FAO INVESTMENT CENTRE / EBRD
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Russian Federation

Analysis of the Agribusiness Sector in Southern Russia

Food and Agriculture Organization
of the United Nations

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CURRENCY AND ABBREVIATIONS

AVE	Ad Valorem Equivalent
CIS	Commonwealth of Independent States
FOB	Free on Board
GDP	Gross Domestic Product
GPS	Global Positioning System
IFI	International Financial Institutions
PSE	Producer Support Estimates
R&D	Research and Development
MOA RF	Ministry of Agriculture of the Russian Federation
RUR	Russian Ruble
TRQ	Tariff-rate Quota
VAT	Value Added Tax
WTO	World Trade Organization

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EXECUTIVE SUMMARY

Agriculture plays an important role in Russia and in particular in the Southern Federal Okrug. This region has tremendous comparative advantages in agricultural production, with some of the world's best and most expensive land for arable farming and long agricultural traditions. However, agriculture in the region faces important challenges. The sector's productivity remains low compared to most developed economies. The reform process in the agricultural sector is not yet completed. Agribusiness value chains have suffered from significant under financing. Finally, the investment climate in rural areas is not business-friendly: finance is difficult to access, the quality of infrastructure is poor, and conventional market institutions are not developed.

Highlights of the Agricultural Sector in Russia and Southern Russia

Russia's agriculture at a glance

Relatively slow pace of growth. After a speedy recovery following the crisis of 1998, in the last six years, Russia's agriculture has experienced a fairly slow pace of growth – 2.7% a year on average. Between 1999 and 2001, the sector benefited from the devaluation of the ruble but the effects of the devaluation quickly faded away. During that period, the most advanced companies, both in the primary and downstream sectors, could use this window of opportunity to expand, while others continued to decline.

Recovery of the grain and livestock sectors. While crop production remains highly dependant on weather conditions and world price levels, Russia is enjoying clear comparative advantages on domestic and world markets for the production of some particular crops. Grain remains Russia's major crop and, among cereals, wheat has the largest cultivated area. In the livestock sector, the situation is notably worse. Animal inventories and total production are still below pre-transition levels. However, the productivity of animals is steadily growing and now exceeds that of the Soviet period.

Growing private and public investment in agriculture. The development of the agri-food sector attracts private capital investment, which has been growing since 1998. Government support for agriculture has also increased dramatically in the last few years with the launch in 2006 of a two-year National Project for agri-food sector development and its continuation through a five-year state programme for agri-food sector development in 2008–2012.

Good performance of the food industry. The food industry performs much better than primary agriculture. It is one of the most attractive sectors for foreign investment. Food demand increases at a faster rate than average real incomes. The consumption of foodstuffs with high-income elasticity is growing particularly rapidly.

Agri-food trade is intensifying. Russia's agri-food trade is growing steadily. 2007 saw a record trade turnover. Although exports are increasing faster than imports, Russia remains a net importer of agri-food commodities. In the period of growth recovery, grain has become Russia's major agri-

food export. Despite the introduction of Tariff-Rate Quotas (TRQs), meat continues to be Russia's major agri-food import.

Emergence of large agroholdings. With respect to farm structures, the main trend is a severe polarisation opposing large farming enterprises to small family farms. Agroholdings are huge agricultural operations, sometimes vertically integrated with the upstream and/or downstream sectors, and are a distinctive feature of Russia's agri-food sector. The largest agroholdings can operate on up to 200–300,000 hectares. These agroholdings are important drivers to the development of agri-food value chains.

Limited state support. State support to agriculture in Russia is still modest in comparison with other developed countries. Due to the federal nature of the Russian state, the majority of state support to agriculture (up to 80%) originates from the budgets of federal entities. As in other transition economies, input subsidies, including interest rate subsidies, are the main support measures to the agri-food sector, both at federal and regional levels. On average, border measures are rather modest in comparison with OECD countries. The most important border measures are the export taxes on cereals and sunflower seed, a changeable import duty for raw sugar, as well as TRQs for meat

Government intervention in reaction to soaring food prices. During the surge of food prices in 2006–2007, under the political pressure of an election year, the Russian government applied additional measures to limit exports and control food prices, with fairly ineffectual results.

Main features of Southern Russia's agriculture

Southern Russia is the most fertile agricultural region of the country. The southern part of Russia is the most fertile area of the country and, historically, it has always been used for agricultural production. The region not only has a favourable climate and soil conditions for farming, but it also has an advantageous geographical location between major Russian waterways (the Don and Volga rivers), it is connected to major Russian Black Sea and Azov Sea ports and has relatively good railway and road connections.

Regional per capita income is below national average. In this Study, four major territories of the Southern Federal Okrug were analysed: the Krasnodar and Stavropol krais and the Rostov and Volgograd oblasts. These four regions provide more than 16% of Russia's gross agricultural output and contain more than 18% of the total arable land of the country. This is a densely populated area, contributing to around 7% of national GDP. It is also an agricultural region: 25–35% of the regional economic product come from agriculture, compared with a national average of less than 10%. Since the main part of the economically active population is involved in agriculture, with relatively low wages, the average per capita income of the region is below the national average.

Prominence of crop production. The agriculture of Southern Russia is mostly specialised in crop production. However, since the mid-2000s, livestock production has started to grow at a higher rate than crop production. Cereals and sunflower seeds are the major cash crops in the area: Southern Russia is the major producer of these crops in the country. Horticulture is also relatively well developed across the region (vineyards in the Rostov oblast and the Krasnodar krai, tea plantations in the Krasnodar krai). The Stavropol krai and some areas of the Volgograd and Rostov oblasts specialise in sheep rearing.

Large and vertically integrated farms. Agricultural production is dominated by large farms

(the biggest in Russia), a large number of which are vertically integrated with food and/or trade companies. The largest agroholdings are also concentrated in these regions. Cash crops are mostly produced on large and super large farms. At the same time, half of meat and milk production originates from rural households (individual plots).

The grain value chain in Southern Russia

Southern Russia is the main cereal producing area in the country. The four regions under consideration provide one-third of Russia's gross cereal output. Two-thirds of the regional cereal output consists of wheat, of which 98% is winter wheat. Rice occupies a marginal share of total cereal output in the region. However, Southern Russia produces almost 90% of all Russian rice. It is also the major cereal exporting region of the country.

Leading role of agroholdings in cereal production. On average, cereal yields have fallen notably since Soviet times. They also differ significantly across the region. Cereals are mostly produced on large farms/enterprises (around 80%). The large cereal producers of the region distinguish themselves not only by their size but also by their performance. Some of them are very modern companies with relatively high yields, sales and profitability. The most common type of cereal producers in the region are agroholdings; which occupy 9–12% of total arable area and produce between one-third and a half of the regional cereal output. Agroholdings have enough means at their disposal to comply with international standard requirements.

Most sales of cereals are conducted on the spot market. The cereal value chain in Southern Russia is rather simple. Around 75–85% of total marketed cereals are sold by producers to traders and/or to processors (mills, mixed feed manufacturers and so on). A relatively high share of cereals (10-17%) is used as payment-in-kind to farm workers and for land rent, or is sold to farm workers at below-market prices. The shape of the food chain at this level is very much determined by the existence of agroholdings, which in most cases are vertically integrated and include several adjacent elements of the food chain (processing, trading and transportation). Cereals are first transferred within the company. Outside of the company, forward contracts for cereal deliveries are hardly used and therefore deals are usually conducted on the spot. Warehouse receipts are also not widespread. Grain traders normally operate like speculators.

Sales of cereals are concentrated in the hands of a few traders. In each region, cereal purchases are conducted by around 50 traders, among which up to three lead the market. These leading traders were also the biggest exporters of Russian grain in the 2005/2006 season.

Processing companies are running at under capacity. Cereals have always been produced in Southern Russia and therefore many processing facilities were built in this region during the Soviet era. However, the output of all major grain-based products has decreased since the late 1980s and processing plants are running today at just 30–45% of their capacity. Due to the underutilisation of assets, the profitability of processing companies in this sector is very low. Most of them urgently need modernisation and are looking for financing. This is especially true of the flour business.

Lack of export infrastructures. The physical infrastructure of the cereal food chain in Southern Russia is the most advanced in the country. The Soviet Union was a huge net importer of grain and therefore all major sea port grain terminals were import oriented. It took a lot of time to build new export oriented port infrastructure on the Black Sea. In spite of these investments, the total port capacity of the region is still not sufficient: in the last two years the port capacity was overused, in some cases more than two fold.

Storage capacity is enough but outdated. The total capacity of elevators in the region exceeds the total regional demand for storage of cereals. The major problem of the cereal storage system is its out-of-date equipment and low productivity.

The meat value chain in Southern Russia

Meat production is slowly picking up. The four regions under consideration provide around 15% of the gross meat output of Russia. Today, these regions produce less than a half of what they used to produce in the pre-reform period. During the Soviet era, Southern Russia was a net exporter of meat; however, in recent years, the region has been becoming more and more dependant on meat imports.

Since 2006, meat output has started to increase due to growth in pork and broiler production. Historically, cattle have never been raised for meat production in Russia. However, in Southern Russia, cattle raised for meat production is more widespread than in the rest of the country. Within the framework of the National Project, regions in Southern Russia acquired breeding cattle to launch intensive beef production.

Recovery of large meat farms. After the beginning of the reforms in the early 1990s, because of the collapse of large farms, livestock production shifted notably to household farms. The large farm meat sector started to recover after the 1998 crisis, a recovery which accelerated with the start of the National Project. In the Krasnodar krai, the share of large farms in meat production has nearly been restored. In the Stavropol krai, it has exceeded the level reached during the Soviet period. However, in the Rostov and Volgograd oblasts, it is still low, corresponding to around one-third of the gross meat output of the region. Although the share of meat production in household farms is rather high in Southern Russia, 80–95% of rural household farms keep neither cattle nor pigs.

Concentration of commercial meat production. Commercial livestock production is highly concentrated, with more than 50% of all cattle in the region concentrated on farms with more than 1,000 head of cattle. However, the highest level of concentration is observed in the poultry sector. The meat industry is also highly vertically integrated.

Sales contracts are hardly used. Large farms sell beef and pork mainly through three channels: abattoirs (often integrated with meat processing and packing plants), private intermediaries and social institutes such as hospitals, schools, orphanages and so on, in which cases sales are normally arranged as state procurement. Contracts are hardly used and nearly half of deals are made in cash.

Household farms do not comply with food safety standards. Two-thirds of the meat produced in household farms is consumed by the members of the households themselves. The rest is sold almost exclusively on town and village markets and, to a very small extent, to slaughterhouses. Due to the need to comply with veterinary and sanitary regulations, meat processing plants do not like to collect meat from household farms.

