheese, which is the fastest growing sector in the dairy market, have tripled in the last three years.

The Russian Federation has the potential to develop promising markets in Southeast Asia. The international dairy market is characterized by an imbalance between supply and demand; consumption is increasing in developing countries (by 3.5 to 4 percent per year),[13] especially in Asia where self-sufficiency is low, and this is the main factor for the increase in demand for milk and dairy products worldwide. The Asian countries will absorb the world's increased production.

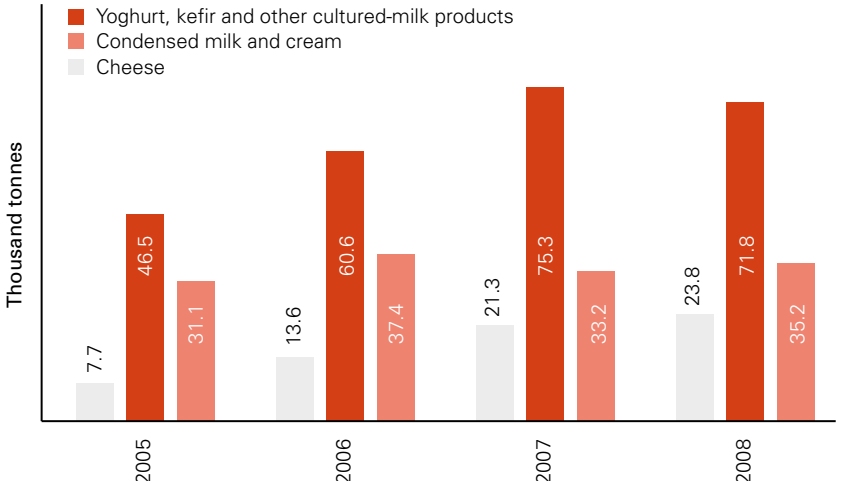
Worldwide, milk production in the areas that already supply products to export markets will not be capable of meeting the growing demand. The dairy industry is being intensively developed as an export-oriented business in Oceania (New Zealand and Australia) and some EU countries, the Republic of Belarus and Ukraine also produce surpluses in dairy products. Many experts regard the Russian Federation as a possible supplier to developing markets in Southeast Asia, especially China and Japan, and the Near East.[14]

The main source of this additional milk production could be the eastern regions of the Russian Federation, where there are enormous but little-used forage lands for milk production. However, these regions currently lack a developed dairy industry capable of providing exports, as well as the necessary infrastructure and logistics.

The main obstacle to exporting dairy products is the low technical standards of the Russian dairy industry compared with international standards. WBD is the only Russian producer of dairy products certified for exporting its products to EU countries.

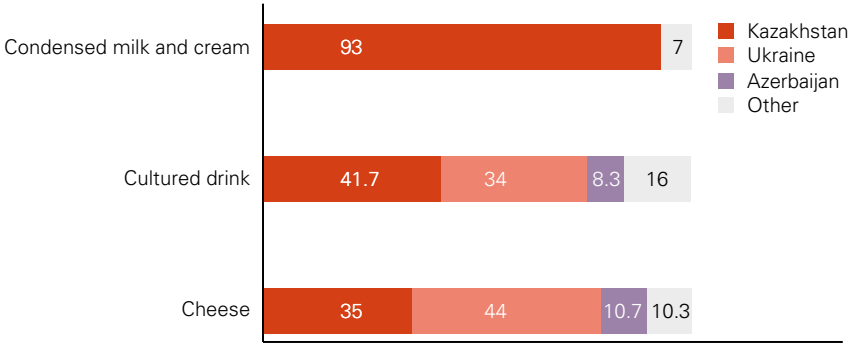
13 FAO. 2006. World Agriculture: Towards 2030/2050: Prospects for food, nutrition, agriculture and major commodities groups. Interim report. Rome.
14 The Russian Dairy Union.

Figure 27
Russian exports of selected dairy products, 2005–2008* (thousand tonnes)



* Not including trade with the Republic of Belarus.
Source: The Federal Customs Service of the Russian Federation.

Figure 28
Russian exports of selected dairy products, 2008 (%)



* Not including trade with the Republic of Belarus.
Source: The Federal Customs Service of the Russian Federation.

Chapter 5 – Consumption of dairy products

Per capita consumption of dairy products

Demand is one of the most important factors affecting the development of dairy farming and the dairy industry in the Russian Federation. Dairy products account for about 4 percent of household expenditures on food for consumption at home, putting them in second place after meat and meat products, which account for about 9 percent.[15]

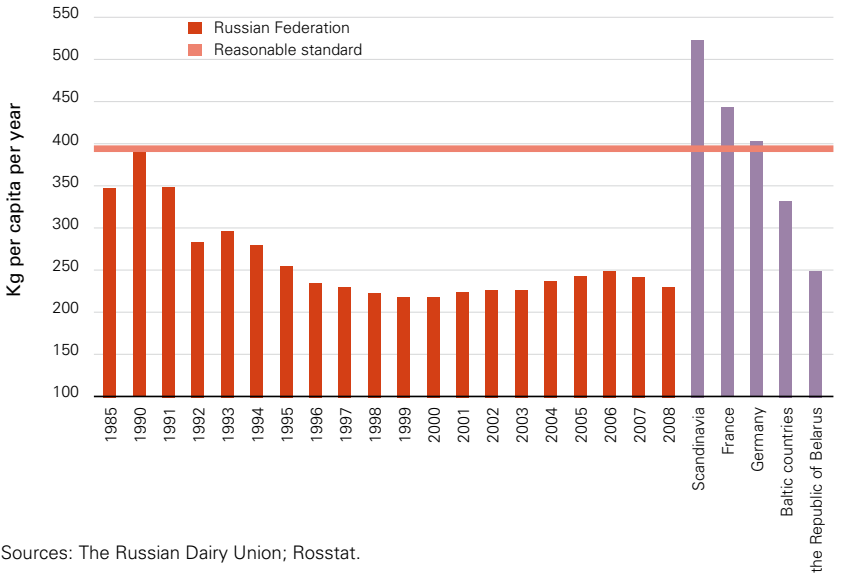
During the Soviet period, relatively high milk consumption was supported by large subsidies to the dairy processors. In 1990, dairy products consumption reached the medically recommended level[16] of 386 kg per capita per year (Figure 29). However, the rise in prices, following liberalization in the early 1990s, decreased the purchasing power of consumers, leading to a sharp drop in the consumption of dairy products to 281 kg in 1992. The negative trend of demand for milk and dairy products continued throughout the 1990s.

The situation in the dairy sector changed significantly after the Russian financial 1998 crisis, when the Russian rouble was devalued and the agricultural and food sector started to recover. Temporary cessation of imports fostered growing demand for domestic milk on the Russian market and increased milk production in the dairy sector. However, the growth rate of consumption was too low to make up for the losses of the previous ten years. In 2006, per capita consumption of dairy products was 250 kg, which was still lower than in Soviet times and lower than in European countries. For example, annual per capita consumption of dairy products is 330 kg in the Baltic countries, 400 kg in Germany, 440 kg in France and 520 kg in Scandinavia (Figure 29).

15 According to Rosstat data.

16 The medically recommended level of consumption of selected foodstuffs is the volume of foodstuff per capita per year needed to meet the physiological needs in macro- and micro-elements, and vitamins of the organism.

Figure 29
Milk and dairy products consumption (in milk equivalent) in the Russian Federation compared with selected countries and regions, 1985–2008



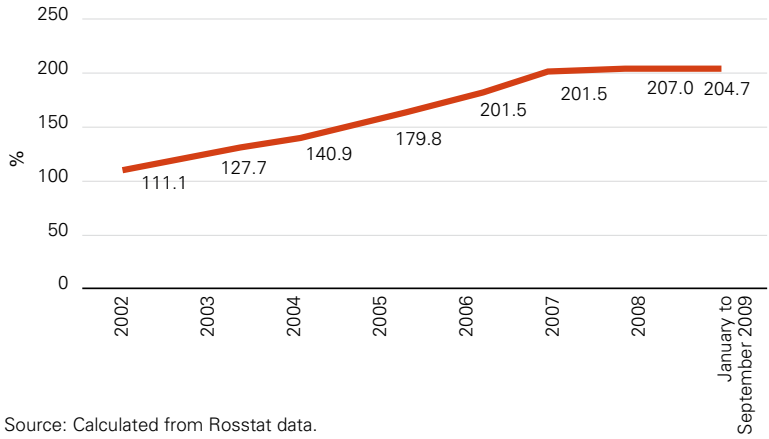
Sources: The Russian Dairy Union; Rosstat.

In 2007, after substantial rises in dairy product prices on the international and domestic markets, the per capita consumption of dairy products began to decline again.

The positive trend in demand helped drive development of the Russian domestic market after 2000 (Figure 30). A steady rise in real disposable household income stimulated growth in the consumption of food products. Between 2001 and 2007, real household incomes rose by a factor of 2.1 and the rate of increase of demand for dairy products (5 to 8 percent) exceeded that of production (2 to 6 percent), leading to an increase in the percentage of imports in consumption.

In 2008, the global financial crisis slowed the rate of increase in real household income. Owing to a decrease in household purchasing power, the demand for dairy products fell to 228 kg per capita per year and consumption continued to decline in 2009, driven by a misleading publicity campaign for the adoption of the milk

Figure 30
Real disposable (monetary) household income (2001 = 100%)



Source: Calculated from Rosstat data.

Technical Regulations, which led consumers to believe that the milk sold on the market was not natural (see the section on Technical Regulations in Chapter 7).

Another significant trend hindering growth in the volume of dairy product sales is the change in milk consumption habits. In the last 10 to 15 years, advertising campaigns have resulted in other products such as juices, non-alcoholic sodas (Coca Cola, etc.) and beer replacing milk in the Russians diet.

The decline in consumer demand in recent years is one of the factors restraining development of the Russian dairy market. To stimulate the public's consumption of dairy products, in 2008/2009, the government announced a temporary moratorium on price increases for certain socially significant food products, reached an agreement with suppliers, retailers and industry associations to stabilize prices for milk and other food products, and prepared public service advertising (see the section on Public service advertising of milk in Chapter 7).

The United Nations estimates that Russian Federation's population will decline by 0.4 percent annually, and if this proves to be the case, this decline will augur negative development for Russian dairy

product consumption for several reasons, including a changing age-consumer structure, with fewer youth who provide the greatest demand for dairy products. However, if income growth in the Russian Federation resumes at 6 percent annually, demand for certain dairy products, such as cheese, will likely grow, offering a source of demand from local producers.

Consumption of individual products

The main trend in the international dairy products market is for increased consumption of liquid milk, cultured-milk drinks and cheese, while the butter market is stagnating. The trend in the Russian Federation is similar. From 2001 to 2007, consumption of milk and cheese rose by more than 20 percent, while that of butter rose by only 7.7 percent.[17]

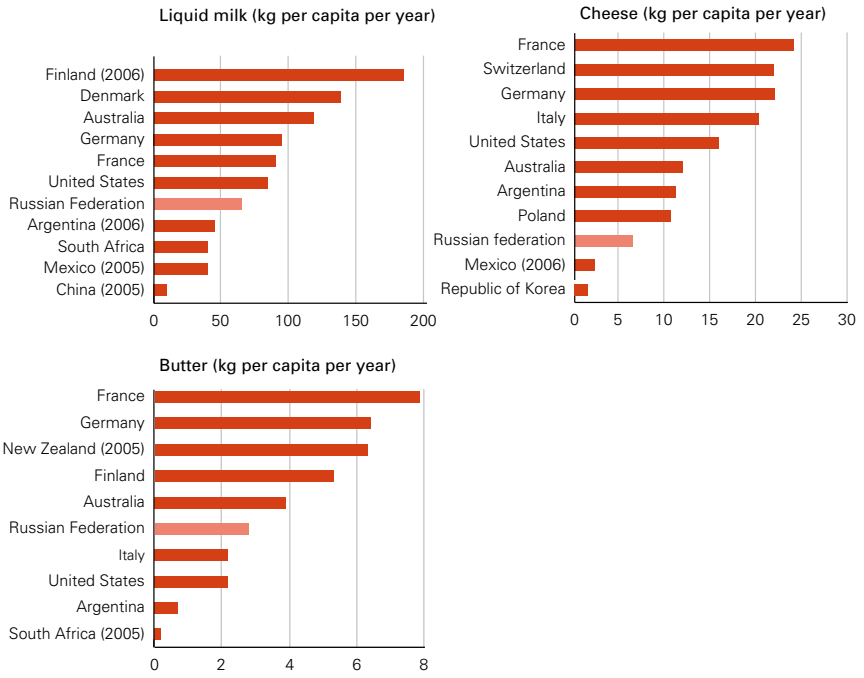
The Russian Federation lags behind developed countries in the consumption of basic dairy products. Per capita consumption of liquid milk, including direct consumption by dairy farming households, was 64 kg in 2007 and 67 kg in 2008, of which industrially produced milk accounted for just 29 kg per capita per year (Figure 31). This is explained by the fact that a large share of the milk produced on household farms is consumed by the households themselves or sold at village and town markets by street vendors and via other non-conventional distribution channels.

Compared with other countries, cheese consumption in the Russian Federation is very low, at 6.4 kg per capita per year (Figure 31). Among dairy products, cheese has the highest price and income elasticity of demand. High-income households favour expensive imported cheeses. In middle-income households, domestic, Ukrainian and Belarusian cheeses predominate, along with moderately priced European cheeses. Households whose income is appreciably below the average level consume mainly inexpensive melted cheeses.

The average European consumes more than 4 kg of butter per year and the average Russian consumes 2.8 kg per year (Figure 31). In recent years, butter in the Russian Federation has gradually been replaced by other fats, margarine and lite butter.

17 Calculated from Russian Dairy Union data.

Figure 31
Dairy products consumption in selected countries, 2007)



Sources: The International Dairy Federation; the Russian Dairy Union.

Owing to the Russian Federation's high production of cultured-milk drinks, the annual per capita consumption of these drinks has reached the medically recommended level of 14.4 kg, which still lags behind the per capita consumption in other countries of 29 to 46 kg.[18]

In 2006–2007, the production of canned dairy products declined due to the sharp fall in consumer demand. Domestic consumers are becoming increasingly demanding in their choice of food products and canned milk is purchased less and less frequently because the adulteration of canned milk has become common practice and its quality has deteriorated markedly.

18 Ibid.

Recent changes in the Russian dairy products market are typical of changes in the overall food market:

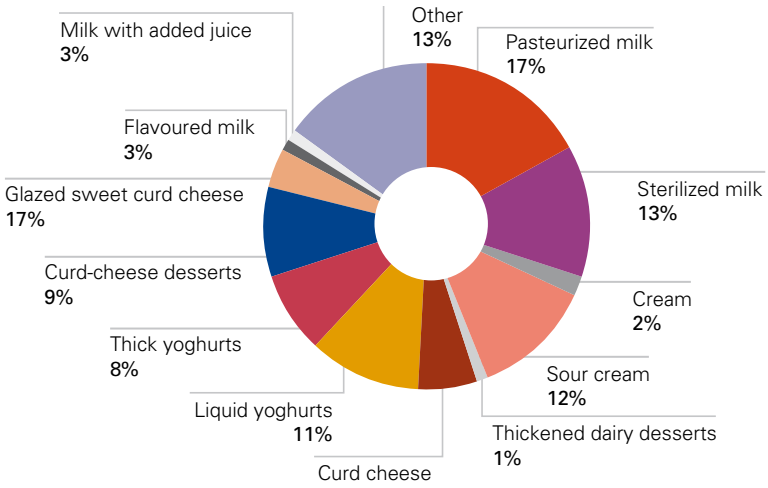
- Consumer preferences have changed. The main requirements of the "new" dairy consumer are a wide assortment of products and high quality. Russian consumers are starting to pay attention to the environmental friendliness of products and to healthy eating.
- Russian consumers are demanding a higher level of service at retail stores, which is an important sign of a mature market, and modern retail settings are gradually replacing traditional open-air markets. According to data from a Nielsen study,[19] hypermarkets and supermarkets accounted for 31 percent of dairy product sales in the Russian Federation in 2007 (up from 28 percent in 2006). This means that the demand for dairy products from household farms, which produce half of all the country's milk and sell it at rural and urban markets, is diminishing. Given that there is no efficiently organized system for collecting milk from household farms for subsequent industrial processing, the decline in purchases of dairy products from household farms is discouraging household farms from increasing their production.
- New products are appearing, with bioproducts becoming one of the fastest-growing segments of the dairy market. Sales of products with probiotics are also growing. The most rapidly developing segment of dairy products is the "functional" one: milk drinks and liquid yoghurts "for those who care about beauty", "for a healthy heart and circulation", etc. Nevertheless, in the overall Russian dairy products market (excluding butter and cheese), sterilized milk, pasteurized milk, kefir and sour cream still occupy a dominant position (Figure 32).

Consumption by different population groups

Consumption of dairy products differs among population groups. As shown by sample surveys of household budgets conducted by Rosstat, growth in consumer demand for dairy products is driven primarily by middle- and low-income households. In 2004, 46 percent of all consumer spending on dairy products was concentrated in the first to sixth deciles of the population, rising to 49.5 percent in 2008 (Figure 33).

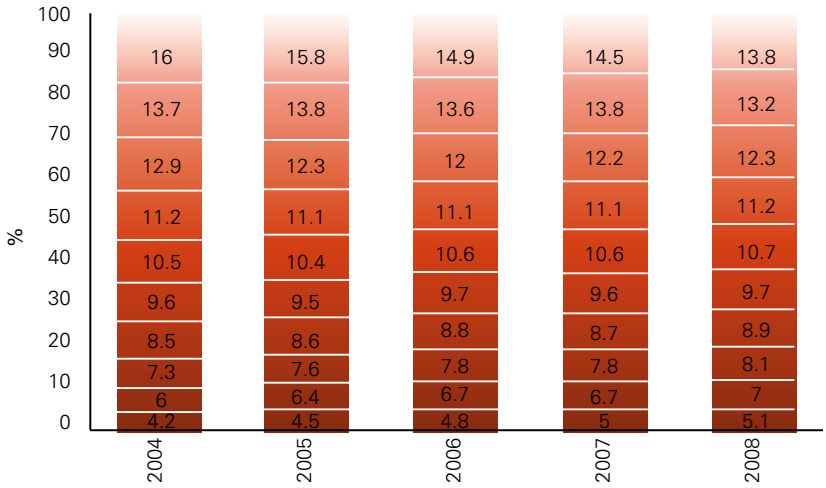
19 Nielsen Dairy Industry. 2007. Survey of the Russian dairy products market.

Figure 32
Market share by dairy product (excluding butter and cheese), 2007 (%)



Source: Nielsen Dairy Industry, Survey of the Russian dairy products market, 2007.

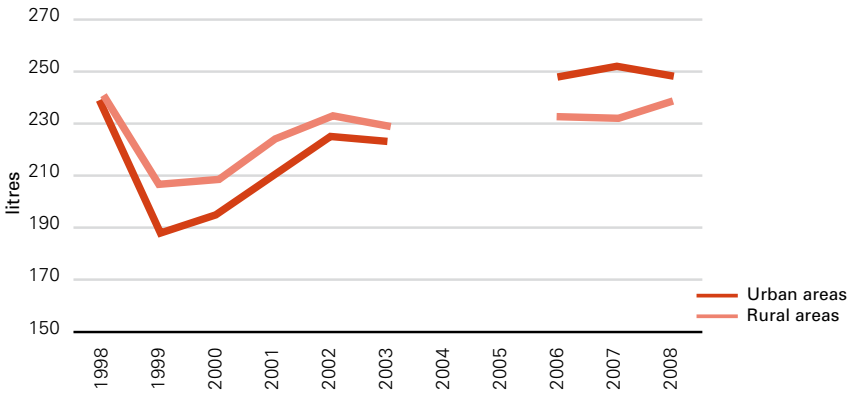
Figure 33
Household consumer spending on milk and dairy products by population decile, 2004–2008*



* The first population decile has the lowest income; the tenth population decile has the highest income.
Source: Rosstat data.

A comparison of dairy product consumption between rural and urban populations shows that the increase in demand is driven mainly by the urban population (Figure 34), which has greater access to new dairy products and modern retail settings (supermarkets and hypermarkets). The decline in per capita consumption of dairy products in 2007/2008 was also greatest in this population group. Rural households generally have subsistence plots that supply most of the products for their own consumption. This makes rural consumers less subject to changes in market conditions, and the elasticity of milk consumption is lower in rural areas. Small farms in rural areas have social significance because the dairy products that they provide to rural populations when dairy product consumption is declining at the national level results in higher dairy product consumption by the rural population than by urban residents.