Emergence of a few meat industry leaders. Meat processing plants have experienced reduced demand and have suffered from tremendous underutilisation, which is the major cause of low profitability. Most companies were put at a disadvantage by a lack of means for modernisation, which was requested to increase compliance with standards on the domestic market. However, the depreciation of the ruble in 1998 resulted in a sharp reduction in meat imports and allowed industry leaders to modernise their facilities and

equipment. By that point, several leading companies had entered the meat market in Southern Russia. They progressively consolidated small processors and intensively invested in the fatting industry, as well as in mixed feed facilities and the production of crop ingredients for feed. The biggest meat companies had their own trade houses for wholesale business and, in some cases, retail outlets (corporate chains).

Significant investments in the pork industry. During the implementation of the National Project (2006–2007), around 100 million rubles (c. USD 4 million) were invested in primary pig production in the four regions covered under the Study. The National Agency for agricultural leasing, Rosagroleasing, delivered nearly 20,000 head of pedigree animals and 9,000 units of equipment to the pork industry throughout the region. This will likely lead to a serious growth in pork production in the near future.

Most local meat sales are made outside of conventional retail networks. The share of meat reaching retailers is not significant. Imported meat is normally used for processing. Retailers mainly buy processed meat products: sausages, salamis, and so on. Though it is growing, the share of conventional retail outlets in meat trade is still negligible. Although food retailing is quite developed in the region, meat products, and especially fresh meat, are not well represented on the shelves of conventional retail outlets. This is probably due to a combination of two factors: the traditional pattern of meat sales and consumption on the one hand and the budget constraints of the population on the other hand.

Conclusions and recommendations

Cereal and meat value chains are rapidly developing in Southern Russia. Private and public investment in these sectors has notably increased in the last 2–3 years and is likely to significantly grow in the near future. Full realisation of potential, however, is constrained on the one hand by the incomplete transition process in the agriculture and agri-food sectors and on the other hand by some current policy measures which could hamper development of the sector. Due to the federative nature of the Russian state, some constraints can be lifted only at the federal level, while other problems can be settled at the regional level. This Study has revealed a number of such problems which could be serious bottlenecks to value chain development in the cereal and meat industries in Southern Russia.

General constraints to the development of agri-food value chains in Southern Russia

Issues related to land tenure. The land tenure issue is a general bottleneck to primary agriculture. The federal legislation on land and land transactions should be urgently corrected in order to ease access to land for investors in agriculture. The land sharing system provided a fairly good mechanism for land privatisation during the early stages of transition. Nowadays, this system of shares deters land acquisition by investors and therefore hampers financial inflow into agriculture. It should be replaced by a more rational scheme of share transfers, along with the securing of property rights for the rural population. Transaction costs of land deals (rental, acquisition, and other transactions) are, in many cases, prohibitive, which is also a constraint on investment. For that reason, land legislation is to be changed towards more transparent, efficient and coherent land registration and land turnover mechanisms.

Lack of investment in human capital. Another general problem of agri-food chains is a severe lack of qualified labourers and managers. The country needs an ambitious and urgent reform of the

entire system of education, training, and extension. Previous efforts to reform this system were clearly insufficient. Business circles indicate that the lack of skilled workers and managers isone of the most serious problems preventing development of agri-food chains.

Low levels of investment in R&D. Connected with deficiencies of the education system is the problem of R&D. Both the cereal and meat industries complain about the unacceptable state of the breeding industry. The launch of a state programme of support for the purchase of pedigree animals met with a huge demand from the grass-roots level. Several decades of neglect in the Soviet era and during the transition period and, in the 1930s–50s, direct damage to agricultural applied science led to a generation gap in research schools. Massive public investment into R&D is urgently needed, along with governmental support to private investment in R&D. The option of inviting prominent leaders from foreign research schools could be considered. It was previously done in the 17th and 18th centuries in Russia and led to the establishment of world renowned Russian schools of mathematics and other sciences.

Inconsistent policy measures. On the policy side, there is a general problem both at the federal and regional levels: support of particular sectors often lacks coherence when only one or two elements of the value chain are supported while others immediately become extremely narrow bottlenecks to the whole chain. For instance, huge support for the fatting industry in the last two to three years was not coupled with adequate parallel measures addressed at the development of slaughterhouses. This is currently a serious constraint for the meat industry, especially with the dominance of households in meat production.

Lack of compliance with international standards. The next problem in the meat value chain, which market actors are not yet aware of, is the lack of compliance with international standards. This Study did not address this issue as it was based mainly on interviews with market actors, analysts and policy makers who are driven by short-term objectives. However, standards regulation and control in the meat sector is dramatically underdeveloped and, with the improvement of living standards, will undoubtedly develop into a serious problem. Governmental policy should be pro-active in this regard.

Inefficiencies in the utilisation of subsidies. The major part of governmental budgetary support to agriculture comes in the form of input subsidies, among which subsidised short-term and medium-term credit programmes dominate. However, the Study shows that financial constraints and limited access to credit are the major bottlenecks faced by the cereal and meat industries. This tend to prove that current governmental support is not sufficient. As budgetary spending for these programmes is fairly big, this could mean that the general orientation of subsidy distribution schemes and their application procedures are not efficient.

Unfavourable general business environment. Value chain development is seriously affected by the general business environment in the country, which includes the political and social situation, corruption and some other general issues. The experts interviewed for the poll conducted for this Study indicated a lot of the problems in this field. However, these issues were not covered by this Study and are not specifically addressed in this conclusion.

Specific constraints affecting the cereal value chain

The cereal value chain, in addition to the issues that have already been listed, faces the following problems:

- The cereal market is very well developed in Russia in comparison with other product markets.However, there is still an urgent need to establish efficient agricultural price risk management mechanisms such as futures markets, warehouse receipts, and forward contracts.

- The consequences of the development of agroholdings are still not clear. Though there are advantages to this type of cereal operators, there are also many disadvantages, including monopsonic effects, manageability, cost of protection from theft, social risks in rural areas, and so on.
- Because of large volume of exports and difficulties to raise finance, cereal processors suffer from a lack of modernisation of their assets. Local processors cannot compete with exports and therefore suffer a shortage of raw produce.
- The most often reported problem of the cereal infrastructure in Russia, including in the south, is a shortage of specialised rail wagons (hoppers) for cereal shipments.

Specific constraints affecting the meat value chain

Specific constraints limiting the development of the meat value chain include:

- First and foremost among the problems of the meat value chain in Southern Russia is a tremendous need for modernisation of equipment, both at the farm level and in primary and secondary processing. The out-of-date assets of the industry prevent it from the complete utilisation of raw produce, therefore reducing efficiency and lowering the quality competitiveness of products on the domestic market.
- The meat value chain urgently needs a network of small and modern slaughterhouses which would allow the collection of raw meat from households and secure the timely delivery of quality raw produce to the packing plants, which currently tend to import raw produce from abroad.

Need for investment from both private and public sources

All the above problems would gain from a more intense policy dialogue between private actors and public authorities, at the federal and regional levels. While some constraints can be solved by private investment alone, others constraints, to be lifted, will require substantial investment from public sources. In certain cases, for instance investment in human capital, Public-Private Partnerships (PPPs) could also be promoted. Issues requiring a decisive involvement of public authorities include land tenure: a strong political determination will be needed in order to rectify the recently adopted land legislation. An example of issues that can be more immediately solved by private actors is the modernisation of fatting farms and processing plants in both the meat and cereal chains.

1. INTRODUCTION

This Study was commissioned by the European Bank for Reconstruction and Development (EBRD) and carried out by the Investment Centre Division of the Food and Agriculture Organization of the United Nations (FAO), under its cooperation with the EBRD. Its objective was to assess the remaining transition challenges affecting the development of agri-food value chains in Southern Russia. The EBRD required this analysis to establish priorities for future interventions, inform investment decisions and identify relevant topics for policy dialogue.

Due to constraints in time and resources, the Study concentrated on two value chains in Southern Russia: the cereal and the meat value chains (including the beef, pork and poultry sectors). The four biggest areas in the Southern Federal Okrug were covered by this Study, namely the Krasnodar krai, the Stavropol krai, the Rostov oblast and the Volgograd oblast. The Study included an informant poll, with 106 questionnaires returned, to assess the development of the cereal and meat industries in the four above regions. Two case studies were carried out in the Rostov area for an in-depth description of the value chains both in the cereal and the meat industries. Finally, a number of interviews were conducted in the Moscow and Rostov oblasts with market analysts, policy makers and the business community. The Study is also based on the review of existing literature and official statistics.

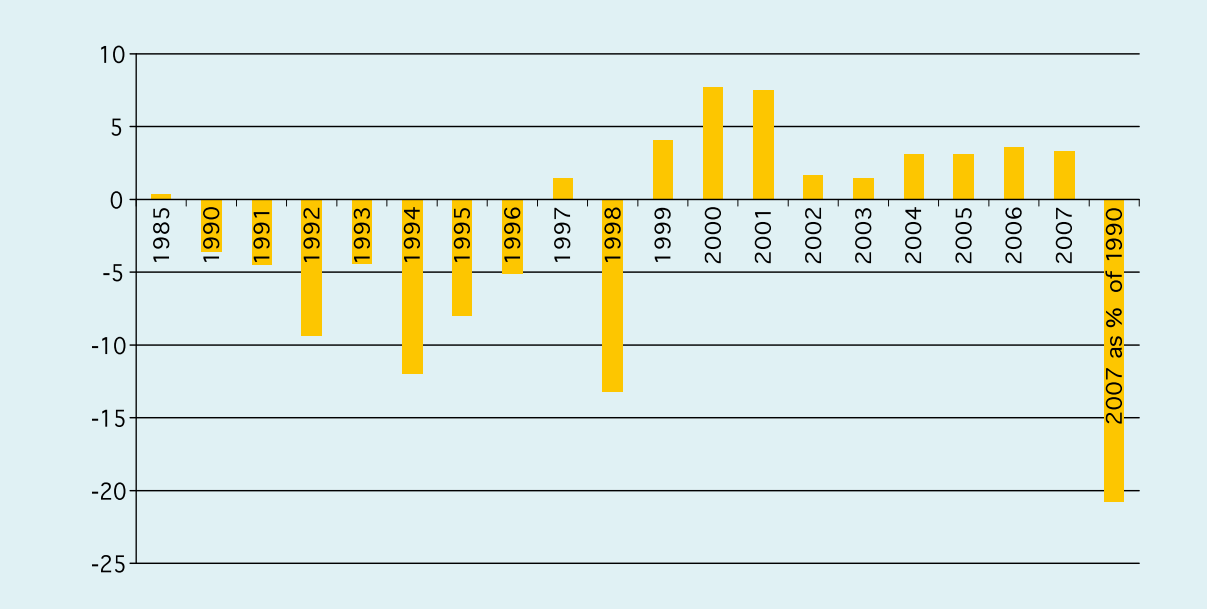
The first section of the Study describes the general situation in the Russian agri-food sector, including major trends in recent years, an overview of agricultural policy and ad hoc governmental measures in reaction to soaring food prices. The second section is a general overview of agri-food development in Southern Russia. The third and fourth sections focus on the analysis of the cereal and meat value chains and the identification of major bottlenecks. The results of the poll are presented in a separate section. The paper ends with a series of conclusions and recommendations.

The audience of the Study includes federal and local government authorities, local and international investors, agricultural specialists and development practitioners, as well as International Financing Institutions (IFIs). Within the EBRD, the Study is intended to inform both the Agribusiness team and the Office of the Chief Economist (OCE).

2. GENERAL AGRICULTURE AND AGRO-FOOD SITUATION IN RUSSIA

After a period of rapid growth and recovery immediately after the 1998 crisis, agriculture in the last six years has demonstrated a fairly low rate of growth: 2.7% a year on average (**Figure 1**). The growth occurs mostly due to the increase in crop production, however in recent years livestock has also demonstrated some animation. Agriculture has recovered by about 80% compared with the pre-reform level (*ibid*). Imports recovered speedily after a short period of fall after 1998, although trade balance remained negative. This means that the major factor behind the rapid growth in 1999–2001 has been exhausted.

Figure 1. Annual changes of agricultural production in Russia, %



Source: Rosstat data

Strengthening of the ruble reduced the competitiveness of domestic agro-food products on the internal market; the position of exports was also weakened on world markets. Growth of input prices (in particular of energy and fuel) reduces the profitability of the sector. Nowhere in the world is agriculture included in the arbitrage of overall economy capital, but in the post-communist economy agricultural enterprises remained the only source of subsistence for millions within the rural population. Therefore, despite tremendous losses experienced over several consecutive years, failing producers do not exit the market.

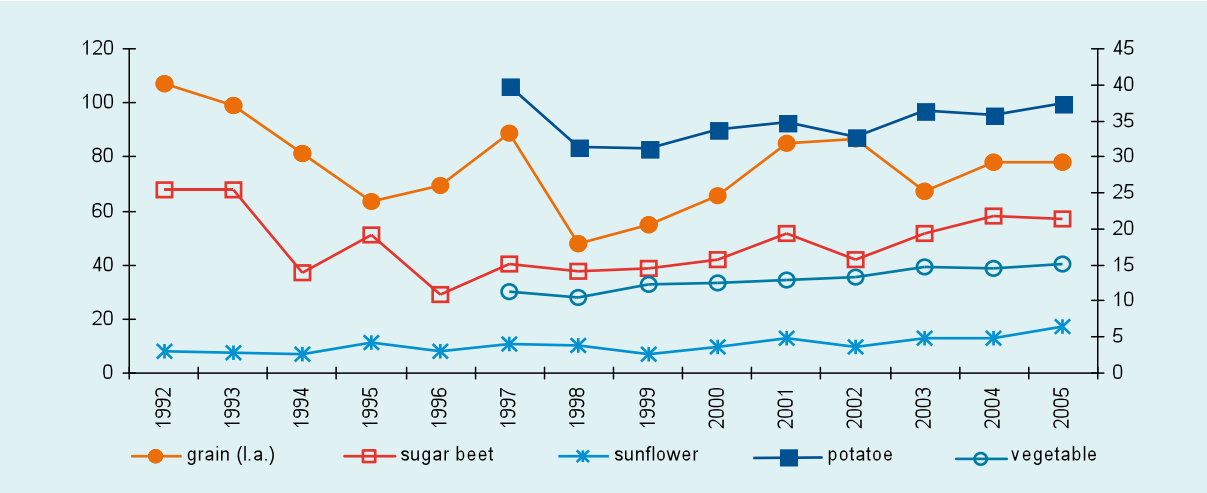
Nonetheless, there have been positive trends in Russia's agro-food sector in the last few years. One can observe the dramatic bifurcation of both primary and processing sectors. Some producers are actively developing, modernising, and attracting investment, while others are becoming more and more marginalised. For various reasons these failing units do not claim bankruptcy, which would be necessary from the point of view of balanced development. Therefore, failing producers contribute to the average indicators of sector performance, making them worse than they would be if insolvent producers sank en masse.

Another emerging trend is a regional specialisation in agriculture. For example, under the Soviet economy grain was produced on almost all of the country's arable land; the share of gross grain output of the Krasnodar, Rostov, Stavropol, and Volgograd regions was about 21%. In the last three years, this share has increased to 30%. Other regions have specialised in milk production, which was even more evenly distributed among the regions during the Soviet era. The indicators of output growth, productivity and producers' performance are better in specialised regions than in the rest of the country.

Crop Production

Crop production is very vulnerable and is heavily dependant on weather conditions and price levels. Some individual crops prove their comparative advantage on the domestic and world markets and demonstrate rapid recovery and modernisation, while at the same time the production of other crops is shrinking. The production of sunflower, sugar beet, vegetables, and potatoes continues to grow at a high rate. Output of these products exceeds the Soviet level (**Figure 2**). The radical change in the sugar trade regime has led to a remarkable growth in sugar beet production. In 2006, its output increased by more than 25%. Sunflower production has continued to expand since the very beginning of the reforms, however, this has mostly been extensive growth due to area expansion. Sunflower yield has grown increasingly since 2001. Sunflower producers increased the use of high quality hybrids and mineral fertilizers, and started to apply modern technologies.

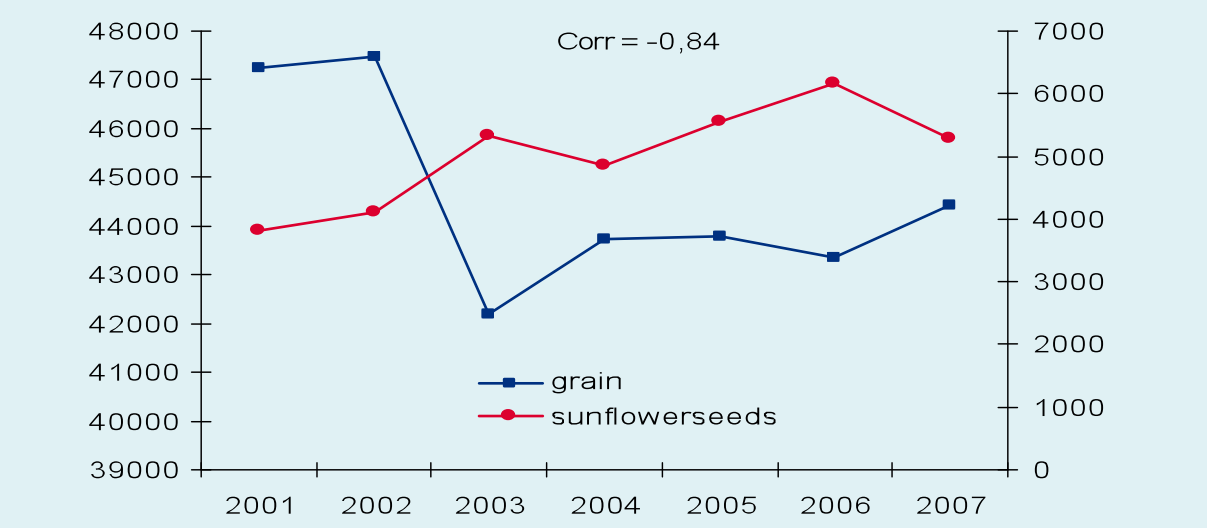
Figure 2. Production of selected crops in Russia, million tons



** l.a. – left axes*
Source: Rosstat data

Sunflower and grain production compete for land, and acreage under these two crops is significantly negatively correlated (**Figure 3**). Very often, sunflower is planted over cereals which were damaged during the winter period.

Figure 3. Correlation between areas under grain and sunflower seeds in Russia



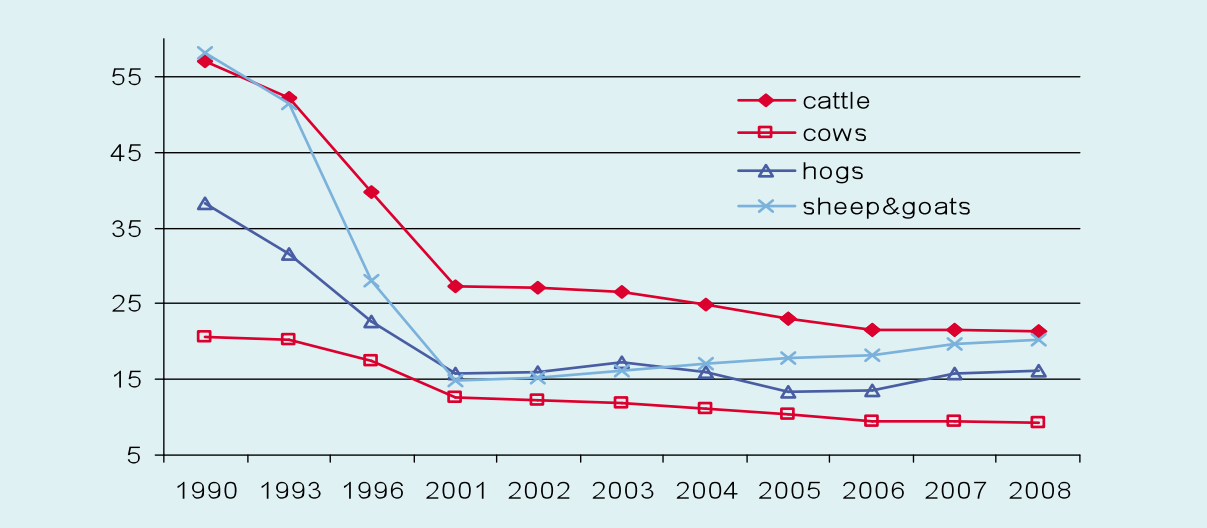
Source: Calculated from Rosstat data

Grain remains the main crop in Russia's agriculture sector and wheat is still a major cultivated cereal. The structure of cereal production is unsteady from year to year, but one of the notable trends is a decrease in the share of rye and a certain increase in the share of maize.

Livestock Sector

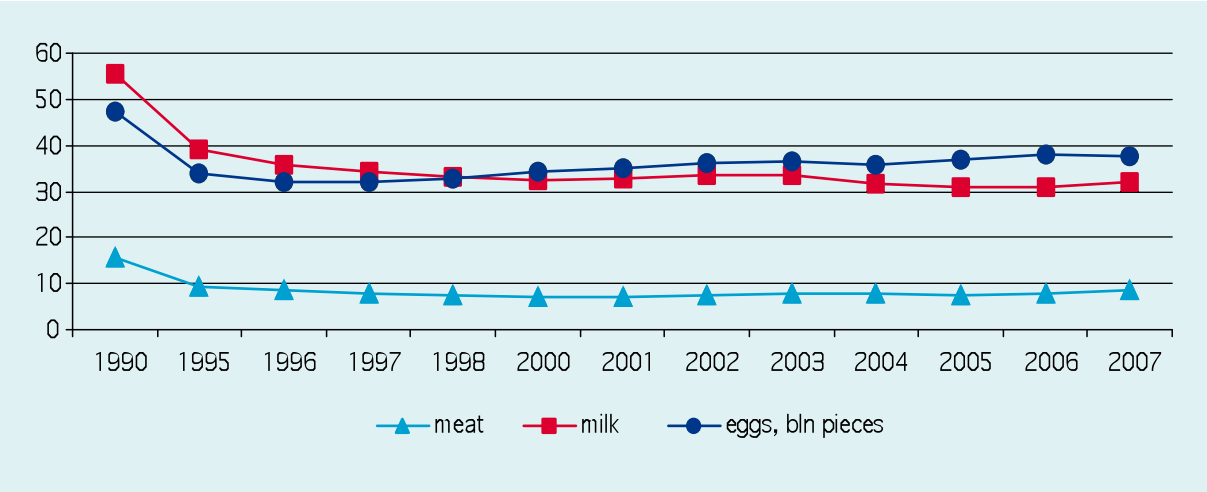
In the livestock sector the situation is noticeably worse than in crop production. Animal inventories and production are still significantly below pre-reform levels (**Figure 4** and **Figure 5**).