Figure 34
Household consumer spending on milk and dairy products by population decile, 2004–2008*

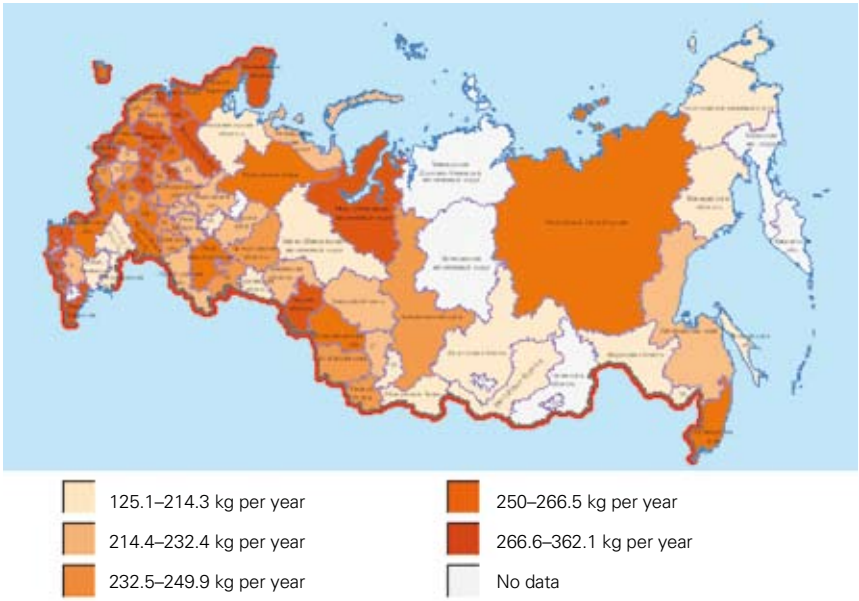


* Data for 2004 and 2005 are missing.
Source: Rosstat.

Consumption in different regions

As with milk production, the consumption of dairy products varies greatly among different regions of the Russian Federation (Figure 35). Oblasts with high consumption are concentrated in the Central federal okrug and the northwest and southern regions of the country. This is because: i) the dairy industry's main production capacities are concentrated in these regions, with about 20 percent of all whole-milk products being produced in the three regions of Moscow, St. Petersburg and Krasnodar Krai; ii) consumption in oblasts of the Central and Northwest federal okrugs is supported by imports, most of which come through Moscow and St. Petersburg; and iii) in the south of the country, a high percentage of milk production comes from household farms, which supply other neighbouring households. In oblasts close to Moscow and St. Petersburg, high consumption is stimulated by a higher level of household income.

Figure 35
Average per capita dairy product consumption by region, 2008



Source: Rosstat.

Chapter 6 – Pricing in the dairy sector

Price behaviour

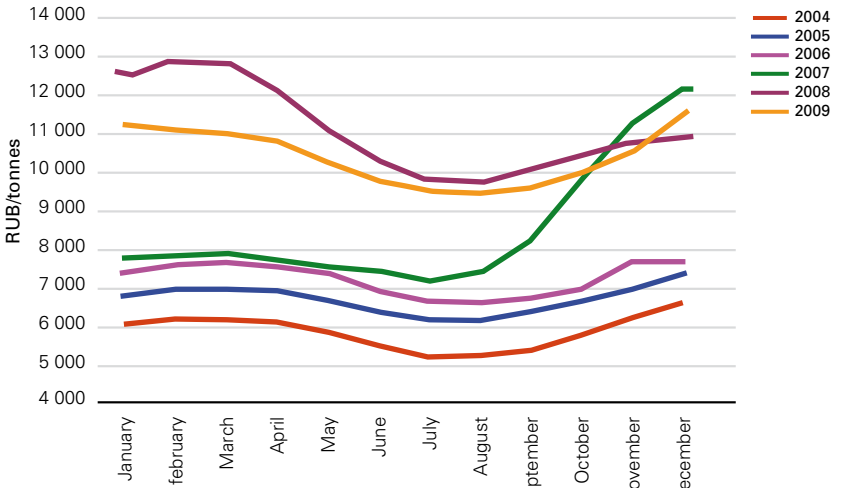
In recent years, the greatest effect on the dairy market has been from significant fluctuations in the selling price for raw milk. Prices increased sharply in 2007 but then fell in 2008/2009 and rose again in 2009/2010. Like raw milk production, the domestic purchase price for raw milk is characterized by a degree of seasonality, with the lowest price in the summer, when the "big milk" period sets in.

However, in 2007/2008, agricultural producers' milk prices did not conform to this pattern. In the summer of 2007, when raw milk production reached its annual maximum and prices would normally have fallen, the market registered an unexpected increase in raw milk prices (Figure 36). The main reasons for this were:

- international market conditions for raw milk prices, which were determined by an imbalance in the raw milk market between whole and dried milk (Figure 37);
- a summer drought in the central region of the Russian Federation;
- an increase in the cost of mixed feed on the domestic market.

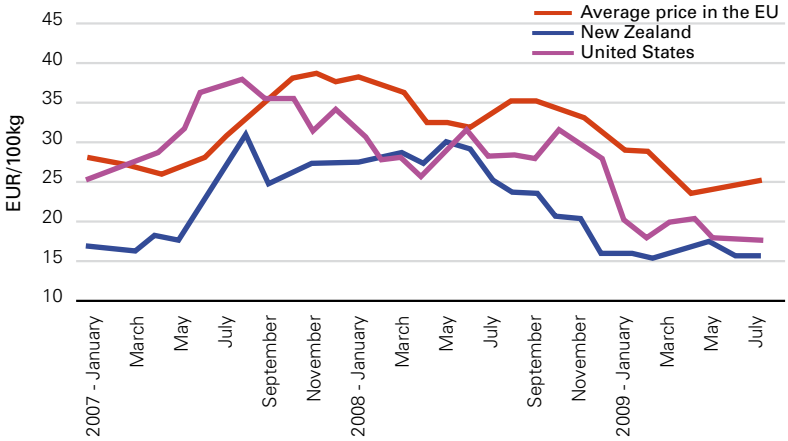
The price of raw milk peaked in March 2008, when it approached European levels. However, the market then encountered a drop in the purchase price of milk, while the retail cost of dairy products rose (Figure 40). The average ratio between agricultural producers' milk prices and consumer prices for loose whole milk was 1:1.73 in January 2008 but had risen to 1:2.27 in December. To a significant extent, this was because selling prices at the end of 2008 were lower (by 9.2 percent) than they had been during the same period in 2007. In 2008/2009, to promote increased consumer demand, a moratorium was placed on price increases for socially significant dairy products, namely milk with at least 1.5 percent fat content and kefir. However, raw milk prices continued to fall in 2009.

Figure 36
Behaviour of raw milk prices, 2004–2009 (RUB/tonne)



Source: Rosstat.

Figure 37
Behaviour of purchase prices of raw milk in the EU, New Zealand and the United States, 2007–2009*(Euro/100 kg)



* Total coliform bacteria < 2.5×104; somatic cell count < 2.5×105; fat content 4.2 percent; protein content 3.4 percent.
Source: The Russian Dairy Union

In the two years from September 2007 to September 2009, retail prices for dairy products rose by an average of 30 percent and this had a negative effect on consumer demand (Table 26). Demand was also undermined by the decline in real household incomes under economic crisis conditions. At present, limited consumer demand is significantly restraining development of the dairy sector.

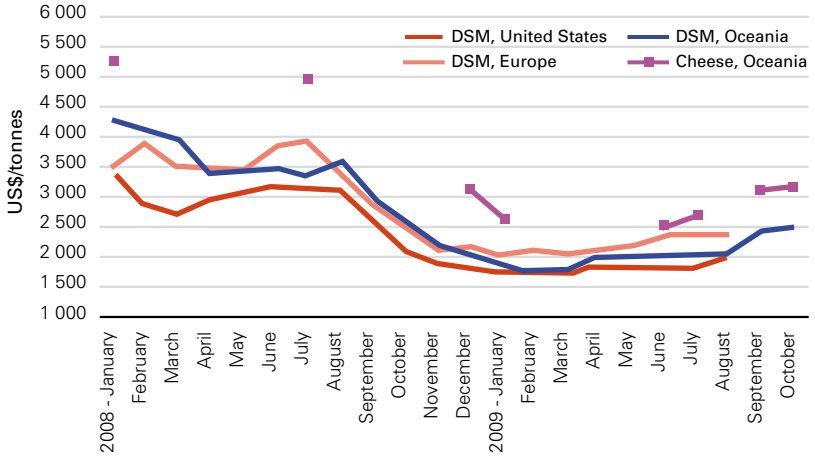
The opportunities for increasing the value of raw milk in 2008/2009 were constrained by both internal and external factors:

- Price increases for finished dairy products were accompanied by a decline in demand, which began during the financial crisis. Some market experts believe that processors forced raw milk prices down to restore demand.
- In 2007, milk was obviously overpriced, and so some price decrease was to be expected.
- At the end of 2008, prices for dairy products began to fall in the international market, owing to an increased volume of milk production worldwide and a weakening of import demand due to the economic crisis; this led the EU to restore briefly its export subsidies for cheese and butter (Figure 38 and 39).
- The reduced demand for raw milk was associated with reduced demand for domestic dried milk and deliveries of dried milk from the Republic of Belarus; the current ratio of the prices of Russian raw milk and Belarusian dried milk leaves domestic producers with no economic interest in increasing the domestic production of dried milk; a whole-milk price of RUB10 to 11/kg in the Russian Federation means that it costs at least RUB100 to 110 to produce 1 kg of dried milk, which compares with the market price of dried skim milk from the Republic of Belarus of about RUB70/kg.
- Some analysts and market participants think that the drop in the purchase price for milk is connected with decreased demand, as processors sought to use up their previously purchased supplies of dried milk before the Technical Regulations came into effect; in 2008, 38 percent more dried milk was imported.
- The common practice of replacing milk ingredients with fats and proteins of non-dairy origin also had a limiting effect on the demand for raw milk.
- To stabilize the dairy market, a number of government measures have been taken, aimed at limiting imports and stimulating consumer demand. This caused a certain restoration of the price starting from November 2009. (Figure 36).

Figure 38
Butter prices (82 percent fat content) in Oceania and Europe, 2007–2009 (Euro/tonne)

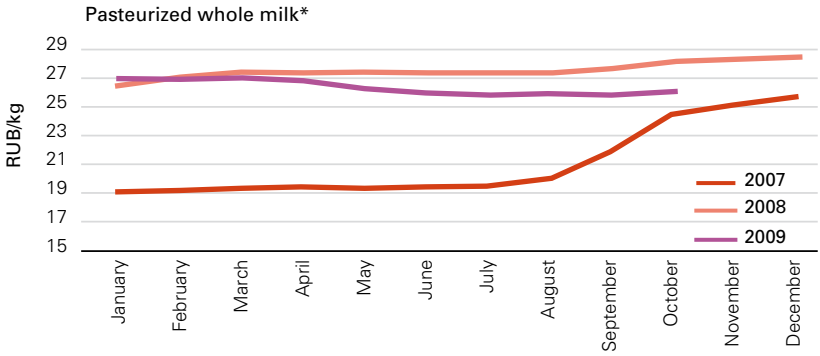
Source: The Russian Dairy Union from PEPMAKS Services CIS data.

Figure 39
Cheese and dried skim-milk prices in the United States, Oceania and Europe, 2008–2009 ($/tonne)

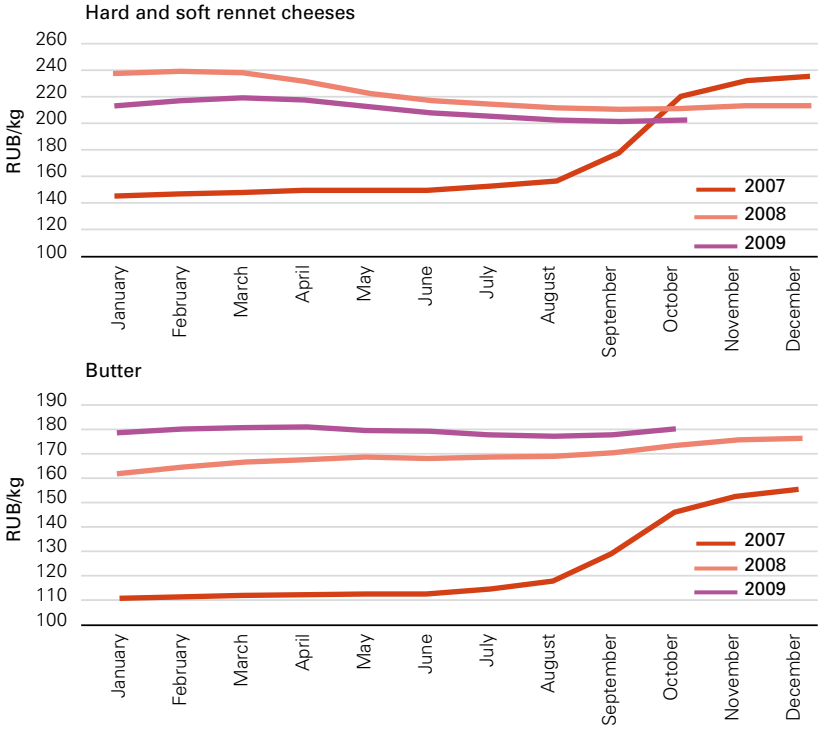


Sources: The National Union of Milk Producers; the Russian Dairy Union from PEPMAKS Services CIS data.

Figure 40
Consumer prices of dairy products, 2007–2009 (RUB/kg)



* Owing to a change in nomenclature, from 2009 the prices given are those for pasteurized liquid whole milk with 2.5 to 3.2 percent fat content.



Source: Rosstat.

Table 25
Average producer price for milk, 1998–2009 (RUB/tonne)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Milk	1 272	3 054	3 633	4 436	4 328	4 890	5 818	6 680	7 214	8 409	11 016	10 410

Source: Rosstat.

Table 26
Consumer price for dairy products, 2004–2009 (RUB)

Product	2004	2005	2006	2007	2008	2009
Butter (kg)	93.96	102.42	109.71	155.10	175.54	180.16
Loose whole milk (litre)	13.26	14.67	15.95	21.19	24.74	24.72
Pasteurized, sterilized whole milk with 2.5 to 3.2 percent fat content (litre)	15.52	17.35	18.76	25.39	28.09	26.17* 35.45**
Sour cream (kg)	57.05	62.72	67.78	87.91	98.03	97.43
Cultured-milk products (litre)	18.89	21.12	23.08	30.23	33.53	33.54
Milk yoghurt (125 g)	6.54	6.86	7.25	8.59	9.82	10.42
Full-fat curd cheese (kg)	68.51	78.64	87.12	118.22	136.09	137.99
Non-fat curd cheese (kg)	58.44	68.43	76.49	105.25	122.76	122.31
Chocolate-glazed sweet curd cheese (50 g)	5.45	5.66	5.96	7.16	7.98	8.16
Sweetened condensed milk (400 g)	18.93	20.71	23.02	29.22	33.91	35.16
Dried baby formula (kg)	216.82	244.64	272.85	323.04	393.24	440.37
Hard and soft rennet cheeses (kg)	122.30	138.72	144.26	233.93	212.92	209.55
Melted cheeses (kg)	101.18	110.43	115.19	148.3	155.66	155.72
National cheeses and Bryndza (kg)	105.62	118.69	128.04	181.58	195.08	182.76

* Pasteurized whole milk.
** Sterilized whole milk.
Source: Rosstat.

Cost of milk production in the russian federation

The purchase price of milk fell in 2008 and 2009. This coincided with the period when Russian producers were in the process of re-equipping their farms, which significantly increased the costs of producing a litre of milk due to debt service payments. Although interest rates on their loans were subsidized by the state, many milk producers operated at a loss. In September 2009, with an average purchase price of RUB9.50/kg, the cost of producing milk averaged RUB11/kg, of which RUB2 were for payback of bank loans and RUB2 were for interest payments. Milk producers had to conduct detailed analyses of their operations to identify areas where they could cut production costs as much as possible (by reducing spending on production development, personnel, feed, modernization, etc.). The financial crisis also forced producers to consider new ways of operating, such as through cooperation for procurement and marketing, alliances with processors, restructuring of their businesses and abandoning inefficient operations. The average purchase price of raw milk is forecast to increase to RUB14/kg in 2010.

At present, the producer's share of the final retail price of milk is 30 to 34 percent, the processor gets 40 to 44 percent and the trader gets 22 to 30 percent (Table 27). With these shares, producers are not covering their expenses. Market analysts estimate that milk producers would have to receive 50 percent of the final price of their products to make the dairy sector attractive to investors.

Table 27
Producers', processors' and traders' share of the final retail price of milk (%)

	Actual (%)	Optimum (%)
Production	30-34	50
Processing	40-44	30
Trade	22-30	20

Sources: The National Union of Milk Producers; the Institute for Agrarian Market Studies.

Cost of milk production in the EU

This section presents results of the Farm Accountancy Data Network survey carried out in 2006. The survey sampled specialist dairy farms,[20] and covered two-thirds of dairy cows in the EU. Of the 371 557 farms sampled, 78 percent are in EU-15 states and 22 percent are in EU-10 states. The sample underrepresents farms in Lithuania (17 percent), the Czech Republic (18 percent), Hungary (35 percent), Slovakia (21 percent) and Poland (36 percent), and overrepresents farms in Finland (104 percent), the Netherlands (98 percent), Spain (94 percent) and Denmark (90 percent).

Farm Structures

Table 28 shows the wide variation in farm structures. Forage area is particularly low in Greece and Malta, at 4 ha per farm, and high in Slovakia, at 680 ha per farm. This is because common land is not classified as agricultural land in the former, while the structure in the latter reflects the former pattern of state enterprises. As shown in Table 28, the number of cows averages 42 livestock units (LUs), but varies from 12 cows in Lithuania to 179 in Slovakia. Average herd size is also particularly high in the United Kingdom (105 cows), Denmark (100) the Czech Republic (77) and the Netherlands (72).

The use of labour on specialist dairy farms varies from 27.5 annual work units (AWUs) in Slovakia to just 1.5 AWU in Belgium. However, in Slovakia, family labour accounts for only 3 percent of the total units, compared with 99 percent of the total units in Belgium. The use of family labour is also relatively low in the United Kingdom, Denmark, Hungary and the Czech Republic. Milk yield varies from 8 400 kg/cow in Sweden and Finland to just over 5 100 kg/cow in Lithuania. The EU-25 average is 6 840 kg/cow. Milk production per farm is highest in Slovakia (1 030 tonnes) and Denmark (830 tonnes), and lowest in Lithuania (62 tonnes) and Slovenia (72 tonnes).

Specific Costs and Gross Margins

Specific costs include the costs of concentrates and fodder, other forage, non-fodder crops, herd replacement, milk levies and other direct costs associated with milk production, such as veterinary services, seeds, fertilizer and pesticides. Specific milk production costs in EU-25 in 2006 are shown in Table 41.