Figure 4. Livestock inventories in Russia, million heads, as on 1 January



Source: Rosstat data

Figure 5. Production of major livestock products in Russia, million tonnes*

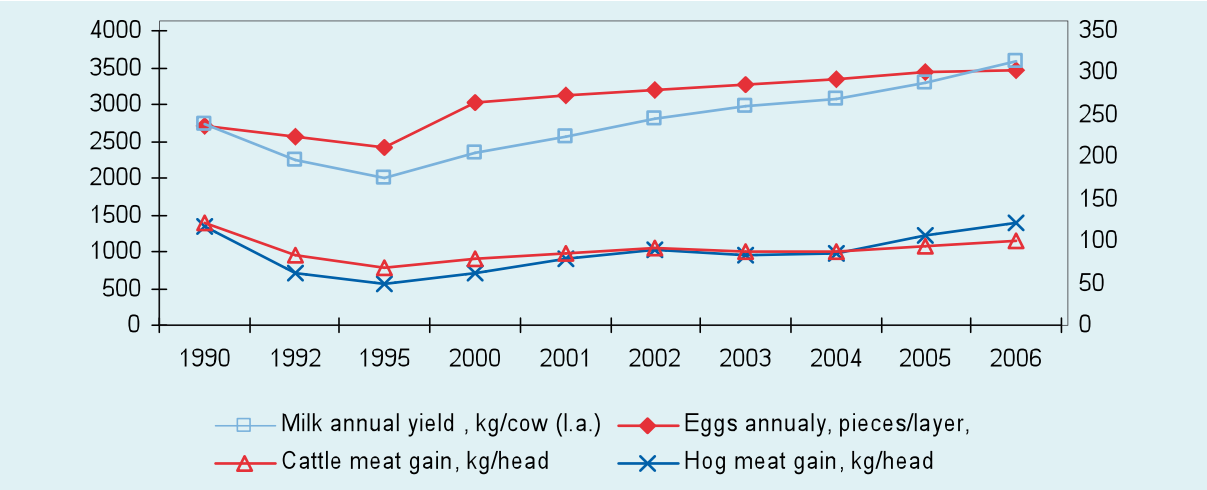


** - live weight*

Source: Rosstat data

Despite the fall in animal stocks, the productivity of animals is steadily growing and has exceeded that of the Soviet period (**Figure 6**). Poultry production has been growing at a very high rate for around a decade (14–17% a year). In response to the government policy supporting livestock breeding in the last three years, output and inventories in pig and sheep sectors have started to grow.

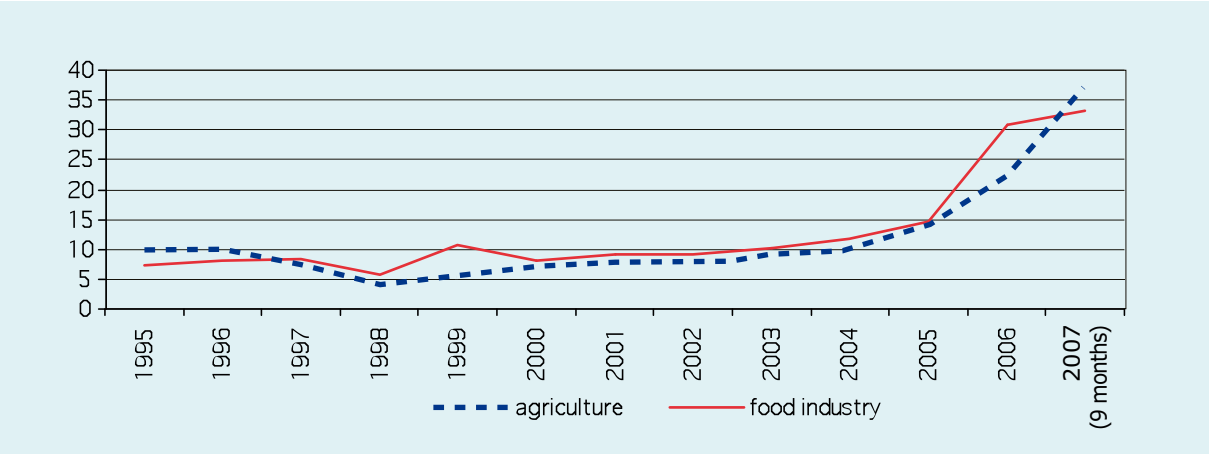
Figure 6. Livestock and poultry productivity* in Russia



** l.a. – left axes*
Source: Rosstat data

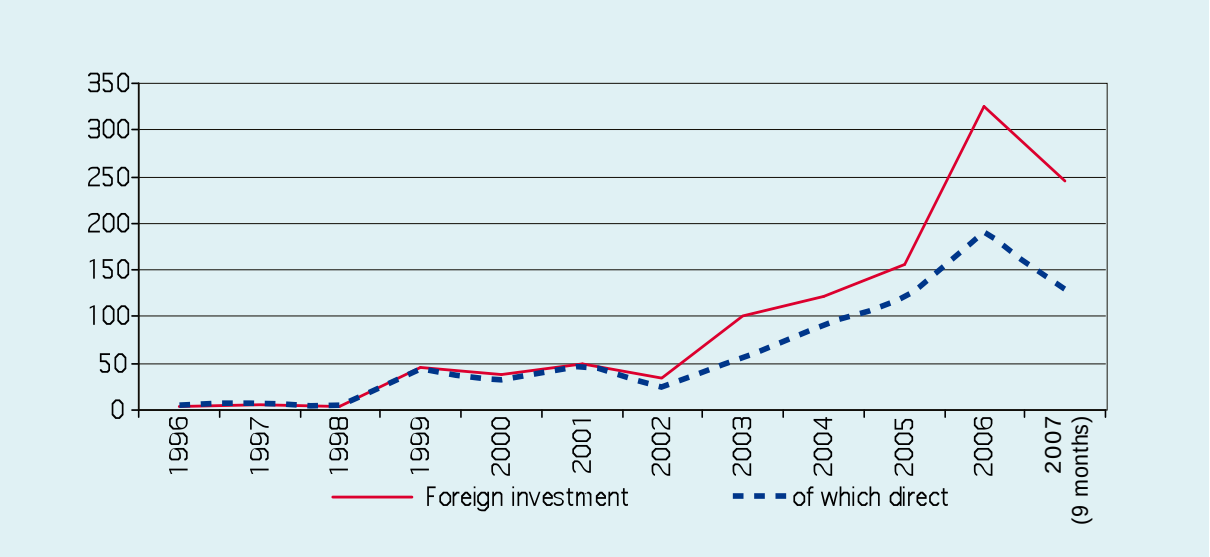
Since 1999 the financial state of agriculture has progressively improved; the share of insolvent farms has declined little by little, and overall sector net return has increased. This has mainly been caused by the growth in the agro-food sector after the 1998 crisis. During this period capital investments increased (**Figure 7** & **Figure 8**). Since that time two massive companies of farm debts rescheduling has been undertaken, which also greatly contributed to an improvement in the financial state of farms.

Figure 7. Capital investments in the agro-food sector in Russia, constant prices of 1995, billion RUR



Source: Rosstat data

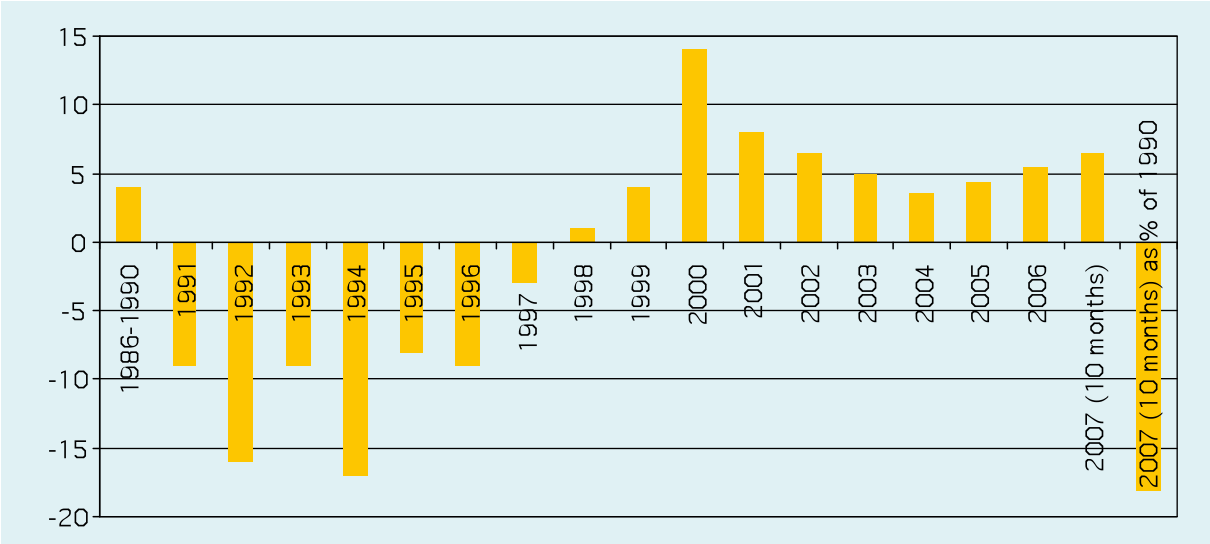
Figure 8. Foreign investments in agriculture in Russia, million USD



Source: Rosstat data

The food industry is performing rather better than primary agriculture – its growth is still strong. (**Figure 9**).

Figure 9. Annual changes in food industry production in Russia, %



Source: Rosstat data

Like the various sub-sectors in agriculture, sub-sectors in the food industry demonstrate quite different trends. Production of some food commodities has exceeded the pre-reform level, e.g. production of vegetable oil and white sugar. For some products the production level is almost fully recovered, e.g. for sausages, pasta, and margarine (**Table 1**). Growth in meat and dairy products is limited by purchasing power, but these sub-sectors are also growing notably.