20 Defined as a farm when milk accounts for more than 50 percent of total output.

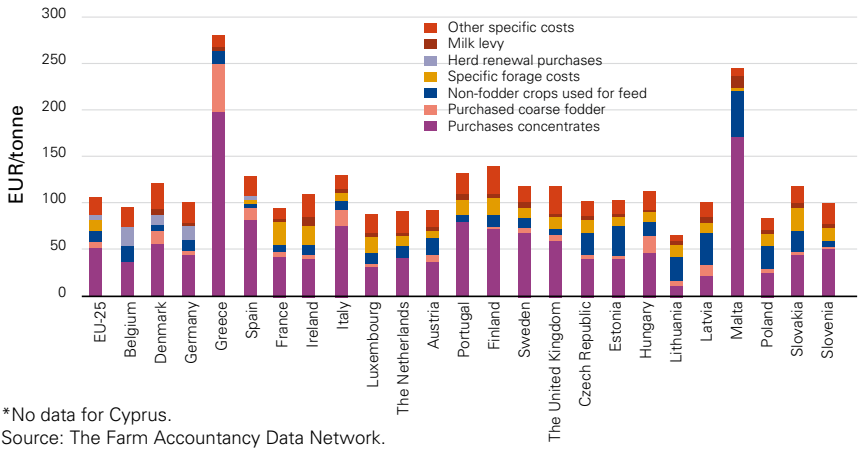
Table 28
Structure of specialist dairy farms in the EU Member States, 2006

Member State	Forage area (ha)	Dairy cows (LU)	Total labour (AWU)	Share of family labour (%)	Milk yield (kg/cow)	Milk production (tonnes/ farm)
Belgium	37	46	1.5	99	6 251	285
Cyprus	No data	No data	No data	No data	No data	No data
Czech Republic	146	77	8.4	21	6 404	494
Denmark	71	100	2.0	64	8 290	830
Germany	46	47	1.9	77	7 192	341
Greece	4	40	2.1	70	5 257	211
Spain	20	42	1.7	93	6 955	295
Estonia	151	59	6.3	26	6 452	382
France	57	43	1.7	93	6 423	279
Hungary	60	58	5.2	15	7 047	407
Ireland	50	51	1.6	88	5 466	279
Italy	26	45	2.1	87	6 651	300
Lithuania	24	12	2.0	86	5 133	62
Luxembourg	66	42	1.6	93	7 277	304
Latvia	43	17	2.6	63	5 278	89
Malta	4	58	2.2	96	5 626	325
Netherlands	44	72	1.6	93	7 800	564
Austria	28	19	1.7	98	6 634	127
Poland	14	17	1.9	93	5 425	92
Portugal	16	26	1.8	87	6 488	170
Finland	29	23	2.1	91	8 375	191
Sweden	75	50	2.1	77	8 383	419
Slovakia	680	179	27.5	3	5 760	1 030
Slovenia	13	14	2.1	98	5 274	72
United Kingdom	90	105	2.4	65	7 079	741
EU-25	**40**	**42**	**2.0**	**84**	**6 836**	**288**

Source: The Farm Accountancy Data Network.

As shown in Figure 41, the specific costs of milk production are highest in Greece and Malta, owing to the high costs of purchased feed and forage, which account for 95 and 91 percent, respectively, of all specific milk production costs. Grazing in these countries is extremely limited and cow sheds are widely used all year-round. Elsewhere in the EU, specific milk production costs vary from Euro63/tonne of milk in Lithuania to Euro136/tonne in Finland. The average cost across the EU-25 is Euro105/tonne. In the EU-10, the average is Euro89/tonne, reflecting the low maintenance regimes

Figure 41
EU-25 specific milk production costs, 2006* (Euro/tonne)



*No data for Cyprus.
Source: The Farm Accountancy Data Network.

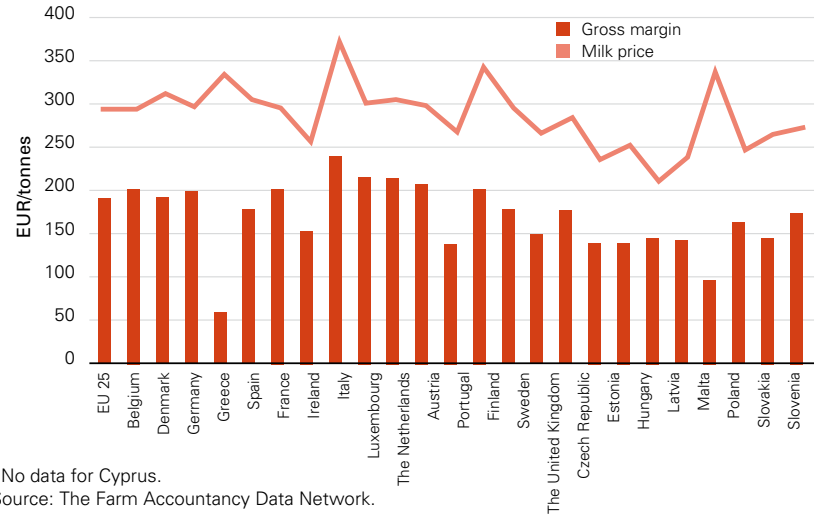
that are the norm in these countries, which also result in lower average milk yields. Purchased feed costs tend to be higher in countries such as Italy, Finland, Spain and Portugal, where grazing conditions are difficult. Purchased feed costs account for 55 percent of all specific milk costs in the EU-25, and thus have the largest influence on total costs.

Figure 42 compares the milk price (before the addition of any national or EU direct aid payments) with the specific milk costs to reveal the gross margin per tonne of milk. In 2006, the milk price was highest in Italy, followed by Finland, Malta and Greece. However, while the gross margin was highest in Italy (Euro236/tonne), the high specific production costs in Greece and Malta resulted in the lowest gross margins in these countries (atEuro57/tonne and Euro93/tonne, respectively). Across the EU-25, the average gross margin earned on milk was Euro188/tonne. In the EU-10, the figure was somewhat lower at Euro158/tonne because the milk price in these countries was only 84 percent of the EU average.

Non-specific Costs and Margin Over Operating Costs

Non-specific costs include the costs of machinery and buildings, fuel and electricity, contract work, taxes and other direct inputs such as water. Total operating costs comprise the total of specific and non-specific costs.

Figure 42
EU-25 milk price and gross margin, 2006* (Euro/tonne)

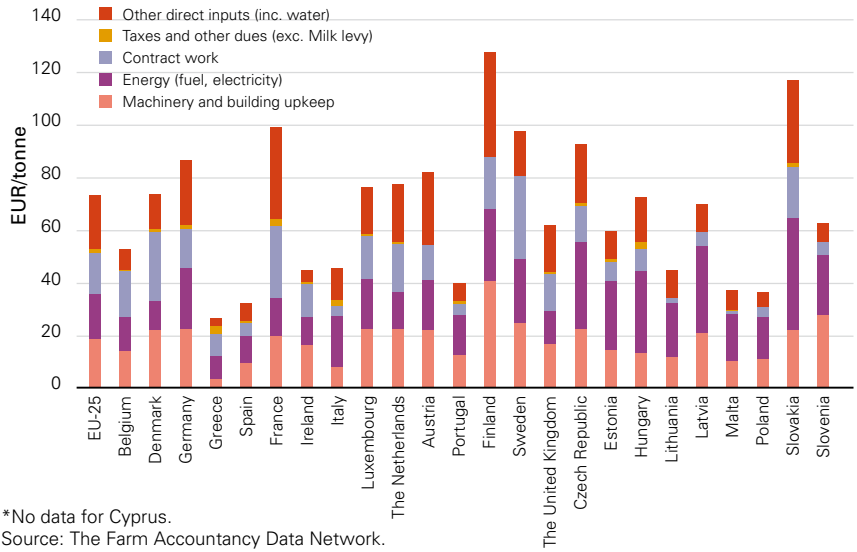


*No data for Cyprus.
Source: The Farm Accountancy Data Network.

There is a significant difference in non-specific costs between EU-15 and EU-10 countries. In the EU-15, the average cost in 2006 was Euro76/tonne (Figure 43), compared with Euro49/tonne in the EU-10. This difference reflects the difference in capitalization of farms in the two regions. In the EU-15, farms are generally well capitalized, with significant machinery and buildings incurring relatively high energy costs. In the EU-10, investment is substantially less and costs are commensurately lower as a result. The most highly capitalized farms are in Finland, where non-specific costs are Euro128/tonne. Costs are also above average in Sweden, France and Germany. Among EU-10 countries, non-specific costs are relatively high in Slovakia and the Czech Republic, where herd sizes are relatively large.

Deduction of total operating costs (specific plus non-specific costs) from milk receipts reveals the margin over operating costs – an indication of the dairy enterprise's short-term profitability. In 2006, the average margin over operating costs in the EU was Euro114/tonne of milk (Figure 44). This varied only slightly between Euro115/tonne in the EU-15 and Euro108/tonne in the EU-10, illustrating that both high-input/high-output farms and low-input/low-output farms can achieve a level of short-term profitability.

Figure 43
EU-25 non-specific milk production costs, 2006* (Euro/tonne)



*No data for Cyprus.
Source: The Farm Accountancy Data Network.

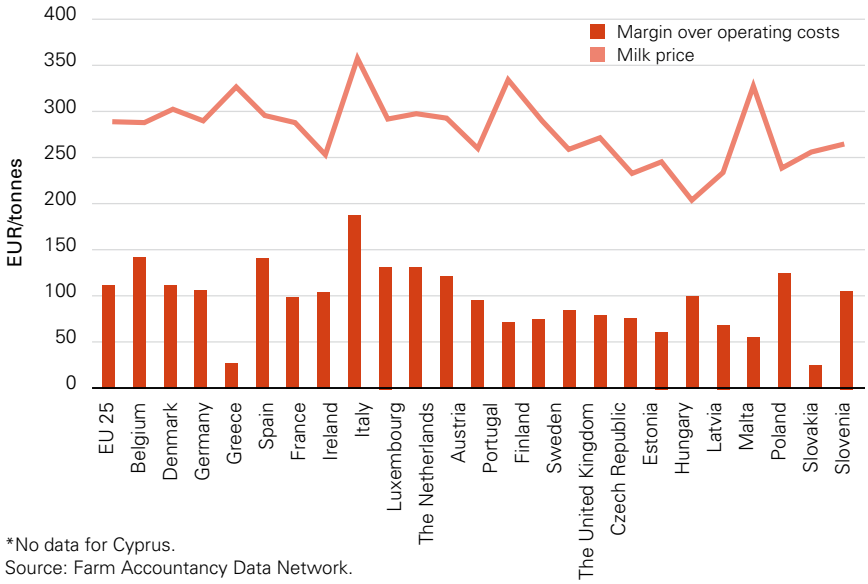
In 2006, the highest margin over operating costs was achieved in Italy (Euro190/tonne), followed by Belgium (Euro144/tonne). In the EU-15, the operating margin was also relatively high in Spain, the Netherlands and Luxembourg. The lowest margin was recorded in Greece (Euro30/tonne). In the EU-10, the highest margin was achieved in Poland (Euro126/tonne) and the lowest margin in Slovakia (Euro26/tonne).

Non-operating Costs and Margin Over Total Inputs

Non-operating costs comprise the costs allocated to land, labour and capital, including both family labour and wages, rent and imputed rent where the land is owner-occupied. Depreciation of assets held on the farm is also included. These costs are necessarily more arbitrary than direct costs, but their inclusion enables comparisons and assessments of the longer-term profitability of dairy enterprises.

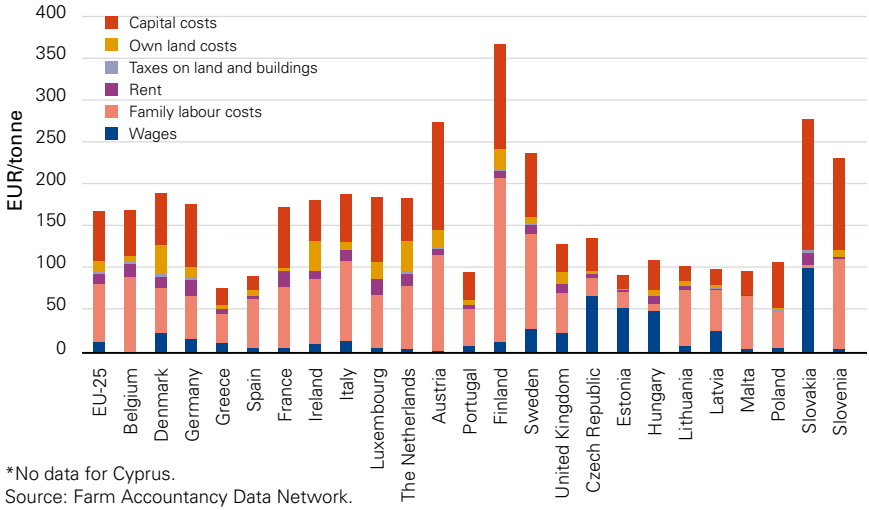
There is a significant difference between non-operating costs in the EU-15 (Euro173/tonne) (Figure 45) and those in the EU-10 (Euro118/tonne).This is attributable to the higher costs of providing the factors of production, particularly land, in the EU-15. In 2006, labour costs

Figure 44
EU-25 margin over operating costs, 2006* (Euro/tonne)



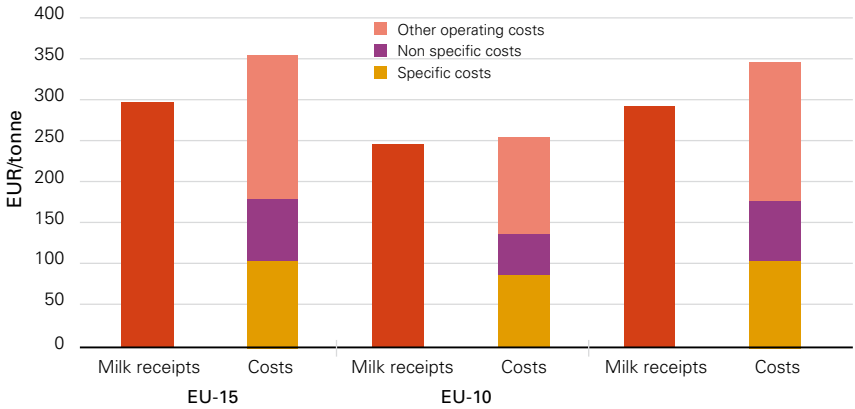
*No data for Cyprus.
Source: Farm Accountancy Data Network.

Figure 45
EU-25 non-operating costs, 2006*



*No data for Cyprus.
Source: Farm Accountancy Data Network.

Figure 46
EU milk receipts and costs, 2006 (Euro/tonne)



Source: The Farm Accountancy Data Network.

were 40 percent higher in the EU-15, and capital costs were 18 percent higher, but higher actual and imputed rents in the EU-15 make total land costs almost four times higher than in the EU-10 and this is where the comparison is most stark. Clearly, the pressures on land use are significantly greater in the EU-15.The tradition of using family labour on farms is still strong in the EU-15, particularly in Finland and Sweden, while the culture in the EU-10 is to employ more labour on farms. Cost comparisons reflect this. Capital costs are generally much higher in the EU-15, where – apart from in southern Mediterranean countries – farms are well-capitalized.

Taking into account all the input costs, in 2006, dairy farms in the EU-25 lost money on average. The losses were apparently greatest in the EU-15, where total costs exceeded milk revenues by Euro58/tonne of milk, compared with Euro9/tonne of milk in the EU-10. The logical outcome of this analysis is that the most unprofitable farms go out of business, as is borne out by examining trend analyses over time.

Trend Analysis in the Eu-15, 2000–2006

Between 2000 and 2006, the average milk price in the EU-15 fell by 7 percent, from Euro319/tonne to Euro297/tonne. Specific costs associated with milk production increased by 4 percent, resulting in a 12 percent fall in gross margins from Euro217/tonne to Euro191/

tonne. Total operating costs increased by 8 percent over this period, leading to a 24 percent reduction in the margin over operating costs. Although the cost of total inputs fell by 4 percent, EU-15 dairy farms recorded a loss in each of the years under review (Figure 47).

Over the same period, there was a 19 percent reduction in the number of farms in the survey, indicating a trend towards fewer farms as a result of declining profitability for the smallest farms. Milk yields increased by 9 percent over the period, and the average number of cows per holding rose by 19 percent, from 41 to 49 head. On average, farms, therefore, became larger over the period, holding more animals and producing more milk in a continuing effort to cover the costs of production.

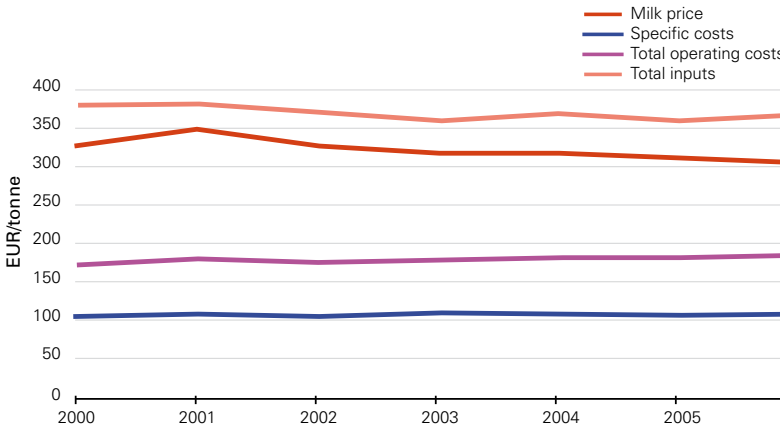
Trend Analysis in the Eu-10, 2004–2006

In the EU-10, data for the period prior to 2004 are not available, which restricts the analysis. Milk prices increased by 14 percent between 2004 and 2006, as the countries of the EU-10 moved towards accession and EU price levels. Specific costs increased by 10 percent over this period, and the gross margin increased by 16 percent, from Euro136/tonne in 2004 to Euro158/tonne in 2006 (Figure 48).

Total operating costs rose by 14 percent, from Euro122/tonne to Euro138/tonne and the resulting margin over operating costs increased by 13 percent, from Euro96/tonne to Euro108/tonne. Total input costs rose by 17 percent, from Euro219/tonne in 2004 to Euro256/tonne in 2006. As a result, farms in the EU-10 on average kept their heads above water over the 2004 to 2006 period.

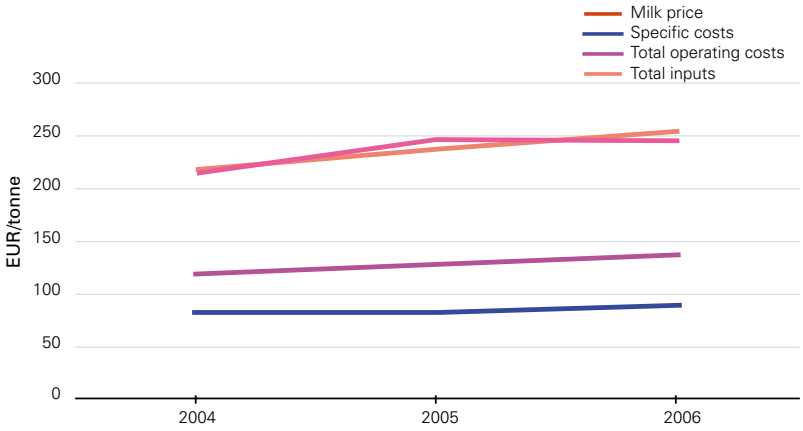
However, this was achieved only because 8 percent of farms went out of production over the three years. On the remaining farms, the average stocking rate increased from 17 to 19 cows and milk yields improved by 8 percent. In the years to come, further significant structural adjustments will be necessary to maintain profitability levels.

Figure 47
EU-15 milk receipts and costs, 2000–2006



Source: The Farm Accountancy Data Network.

Figure 48
EU-10 milk receipts and costs, 2004–2006



Source: The Farm Accountancy Data Network.

Chapter 7 – Current government policy in the milk and dairy sector

Regulation of the milk and dairy products market in the Russian Federation was particularly active in 2008/2009. To stabilize the market, the government introduced a number of measures to limit imports of dairy products into the country, stimulate demand for domestic milk and improve the efficiency of milk production. They are as follows.

- RUB27.2 billion from the 2009 federal budget were allocated to supporting the dairy farming sector (including through subsidized interest rates on loans, support for breeding and cofinancing of regional dairy programmes).
- Loan interest payments were subsidized at 100 percent of the central bank's refinancing rate (Government Resolution #90 of 4 February 2009); subsidies were also established for extended short-term loans, for terms not exceeding six months.
- Import customs duties were raised on dried milk, butter, hard cheeses and tropical oils.
- Changes were made in the Customs Union balance of trade in milk and dairy products with the Republic of Belarus for 2009; volumes of dried-milk deliveries from the Republic where reduced from 110 000 to 63 000 tonnes, while cheese deliveries increased.
- RUB3.5 billion were allocated to support 58 economically significant programmes aimed at increasing milk production in regions of the Russian Federation; RUB5.8 billion went to the support of the regions' dairy cattle breeding bases.
- Government Resolution #438 of 20 May 2009 was adopted, exempting imports of breeding cattle from value-added tax until 2012.
- A public service advertising programme was started, aimed at increasing the public's consumption of milk;
- Amendments to a government resolution were drafted to include ultrapasteurized milk, butter and hard cheeses in the list of goods for which purchasing interventions may be implemented.

- Amendments to the Technical Regulations for Milk and Dairy Products were drafted, providing for the creation and operation of a system to identify the dairy food products that are in demand in the consumer food market.
- A draft federal law on the Principles of Government Regulation of Commercial Activity in the Russian Federation was introduced in the State Duma, which will prohibit commercial companies from collecting additional payments from food product suppliers, including suppliers of dairy products.

Federal programmes

The Program for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012.

This government programme is developing the basic provisions for the Priority National Development of the Agro-industrial Complex Project, which was implemented in 2006 to 2007. It specifies the following primary goals for the five-year period from 2008 to 2012:

- steady development of rural areas, increased employment and improvement of the rural population's standard of living;
- increased competitiveness for the Russian Federation's agricultural products, by promoting financial stability, agricultural modernization and accelerated development of priority agricultural subsectors;
- preservation and reproduction of the land and other natural resources used in agricultural production.

The development of priority agricultural subsectors aims to even out imbalances in the agricultural and food sector by supporting types of production that have competitive advantages in the domestic or international markets but cannot fully realize their potential without government support and regulation. The main measures in animal husbandry are intended to increase meat and milk production. Under this programme, milk producers receive subsidies for:

- keeping breeding stock (RUB4 000/cow);
- purchase and keeping of breeding stud bulls (RUB100/head);
- purchase of young breeding stock (RUB13/kg of live weight).

According to the programme's results for 2008, the programme's objective of increasing milk production to 33 million tonnes has not been reached – the total national milk production in 2008 was 32.4 million tonnes. The main cause of this failure was that the number cows declined in 56 regions, and increased in only 24 regions.

The Program for Development of Dairy Cattle Breeding and Increasing Milk Production in the Russian Federation in 2009 to 2012

The measures for developing cattle breeding specified by the previous government programme proved insufficient to provide the planned growth of milk production. This was because the same support and organizational and economic development mechanisms were applied to dairy cattle breeding as to other sectors, without taking into account the specific characteristics of the dairy sector and its far longer investment cycle compared with that in other animal production sectors.

To overcome this lag in development of dairy cattle breeding, measures have been outlined for additional government support to the sector, including this sectoral target programme. Total funding is RUB30.5 billion, with RUB7.4 billion for 2009. The programme aims to increase milk production from 32.4 million tonnes in 2007 to 37 million tonnes in 2012, including through the following measures:

- subsidies to breeding facilities and breeding farms (of up to 30 percent of costs);
- subsidies to breeding farms for purchases of stud bull semen (RUB30/dose);
- subsidies for purchases of young cattle (RUB30/kg of live weight);
- compensation of part of the expenses for mixed feed (in 2009, 26.8 percent of cost and in 2010, 31.7 perecent of cost of feed was compensated to the producers);
- intervention in the dried-milk market.

The programme's targets are to:

- increase the proportion of breeding stock in the total cattle herd to 15 percent;
- purchase at least 100 000 head of young breeding stock per year;
- produce 37 million tonnes of milk by 2012;
- achieve an average milk yield of 4 500 kg/year/cow.

The Programme for Development of Pilot Family Dairy Farms Based on Individual Farms in 2009 to 2011

This sectoral programme[21] was developed as part of the government Programme for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012.

Programme measures include:

- development of standard plans for family dairy farms that are run as individual farms;
- construction, reconstruction or modernization of 300 dairy farms and their provision with a full set of equipment;
- creation of agricultural consumer processing cooperatives for milk processing and dairy product marketing by individual farms;
- dissemination of positive experiences of creating family dairy farms based on individual farms in all regions of the Russian Federation.

Total funding for the programme (from the federal and regional budgets) is RUB1 019.8 million for 2009 to 2011, allocated as follows:

- construction, reconstruction or modernization of dairy farms and milk processing plants, with loans from OAO Rosselkhozbank – RUB3 160.5 million;
- leasing of breeding stock, equipment and vehicles from OAO Rosagrolizing – RUB7 035.0 million;
- construction of infrastructure and utilities for farms and milk processing plants and compensation of the first lease payment – RUB1 879.5 million (funded by the regions).

21 Ministry of Agriculture of the Russian Federation, Order No. 163 of 24 April 2009.

The programme aims to increase individual farms' annual milk production by 150 000 tonnes and to create additional jobs. Household farmers can participate in the programme if they convert their status to individual farmers.

Customs tariff regulations

Trade regulation in the Russian Federation's dairy sector reflects the government's efforts to compromise between supporting domestic producers and keeping consumer inflation undercontrol. This leads to frequent changes in tariffs and in 2006/2007, the government regulated dairy product imports in an ad hoc manner.

Cheese imports were the most actively regulated. In 2006, new import duties were set on cheeses, depending on their declared customs values (Table 29). The duties aimed to combat dumping by foreign (primarily European) suppliers and prevent the under-evaluation of customs values of cheeses. However, this measure has not been very effective, as it applied to only 40 percent of imported cheeses. Products from the Republic of Belarus, which has a duty-free agreement within the CIS, account for about 50 percent of imports and the remaining 10 percent are cheap imported cheeses for which the new duties do not apply.

In 2007, the repeal of dairy export subsidies in EU countries caused a price increase for dairy products not only in the European market but also in Russian Federation market. To alleviate the increased price, the government temporarily lowered import duties on dairy products, from 15 to 5 percent. A unified rate of Euro0.3/kg was established for individual types of cheeses, replacing the former rates of Euro0.3/kg to Euro0.7/kg. The lower import tariffs on dairy products were in effect until April 2008.

All of the changes in customs tariff regulation made in 2009 aimed to protect domestic dairy producers. Import customs duties were raised for dried milk, butter and certain types of cheese.

The combined import duty on butter and other milk fats was temporarily raised (for nine months) from Euro0.22/kg to Euro0.35/kg, bringing it into line with the ad valorem component and the

Table 29
Customs tariffs on dairy imports (%)

TNVED* code	Product	Prior to Oct. 2006	Nov. 2006–Oct. 2007	Nov. 2007–Apr. 2008	May 2008–Feb. 2009	Mar. 2009–Aug. 2009	Since Sept. 2009
0401	Milk and cream, not condensed	15%	15%	5%	15%	15%	15%
0402	Milk and cream, condensed	15%	15%	5%	15%	20%	20%
040310	Yoghurt	15%, from €0.18/kg	15%, from €0.18/kg	5%	15%, from €0.18/kg	15%, from €0.18/kg	15%, from €0.18/kg
0404	Whey	15%	15%	5%	15%	15%	15%
0405	Butter	15%, from €0.22/kg	15%, from €0.22/kg	5%	15%, from €0.22/kg	15%, from €0.35/kg	15%, from €0.35/kg
0406	Cheese and curd cheese, except for the following:	15%, from €0.3/kg	15%, from €0.3/kg	15%, from €0.3/kg	15%, from €0.3/kg	15%, from €0.3/kg	15%, from €0.3/kg
040690	Hard cheeses:						
	with value no more than €1.65/kg of net weight, free at frontier of importing country	–	€0.7/kg	€0.3/kg	€0.7/kg	€0.7/kg	15%, from €0.5/kg
	with value more than €1.65/kg but no more than €2/kg of net weight, free at frontier of importing country	–	€0.65/kg	€0.3/kg	€0.65/kg	€0.65/kg	15%, from €0.5/kg
	with value more than €2/kg of net weight, free at frontier of importing country	–	€0.3/kg	€0.3/kg	€0.3/kg	€0.3/kg	15%, from €0.5/kg

* TNVED = Classification of Foreign Trade Goods.
Source: Customs laws of the Russian Federation.

prices in effect, which had risen in the last two years. As a result, in seven months of 2009, butter imports fell by 11.6 percent. At the same time, deliveries from the Republic of Belarus, for which – along with other countries of the Customs Union – the restriction did not apply, rose by 15.4 percent.

For nine months, the import duties on condensed milk and cream and on canned milk were increased from 15 to 20 percent. As more than 90 percent of dried-milk imports come into the Russian Federation from the Republic of Belarus, with which there is duty-free trade, this measure did not have any significant effect on prices. According to figures for the first seven months of 2009, imports of dried and condensed milk fell by 23 percent overall, and imports from the Republic of Belarus fell by 10 percent.

The customs duty on cheese depended on the declared value of the cheese, with the lowest duty on more expensive cheeses. However, the increased prices for dairy products of the last two years have pushed almost all cheeses into the price category subject to the minimum duty. In 2009, a unified customs tariff that does not depend on the declared customs value was established for hard cheeses. As a result, the customs tariff went up for cheeses that had previously been in the expensive group. However, only about 20 to 25 percent[22] of cheese imports are subject to the increased duty because it does not apply to those cheeses from Ukraine and the Republic of Belarus, which amount to about 50 percent of all cheese imports.

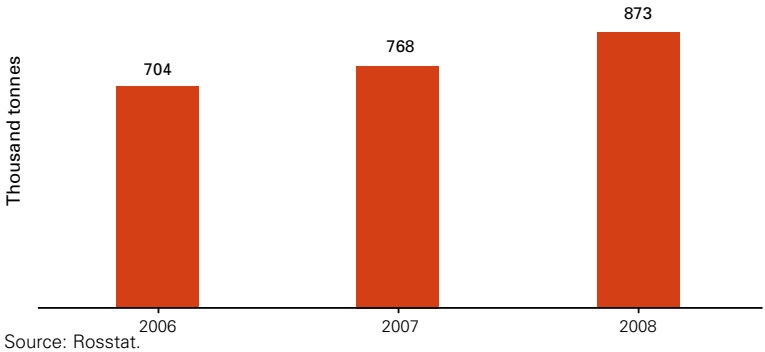
This restriction could stimulate development of the Russian Federation's cheese-making sector. Production of dried milk declined in 2009 and processors turned their dried-milk surpluses into cheese. This resulted in an enormous cheese reserve in companies' warehouses, which had to be sold.

Another change in customs tariffs that is important for the dairy market was the raising of import duties on tropical oils, which are used as a substitute for fats of animal origin.

22 According to Russian Dairy Union estimates.

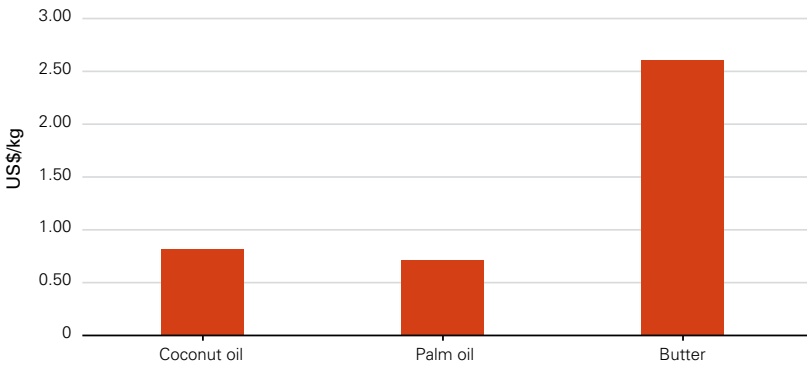
In recent years, milk processors have begun to use cheaper tropical oils (palm, coconut, palm kernel, etc.) in their products. According to data from the National Union of Milk Producers, imports of tropical oils have practically doubled in the last five years, reaching almost 900 000 tonnes in 2008 (Figure 49). The average contract cost of 1 kg of tropical oil in 2008 was slightly more than one-third the cost of butter (Figure 50). The market prices for tropical oils and butter over the last ten years have led to milk fat being replaced by vegetable fats in the production of many food products, including those containing milk.

Figure 49
Imports of tropical oils, 2006–2008 (thousand tonnes)



Source: Rosstat.

Figure 50
Prices of coconut oil, palm oil and butter, December 2008 ($/kg)



Source: Rosstat.

The import duties on tropical oils were, therefore, raised to 10 percent. The dairy industry uses only a share of imported tropical oils, which are also used in the confectionery sector and for the production of mayonnaise, fast-food products and special fats. In addition, tropical oils are a basic ingredient in the production of toilet soap. Raising the import tariffs may, therefore, lead to price increases for products in these sectors.

Price control in the dairy sector

Food prices rose significantly in 2007, stimulating attempts to regulate them. Under a Ministry of Agriculture initiative, the largest producers and retailers of food products in the Russian Federation made a commitment to freeze prices for socially significant products, including some dairy products. This moratorium on price increases was in effect from 15 October 2007 until 1 May 2008.

In October 2008, a new price regulation campaign began, based on lowering the purchase prices for raw milk. The Federal Antitrust Service sued the largest processors (UniMilk LLC, Campina Ltd, WBD Food Products, Danone Ltd, Ehrmann Ltd and Parmalat Dairy Plant Ltd), which account for more than 60 percent of the market, accusing them of price collusion and lowering the purchase prices of raw material suppliers. In response, the processors claimed that low purchase prices for raw material were due to a drop in international prices and decreased consumer demand. The case was unproven. It should be noted that WBD's share of the national dairy market is about 25 percent and that of UniMilk LLC is about 10 percent, although these figures are as high as 40 to 50 percent in some regions. Such a dominant position for processors disrupts competition in regional markets.

Public service advertising of milk

A programme of public service advertising aimed at increasing the public's milk consumption began in 2009, funded by the federal budget. This included a television commercial, which was shown on central television channels. This measure may help to restore the drop in demand due to changed consumption habits, but not that

due to price inflation. Other countries – China, the United States and the Republic of Belarus – have experience in conducting similar government advertising campaigns for milk.

Technical regulations for milk and dairy products

Federal Law of the Russian Federation #88-FZ, Technical Regulations for Milk and Dairy Products (of 12 June 2008), took effect in December 2008. It stipulates requirements for the raw milk and other products used in milk processing, and has the aim of "protecting the life and health of citizens, environmental protection, and preventing actions that mislead consumers". Ultimately, the Technical Regulations also aim to stimulate the production and purchase of raw milk from domestic producers and to decrease imports of dried milk.

According to the Technical Regulations, a product reconstituted from dried milk is now to be called a "milk drink". Milk is defined as whole raw milk with no ingredients added or removed. It was expected that this standard would lead to the liquid milk market's splitting into two segments: one for natural milk and one for reconstituted milk made from dry raw material. As a result, the prices of high-quality raw milk were expected to rise, but this did not happen.

The habit of consuming milk drinks (as opposed to fresh milk) is not established in the Russian Federation, where consumers perceive dairy products as 100-percent natural. Consumers, therefore, need clear information about this product category, which has been discredited by the mass media. In the European part of the Russian Federation, reconstituted milk accounts for only 20 percent[23] of the total volume of liquid milk consumed. This aversion to reconstituted milk is more of a problem for consumers in eastern regions, especially Far Eastern, where there is a shortage of raw milk all year-round, including during the summer, when production is high in other regions. The new Technical Regulations aim to stimulate the construction of modern dairy farms in this part of the country and reconstituted milk could provide an alternative for consumers while this was occurring. However, a misleading media campaign while the Technical Regulations for milk were being adopted led

23 According to Institute for Agrarian Market Studies data.

consumers to believe that the milk offered on the market was not natural, contributing to the decline in consumer demand for dairy products. The Russian Dairy Union suggests that use of the term "reconstituted milk" rather than "milk drink" in the Technical Regulations would help regain consumers' trust in this product.

By restricting the opportunities for using dried milk in the production of dairy products, the Technical Regulations exacerbated the problem of milk production's seasonality. Previously, surpluses of summer milk had been dried for use in the autumn and winter but introduction of the Technical Regulations led to milk processing enterprises reducing their purchases of raw milk for processing into dried milk. Between January and August 2009, the production of dried skim milk was 47 percent lower and that of dried whole milk 30 percent lower than they had been in the same period in 2008.[24] As a result, unwanted raw milk accumulated on the market, so – rather than increasing – the purchase prices for raw milk continued to fall in 2009, while prices for finished dairy products rose. In June 2009, the average purchase price of raw milk reached its minimum since October 2007, at RUB8 389/tonne.[25]

With the decline in dried-milk production, some processing plants turned their raw milk surpluses into cheese. In the first eight months of 2009, cheese production was 7.9 percent[26] higher than it had been the previous year, resulting in the accumulation of a cheese reserve in companies' warehouses. An appreciable positive trend in Russian production of full-fat cheeses was first noted in 2008. However, one of the factors impeding development of the cheese sector in the Russian Federation is the presence of cheap imports from the Republic of Belarus and Ukraine. In addition, although Russian products can compete with European mass-consumption cheeses in terms of quality, European cheese exports are subsidized. Restrictions on imports of cheese products could boost the import substitution process that has already begun in the Russian cheese market, however, temporary (for 6 months) increase of import duties on cheeses was done only in September 2009 and it is difficult to assess the impact of this measure. Moreover, these import restrictions apply only to imports of moderately priced cheeses, and not to those from the Republic of Belarus.

24 According to Russian Dairy Union data.
25 Ibid.
26 According to Rosstat data.

The raw milk surplus that has resulted from declined production of dried milk could also be used to produce butter but the milk ingredients of food products are increasingly being replaced by vegetable fats and proteins. The volume of tropical oil imports (palm and coconut oil) is now more than 50 percent greater than the total volume of cheese, butter and dried milk imports.[27]

With an average contract cost of 1 kg of tropical oils at slightly more than one-third the cost of butter in 2008, experts estimate that as much as 500 000 tonnes of milk fat – equivalent to 6.5 million tonnes of milk – were being replaced in the production of food products. To address this, in March 2009, a duty of 5 percent was put on tropical oil imports and increased to 10 percent in June 2009.

The Technical Regulations should also restrict deliveries of dried milk from the Republic of Belarus and Ukraine by reducing the value of this product to dairy processors. However, although the Russian Federation's increase of import duties for dried milk – from 15 to 20 percent between March and December 2009 – resulted in a drop of 12.8 percent in total dried-milk deliveries into the Russian market in the first half of 2009 (amounting to 45 000 tonnes), the Republic of Belarus is in the Customs Union, which was exempt from this duty. Instead, imports of Belarusian products increased by 18.5 percent over the same period, reaching 44 200 tonnes.[28]

According to the Technical Regulations law, the Republic of Belarus was supposed to bring its permitting documents into compliance with the Russian Federation's new requirements but it failed to do so. As a result, in June 2009, the Russian Dairy Union prohibited imports of dairy products from the Republic of Belarus for more than a month. Imports were resumed only after the Belarusian documents were brought into line with the new requirements.

Russian producers have also been slow to adopt the new standards. The new law's requirements for changes in technical documentation, purchase of new equipment and manufacture of new labels all require additional expenditure, the money for which is very difficult to find during a financial crisis.

27 According to Russian Dairy Union data.
28 According to Russian Dairy Union data.

The regulatory framework is also inadequate for full introduction of the Technical Regulations. Many standards and procedures have not yet been specified, including those for enforcing the law. For example, there are no certified procedures for determining whether or not milk has been produced with the addition of dried milk. To implement the Technical Regulations, four new standards were developed in 2008 and development of another 30 was planned for 2009. For example, standards have to be approved regarding the:

- iodine content of milk and dairy products;
- contents of stabilizers used in dairy products and products containing milk;
- contents of preservatives and dyes used in dairy products and products containing milk;
- percentage of milk fat by weight in products with a complex composition of various raw materials;
- presence of non-milk fats (quick method);
- identification of the protein composition of milk, dairy products and products with a complex composition of various raw materials.

Thus, attempts to apply the Technical Regulations for Milk and Dairy Products have demonstrated that neither the market nor the existing regulatory framework in the Russian Federation is prepared for full implementation of the law. Without the necessary regulatory framework, production cannot be controlled and dairy product sales cannot be monitored. This situation makes it impossible to eliminate adulteration and ensure that products comply with the Technical Regulations. In addition, the Technical Regulations document itself needs to be modified, and the government is currently discussing amendments proposed by the Ministry of Agriculture and the Russian Dairy Union.

Other benefits of the law and Technical Regulations are that they: i) help to coordinate the Russian Federation's directives and regulations regarding terminology and labelling with those used internationally; ii) orient the dairy industry towards the production of natural products (produced with whole milk); and iii) most important, ensure that consumers have clear information on the dairy products that are available to them.

Purchasing interventions

The sectoral target Program for Development of Dairy Cattle Breeding and Increasing Milk Production in the Russian Federation in 2009 to 2012 provides for intervention to regulate the dairy market.

To rectify the imbalance between supply and demand and raise the purchase prices for raw milk, this programme plans to purchase dried milk in May and June for resale from December to February, when raw milk production is at its lowest. However, programme documents say little about how such interventions should be conducted and several important issues have yet to be resolved: setting the purchase price; establishing certified warehouses; planning how the milk will be sold; and setting quality criteria for the milk that is purchased.