Table 1. Production of selected food products in Russia, '000 tonnes

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
Meat	6,484	2,370	1,193	1,284	1,456	1,677	1,698	1,827	2,100	2,500
Sausages	2,283	1,293	1,052	1,224	1,468	1,700	1,832	1,957	2,100	2,400
Butter	833	421	267	271	279	285	271	277	274	n.a.
Dairy (in liquid milk equivalent), million tonnes	20.8	5.6	6.2	6.7	7.7	8.5	8.7	9.5	10	10
Vegetable oil	1,159	802	1,375	1,281	1,197	1,598	1,867	2,206	2,600	n.a.
White sugar	3,758	3,155	6,077	6,590	6,165	5,841	4,852	5,588	5,800	6,100
Flour, million tonnes	20.7	14	12.1	12	10.9	11.2	10.8	10.2	10.2	10.1
Groats	2,854	1,418	932	994	951	890	893	926	966	1,100
Pasta	1,038	603	704	764	821	874	950	982	1,028	n.a.
Margarine	808	198	462	515	536	542	561	630	677	n.a.

n.a. – not available
Source: Rosstat data

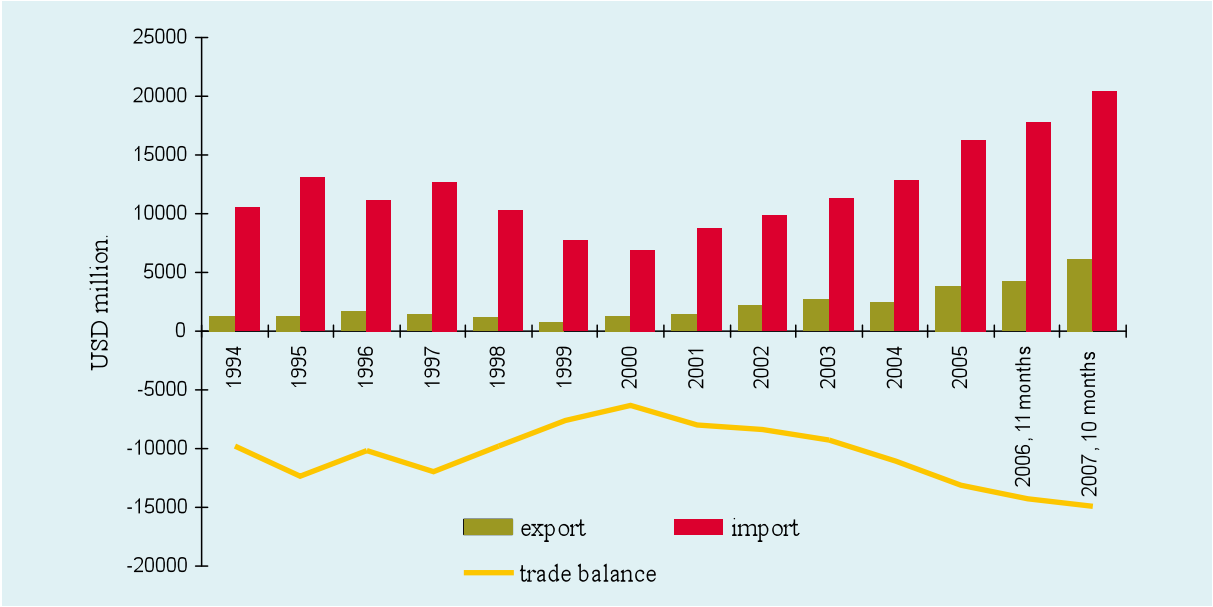
Food demand has increased at a faster rate than the average real income of the population. Consumption of fruits and cheese has grown most quickly, that is, foodstuffs with high income elasticity. Poultry sales have also grown rapidly, more rapidly than meat sales in total. The major structural trend in the food

industry of the last four to five years is a consolidation of assets: major companies of the sector tend to acquire smaller producers in the regions and/or merge with big companies.

Another significant trend in the food industry is a vertical integration along the food chain. Following the severe decline in raw produce imports after the 1998 crisis, many agribusiness companies became interested in domestic supplies of primary agricultural products. However, they found that domestic markets are severely underdeveloped; collection of raw produce is costly and goes hand-in-hand with high business risks. Therefore, many of these companies have started to expand their business control over how the produce is farmed. Over the last three years this trend has continued in the Russian agro-food sector.

The Russian agro-food trade is steadily growing. A record high trade turnover of more than 26 billion USD was recorded in January–October 2007. In spite of increased agri-food exports, imports continue to dominate, and Russia remains a net-importer of agro-food products. The expansion trend of the agro-food trade deficit, which started in 2000, still continues (**Figure 10**).

Figure 10. Agro-food trade in Russia, million USD*



*- *excl. trade with Belarus*
Source: Customs data.

Grain has become Russia's main agro-food export during the period of recovery growth, leaving behind traditional exports such as fish and seafood. In 2007 grain accounted for 42% of total agro-food exports. In recent years a massive private and public investment has been made in the grain export infrastructure, especially in the area of export seaports. Russia continues to be a net exporter of wheat and wheat flour.

Oilseeds, mostly sunflower seeds, have been a major export crop in Russia since the very early 1990s. In the beginning of the 2000s, vegetable oil exports started to expand due to the development of the domestic oil extracting industry. In 2005 Russia became a net exporter not only of sunflower seeds but also of sunflower oil. The new trend in crop exports is an expansion of the export of rapeseeds and rape oil in response to growing world demand and strong world prices.

Together with traditional raw crop exports, the export of value-added items such as bread and bakery commodities, dairy, and chocolate has started to grow. The share of these exports, however, remains marginal.

After the introduction of meat TRQs in 2003, meat imports decreased, but by 2005–2006 they had already fully recovered. Moreover, meat import exceeds the TRQ levels with regular duties being applied to out-of-quota imports. Meat continues to be the major item of Russia's agro-food import, making up 20%.

In 2004 a radical change in sugar trade controls led to a serious decline in sugar imports and the expansion of domestic sugar beet production. Share of sugar and sugar-containing commodities in overall agro-food imports fell significantly.

The main trend in the structure of agriculture is the severe polarisation of large farming enterprises and small family farms. The performance of the heirs of collective and state farms differs significantly. If one considers the frequency distribution curve of cost of production for any major agricultural product and any region, it will possess a well-articulated right tail [1]). Up to 50% of output originates from the upper 20% of household plots, which are presumably market-oriented, commercial producers who do not register as family farms in order to avoid taxation and to obtain concessions from an adjacent, large-scale, "mother" farm [2].

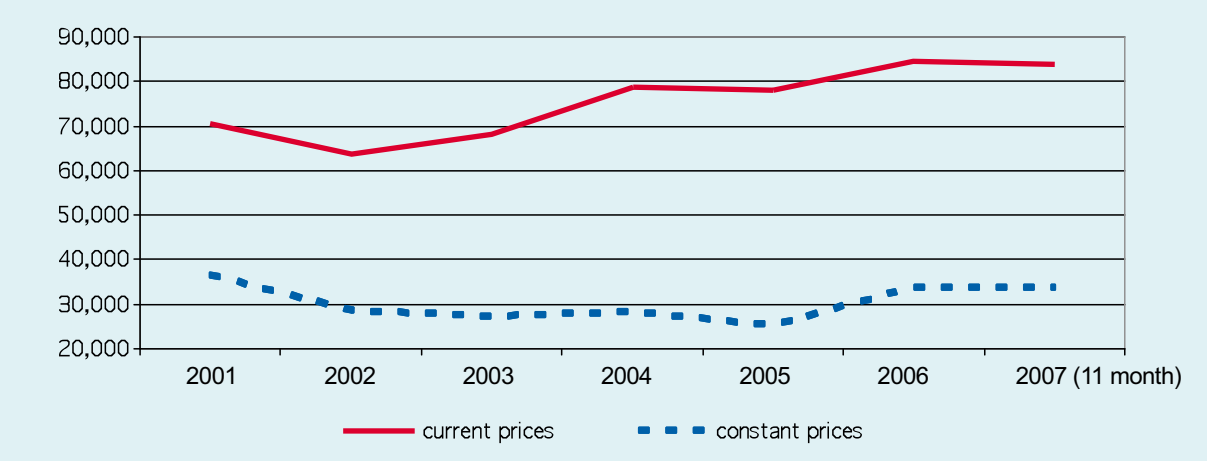
New land legislation (Land Code and Law on Farmland Turnover) came into force in 2001–2002. This legislation dramatically increased transaction costs on the farmland market and land turnover farm has actually been paralyzed since that time. Law on Farmland Turnover was amended several times and corrected in order to ease transaction procedures, but the situation has not change noticeably.

1.- (Serova and Shick, 2006)
2.- (Serova and Tikhonova, 2006)

3. Agro-food policy measures

In the 2000s budget support for agriculture has grown in current terms. But a share of agricultural spending both in gross agricultural output and in total consolidated budget has steadily decreased (**Figure 11**).

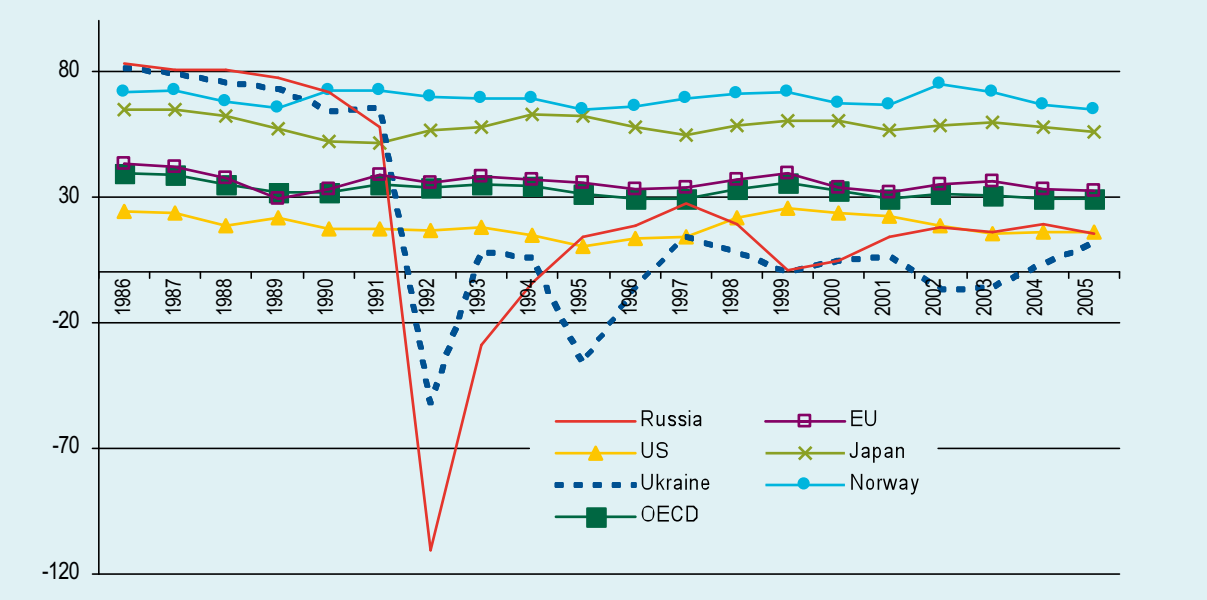
Figure 11. Consolidated budget expenditures in agriculture in Russia, million RUR



Source: Compiled from www.minfin.ru

In general, support for agriculture in Russia is still modest in comparison with other countries (**Figure 1**).