It is anticipated that the dried milk will be bought from agricultural producers, most of whom do not have their own drying facilities. They will, therefore, enter into contracts with processors and sell to the government the dried milk that is produced from their raw material. However, the current market prices for raw and dried milk make milk drying unprofitable for processors.

There are several options for arranging the sale of purchased surpluses. The programme provides for sales of milk from the state fund but enactment of the Technical Regulations, and the resultant lower demand for dried milk, may create difficulties for this. The interventions will have a positive effect if the milk surpluses removed from the market are delivered to other countries as humanitarian aid or to the armed forces. Exporting the dried milk would be very difficult, as the Russian Federation has never been an exporter of this product for two main reasons: i) Russian dried milk does not meet international quality standards; and ii) the international price of raw milk is lower than the Russian price – at RUB8/kg to RUB8.5/kg as opposed to RUB10/kg to RUB10.5/kg. The production of dried milk and its sale to the intervention fund may, therefore, not be advantageous for market participants, as imported dried milk is cheaper and it would be difficult to sell Russian dried milk abroad at a higher price than the international one.

Dried milk is difficult to store and has a shelf-life of only eight months. Stores, therefore, have to be carefully managed, which is a challenge when dealing with large volumes. It is also unclear exactly how much funding would be needed for this intervention to have a price stabilizing effect.

When the interventions are being implemented, dried milk imports should be limited by seasonal duties. This will involve entering into agreement with the Republic of Belarus – the Russian Federation's main supplier of duty-free dried milk – regarding the volumes of dried milk it delivers. However, there is no guarantee that the Republic of Belarus would not violate an agreement when mass purchases of dried milk are being made on the Russian market.

The programme foresees the possibility of interventions incurring losses. In such cases, Rosselkhozbank, which finances the interventions, will receive up to RUB300 million in compensation from the federal budget. A loss may occur if the government buys dried milk at a higher price than what it can be sold for in the winter. Calculation of prices is, therefore, the main challenge for these interventions, especially now that the demand for dried milk is decreasing with the introduction of the Technical Regulations.

Given the challenges facing intervention purchases of dried milk, the Russian Dairy Union and the National Union of Milk Producers propose that ultrapasteurized milk, butter and hard cheeses be included on the list of goods to which government purchasing interventions can be applied. A government draft resolution for this is currently under consideration.

In contrast to dried milk, ultrapasteurized milk has the following advantages for purchase interventions:

- It can be used later in social programmes (the School Milk Programme, day care, the army, etc.).
- There is no possibility for imported product to be purchased in the interventions.
- Ultrapasteurized milk has a higher biological value than dried milk.
- It has flexible storage conditions (at temperatures up to + 25 °C for six months).
- There are more ultrapasteurized milk producers than high-quality dried-milk producers in the Russian Federation.

In addition, only high-quality raw material is used to produce ultrapasteurized milk, so interventions in relation to this product will support conscientious producers who apply the proper technology.

The market situation in 2009 made purchasing interventions unnecessary. However, a specific mechanism for interventions needs to be developed promptly, so that it is established in advance of when it is needed and producers are confident that their products can be sold.

Improving interactions between dairy producers and commercial companies

The interrelations between food product suppliers and retail chains are one of the main challenges for the development of retail trade. Work with retail chains helps to keep products competitive, but it also causes a number of difficulties, the main ones of which are high mark-ups, delayed payments from commercial companies for the goods supplied, and additional payments to retail chains. For instance, retail chains' mark-up on milk averages about 30 percent. In 2008, payment delays increased to 45 to 50 days, and sometimes as much as 65 days, which is essentially a short-tem loan for the commercial company. Retail chains delay payments to milk processors who, in turn, do not pay producers. Additional payments (rebates, marketing services) from suppliers to retail chains can represent as much as 40 percent of the value of goods supplied.

To regulate the interactions between food product suppliers and retail chains, a federal law on the Principles of Government Regulation of Commercial Activity in the Russian Federation has been drafted. This is a key document in the field of commercial activity and specifies the principles and legal bases for activities in all the links involved in trades: from producer to purchaser. It took several years to develop, and it was only in the summer of 2009 that the draft law was passed by the State Duma on the first reading.

The draft law calls for:

1. setting the timing of payments for products supplied;
2. eliminating other fees, except rebates, connected with the amount purchased;

3. prohibiting restrictions on suppliers entering into contracts with other retail chains;
4. eliminating the requirement that suppliers provide information on contracts they have with other retail chains;
5. abolishing payments for "shelf space";
6. abolishing payments for expanding the assortment of goods supplied;
7. eliminating the requirement that the price of goods supplied be reduced to lower their consumer cost to the level set by other retail chains, while the retailer preserves its mark-up;
8. prohibiting returns of unsold goods to the supplier unless stipulated in the contract and specified by national laws;
9. eliminating the requirement that suppliers provide priority terms to one retail chain in comparison with others;
10. eliminating suppliers' reimbursement of losses associated with damage to or loss of goods that occur after ownership of the goods has been transferred;
11. eliminating suppliers' reimbursement to retail chains for expenses unrelated to delivery and sale of the goods (corporate measures, change of necessary information, provision of information on the movement of goods).

However, the new draft law does not solve all the problems. In particular, it does not include direct government regulation of prices, set the maximum amount of mark-ups or define the threshold for a retail chain's dominance in a market.

Regional programmes

In 2009, the federal budget provided RUB3.5 billion to support 54 economically significant programmes for increasing milk production in the Russian Federation. Most of these funds were provided in the form of subsidies for producers.

In August 2009, the first tranche, of RUB348.7 million, was transferred from the federal budget to cofinance regional programmes for developing dairy cattle breeding. A considerable part of this money will go to subsidizing milk production and development of the breeding base and feed supplies for dairy cattle breeding. Under the current crisis conditions, the regions are experiencing difficulties in subsidizing dairy sector enterprises.

The measures to be subsidized from regional budgets include:

- agricultural producers' deliveries of milk to dairy plants; at the beginning of 2009, milk subsidies were kopecks 90/kg in Leningrad Oblast, kopecks 70/kg in Moscow Oblast and RUB2/kg in Kuban;
- support to small farms for farm construction, purchase of equipment, payment of interest on credits and loans, and purchase of breeding animals;
- the regional target School Milk Programme.
- In 2009, implementation of the School Milk Programme was included in the measures aimed at improving development of the milk and dairy products market.

The programme's main objective is to strengthen the health of the rising generation and make schoolchildren aware of healthy nutrition. Although it is mainly a social project, the free provision of milk to schoolchildren also increases the demand for dairy products, thereby supporting domestic agricultural producers and milk processors. According to preliminary calculations, implementing the programme in all regions of the Russian Federation will require 534 000 tonnes of milk,[29] or 17 percent of the national milk yield.

The programme was started in the spring of 2005 and has now been introduced in 29 regions. "School milk" is produced by 30 enterprises, concentrated mostly in the Central, Northwest, Volga and Siberian federal okrugs. The programme does not yet cover the whole country because some regions are not yet ready to fund it.

Bids are taken for delivering ultrapasteurized milk to school cafeterias and schools in the programme. The milk must meet the special requirements stipulated in GOST R 52783-2007, Milk for Nutrition of Preschool and School-age Children. School milk is not intended for retail or wholesale sale and is packaged differently from ordinary commercial milk. This special packaging guarantees the transparency of the programme's implementation and ensures that the money is used for its intended purpose. The milk's long storage life reduces storage and transportation expenses.

29 According to Russian Dairy Union calculations.

Several mechanisms are provided for funding the School Milk Programme: federal or local budget funds; national or international funds; or at parents' expense.

The information portal www.schoolmilk.ru provides information on this measure.

Measures for the stable development of the dairy sector

In spite of all the measures that the government has taken in the dairy market, problems remain regarding the limited consumer demand for dairy products, the seasonality of raw milk production, and the lack of opportunities for market participants to obtain long-term loans on favourable terms.

The following have been designated by milk producers (through the National Union of Milk Producers) and processing enterprises (through the Russian Dairy Union) as measures that would create more favourable conditions for the development of the dairy industry:

1. extensive, nationwide promotion of a healthy lifestyle and of the habit of consuming milk and dairy products, and continuation of public service advertising of milk and dairy products;
2. implementation of target programmes aimed at increasing milk consumption, such as the School Milk Programme and targeted support for disadvantaged and socially vulnerable groups;
3. inclusion of milk and dairy products (butter, cheese) as mandatory components of the diet of security services personnel;
4. large-scale inspection measures for checking that dairy product labelling complies with Technical Regulations for Milk and Dairy Products requirements;
5. amendments to the Technical Regulations to change the term used for reconstituted milk and regain consumers' trust in this product;
6. development of an appropriate regulatory framework for complete implementation of the Technical Regulations;
7. inclusion of ultrapasteurized milk, butter and hard cheeses on the list of goods that can be subject to purchasing interventions;
8. enactment of a federal law regulating domestic trade and focused on optimizing the relationships between food product producers and retail chains;

9. extending to 15 years the terms of loans for development of dairy cattle breeding;
10. lowering to zero the rates of import duties on production equipment for dairy industry enterprises that has no domestically produced equivalent;
11. resolving land law issues regarding the assessment, documentation and consolidation of land shares, and unrestricted purchase and sale of agricultural land.

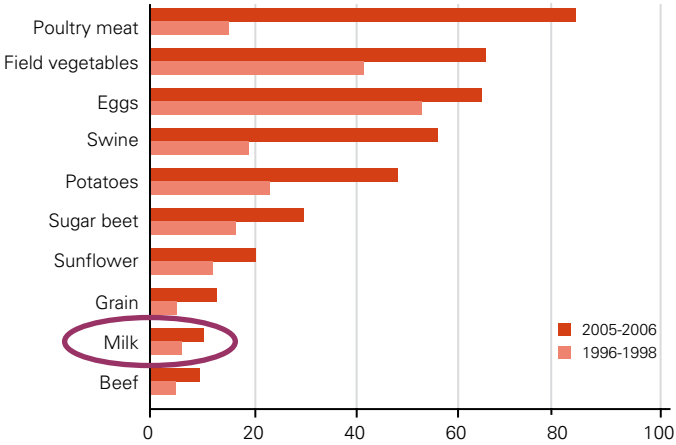
Chapter 8 – Analysis of the competitive environment

Milk production

Milk production is highly fragmented. The 100 largest milk producers account for only 10.6 percent of all commercial product sales by agricultural enterprises, compared with shares for the largest hog producers of 55.8 percent, for poultry producers of 83.0 percent and for vegetable producers of 57.9 percent (Figure 51).

The 100 largest dairy farms' share of total milk production of all categories of farms was a very low 3.4 percent from 2005 to 2006 (Figure 52). In recent years, these farms' share has risen somewhat, but the sector remains highly fragmented with a large number of small farms.

Figure 51
Shares of the 100 largest enterprises in sales of various agricultural products

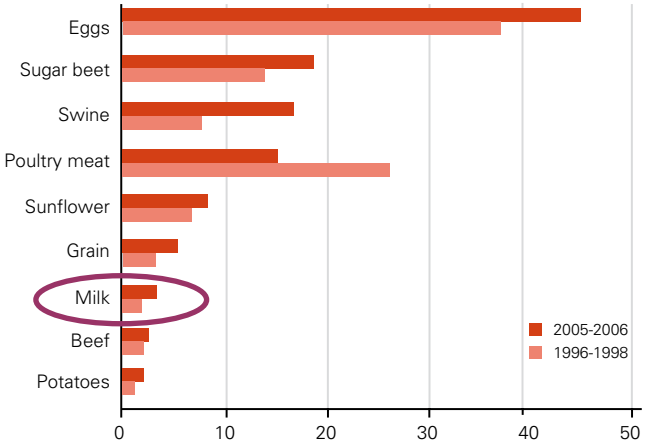


Source: All-Russian Institute of Agrarian Problems and Informatics, *Ranking of large and medium-sized agricultural enterprises in Russia for 2005–2007.*

Heading the list of the largest and most efficient milk production enterprises in the Russian Federation is ZAO Agrokompleks, in Krasnodar Krai, which has the highest average annual number of cows in the country (6 055 head), milk yield of 5 718 kg/cow and an average profit margin of 42.7 percent. This enterprise does not specialize in milk production and is involved in various other businesses: grain, poultry meat and beef, and processing these agricultural products. Agrokompleks is one of the Russian Federation's largest agricultural producers (coming fourth from 2005 to 2007). It operates poultry farms, two grain elevators, a mixed-feed plant, a mill, a butter plant, a cereal plant, a meat packing plant, a dairy plant, a bakery, a confectionery plant, a cannery, a brick plant, a warehouses for finished products, refrigeration facilities and a motor vehicle fleet with specialized trucks for transporting food products for a retail chain.

Second of the 100 largest and most efficient milk production enterprises is ZAO Irmen Breeding Farm in Novosibirsk Oblast. From 2005 to 2007, the profit margin on its milk and dairy products was 68.6 percent, the average annual number of cows was 2 379 and the milk yield was 7 728 kg/cow. This enterprise's core business is

Figure 52
Shares of the 100 largest enterprises in total production of all categories of farms



Source: All-Russian Institute of Agrarian Problems and Informatics, *Ranking of large and medium-sized agricultural enterprises in Russia for 2005–2007*.

the production and processing of grain, milk and meat. It has been assigned almost 21 000 ha of agricultural land, including 18 000 ha of arable land, of which 3 000 ha is irrigated. In the breakdown of its commercial products, milk accounts for 50 percent, and meat and grain for 16 percent each. The breeding farm engages in selection work, provides its own breeding stock and sells cattle to other farms. The enterprise has a milk processing plant and a sausage plant.

In third place is ZAO Nazarovskoe in Krasnoyarsk Krai. Its average annual number of cows from 2005 to 2007 was 3 290 head, with an average annual milk yield of 6 884 kg/cow and an average profit margin of 65.9 percent on milk sales. Nazarovskoe has about 30 000 head of swine and its own facilities for processing agricultural products: a meat packing plant, a mixed-feed plant, a mill and bakeries. It has 57 200 ha of arable land.

The list of the 100 largest and most efficient farms is very stable and changes little from year to year. Over the coming years, small unprofitable dairy farms will leave the market, and complexes with at least 1 000 head of cows and modern equipment will be set up, making it possible to reduce the cost of milk production and increase profit margins.

Worldwide evidence shows that economies of scale below 100 cows are significant. With so much of milk production on household farms with a few cows in the Russian Federation, profits may be low, with few resources for growth and investment. Overcoming seasonality is largely an issue of economies of scale. From an international competitiveness perspective, small-scale, pasture or forage-based systems, with highly seasonal climatic factors, will have difficulty competing in global markets. Large units need housing and access to cheap feed rations. The Russian Federation has some cheap feedgrain.

Processing of raw milk

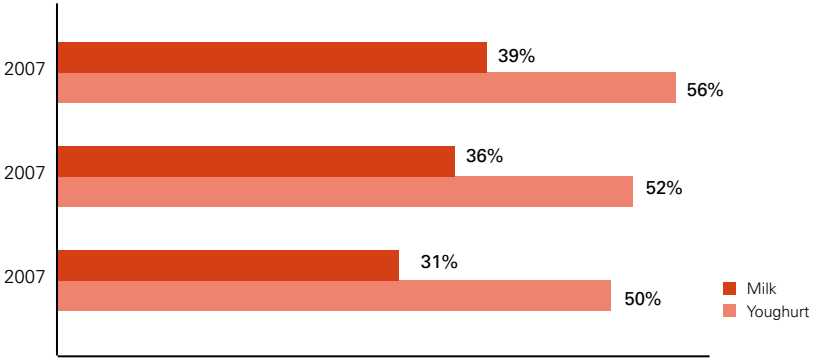
The dairy industry has undergone profound structural changes in recent years. Production is becoming concentrated, with large enterprises getting bigger and small ones leaving the market. Large-capacity plants are generally located in urban areas. In 2005, 53 large enterprises in the Russian Federation each processed more than 50 000 tonnes of milk per year, accounting for 54.1 percent of

all the dairy products produced. Nevertheless, the majority of dairy plants (1 744 enterprises) were classified as small, with processing volumes of less than 20 000 tonnes per year. These accounted for 40.6 percent of total output of dairy products, while 30 medium-sized enterprises accounted for 5.3 percent.[30] Considerable increases in the prices of dairy products, following the same pattern as the international market, have strengthened the trend towards concentration in the processing sector.

When pri ces fluctuate, large processors are more stable than small ones and can transfer cost increases to high-margin categories of goods. Small regional plants whose product mix does not include expensive products are not in a position to withstand price competition with large dairy plants for very long. Many of them are leaving the market or switching to narrowly segmented niches. Mergers also strengthen the processing companies' position in relation to retail chains.

The high concentration of the dairy products market is confirmed by data on the shares of the five leading brands in some categories of dairy products. For instance, the top five brands' share in yoghurt is 56 percent and in milk 39 percent, and this is growing every year (Figure 53).

Figure 53
Share of the top five brands in categories of dairy products (%)



Source: Nielsen Dairy Industry, *Survey of the Russian dairy products market*, 2007.

30 According to Russian Dairy Union data.

A number of the Western companies in the Russian Federation are among the world's 20 largest dairy companies: Nestlé, Lactalis, Danone, Unilever, Campina and Parmalat.

The world leader among dairy companies is Nestlé. In the Russian Federation, it produces ice cream, confectionery, coffee, bottled water, breakfast cereals and animal feeds but has not expressed interest in setting up dairy production.

The French company Lactalis has built a plant to produce its President brand of melted cheeses in the Moscow area.

Unilever has a tea packing facility in the Russian Federation and produces margarine, mayonnaise and bouillon but its only dairy product is Creme Bonjour vegetable/curd cream.

Parmalat's production facilities in the Russian Federation include the Urallat LLC milk production plant in Ekaterinburg and the OAO Belgorod Dairy Plant in Belgorod. The company's main product lines in the Russian market are milk and dairy products (sterilized milk, enriched milk, milk cocktails, sterilized cream), and fruit juices and beverages.

The Netherlands company Campina has built its own plant in Stupino, Moscow Oblast. It produces high-quality yoghurt products and drinks, as well as ultrahigh temperature (UHT) milk and cream packaged in individual servings.

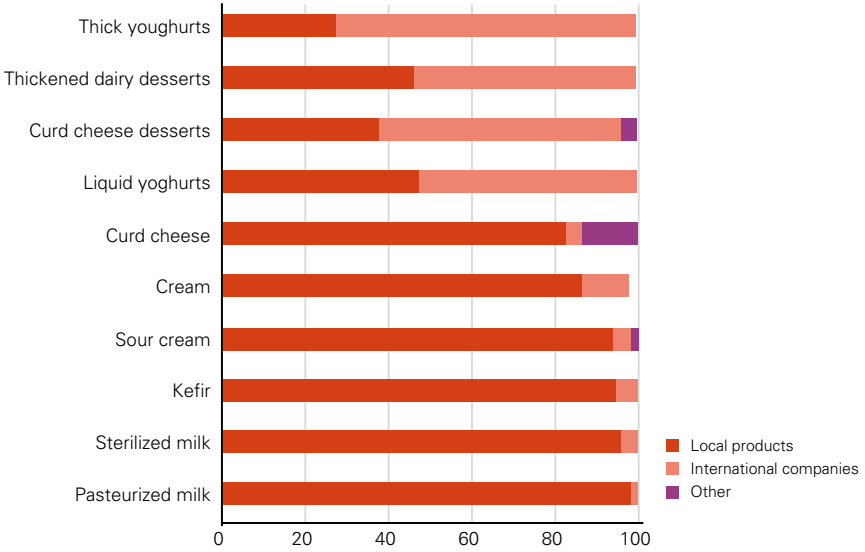
In 2000, Ehrmann Ltd opened a dairy products plant in the Ramenskoe district of Moscow Oblast and now processes more than 300 000 tonnes of milk a year. Ehrmann Ltd is the second largest yoghurt producer in the Russian Federation, with 17 percent of the market in 2007.

Of all the international dairy companies present in the country, Danone is in the strongest position, with the third largest dairy products output in the Russian Federation, after those of WBD and UniMilk LLC. In the Russian Federation, Danone produces mostly yoghurt (for which it is market leader, with a 22 percent share in 2007) and dairy desserts. Danone's production base includes two plants, in Samara and Moscow Oblasts.