Figure 12. Producer support estimates (PSEs) in selected countries, %

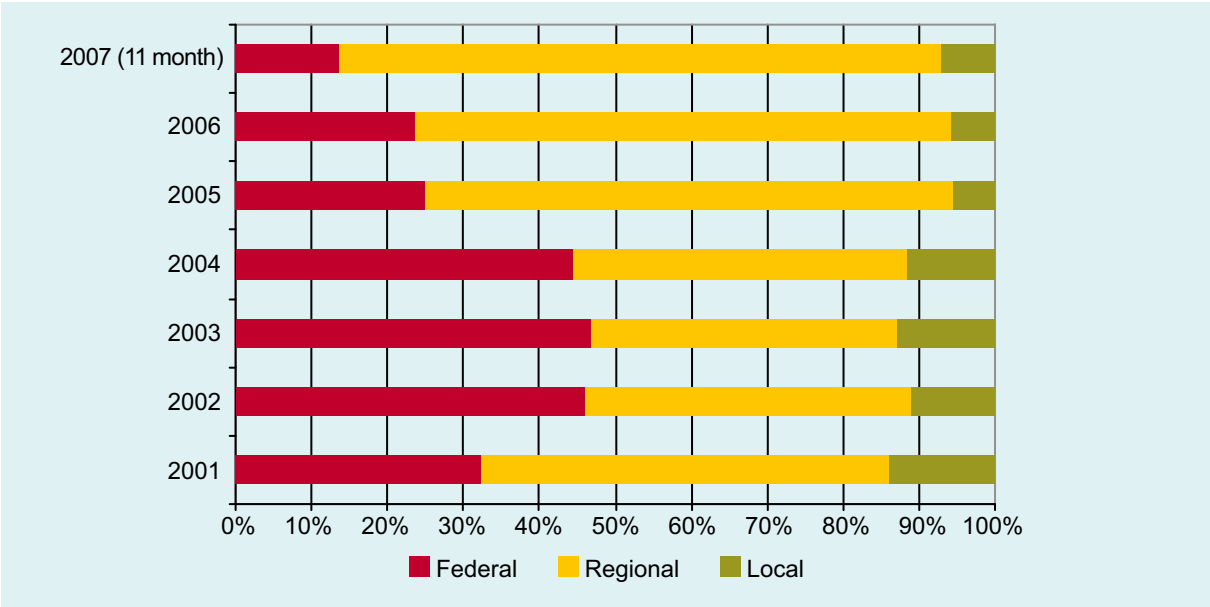


Source: Compiled from http://www.oecd.org/dataoecd/55/42/38525360.xls and http://www.oecd.org/dataoecd/12/6/37002611.xls

In 2004–2007 there were several significant changes in agro-food policy in Russia. The major change dealt with the distribution of federal and regional authority in agricultural policy. In accordance with the laws of July 2003 and December 2004, agricultural subsidies were defined as the exclusive authority of

the subjects of the Federation. From 1998, when the share of the federal budget in the overall agricultural budget was at its lowest (24%), this share steadily grew until 2004. After the introduction of new rules this share fell to 14% (**Figure 13**).

Figure 13. Structure of the consolidated agricultural budget in Russia



Source: Compiled from www.minfin.ru

This new system of budget support for agriculture is causing a growing inequality between the regions. Northern areas, which are richer but less favourable for agriculture, are benefiting, while Southern Russia, which is facing budget deficits but is rich in agriculture, is losing out.

By the end of 2005, an ambitious programme of four national priority projects was launched. It included modern healthcare, high-quality education, accessible and comfortable habitation for people, and efficient agriculture. The agriculture project was supplementary to the regular agricultural policy; some of the project measures and regular policy measures overlap (e.g. credit subsidies), some measures were newly introduced. Therefore the adoption of this National Project has increased the budget spending for agriculture. The Project had a two-year timeline, and its total budget amounted to 30 billion RUR (more than 2 billion USD), which adds up to about 20% of the federal budget spending on agriculture per year. The Project consists of three major sub-projects:

(1) Accelerated development of the livestock sector:

- Support for eight-year investment credit for green field construction and the radical modernisation of existing breeding farms;

- Improved availability of pedigree animals and equipment for livestock farms in the framework of the existing federal leasing of pedigree animals programme. In addition, 1 billion rubles was provided for the purchase of equipment;

- Stable TRQs for meat imports and import duties on livestock products for 2006–2009, with the lifting of import duties on equipment destined for livestock farms;

(2) Support of smallholder farms:

- Subsidising of 95% interest for bank credits for small family farms and households;
- Support of small farm and household cooperatives;
- Development of the land mortgage system in rural areas;

(3) Providing accessible habitation for recent graduates and their families in rural areas:

- 30% subsidy from the federal budget and 40% subsidy from the regional budgets for rural employers who provide habitation for recent graduates and their families.

In 2006–2007 the National Project was incorporated into a new legal tool as part of the agri-food policy. At the very end of 2006 a new law on agriculture was adopted which set a legal framework for agricultural policy in the country. According to the Law, every five years the government must adopt a detailed State Programme on policy measures in support of agriculture and of the agri-food market regulation. This Programme must specify the measures in detail, give the total budget allocation for each measure, and describe the indicators for estimating the success of each measure. Also, the Law envisages the annual report of the Minister of Agriculture on Programme Implementation and the independent expert evaluation procedure at the end of the Programme.

Table 2. Budget spending for the Russia's State Programme on Development of Agriculture in 2008–2012, billion RUR

Programme Divisions	2008	2009	2010	2011	2012	Total 2008–2012	2012 as % of 2007
Rural development	7.34	19.03	25.12	29.6	31.28	112.37	570
General services for agriculture	9.86	12.92	13.78	14.66	15.33	66.55	330
Support of priority sectors in agriculture	13.73	15.41	14.11	14.37	15.04	72.66	180
Financial stability of farms	44	51.28	65.62	64.94	66.85	292.69	150
Market regulation	1.36	1.36	1.36	1.43	1.5	7.01	115.4
Total	76.3	100	120	125	130	551.3	200

Source: RF MoA

3.1 Domestic support policy

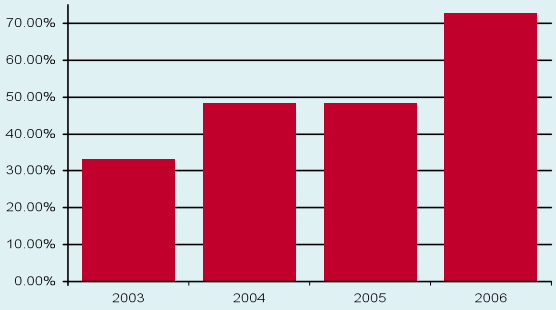
Input subsidies. Credit interest rate subsidising is the largest and most effective programme of the past few years. This programme provides partial compensation for the interest paid on credit for farms, farm cooperatives and some agribusiness companies. The federal budget compensates two-thirds of the interest paid by the debtor, but no more than two-thirds of the Central Bank refinancing rate; the subsidy is paid only in the event of timely interest repayment. Credit subsidies are paid for one-year and three-year loans and, since 2005, for five-year and eight-year loans (the last was introduced by the National Project on Agriculture).

Machinery and cattle leasing is another large input programme. The state-owned leasing company Rosagroleasing regularly gets federal budget funds for leasing operations. This company is supposed to

purchase machinery and pedigree cattle and lease them to agricultural producers at preferential rates.

Figure 14 depicts the share of federal budget spending for the state support for preferential credit and leasing. This share also includes subsidies for short-term loans and for leasing animals, therefore, the Figure does not necessarily reflect the dynamics of government spending to support technical modernisations of agriculture, but it does give a certain understanding of the growing importance of these two programmes in the federal budget. In 2006–2008, 8.3 thousand units of various machinery and equipment were supplied to agriculture under the state leasing programme [3] – 20–33% of total deliveries of farm machinery. Around 17% of total state funding for agricultural leasing was used for deliveries to individual farmers [4].

Figure 14. Share in the federal budget spending for agriculture for the state programmes supporting preferential credit and leasing in Russia



Source: Compiled with Data of MoA

Partial compensation (50%) of insurance payments is provided to agricultural producers who have signed an insurance contract with any Russian insurance company. The programme is valid for grain crops, oilseeds, sugar beet, rice, flax and soybean.

Livestock breeding subsidies are paid for the maintenance of highly productive breeding stock on specially certified pedigree-breeding farms.

Compensation of elite seed costs is paid for agricultural producers who have purchased elite seeds of grain crops, rice, soybean including F1 hybrids, rapeseeds, flax, hemp, and corn, including F1 hybrids produced locally.

In northern and mountainous areas, partial compensation is paid for the cost of transportation of feed culture seeds and fodder crops seeds.

Maintenance of perennial crops includes partial compensation of the costs of set-up and maintenance. This subsidy is paid for orchards, berry plantations, vineyards, hop gardens, tea plantations, and horticulture nursery gardens. The areas under these plants should be over a certain size. Compensation is paid as a fixed rate per hectare.

Since 2005, subsidies have been paid in the form of inter-budget transfers for livestock breeding, elite seeds and credit interest rate, insurance payment compensation, and partial compensation for the costs of transportation of feed and seeds to farms located in northern and mountainous regions.

3.- Information of the MoA
4.- http//:www.agro_ru

The Federal Soil Fertility Enhancement Program includes (1) state capital investment in arterial irrigation and drainage system reconstruction, soil condition monitoring, research and development, and (2) partial compensation to the producers of the costs of irrigation, drainage and chemical melioration, and of the costs of mineral fertilizers.

Output subsidies. The major output programme at the federal level is grain intervention, which has been implemented since 2001 with an objective to eliminate the volatility of grain prices. In 2004–2006 the government conducted wheat and rye purchase interventions, and in 2007, sale interventions. The scheme of the interventions was changed every year. However, the major element of the interventions is the purchase of cereals on the six authorised commodity exchanges located in the major grain producing regions. Purchases are implemented at the auctions with fixed starting prices. The total sum for these governmental purchases is fixed in the annual budget. Import and export operations during these interventions are not normally regulated.

There are some marginal output subsidy programmes at the federal level. Flax and hemp subsidies are paid to producers and primary processors of flax and hemp. The budget spending for this programme is marginal. Per-head subsidies on reindeer, sheep and goats were cancelled in 2005.

At the regional level, dairy and meat programmes continue to be widely applied. Very often they take the form of per-unit subsidies for primary producers.

Writing off of farm debts. In 2004–2007 a massive programme of farm debt annulment was implemented.

Rural development. The federal rural development programme for 2002–2010 co-finances regional efforts in rural development from the federal budget. This financing targets in particular: programmes on housing, schools, hospitals and polyclinic construction; electric power lines, gas systems and water pipes in rural areas; provision of telecommunication services; and road construction.