International companies represented in the Russian market operate mostly in the yoghurt and dairy dessert segments (Figure 54). Local producers dominate production of the traditional dairy products milk – curd cheese and sour cream – although the presence in the curd-cheese market of producers from other countries, primarily the Republic of Belarus, has been growing recently.

Russian companies (WBD and UniMilk LLC) are the market leaders for raw milk processing. Analysts and market participants estimate that their shares are 30 and 19 percent, respectively. Danone has a 10 percent market share and in recent years has been trying to acquire a blocking stake in WBD. In 2007, Danone increased its share in WBD from 13.7 to 18.36 percent by purchasing shares on the open market. However, Danone and WBD have very different long-term development strategies and product mixes. Danone is not active in the markets for traditional dairy products and juices and WBD controls more than 30 production enterprises, while Danone has just two.

Figure 54
International companies' share of the Russian dairy products market, 2007(%)



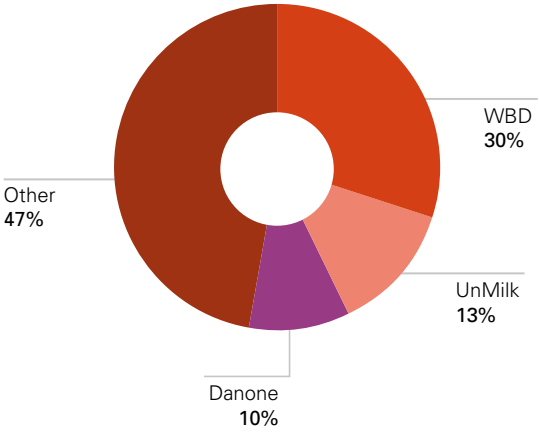
Source: Nielsen Dairy Industry. *Survey of the Russian dairy products market, 2007.*

The three leading producers control about 50 percent of the market for processing of raw milk, making the market highly concentrated (Figure 55).

Although the trend for greater concentration of processing is particularly characteristic of Moscow, St. Petersburg and nearby regions, the dairy markets in other regions have also been undergoing economic integration. WBD and UniMilk LLC each have more than 30 enterprises producing and selling dairy products throughout the Russian Federation and these enterprises are the largest players in their local markets. In some regions, the market share of WBD and UniMilk LLC exceeds 40 to 50 percent (Table 30). This creates a situation in which milk producers have little influence on the price of the raw milk that they deliver, the price being set by the processors. In 2008, purchase prices for raw milk fell.

In the coming years, it can be predicted that integration of the milk processing market will intensify at the regional and federal levels. The form of integration that has become common is to purchase a controlling block of shares in either a processing enterprise or a raw milk producer.

Figure 55
Breakdown of the Russian dairy market by producer (%)



Sources: Estimates of analysts and market participants.

Table 30
Leading enterprises in the production of whole-milk products and rennet cheeses, 2007*

Producer	Production ('000 tonnes)	% of market
Whole-milk products		
Moscow	1 075	100
OAO Lianozovo Dairy Plant (WBD)	687.3	63.90
OAO Ochakovo Dairy Plant (WBD)	124.5	11.60
Moscow Oblast	792.2	100
Danone Industry LLC	227.7	28.70
Ehrmann LLC	100.7	12.70
Campina LLC	88.2	11.10
St. Petersburg	476.4	100
OAO Petmol (UniMilk LLC)	215.2	45.20
Baltic Milk (WBD)	130.6	27.40
Krasnodar Krai	681.7	100
Timashevsk Dairy Plant (WBD)	204.4	30
Novosibirsk Oblast	282	100
OAO Siberian Milk (WBD)	151.5	54
Lipetsk Oblast	166.7	100
OAO Lipetsk Milk (UniMilk LLC)	117.8	70.70
Tyumen Oblast	218.3	100
OAO Yalutorovskmoloko (UniMilk LLC)	105.5	48.30
Krasnoyarsk Krai	254	100
OAO Milko (UniMilk LLC)	113.1	44.50
Samara Oblast	206	100
OAO Samaralakto (UniMilk LLC)	103.7	50.30
Rennet cheeses		
Altai Krai	41.6	100
ZAO Rubtsovsk Dairy Plant (WBD)	11.195	26.90
Republic of Tatarstan	29.3	100
ZAO Edelveis-M Dairy Products Plant (UniMilk LLC)	4.8	16.40
Krasnodar Krai	18.8	100
ZAO Syrodel (UniMilk LLC)	4.2	22.30
Tver Oblast	5.7	100
OAO Staritskii syr (UniMilk LLC)	4	70.20
Republic of Bashkortostan	9.1	100
OAO Tuimazy Dairy Plant (WBD)	3.1	34.10

* WBD is part of the Wimm-Bill-Dann Group; UniMilk LLC is part of the UniMilk Group.
Source: Calculated from Russian Dairy Union data.

Table 31
Characteristics of leading companies in the milk processing market

	WBD – Russian company Founded in 1992	UniMilk – Russian company Founded in 2002	Danone – International company Established in the Russian Federation in 1995
Product mix	• More than 74% of revenues are from sales of dairy products, 17% from beverages, including sales of juices and mineral water, 9% from baby food. • Produces a full line of dairy products.	• Sales volume in 2008 was RUB40 billion. Revenue (2008) RUB19.5 billion. • Dairy products: milk, curd cheese, sour cream, cream, kefir, fermented baked milk, liquid yoghurt, butter, milk cocktail, thick yoghurts. • Baby food: curd cheese, kefir, milk, dried formula, hot cereals, juice, meat and fish purees.	• Sales in Russian Federation were RUB22 billion in 2008. • Focused on production of expensive products. • Not active in the market for traditional dairy products. • Produces liquid yoghurts, curd cheeses, thick yoghurts, kefir.
Production capacities, production volume	Has 37 production facilities in the Russian Federation, Ukraine, Kirghizia, Uzbekistan and Georgia, and a distribution network in 30 Russian cities and CIS countries. Moscow: Lianozovo Dairy Plant (OAO WBD), Tsaritsyno Dairy Plant (OAO), WBD Food Products (OAO), Children's Dairy Products Plant (OAO), Ochakovo Dairy Plant (OAO) St. Petersburg: Baltic Milk (subsidiary of OAO WBD) Voronezh Oblast: Anna Milk (LLC) Kaluga Oblast: Obninsk Dairy Plant (OAO), Obninsk (subsidiary of OAO WBD Food Products) Belgorod Oblast: Moloko Veidelevki (LLC) Voronezh Oblast: Anna (subsidiary of OAO WBD). Food Products Nizhegorod Oblast: Nizhegorod Dairy Plant (subsidiary of OAO WBD) Krasnoyarsk Krai: Nazarovskoe Milk	Milk processing in 2008 was 1 620 million litres. Production in 2008 was 1 286 million kg. The company has 32 enterprises (31 dairy plants and 1 baby food plant) in the Russian Federation and Ukraine, and 72 regional commercial offices. Mordovia • OAO Saransk Dairy Plant: Holds first place in dairy product production in the Republic of Mordovia, with 30% of total production in the region. Listed in the Register of Businesses with Market Share of More Than 35% for a Certain Product for the whole-milk products category, with more than 40% market share in the Republic of Mordovia. Holds first place in milk purchases by industrial processing enterprises in the Republic of Mordovia, with 35% of the total volume of raw milk purchased in the Republic.	Production base in the Russian Federation includes two plants for production of dairy products in Tolyatti, Samara Oblast (since 1995) and Chekhov district of Moscow Oblast (since 2000). Exports products to Kazakhstan, Republic of Belarus, Ukraine and other countries of the former Soviet Union.

	WBD – Russian company Founded in 1992	UniMilk – Russian company Founded in 2002	Danone – International company Established in the Russian Federation in 1995
	(subsidiary of OAO WBD) Altai Krai: Rubtsovsk Dairy Plant (subsidiary of OAO WBD) Krasnodar Krai: Timashevsk Dairy Plant (subsidiary of OAO WBD), Gulkevichi Butter Plant (ZAO) Irkutsk Oblast: Angarsk Dairy Plant (OAO), Molka (subsidiary of OAO WBD) Republic of Bashkortostan: Tuimazy Dairy Plant (OAO), Ufamolagroprom (subsidiary of OAO WBD) Omsk Oblast: Pavlodar Dairy Plant, Pioner Dairy Plant, Krutinka Dairy Plant, Manros M (subsidiary of OAO WBD) Essentuki: Essentuki Mineral Water Plant (OAO) Khanty-Mansi Autonomous Okrug: Surgut City Dairy Plant (subsidiary of OAO WBD) Novosibirsk Oblast: Siberian Milk (subsidiary of OAO WBD), Karasuk Milk (ZAO) Sverdlovsk Oblast: Pervoural City Dairy Plant (subsidiary of OAO WBD) Primorskii Krai: Vladivostok Dairy Plant (subsidiary of OAO WBD) Kursk, Kursk Oblast: EKDP Experimental Baby Food Plant (OAO), Chernomoshnoi (subsidiary of OAO WBD Food Products) Tbilisi (Georgia): Georgian Products (LLC) Tashkent (Uzbekistan): Wimm-Bill-Dann Toshkent (LLC), Toshkent Sut (OAO) Bishkek (Kirghizia): Bishkeksut (OAO) Ukraine: Kiev City Dairy Plant No.	Its main lines of business are: 1. production and sale of whole-milk products; 2. production and sale of cultured-milk products; 3. production and sale of butter, dried skim milk, casein and other products; 4. production and sale of food products from secondary raw material remaining after primary production. • OAO Nadezha: Holds second place in output of hard cheeses among dairy sector enterprises in Republic of Mordovia. Main activities are: production of hard and melted cheeses and butte, and production of low-fat cheese from secondary raw material. Kemerovo Oblast: OAO Kemerovo Dairy Plant is the largest producer of milk and dairy products in Kemerovo Oblast. Republic of Tatarstan: ZAO Edelveis-M Dairy Products Plant Krasnodar Krai: ZAO Tikhoretsk Canned Baby Meat Plant Tver Oblast: • OAO Staritskii syr Processes raw milk and produces rennet cheeses. One of the leaders in production of rennet cheeses in the Tver region, with 72% market share (according to data for 2008). Product mix: rennet cheeses 93.14%, milk 6.86%. The milk is purchased in Tver Oblast (93.5% of total purchases) and in Moscow Oblast (6.5%).	

	WBD – Russian company Founded in 1992	UniMilk – Russian company Founded in 2002	Danone – International company Established in the Russian Federation in 1995
	3 (OAO), Kharkov Dairy Plant (subsidiary of OAO WBD Ukraine), Buryn Dry Milk Plant (subsidiary of AAWBD Ukraine), Buryn Dry Milk Plant (OAO)	• OAO Chany Butter Plant Priority line of business – processing of milk and other dairy products. Novosibirsk Oblast. • OAO Tvermoloko Primary type of activity – processing of raw milk and production of dairy products. A leader in production of whole-milk products in the Tver region. Breakdown of milk purchases in 2007: 86.6% in Moscow Oblast, 12.8% in Moscow Oblast, 0.6% in Vladimir Oblast. The dairy products were sold in: Tver and Tver Oblast (95.2%), St. Petersburg (2.8%), Vladimir and Vladimir Oblast (1.1%), Moscow and Moscow Oblast (0.8%) and Smolensk Oblast (0.1%). • OAO Vesegonsk Butter and Cheese Plant. Primary type of activity – milk collection. 100% of the raw material comes from Tver Oblast. Most of the products are sold in Staritsa, where there is a cheese plant that is part of the UniMilk Group. Sverdlovsk Oblast: OAO City Dairy Plant: Produces dairy and cultured-milk products and sells them to a wholesale and retail network in Sverdlovsk Oblast. Krasnoyarsk Krai: OAO MILKO OAO Tonus-2: Main line of business is provision and use of warehouse and office space. Kostroma Oblast: OAO Kostroma Dairy Plant Lipetsk Oblast: OAO Lipetsk Milk Volgograd Oblast: OAO Volgograd Dairy Plant	

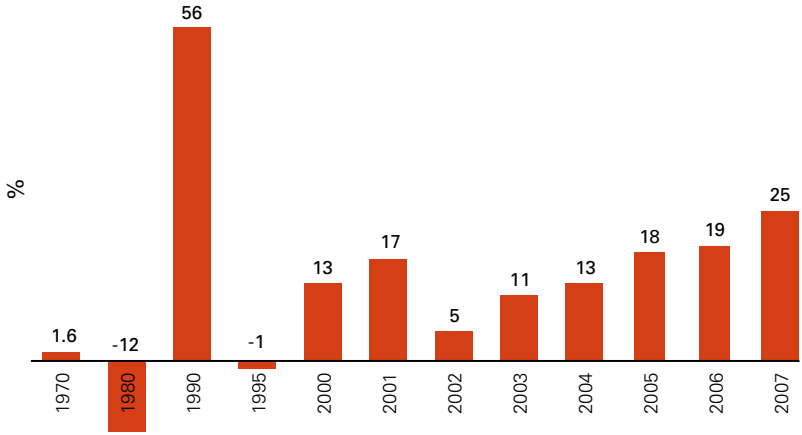
	WBD – Russian company Founded in 1992	UniMilk – Russian company Founded in 2002	Danone – International company Established in the Russian Federation in 1995
		Perm Krai: OAO Permmoloko Samara Oblast: OAO Samaralakto Vladimir Oblast: ΛΛStavrovo Dairy Plant, OAO Vladimir Milk Chuvash Republic: OAO Cheboksary City Dairy Plant Tyumen Oblast: OAO Yalutorovskmoloko Novosibirsk Oblast: OAO Chany Butte Plant, OAO Novosibirsk Dairy Plant St. Petersburg: OAO PETMOL Smolensk Oblast: OAO ROSA SMK Stavropol Krai: OAO Syrodel Tomsk Oblast: ZAO TOM-MAS, OAO Tomskmoloko Kurgan Oblast: OAO Shadrinsk Dairy Plant Ukraine: OAO GALAKTON, OAO Kremenchug City Milk Plant	
Trade-marks	Has a large, diversified portfolio of brands, with more than 900 dairy product items and more than 150 fruit juices, nectars, non-carbonated beverages, and mineral waters. Milk brands: Domik v derevne, Neo, 33 korovy, Chudo, Bio Max, Imunele, Veselyi molochnik, and Beaty. Baby foods: Agusha and Zdraivery. Cheeses: Lamber, etc.	Product lines include such national brands as Bio Balans, Prostokvashino, Letnii den, Petmol, AKTUAL, and TYOMA (baby food).	Portfolio of brands includes Activia, Actimal, Danissimo, Rastishka and Danakor; the first four brands account for 90% of the Russian company's sales
Market share	The Russian market leader in dairy products production, with 30% market share for dairy products, 17.9% for juices and mineral water, and 25% for baby food (in volume). 26% of the baby food production supplied to the Government of Moscow through an annual tender.	Holds second place (after WBD) in the dairy products market (13%). Has 14% market share for baby food products in volume (9% in value).	Holds third place in the market, after WBD and UniMilk LLC, with 10% market share (in volume).

	WBD – Russian company Founded in 1992	UniMilk – Russian company Founded in 2002	Danone – International company Established in the Russian Federation in 1995
Strengths	• Has created a unified production network in Russian regions and CIS countries, having become a nationwide Russian producer. • Large production capacities are not fully utilized, providing an opportunity for growth without additional capital investment, and higher-quality products. • High degree of innovation and opportunities for developing new products and marketing. • Strong and diversified trademarks. • Access to sources of raw materials. • Modern production base and technologies. • Its own distribution network. • First (and only) producer of dairy products to receive (in 2005) permission to export its products to EU countries. • Has received an international certificate of compliance with the British Retailer Consortium (BRC) standard, which is recognized by all retail chains in EU countries	• Structured portfolio of national brands. • Optimum production platform. • Well-developed distribution and sales system.	• Aggressive advertising policy. • Production expertise enables it to market high-quality products produced with the latest technologies. • Owns a 18.36% stake in WBD.
Development strategy, plans	• Strategy is to produce dairy products in the region where they are consumed, supplying the Russian market with the best dairy products at acceptable prices. • Intends to make use of its advantages by promoting its trademarks, with an emphasis on improving the quality of its products and developing new products that are on a par with Western production in taste and consistency. • Is consolidating its dairy assets, to turn all 14 holding enterprises into subsidiaries of a single company. To do this, has begun to buy shares from minority shareholders.	• Construction of a milk processing plant in the Novoaleksandrovsk Industrial Park (Azov district of Rostov Oblast). • Oriented to production of traditional and innovative dairy products that satisfy changing consumer demand. • Consolidation of enterprises for production and sale of dairy products that are the largest players in local markets.	• Expansion of production at the existing plant in Chekhov district, to 400 000 tonnes per year. • The plant in Chekhov district is the Danone Group's most technologically advanced in the world. • Increase its stake in WBD.

Chapter 9 – Profit margins and investments in the dairy sector

Average profit margins in the dairy sector have risen steadily in recent years. In 2007, the profit margin on milk and dairy products sold by agricultural enterprises rose to 25 percent, although this is still lower than the 1990 level, when the sector was receiving significant subsidies from the government (Figure 56). Some dairy farms regularly have high profit margins (Annex 1), such as: ZAO Irmen Breeding Farm (Novosibirsk Oblast) – 68.6 percent from 2005 to 2007; ZAO Nazarovskoe (Krasnoyarsk Krai) – 65.9 percent; Frunze Collective Farm (Belgorod Oblast) – 78.3 percent; and Znamya Lenina Collective Farm (Krasnodar Krai) – 74.4 percent. The average profit margin for the top 100 milk and dairy products producers is about 41 percent.

Figure 56
Profit margins on milk and dairy products sold by large and medium-sized agricultural enterprises, 1970–2007* (%)



* Including processed products after 2000.
Source: Rosstat.

Profit margins vary markedly from one region to another. With the decline in purchase prices for raw milk in 2008/2009, in many regions, the cost of milk production is higher than the selling price, making the sector unprofitable. In 2008, agricultural enterprises' sales of milk were unprofitable in 21 of the Russian Federation's 83 regions (Table 32).

The positive trend in dairy sector profit margins is due to new investment projects to create dairy farms with modern equipment, better feed supplies and a more efficient composition of breeding stock (Table 33). Investors are interested in constructing and modernizing dairy complexes because of the shortage of raw material in the dairy market, and the designation of dairy farming as a priority for Russian agriculture in the National Development of the Agro-industrial Complex Project and the government programme for development of agriculture from 2008 to 2012. According to data from the Delaval Company, which is one of the main suppliers of equipment for dairy farms (controlling more than half of the total Russian market for such equipment), the company's sales rose by 50 to 60 percent a year from 2005 to 2007. It should be noted that about 70 percent of equipment in the sector is old and deteriorated but most of these equipment deliveries were to new farms. The sharp increase in the price of raw milk in 2007 was an additional incentive attracting investments to the sector, although the beginning of the financial crisis and the decline of purchase prices for milk make it likely that the number of new investment projects will decrease in the near future.

Investments in agriculture and the production of food products have risen for the last five years (Table 34). The increasing of credits and loans for agricultural producers is one of the government measures to support agriculture. In 2004/2005, a total of RUB75 million of loans were issued under government programmes to support agricultural enterprises. In 2006/2007, loans amounting to RUB152.6 billion were issued under the National Development of the Agro-industrial Complex Project.