3.2 Agro-food trade policy

Significant reduction in agro-food imports after the crisis of ‘98 inspired recovery growth in Russia’s agriculture sector. Since the imports were restored, the government tends to facilitate recovery growth with various border measures. In recent years meat TRQs have been introduced, cheese and alcohol imports restricted, and phytosanitary limitations widely applied. The growth in trade protectionism in the agro-food sector was limited by WTO negotiations.

The trade regime regarding agri-food commodities remains rather liberal, however (**Table 3**).

Table 3. Structure of bound import tariffs in selected countries

	Russia*	USA	EU	Japan	Brazil	Mexico	Kenya	India
Mean	13.5	11.9	20.5	80.1	35.6	44.4	100	116
Median	10	3.8	10.9	12	35	36	100	100
Minimum	0	0	0	0	0	0	100	10
Maximum	100	378.7	218.5	2,553.6	55	450.7	100	300
Standard deviation	14.0	33	29.4	203.3	11.2	42.1	0	52.5
No. of tariff lines	2,602	1,769	2,200	1,806	942	1,080	665	690

** - actual import duties in 2004 г.*
Source: AFE, IPC (2005)

In spring 2003 TRQs for beef and pork and an absolute quota for poultry were introduced. Since 2006 the poultry meat import quota has been replaced by a TRQ) (Table 4). Russia applies three TRQs for agri-food commodities; currently the members of the WTO apply more than 700 TRQs in total, and EU-15 alone uses 87 TRQs [5].

Table 4. Meat import TRQs in Russia, 2003–2007

	2003	2004	2005		2006	2007
			Since January	Since June		
Beef – fresh or chilled						
TRQ. '000 tonnes	11.5*	27.5	27.5		27.8	28.3
Within-quota tariff	15%, but not less than 0.2 euro/kg	15%, but not less than 0.2 euro/kg	15%, but not less than 0.2 euro/kg	15%, but not less than 0.2 euro/kg	15%, but not less than 0.2 euro/kg	15%, but not less than 0.2 euro/kg
Above-quota tariff	60%, but not less than 0.8 euro/kg	60%, but not less than 0.8 euro/kg	60%, but not less than 0.8 euro/kg	40%, but not less than 0.53 euro/kg	55%, but not less than 0.7 euro/kg	50%, but not less than 0.65 euro/kg
Beef – frozen						
TRQ. '000 tonnes	315**	420	430		435	440
Within-quota tariff	15%, but not less than 0.15 euro/kg	15%, but not less than 0.15 euro/kg	15%, but not less than 0.15 euro/kg	15%. but not less than 0.15 euro/kg	15%, but not less than 0.15 euro/kg	15%, but not less than 0.15 euro/kg
Above-quota tariff	60%, but not less than 0.6 euro/kg	60%, but not less than 0.6 euro/kg	60%, but not less than 0.6 euro/kg	40%. but not less than 0.4 euro/kg	40%, but not less than 0.55 euro/kg	52.5%, but not less than 0.53 euro/kg
Pork						
TRQ. '000 tonnes	337.5**	450	467.4		476.1	484.8
Within-quota tariff	15%, but not less than 0.25 euro/kg	15%, but not less than 0.25 euro/kg	15%, but not less than 0.25 euro/kg	15%, but not less than 0.25 euro/kg	15%, but not less than 0.25 euro/kg	15%, but not less than 0.25 euro/kg
Above-quota tariff	80%, but not less than 1.06 euro/kg	80%, but not less than 1.06 euro/kg	80%, but not less than 1.06 euro/kg	80%, but not less than 1.06 euro/kg	60%, but not less than 1.0 euro/kg	60%, but not less than 1.0 euro/kg
Poultry						
Quota	744***	1,050	1,050		1,130.8	1,171.2

5.- http://www.ers.usda.gov/Briefing/WTO/TRQ.htm

Within-quota tariff	25%, but not less than 0.2 euro/kg	25%, but not less than 0.2 euro/kg	25%, but not less than 0.2 euro/kg	25%, but not less than 0.2 euro/kg	25%, but not less than 0.2 euro/kg	25%, but not less than 0.2 euro/kg
Above-quota tariff	-	-	-	-	60%, but not less than 0.48 euro/kg	60%, but not less than 0.48 euro/kg

** - since 01.08.2003 - ** - since 01.04.2003 - *** - since 30.04.2003 - Source: Customs legislation of the Russian Federation.*

After meat, sugar has been the second most important focus for border measures in Russia in recent years. By the end of 2003 the previous system of quotas distributed at auction was lifted and a variable import levy was introduced for raw sugar. White sugar is the subject of seasonal import duties.

Until 2004 grain export was free of charge, but in 2004 the government became concerned by a high rate of increase in bread prices. In order to slow down these prices it introduced temporary export taxes for wheat and rye (**Table 5**), the first time this had happened during the reform period. In 2007 grain export taxes were re-established (see below). Since 2003 rice import has been the subject of regulation: a combined duty was introduced for rice and rice products.

Export duty is quite a rare tool in trade regulation; however, 22 current members of the WTO apply them for the export of agri-food commodities (**Box 1**). In the event of soaring food prices, transitional and developing countries often impose export limitations, including export duties [6]. Russia is not an exception in this regard.

Table 5. Cereal export taxes in Russia, %

	Since 16.01.2004	Since 01.05.2004	Since 12.11.2007	Since 29.01.2008
Wheat	0.025 euro/kg	0%	10%, but not less than 0.022 euro/kg	40%, but not less than 0.105 euro/kg
Rye	0.025 euro /kg	0%	0%	0%
Barley	0%	0%	30%, but not less than 0.07 euro/kg	30%, but not less than 0.07 euro/kg

Source: Customs legislation of the Russian Federation.

Box 1. Worldwide regulations against export duties

Export duties are principally imposed for fiscal reasons or used as a means to restrict exports of a particular product in order to reserve the domestic supply for local industries. They resemble import tariffs in that their primary effect is on the price of traded goods. However, this price effect generally also impacts on trade volumes, which contributes to the tendency to discuss export duties under the category of export restrictions. Export duties appear to be used only rarely, although there have been cases in a relatively large number of countries.

The WTO disciplines on export duties are not clearly defined. On the other hand, quite a number of regional trade agreements contain provisions prohibiting such measures.

Source: OECD, 2003

6.- EBRD, 2008

3.3 Soaring food prices ad hoc policy

In reaction to soaring food prices in 2007, the Russian government introduced several policy measures. The necessity of these measures was supported by forthcoming parliamentarian (in December 2007) and presidential (March 2008) elections.

In October 2007, several Producer Unions (Poultry, Dairy, Vegetable Oil products), the Agrarian Commission of the Entrepreneurs of Russia, the two biggest Russian Dairy companies, and several of the largest retailers signed an agreement with the RF Ministry of Agriculture on fixing retail prices of staple food products (bread, skimmed milk, kefir, sunflower oil and chicken's eggs) at the level of 15 October 2007. Agreement was valid till 31 January 2008. Later it was expanded till 1 May 2008, with some increase in prices.

In order to curb grain prices on the domestic market, temporary export taxes for wheat and barley (**Table 5**) were introduced from November 2007 until April 2008. In December 2007 the tax for wheat was increased (ibid.); these taxes will be in force until 30 April 2008. These duties are not applied to exports to the Custom Union (Belarus and Kazakhstan). In February 2008 the Government imposed a temporary ban on exports to Belarus and Kazakhstan; the ban will be in place from 15 March until 30 April 2008.

On 15 October 2007, import duties for dairy products were reduced for 6 months from 15% *ad valorem* equivalent (AVE) to 5% AVE.

In mid-December the government adopted a list of food and agricultural commodities the export of which can be temporarily restricted or banned; this list includes mainly dairy products, cereals and flour, oil seeds and vegetable oils.

4. Overview of the agri-food sector in Southern Russia

The southern part of Russia is the most fertile area of the country and has historically always been used for agricultural production. In accordance with the current Russian administrative division, Southern Russia is a Southern Federal Okrug, which consists of 13 territories (of which eight are national republics) (**Figure 15**). In this paper we consider only four major territories of the Okrug: Krasnodar and Stavropol krais and Rostov and Volgograd oblasts. These four regions provide more than 16% of the gross agricultural output of Russia, a share which is steadily growing (in 1991 it was below 14%), and they contain more than 18% of the total arable land of the country.

Figure 15. Southern Federal Okrug of the Russian Federation

Source: http://wikitravel.org/en/Image:Southern_Russia_regions_map.png

This is a densely populated area, providing around 7% of national GDP. It is traditionally an agricultural area and agriculture has a 20–35% share of the regional economy, while the national share is below 10%. Since the major part of the economically active population is involved in agriculture, which pays relatively lower wages, the average per capita income in the region is below the national average (**Table 6**).

Table 6. Major characteristics of selected territories of the Southern Federal Okrug of the Russian Federation, 2005

Indicator	Units	Southern Federal Okrug	Krasnodar krai	Stavropol krai	Volgograd oblast	Rostov oblast
Territory	'000 sq.km	591.3	75.5	66.2	112.9	101
	% of Russia	3.5	0.4	0.4	0.7	0.6
Population	'000 per.	22,777.2	5,101.1	2,701.2	2,620	4,276
	% of Russia	16	3.6	1.9	1.8	3
Income p.c.	RUR/month	6,803.8	7,220	6,587.3	7,911.5	7,541.4
	% of Russia	66.8	70.9	64.7	77.7	74.1
Regional GDP	M RUR	1,298,788.1	371,177.5	147,018.6	205,844.2	264,067.2
	% of Russia	7.2	2.1	0.8	1.1	1.5
Agriculture	M RUR	367,871	116,282	52,159	39,792	68,945
	% of Russia	21.5	6.8	3.0	2.3	4.0
Share of agriculture in GDP	%	28.3	31.3	35.5	19.3	26.1

Source: Compiled from http://www.gks.ru/bgd/regl/B07_14p/IssWWW.exe/Stg/d01/01-02-1.htm