In 2008, the credits and loans obtained with interest rate reimbursements under the government Programme for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012 amounted to RUB372billion, more than 39 percent of which

Table 32
Distribution of regions by profit margin on milk and dairy products for agricultural enterprises, 2008*

Profit margin (%)	Number of regions	Region
Profitable	62	
		Republics: Buryatia, Dagestan, Tuva, Chuvash
		Krai: Primorskii
Up to10	14	Oblasts: Arkhangelsk, Belgorod, Voronezh,
		Kostroma, Lipetsk, Murmansk, Rostov, Tambov,
		Chelyabinsk
		Republics: Adygeya, Bashkortostan, Kabardino-Balkar,
		Karachaevo-Cherkess, Tatarstan, Udmurt
		Krais: Krasnodar, Stavropol
10.1–20	27	Oblasts: Bryansk, Volgograd, Ivanovo, Irkutsk,
		Kaluga, Kemerovo, Kurgan, Moscow,
		Nizhegorod, Novgorod, Orel, Penza,
		Pskov, Ryazan, Sverdlovsk, Tver, Tomsk,
		Tyumen, Ulyanovsk
		Republic: Marii El
		Krais: Altai, Perm
20.1–30	15	Oblasts: Amur, Vologda, Kirov, Leningrad,
		Orenburg, Omsk, Samara, Saratov, Smolensk,
		Tula, Yaroslavl
		City: St. Petersburg
		Republic: Mordovia
More than 30	6	Krai: Krasnoyarsk
		Oblasts: Vladimir, Kaliningrad, Novosibirsk
		Autonomous Oblast: Jewish
Unprofitable	21	
		Republics: Altai, Karelia, North Ossetia-Alania, Khakasia
Up to -10	8	Krai: Kamchatka, Khabarovsk
		Oblasts: Astrakhan, Kursk
		Republics: Ingushetia, Kalmykia, Komi, Sakha (Yakutia),
		Chechen
More than -10	13	Krai: Transbaikal
		Oblasts: Magadan, Sakhalin
		Autonomous okrugs: Aga Buryat, Nenets, Khanty-Mansi
		Chukchi, Yamalo- Nenets

* Excluding subsidies from the budget.
Source: Ministry of Agriculture. 2009. Progress and results of implementation in 2008 of the government Program for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012.

Table 33
Company investments in dairy farming

Company	Project	Region	Investment	Implementation period
Russkie Fermy Fund	The Russkie Fermy-Belgorod dairy farm: 5 000 milk cows and 25 000 ha of land (leased for 49 years) by 2007, 20 000 head and 35 000 ha of land by 2012, 25 000 ha of land	Belgorod Oblast	RUB300 million. Plans to invest about RUB10 billion in milk in the next 10 years	2007–2012
Russkie Fermy Fund	1 800 head	Stavropol Krai	RUB300 million	
UniMilk	Verbilki Dairy Complex: 1 600 head	Lipetsk Oblast	More than RUB500 million	2006–2007
UniMilk	4 farms: 1 200 cows each	Tyumen Oblast	More than RUB250 million Oblast administration has defrayed expenses for purchasing the herd	Commissioned in 2006
UniMilk	Equipment and consulting for dairy farms	Areas where the company sources raw materials	RUB900 million	2003–2006
Krasnyi Vostok Agro	4 mega-farms: 4 800 cows and 1 000 young stock each	Republic of Tatarstan	€10–15 million (one mega-farm)	2003–2005
Wimm-Bill-Dann	Milk Rivers Programme	All federal okrugs	US$7 million	Since 1999
Wimm-Bill-Dann	OAO Molochnyi Kombinat 2 000 head	Krasnodar Krai	US$12 million	
Campina	Equipment and consulting for dairy farms	Moscow Oblast	US$1.5 million	1999–2005
Petmol	Baltic Sea Programme	Leningrad Oblast	US$10 million	1999–2001
Nutritek	Mega-farm: 2 400 head	Vologda Oblast	RUB383.5 million	2007–2008
Rozhdestvo	1 500 head	Vladimir Oblast		
Dmitrova Gora	54 000 head (beef and dairy herd)	Tver Oblast	RUB1 billion	
Gatchina	1 000 head	Leningrad Oblast	€12 million	

Company	Project	Region	Investment	Implementation period
UniMilk LLc	Novaya Zhizn Agrocompany: 1 000 head	Tula Oblast	RUB500 million	
Rassvet	1 000 head	Orenburg Oblast	RUB300 million	
Belyi Fergat	4 farms: 1 200–2 000 head each	Orel Oblast	RUB600–700 million per farm	Construction began in 2008
Razgulyai	2 farms: 600 head each	Belgorod and Kursk Oblasts	US$20 million	Construction began in 2008
Ashatli Holding Company	Niva enterprise: 1 140 head	Perm Oblast		Commissioned in 2008
Molis Production and Investment Company Ltd	Farm: 2 500 head	Orel Oblast	RUB1 billion	Since 2008
ZAO Orel-selprom	Farm: 1 200 head	Orel Oblast		Since 2008
Russian Milk Company Ltd	Farm: 3 600 cows	Penza Oblast	RUB1.6 billion	2008–2010
Razvitie Regionov Holding Company	2 farms: 2 000 head each	Ryazan Oblast		End of 2009
EkoNiva Group	Farm: 226 head	Kursk Oblast	RUB27 million	Commissioned in 2009
Molochnyi Holding Manage-ment Company (formerly Babaevo Milk)	8 mini-farms in each oblast: 150 dairy cows each	Lipetsk and Tambov Oblasts	RUB2 billion	Construction began in 2009
Avida Agricultural Holding Company	Total capacity: 6 800 cows. Phase 1 will provide 2 000 head and 48 tonnes of milk/ day	Belgorod Oblast	RUB1.1 billion (phase 1)	Construction began in 2009
Agrokultura Ltd	Berezovskoe Ltd Complex: 2 000 head	Voronezh Oblast		Commissioned in 2010
OAO Wimm-Bill-Dann	Farm: 2 400 dairy cows	Krasnodar Krai	RUB800 million	Commissioned in 2010
Puls stolitsy Bank	Farm: 600 head	Orel Oblast	RUB500 million	Construction began in 2009
TrioPlus Agrofirm	Farm: 2 400 head	Lipetsk Oblast	More than RUB955 million	Commissioned in 2009
Neelsen Group	Several farms: 10 000 head	Novosibirsk Oblast		Construction began in 2010

Company	Project	Region	Investment	Implementation period
KaaKhem Municipal Unitary Enterprise	Complex: 200 head	Republic of Tuva	RUB57.449 million	Commissioned in 2010
Akbashev State Farm	Reconstruction of dairy complex with 500 head	Chelyabinsk Oblast	RUB39 million	Will be commissioned in 2010
Tambovmo-loko Ltd (Cherkizovo Group)	8 dairy farms with 150 head each	Tambov Oblast	RUB90 million – financing for one farm	Will be commissioned in 2010
Yuzhnoe State Unitary Enterprise of the Komi Republic	Farm: 400 head	Komi Republic	More than RUB90 million	2009–2010
Voskhod-Agro Ltd	Farm: 800 head	Perm Krai		Construction began in 2010
ZAO Volga Agrofirm	Farm: room for 800 head	Saratov Oblast		Commissioned in 2010
Alatau Agro-industrial Holding Company Ltd (Allat Group)	Farm: 1 800 head	Republic of Bashkortostan		Commissioned in 2010
ZAO Agro-transservis	Farm: 1 200 head	Lipetsk Oblast	RUB800 million	Commissioned in 2010
No data	Farm: 2 400 head	Lipetsk Oblast	RUB955 million	Commissioned in 2009
Zapadnoe Ltd	Farm: 2 000 head	Altai Krai		Commissioned in 2010
V.M. Funker individual farm	Farm: 2 200 head	Altai Krai	RUB536 million	Construction finished in 2009
OAO Gastello	Farm: 1 200 head	Altai Krai	RUB500 million	Construction finished in 2009
OAO Tolstovskoe	Farm: 1 200 head	Altai Krai	RUB462 million	Construction finished in 2009
OAO Rodina	Farm: 700 head	Arkhangelsk Oblast		Construction began in 2010
Sibirskaya niva Ltd	Farm: 1 200 head	Novosibirsk Oblast	RUB390 million	Commissioned in 2009
Moloko Production Company Ltd	Farm: 1 200 head	Tyumen Oblast	RUB580 million	Commissioned in 2009
Prodkor-poratsia Ltd	Farm: 900 head	Republic of Tatarstan		Commissioned in 2009
AgroGrad	Farm with 1 100 head	Lipetsk Oblast		Commissioned in 2009

Sources: Mass media

Table 34
Investments in agriculture and production of food products

Investment	2004	2005	2006	2007	2008
Investments in fixed assets, billion roubles (in prices at the time):					
Agriculture, hunting and fishing, and forestry	116.6	142.3	224.2	336.5	No data
Production of food products	93.3	112.6	128.0	169.5	No data
Companies' financial investments, billion roubles					
Agriculture, hunting and fishing, and forestry	17.2	23.8	35.7	44.1	71.3
Production of food products	106.8	115.6	225.3	243.4	313.0
Foreign investments, million US$					
Agriculture, hunting and fishing, and forestry	121	156	325	468	862
Production of food products	936	1 210	1 393	2 907	3 974

Source: Rosstat.

were for investment. Of these loans, 44 percent were from Rosselkhozbank, 21 percent from Sberbank of Russia, 21 percent from other banks, and 1 percent from credit cooperatives.[31]

Making investment loans more available significantly accelerated the modernization of agriculture. To promote the development of animal husbandry, the National Development of the Agro-industrial Complex Project facilitated loan contracts or agreements with banks for 1 047 enterprises, of which 72 percent specialize in cattle products, mostly milk; 25 percent in swine products; and 3 percent in other segments of animal husbandry. Total loans obtained for construction, reconstruction and modernization of animal husbandry complexes (farms) amount to more than RUB96 billion.
In 2008, 109 new dairy cattle breeding facilities with 42 000 cows were put into operation; and 368 dairy complexes were reconstructed and modernized, adding another 22 600 head to the dairy herd. The new and modernized facilities produced 119 738.6 tonnes of milk in 2008 (Table 35). Major projects in dairy cattle breeding were carried out in

31 Ministry of Agriculture. 2009. Progress and results of implementation in 2008 of the Government Program for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012. RF Agriculture Ministry.

Voronezh, Belgorod, Lipetsk, Kursk, Ulyanovsk and Penza Oblasts, the Chuvash Republic and other regions of the country. Subsidized loans were used to construct or renovate 200 reception stations for the primary processing and cooling of milk, with a total capacity of 952 tonnes per shift.

In the second half of 2008, the crisis in banking reduced the availability of loans for enterprises in the real sector of the economy, including agriculture, because banks imposed stricter terms for the granting of loans by:

- increasing the interest rate on loan contracts to 18 to 20 percent;
- decreasing the coefficient applied to the assessment of collateral to 0.5;
- increasing the charge for opening a line of credit to 1 percent;
- (Sberbank of Russia) introducing a new charge for using credit of 1 percent;
- introducing mandatory insurance of collateral for short-term loans (long-term loans were already subject to this condition).

Table 35
Dairy cattle facilities commissioned, reconstructed and modernized, 2008

	Russian Federation
Number of new facilities commissioned	**109**
Number of cows at commissioned facilities	**42 342**
Milk production at commissioned facilities (tonnes)	**119 738.6**
Number of reconstructed and modernized facilities	**368**
Increase in number of cows at reconstructed and modernized facilities	**22 648**
Increase in volume of milk produced at reconstructed and modernized facilities (tonnes)	**92 357.4**
Number of places for cows created at the new facilities	**67 439**
Number of places for cows created by the reconstruction and modernization of facilities	**125 529**

Source: Ministry of Agriculture. 2009. Progress and results of implementation in 2008 of the government Program for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012

This credit situation increased the costs to enterprises obtaining and servicing loans and had a negative effect on their economic and financial conditions. This trend for tightening the lending terms for enterprises continued in 2009, resulting in the suspension of some of the dairy farming projects that were already being implemented. In 2008, to put a dairy complex of 1 000 to 1 500 cows into operation, investments of RUB500 to 800 million were needed, with a payback period of eight years. At present, loans with 10- to 15-year payback periods and 100 percent compensation of the Central Bank's refinancing rate are needed to recoup the investments in a mega-farm and make a profit.

	Federal okrug					
Central	Northwest	Southern	Volga	Ural	Siberian	Far Eastern
24	6	10	34	11	13	11
11 728	1 140	3 143	15 765	5 048	3 375	2 143
38 676.5	2 448.0	11 562.0	37 070.1	21 245.0	6 042.8	2 694.2
45	10	37	249	4	16	7
4 987	580	9 439	5 400	0	1 796	446
17 286.1	1 758.0	48 640.0	15 568.7	1 168.0	7 527.6	409.0
17 893	3 260	7 900	25 950	6 686	1 800	3 950
20 380	2 400	12 780	86 708	230	2 355	676

Chapter 10 – Conclusions: prospects for the development of the Russian milk and dairy sector

The outlook

According to forecasts by the Ministry of Agriculture, which take into account the measures planned under the Program for Development of Dairy Cattle Breeding and Increasing Milk Production in the Russian Federation in 2009 to 2012, milk production will increase from 32.4 to 37 million tonnes by 2012 (Table 36) and average milk yields will rise to 4 500 kg/cow/year. Strengthening the dairy cattle breeding base will increase the percentage of the animals of high breed in the total number of cattle from the current 8 to 15 percent. These figures are target indicators for the government programme to support the dairy sector.

Table 36
Forecasts of dairy cattle breeding, 2008–2012

Parameter	Unit	2008	2009 plan	2010 plan	2011 plan	2012 plan
Milk yield per cow per year on farms of all categories	kg	3 501*	3 950	4 200	4 350	4 500
Total milk production	million tonnes	32.4	34	35	36	37
Head of dairy cows	'000 head	9.1	9.0	9.0	9.0	9.0
Per capita milk production	kg	228	239	246	254	261
Purchase of young dairy cattle breeding stock	'000 head	65.0	100.0	100.0	100.0	100.0
Sales of young breeding stock	'000 head	50	60	70	80	92
Calf crop	head/100 cows	77	78	79	80	82
Percentage of breeding stock in total number of cattle	%	8.0	9.0	11.0	13.0	15.0

* 2007.
Source: Ministry of Agriculture. Program for Development of Dairy Cattle Breeding and Increasing Milk Production in the Russian Federation in 2009 to 2012.

At the same time, new risks have to be taken into account; primarily these risks are associated with the financial crisis, which may hinder stable development of the dairy sector in the near future. The main problem is the decline of real household incomes and consumer demand. From January to April 2009, retail sales of food products fell by 1.9 percent, compared with 11.4 percent growth during the same period in 2008.[32] Under these conditions, the producers of food products will change their product mix to favour cheaper categories of goods.

The development of animal husbandry will also be affected by the decline in investment activity and the increased cost of obtaining loans. Depreciation of the rouble will have a negative effect on farms' opportunities for importing breeding animals, equipment and vehicles. It is, therefore, necessary to concentrate on developing the country's own breeding base and organizing domestic equipment production.

On the whole, the Russian Federation's dairy sector has certain competitive advantages in the domestic market. In spite of the problems facing the sector, positive trends have been seen. The breed composition has changed towards highly productive dairy cattle genotypes and more dairy farms are using modern technological solutions to procure feed, feed and care for and milk their cows, thereby achieving productivity similar to that in the EU. However, the sector will not be able to realize its full potential without government support and regulation, and private investments.

Challenges and responses

The shape of the Russian Federation's dairy sector has changed dramatically since the start of the economic reforms: large transnational dairy processing companies have appeared on the domestic market; although per capita dairy consumption has decreased, new products such as yoghurt are available to domestic consumers; annual yields per cow have increased notably, exceeding the best Soviet indicators; and new marketing channels have been established.

32 Ministry of Agriculture. 2009. Progress and results of implementation in 2008 of the Government Program for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012.

Drivers of Growth

Following a significant recession in the sector – due to a fall in purchasing power among the population following the lifting of food subsidies and price liberalization in the early 1990s – in the new millennium, the sector is experiencing growth based on significant modernization of both farms and processing plants.

The major drivers of growth in the Russian Federation's dairy sector include domestic demand and import substitution. This means that periods of falling incomes and weak national currency hamper the opportunities for growth in the dairy sector.

As in other subsectors of the Russian Federation's agrifood sector, the processing industry is a driver of the overall food chain. After the financial crisis of 1998, substantial domestic and foreign investments were made in the processing industry, which is highly concentrated in a few large modern companies that dominate the domestic market, although there are also many small processing plants oriented to local markets.

Deficit of Quality Raw Milk

The main obstacle to development and updating of dairy processing is the deficit of quality raw milk. About half of all raw milk is produced on household farms that cannot comply with the high standards of modern dairy plants. In addition, an underdeveloped milk collection network leads to high transaction costs for processors. This situation can be partially solved by establishing efficient producer cooperatives and other pooling systems, which collect raw milk from individual smallholders, guaranteeing deliveries of sufficient volume and quality to the plants. However, cooperatives are still in their early stages of development in the Russian Federation.

Large-scale milk producers also do not always comply with the high requirements of modern dairy companies, which often supply their contracted dairy producers with modern technologies for the on-farm collection and primary processing of raw milk. However, dairy companies that make this kind of investment run the risk of their suppliers opting to deliver milk to other buyers.

Given the current structure of the primary production sector, with as much as 50 percent of milk production originating on small farms, the cost structure by farm size has important implications

for future industry development. Evidence in the global dairy industry suggests that there are significant economies of scale in milk production, starting at a small number of cows, and continuing to above the 3 000 cow herd size. One study in the United States concluded that production costs may fall as much as 50 percent from 50 to 500 cow herds. Costs of small farms are proportionately higher and operational cost differences are overcome only through significantly lower returns to owner labour. The implications for the milk sector in the Russian Federation indicate that if large operations continue to grow, they will put downward pressure on returns and incomes of smaller farms, which have higher costs, and limit their opportunities for growth and development. The end result will be increasing polarization of the industry in terms of size and market opportunities, with pressures causing small producers to exit. The achievement of various industry targets, such as reduced seasonality and increased adherence to milk quality standards, depends on reducing associated costs and will only be achieved with larger, but lower unit cost, farms. The market for highly seasonal and low quality milk may continue to shrink, requiring increased policy attention including higher farm support, as well as specialized marketing strategies.The government has already taken several measures to address the issue of quality raw milk by investing in the modernization of dairy farms, establishing smallholders' cooperatives and introducing new, up-to-date technical standards for dairy products. These measures are well targeted but not always adequately designed or implemented.

The ambitious government programme to support medium-term investments in the dairy sector introduced subsidized bank loans for dairy companies' investment programmes. In 2007/2008, several companies took advantage of these subsidies but the financial crisis of 2009 made it difficult for the government to continue making them and brought a number of large dairy companies to the verge og bankruptcy. The departure from the market of these large dairy producers may slow future progress in the sector.

In addition, the new technical standard was introduced without proper preparation, creating problems in the dairy sector in 2009 and aggravating the already challenging situation on the dairy market. Policies and programs should be designed to encourage investments and assure that standards can be met. These investments will permit the growth of milk pooling, advanced

transportation/collection systems and milk testing protocols that are critical in the interface with large, modern milk processing firms. Support to smallholder milk producers' cooperatives faces a deficit of adequate equipment on the domestic market.

A deficit of raw milk has caused vertical integration, with the contracting of farms by processors at various degrees of integration. Several large dairy companies have developed their own primary sector but the consequences of this vertical integration are still not clear. Although there are certainly advantages, there are also many disadvantages, such as monopsonic effects, manageability challenges and social risks in rural areas.

The Challenge of Cheap Imports

Another long-term problem for the dairy sector is competition with subsidized imports: high-value cheeses from the EU and a wide variety of dairy products, particularly dried milk, from the Republic of Belarus. The government has introduced import limitations, but these have been of limited help as the Republic of Belarus and the Russian Federation have a Customs Union. In 2010, the Russian Federation, along with several other countries of the CIS, entered a broader Customs Union, which seems likely to widen the spectrum of problems on domestic markets, including dairy markets, because the members of this union have very diverse domestic policies. Prior to establishing the Customs Union, the countries of the CIS should have done more to harmonize their domestic agricultural policies, at least along the major food chains.

Recently, government support in the EU has diminished, its exports have stagnated, and its trade share in international markets has fallen. As the policy landscape has changed, world dairy prices have shown an increasing trend in recent years. This has implications for the Russian Federation, which remains one of the world's largest importers of milk products, specifically cheese and butter, because higher import prices will lead also to higher domestic prices which may in turn stimulate domestic processing and milk supplies. However, continued domestic supports for the dairy sectors in the Republic of Belarus and Ukraine may tend to offset this impact, as greater trade from these countries may crowd out domestic growth in the Russian Federation sector. If a more equitable policy effort is achieved among trading countries, growth prospects for the Russian Federation sector will be improved.

Encouraging Increased Milk Production

In the last two to three years, raw milk production has faced low profitability and loss making, as purchasing prices have ceased to cover production costs at the farm level. On the one hand, this has led to significant restructuring aimed at reducing costs while, on the other hand, modernization and restructuring incur loans, which increase production costs and require time. Government support for the milk farming sector is, therefore, needed.

At the same time, a limited demand for dairy products discourages farmers from increasing their milk production. Domestic demand is restricted by the incomes of low- and middle-income population groups, which have changed very little since the financial crisis, in spite of the continuously increasing costs of services. The Russian Federation is a traditional net importer of dairy products and so is unlikely to become a net exporter in the medium term. The global market is too competitive and growing demand for dairy products will likely be supplied by other countries. Dairy product production, from large firms such as Nestlé, Fonterra, etc., now have global scope and technologies that are critical to capturing rising demand for specialty products.

In addition, the share of dairy imports on the domestic market is small, so growth in demand can best be achieved by special government programmes such as the School Milk Programme, which can provide temporary growth in demand to support milk producers while purchasing prices are falling.

Land Tenure

The land tenure issue is a general bottleneck to overall primary agriculture. Federal legislation on land and land transactions is in urgent need of reform to ease access to land for investors in agriculture. The land-sharing system provided a fairly good mechanism for land privatization during the early stages of the transformation. However, the current system of shares that stipulate investors' land acquisitions hampers financial inflows into agriculture and should be replaced by a more rational scheme for transferring shares, accompanied by the securing of property rights for the rural population. The transaction costs for land deals (rent, purchases and others) are often prohibitive, which also constrains investments; land legislation should, therefore, be changed towards more transparent, efficient and coherent land registration and turnover mechanisms.

Training and Capacity Building

Another general problem of agrifood chains is the deficit of qualified workforce and management. The Russian Federation urgently needs to reform its entire system of education, training and extension. Previous efforts have been inadequate and businesses report that the lack of skilled workers and managers is one of the most serious challenges to development.

ANNEX 1
Ranking of the top 100 milk producing enterprises in the Russian Federation, 2005–2007

Ranking	Republic, krai, oblast	District	Farm*
1	Krasnodar Krai	Vysleki	ZAO Agrocompleks
2	Novosibirsk Oblast	Ordynskio	ZAO Irmen Breeding Farm
3	Krasnoyarsk Krai	Nazarovskoi	ZAO Nazarovskoe
4	Moscow Oblast	Domodedovo	ZAO PZ Barybino
5	Moscow Oblast	Domodedovo	ZAO Povadino Breeding Farm
6	Irkutsk Oblast	Usolye	Agricultural OAO Belorechenskoe
7	Vologda Oblast	Gryazovets	SPK Zarya Breeding Far
8	Vladimir Oblast	Suzdal	SPK Starodvorskii Breeding Farm
9	Krasnodar Krai	Bryukhovets	AZOT Pobeda
10	Belgorod Oblast	Belgorod	Frunze Collective Farm
11	Moscow Oblast	Shatura	Shaturskii Branch of the Agro-industrial Complex
12	Krasnodar Krai	Kanevskaya	AAF Pobeda Breeding Farm
13	Krasnodar Krai	Dinskaya	OAO Chapaev Breeding Farm
14	Sverdlovsk Oblast	Iribit	SPK Kilachevskii
15	Moscow Oblast	Odintsovo	ZAO Naro-Osanovskii Breeding Farm
16	Moscow Oblast	Lukhovitsky	Leinin Collective Farm
17	Kirov Oblast	Kumyony	OAO Oktyabrskii Breeding Farm
18	Krasnodar Krai	Starashcherbinskaya	SPK Znamya Lenina (collective farm)
19	Vologda Oblast	Vologodsky	Rodina Breeding Farm Collective Farm
20	Krasnodar Krai	Kanevskaya	ZAO Druzhba

Average for 2005–2007

Average annual number of cows	Total milk yield (tonnes)	Milk yield per forage cow (kg)	Revenue from milk and dairy products sold ('000 RUB)	Profit from milk and dairy products sold (RUB/centner)	Cost of production of milk and dairy products sold (RUB/ centner)	Price of milk and dairy products sold (RUB/centner)	Profit margin on milk and dairy products sold# (%)
6 055	34 621	5 718	262 394	78 537	565	806	42.7
2 379	18 387	7 728	263 781	107 348	889	1500	68.6
3 290	22 650	6 884	189 121	75 113	591	981	65.9
3 829	24 703	6 451	196 149	51 122	674	911	35.2
2 682	19 090	7 118	164 678	59 620	606	950	56.7
4 471	21 409	4 789	318 693	39 395	1297	1 480	14.1
2 490	17 657	7 090	170 402	42 085	769	1 022	32.8
2 433	16 397	6 740	143 954	53 899	592	946	59.9
2 670	16 953	6 349	132 182	48 843	522	828	58.6
2 500	16 018	6 407	126 019	55 360	40	838	78.3
2 006	16 269	8 110	157 234	37 593	758	997	31.4
2 500	16 672	6 669	136 759	36 459	710	968	36.3
2 577	13 100	5 083	118 012	45 309	598	971	62.3
2 011	14 159	7 042	116 977	39 051	588	883	50.1
2 370	15 223	6 423	153 671	33 417	822	1 051	27.8
2 630	13 381	5 087	129 325	33 554	734	991	35.0
1 945	13 538	6 959	103 796	39 266	452	727	60.9
1 751	11 958	6 831	106 757	45 542	553	964	74.4
1 647	12 664	7 691	114 221	32 963	690	969	40.6
1 900	12 130	6 384	105 816	32 366	655	944	44.1

21	Krasnodar Krai	Novokubansk	PK SKKh Rodina Collective Farm
22	Vologda Oblast	Gryazovets	Avrora Breeding Farm
23	Moscow Oblast	Volokolamsk	Put Ilicha Collective Farm
24	Vladimir Oblast	Yurgev-Polskii	SPK Shikhobalovo
25	Orel Oblast	Orel	OOO Maslovo
26	Krasnodar Krai	Vyselki	ZAO Ilich AF
27	Krasnodar Krai	Kalinin	PK Oktyabr
28	Sverdlovsk Oblast	Irbit	Ural Collective Farm
29	Krasnoyarsk Krai	Kansk	OAO Krasnyi Mayak Breeding Farm
30	Moscow Oblast	Podolsk	ONO EKh Klenovo-Chegodaevo
31	Stavropol Krai	Kochubeevskoe	SKKh Kazminskii Breeding Farm-Collective Farm
32	Moscow Oblast	Stupino	ZAO Leontyevo
33	Bryansk Oblast	Starodub	TNV Krasnyi Oktyabr
34	Leningrad Oblast	Kingisepp	ZAO AgroBalt Breeding Farm
35	Moscow Oblast	Domodedovo	APK Rus Breeding Farm LLC
36	Krasnoyarsk Krai	Uzhur	ZAO Solgonskoe
37	Altai Krai	Petropavlovskoe	AKKh Anuiskoe LLC
38	Sverdlovsk Oblast	Kamensk	OAO Kamenskoe
39	Krasnodar Krai	Novopokrovskaya	OAO Raduga
40	Krasnodar Krai	Kanevskaya	ZAO Urozhai Breeding Farm
41	Leningrad Oblast	Volosovo	PZ ZAO Rabititsy
42	Krasnodar Krai	Timashevsk	ZAO AF Rus
43	Krasnodar Krai	Gulkevichi	SPK Nasha Rodina Breeding Farm-Collective Farm
44	Vologda Oblast	Sokol	OAO Vologodskii Kartofel
45	Krasnodar Krai	Kanevskaya	ZAO Kolos Breeding Farm
46	Chelyabinsk Oblast	Etkul	AZOT Koelginskoe Enterprise
47	Kaluga Oblast	Zhukovo	Lenin Collective Farm
48	Vologda Oblast	Gryazovets	50-Letiya SSSR Breeding Farm-Collective Farm
49	Krasnodar Krai	Kanevskaya	ZAO AFP Niva
50	Leningrad Oblast	Priozyorsk	ZAO PZ Grazhdanskii
51	Krasnodar Krai	Krasnoarmeiskaya	GP Maisterenko Krasnoarmeiskii
52	Krasnodar Krai	Novokubansk	ZAO Khutork

2 196	12 312	5 608	101 972	27 438	648	886	36.8
1 199	10 307	8 598	98 840	35 015	676	1 046	54.9
2 108	12 107	5 744	103 386	26 917	669	904	35.2
1 856	11 197	6 033	90 498	31 711	587	903	53.9
3 369	13 493	4 005	93 346	24 957	564	770	36.5
2 480	12 360	4 984	98 124	24 954	648	869	34.1
2 533	13 180	5 203	104 572	21 053	707	885	25.2
1 795	10 853	6 046	112 037	23 643	859	1 089	26.7
1 491	10 334	6 931	88 341	30 872	564	867	53.7
1 288	8 212	6 376	109 844	36 518	955	1 430	49.8
1 494	9 975	6 678	93 313	27 957	581	830	42.8
1 540	10 766	6 992	90 036	26 846	642	914	42.5
1 418	10 547	7 436	85 938	27 550	603	887	47.2
1 332	11 513	8 646	91 712	23 374	633	850	34.2
1 546	10 405	6 732	89 944	26 277	715	1 010	41.3
1 465	9 229	6 298	77 147	33 870	500	891	78.3
1 700	8 035	4 727	97 835	31 397	847	1 247	47.3
1 636	9 048	5 529	86 275	28 297	676	1 006	48.8
1 803	9 366	5 194	79 767	27 701	573	879	53.2
2 000	11 191	5 595	66 590	33 657	399	808	102.2
910	8 707	9 571	83 152	28 490	662	1 008	52.1
1 450	9 537	6 577	79 565	27 382	577	880	52.5
1 650	9 158	5 550	74 488	31 613	528	917	73.7
3 006	11 722	3 899	84 430	19 380	614	797	29.8
2 000	11 393	5 697	67 807	28 396	440	757	72.0
1 955	11 054	5 655	76 896	22 737	550	782	42.0
1 562	9 879	6 324	78 288	24 228	604	875	44.8
1 349	8 810	6 533	81 757	26 985	657	980	49.3
1 644	9 916	6 031	77 044	22 848	650	924	42.2
1 073	9 993	9 313	75 931	21 434	590	823	39.3
1 600	9 054	5 659	69 851	25 353	521	818	57.0
1 600	9 715	6 072	70 042	23 013	570	849	48.9

53	Krasnodar Krai	Bryukhovets	SPK Niva Kuban
54	Vladimir Oblast	Sobinka	SPK Lenin
55	Vologda Oblast	Vologda	SKhPK Maiskii Breeding Farm
56	Smolensk Oblast	Gagarin	SKhPK Radishchevo Collective Farm-Breeding Farm
57	Krasnodar Krai	Gulkevichi	GUT OPKh Kuban Breeding Farm
58	Leningrad Oblast	Volosovo	OAO Ostrogovitsy
59	Ryazan Oblast	Ryazan	Avangard LLC
60	Krasnodar Krai	Krasnoarmeiskaya	SKhK Rossiya Collective-Farm-Breeding Farm
61	Ulyanovsk Oblast	Melekess	SKhK Krupskaya
62	Perm Oblast	Nytva	AKKh Sherya
63	Leningrad Oblast	Volosovo	ZAO Gomontovo Breeding Farm
64	Vladimir Oblast	Melenki	SPK Dmitrievy Gory
65	Krasnoyarsk Krai	Uzhur	SPK Andronovskoe
66	Leningrad Oblast	Priozyorsk	ZAO PZ Petrovskii
67	Leningrad Oblast	Vsevolozhsk	ZAO PZ Prinevskoe
68	Perm Oblast	Kungur	Agrofirma Trud LLC
69	Leningrad Oblast	Kingisepp	ZAO Opolye
70	Krasnodar Krai	Pavlovskaya	Rossiya Collective Farm
71	Kirov Oblast	Kirovo-Chepetsk	Agrofirma Dvurechye LLC
72	Krasnodar Krai	Novokubansk	OAO OPKh Leninskii Put Breeding Farm
73	Tyumen Oblast	Tyumen	ZAO Uspenskoe
74	Moscow Oblast	Pushkino	ZAO Zelenogradskoe
75	Moscow Oblast	Voskresensk	OAO Achkasovo
76	Moscow Oblast	Ozyory	ZAO Ozery-Moloko
77	Novosibirsk Oblast	Kochenyovo	
78	Udmurt Republic	Votkinsk	OAO Agrokompleks
79	Omsk Oblast	Pavlogradka	ZAO Niva
80	Krasnodar Krai	Gulkevichi	GUP OPKh Kuban Breeding Farm
81	Leningrad Oblast	Slantsy	ZAO Rodina
82	Krasnodar Krai	Gulkevichi	PPZ ZAO Gulkevichi
83	Tyumen Oblast	Tyumen	ZAO Uspenskoe
84	Moscow Oblast	Naro-Fominsk	Arkhangelsk State Farm LLC
85	Omsk Oblast	Maryanovka	OAO Omsk Horse Breeding Farm

1 971	10 684	5 421	82 802	16 677	692	867	25.2
1 069	8 001	7 482	69 718	29 505	555	961	73.4
1 587	10 246	6 456	89 226	15 520	758	918	21.1
1 408	8 308	5 902	72 547	23 235	627	922	47.1
1 890	10 893	5 764	87 133	14 153	708	846	19.4
1 054	7 457	7 075	70 964	26 134	627	993	58.3
1 379	7 581	5 498	68 763	27 148	572	946	65.2
1 796	9 091	5 062	69 584	18 132	611	826	35.2
1 600	8 827	5 517	66 185	19 554	578	821	41.9
1 134	8 264	7 285	59 962	25 119	458	789	72.1
1 139	7 959	6 987	68 041	20 468	616	881	43.0
1 013	7 364	7 269	70 746	21 227	663	948	42.9
1 606	8 189	5 099	64 888	20 828	552	813	47.3
1 000	8 414	8 414	67 533	19 142	595	830	39.6
939	7 395	7 872	72 952	19 283	801	1 089	35.9
1 409	7 889	5 597	74 363	16 985	753	976	29.6
1 434	9 725	6 783	75 817	14 125	680	836	22.9
1 450	7 873	5 429	61 394	22 381	526	828	57.4
2 188	8 809	4 027	63 643	17 114	585	801	36.8
1 600	11 967	7 480	82 563	12 147	709	831	17.3
1 416	7 920	5 592	60 675	20 345	560	842	50.4
953	7 044	7 389	73 512	19 337	811	1 100	35.7
1 624	9 055	5 574	67 619	15 265	616	795	29.2
1 263	7 498	5 935	70 688	16 049	761	985	29.4
1 696	7 997	4 715	62 833	16 584	615	835	35.9
3 141	11 834	3 767	64 736	12 878	516	644	24.8
1 773	9 287	5 239	70 999	12 868	659	805	22.1
1 418	8 514	6 005	61 340	15 441	652	872	33.6
1 098	7 592	6 912	66 531	15 905	686	902	31.4
1 319	7 284	5 521	58 534	19 393	596	892	49.5
1 450	7 330	5 055	65 827	16 956	730	983	34.7
978	7 222	7 384	63 121	17 862	670	934	39.5
1 700	8 229	4 841	51 449	20 049	451	739	63.9

86	Krasnodar Krai	Timashevsk	ZAO A/F Niva
87	Vologda Oblast	Vologda	SPK Agrofirma Krasnaya Zvezda
88	Vologda Oblast	Vologda	SKhPK Peredovoi Collective Farm
89	Yaroslavl Oblast	Yaroslavl	ZAO Agrofirma Pakhma
90	Omsk Oblast	Omsk	
91	Sverdlovsk Oblast	Bogdanovich	SPK Sverdlov Collective Farm
92	Leningrad Oblast	Vsevolozhsk	
93	Krasnodar Krai	Bryuknovets	SPK Novyi Put
94	Leningrad Oblast	Gatchina	OAO Lesnoe
95	Tyumen Oblast	Tyumen	ZAO AF Kaskara
96	Belgorod Oblast	Rovenki	
97	Krasnoyarsk Krai	Sukhobuzimskoe	OAO Taezhnyi Breeding Farm
98	Leningrad Oblast	Volosovo	ZAO PZ Leninskii Put
99	Ryazan Oblast	Kasimov	
100	Moscow Oblast	Zaraisk	ZAO Makeevo

* Names are listed only for those farms that gave permission for publication.
# Total milk yield divided by total number of milk cows, including cows that are currently dry.
Source: All-Russian Institute of Agrarian Problems and Informatics, Ranking of large and medium-sized agricultural enterprises in Russia for 2005–2007.

2 250	11 940	5 306	92 733	10 434	718	809	12.7
1 192	7 669	6 432	63 561	15 990	673	899	33.6
1 260	7 845	6 226	71 407	13 495	791	976	23.3
919	6 517	7 091	72 308	17 785	888	1 177	32.6
1 834	7 103	3 874	73 940	14 416	680	844	24.2
1 187	7 227	6 090	57 483	17 371	579	830	43.3
900	7 211	8 012	94 820	12 255	1 216	1 397	14.8
1 000	6 657	6 657	57 398	23 536	560	950	69.5
910	8 418	9 247	83 957	11 182	946	1 092	15.4
1 316	7 249	5 508	74 156	12 974	816	989	21.2
1 274	6 482	5 088	57 727	23 884	481	821	70.6
981	5 868	5 983	82 355	18 588	999	1 291	29.1
840	7 455	8 875	60 018	15 164	630	844	33.8
1 077	6 850	6 360	56 551	18 888	594	892	50.2
915	7 504	8 201	66 229	13 109	756	942	24.7

ANNEX 2
Grouping of regions by the increase required to restore 2008 milk production to the level of 1990

Increase to restore 2008 production to 1990 level (%)	No. of regions in group	Average % increase required	Region
			Kaliningrad Oblast, Yamalo-Nenets
Up to 30	6	26.0	Autonomous Oblast, Primorskii Krai,
			Sakhalin Oblast, Jewish Autonomous
			Oblast, Chukchi Autonomous Oblast
			Bryansk Oblast, Voronezh Oblast,
			Ivanovo Oblast, Kaluga Oblast,
			Kostroma Oblast, Kursk Oblast, Lipetsk
			Oblast, Moscow Oblast, Orel Oblast,
			Ryazan Oblast, Smolensk Oblast,
			Tambov Oblast, Tver Oblast, Tula
			Oblast, Republic of Karelia, Komi Republic,
30.1–50	34	41.1	Arkhangelsk Oblast, Murmansk Oblast,
			Novgorod Oblast, Pskov Oblast,
			Volgograd Oblast, Nizhegorod Oblast,
			Samara Oblast, Ulyanovsk Oblast,
			Kurgan Oblast, Sverdlovsk Oblast,
			Khanty-Mansi Autonomous Oblast - Yugra,
			Transbaikal Krai, Kemerovo Oblast,
			Tomsk Oblast, Kamchatka Krai, Khabarovsk
			Krai, Amur Oblast, Magadan Oblast
			Belgorod Oblast, Vladimir Oblast,

Increase to restore 2008 production to 1990 level (%)	No. of regions in group	Average % increase required	Region
			Yaroslavl Oblast, Vologda Oblast,
			Leningrad Oblast, Republic of Adygeya,
			Krasnodar Krai, Stavropol Krai,
			Astrakhan Oblast, Rostov Oblast,
50.1–70	22	59.4	Marii El Republic, Perm Krai, Kirov
			Oblast, Orenburg Oblast, Penza
			Oblast, Saratov Oblast, Tyumen Oblast,
			Chelyabinsk Oblast, Krasnoyarsk Krai,
			Irkutsk Oblast, Novosibirsk Oblast,
			Omsk Oblast
			Republic of Dagestan, Republic of Ingushetia,
			Kabardino-Balkar Republic, Republic of
			Kalmykia, Karachaevo-Cherkess Republic,
			Republic of North Ossetia-Alania, Chechen
More than 70	18	98.7	Republic, Republic of Bashkortostan,
			Republic of Mordovia, Republic of Tatarstan,
			Udmurt Republic, Chuvash Republic,
			Altai Republic, Republic of Buryatia,
			Republic of Tuva, Republic of Khakasia, Altai
			Krai, Sakha Republic (Yakutia)
Total	**80**	**57.9**	

Source: Ministry of Agriculture. 2009. Progress and results of implementation in 2008 of the Government Program for Development of Agriculture and Regulation of Markets for Agricultural Products, Raw Material, and Foodstuffs in 2008 to 2012..

Please address comments and inquiries to:
Investment Centre Division
Food and Agriculture Organization of the United Nations (FAO)
Viale delle Terme di Caracalla – 00153 Rome, Italy
Investment-Centre@fao.org
www.fao.org/tc/tci

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