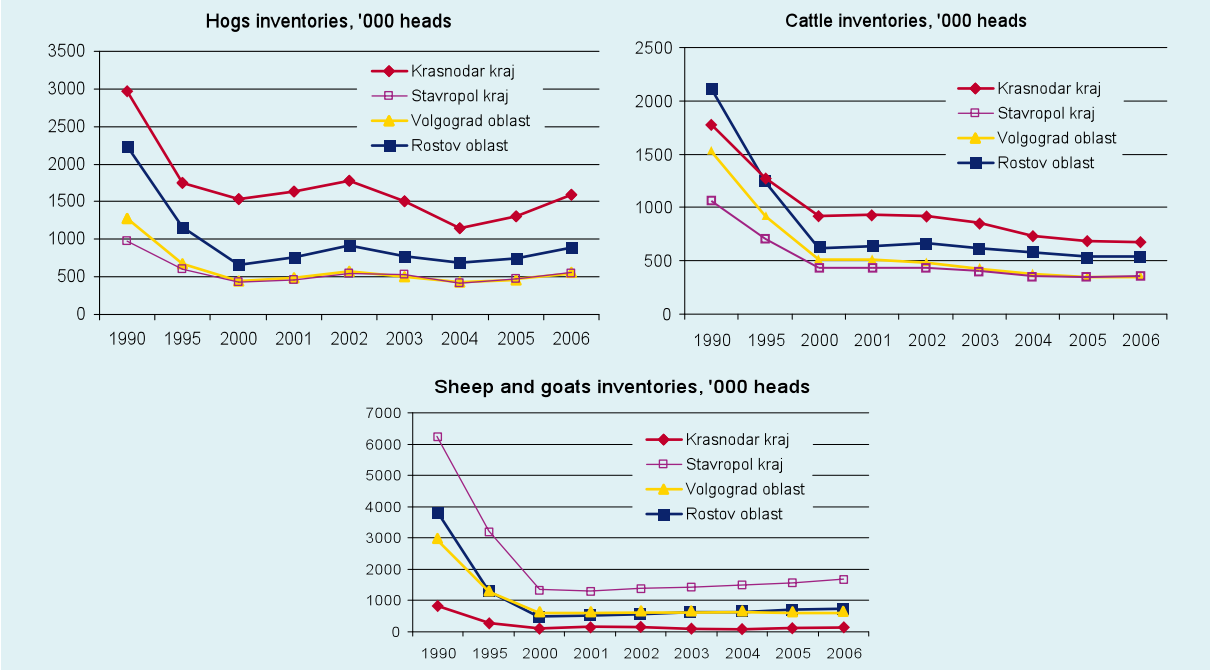
Agriculture in Southern Russia is specialised mostly in crop production, which makes up 63–64% of the gross agricultural output of each territory concerned. During the reform period the share of the livestock sector in total agricultural production in Russia (as in all transitional economies) decreased significantly, but it still accounts for 47–48% of total agricultural production in the country on average. Since the mid-2000s, however, livestock production has started to grow at a higher rate than crop production.

Cereals and sunflower seeds are the major cash crops in the area. Horticulture is also relatively well developed across the region; there are vineyards in Rostov oblast and Krasnodar krai. In Krasnodar krai there are tea plantations. Stavropol krai and some zones of Volgograd and Rostov oblasts are traditionally specialised in sheep rearing.

Krasnodar krai, Rostov oblast and Stavropol krai correspondingly take the first, second and third positions in cereal production in Russia (Volgograd oblast takes the eighth position) and all together these four regions produce one-third of Russian cereals. In sunflower seeds the first position is taken by Rostov oblast, the second by Krasnodar krai, and the third by Volgograd oblast. The four regions provide 60% of the country's sunflower seed output.

The livestock sector is lagging behind crop production in Southern Russia. However, the last few years have seen some signs of recovery in this sector as well. Although cattle inventories continue to fall, pig and sheep stocks grew in all four territories. As in the rest of the country, animal productivity is growing: thus, milk yield per cow has almost doubled since 1995 in all four regions and has exceeded Soviet levels.

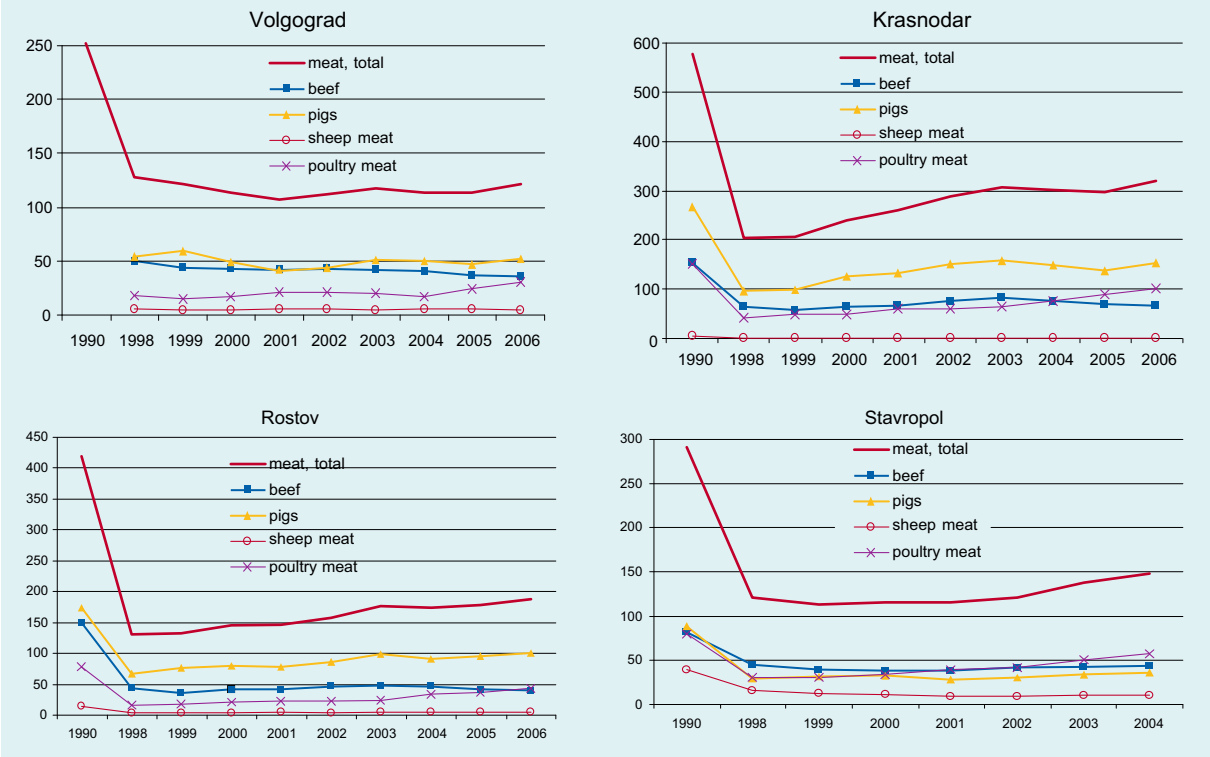
Figure 16. Livestock inventories in selected regions of Southern Russia, by the end of year



Source: Compiled from Rosstat data

Pig, sheep, and especially poultry meat production is growing across the entire area (**Figure 17**).

Figure 17. Meat production in Southern Russia, slaughter weight, '000 tonnes



Source: compiled from data of the corresponding regional statistic agencies

At the same time, the share of the four regions under consideration in Russian meat and milk gross output has remained almost constant over the last 2 decades, at 15–16% and 10–11% correspondingly.

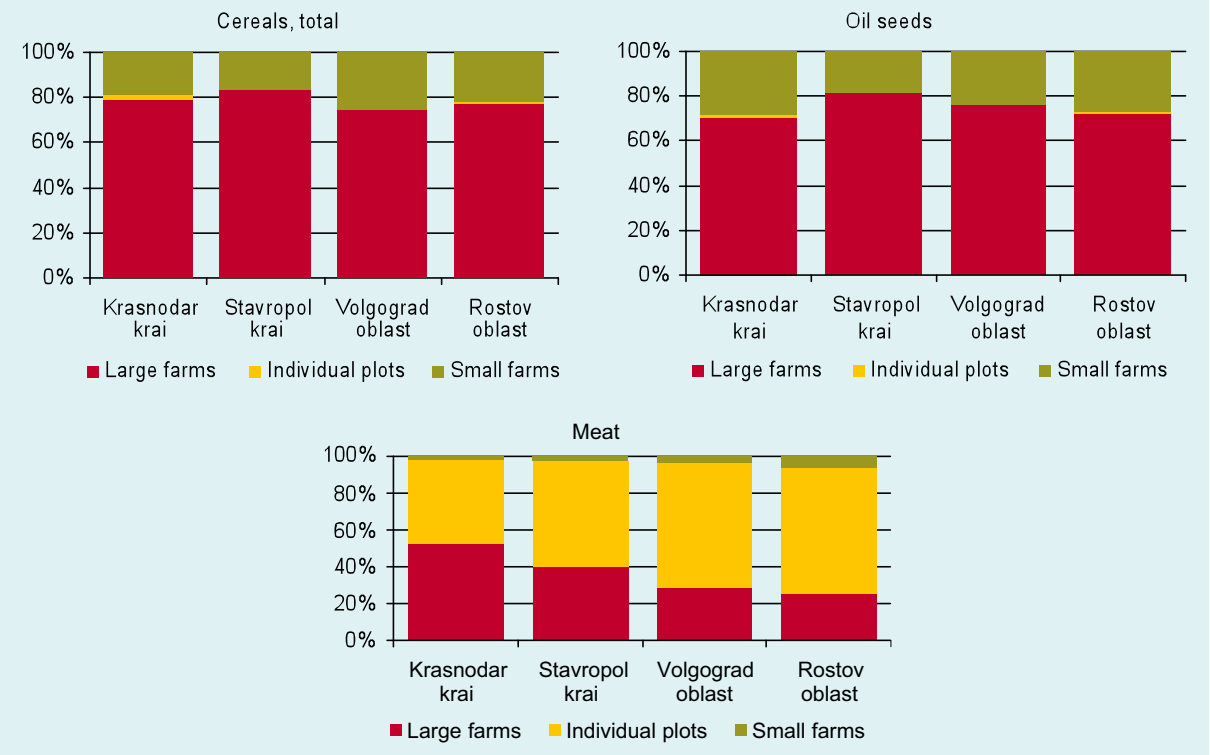
The structure of agriculture is similar in all four regions: production is dominated by large farms, a large number of which are vertically integrated with food and/or trade companies. The cash crops are mostly produced on the large and super large farms. At the same time meat and milk are mostly produced in rural households (on individual plots) (**Figure 18**).

Box 2. Farm structure in Russia

As in many other post-communist countries, Russia's agriculture is based on three types of production units: (1) large farm enterprises, the successors of kolkhozes and sovkhozes and various derivative farming companies; (2) small family farms, which are presumably run and possessed by one family and (3) individual household plots of the rural and, to a minor extent, the suburban and urban population (tiny plots of land presumably used for subsistent food production and with some sale of surplus beyond family needs). The types of agricultural production units are mainly defined in a legal sense by their form of registration. Large farms are incorporated in one form or another; small farms are specifically registered as such, and individual plots being exempt from both business registration and taxation are defined in terms of the documented allotment of a physical plot of land. Weak legal and statistical definitions of these three types of farming entities do not allow them to be distinguished by their physical size and economic turnover. Thus, in Russia there exist small farms operating three to five thousand hectares and employing 50 to 100 or more workers, which makes them comparable in size to a typical Russian incorporated farm. On the other hand, there are family farms with no land under cultivation or pasture, but which are registered as family farms and count as such in the statistics. In accordance with data from the last Agricultural Census (2006), more than 30% of small farms in Russia run more than 2.00 hectares of farmland while 17% have no land at all. In addition, there is little difference in actual ownership between these two types. A "large" farm can be controlled by a single individual while a "family farm" is not atypically owned as a partnership or even owned jointly and severally by unrelated persons. As households are exempt from taxation, many market-oriented small farms pretend to be individual plots although in reality they cultivate substantial plots of 50–100 hectares of arable land.

Source: Serova, 2008

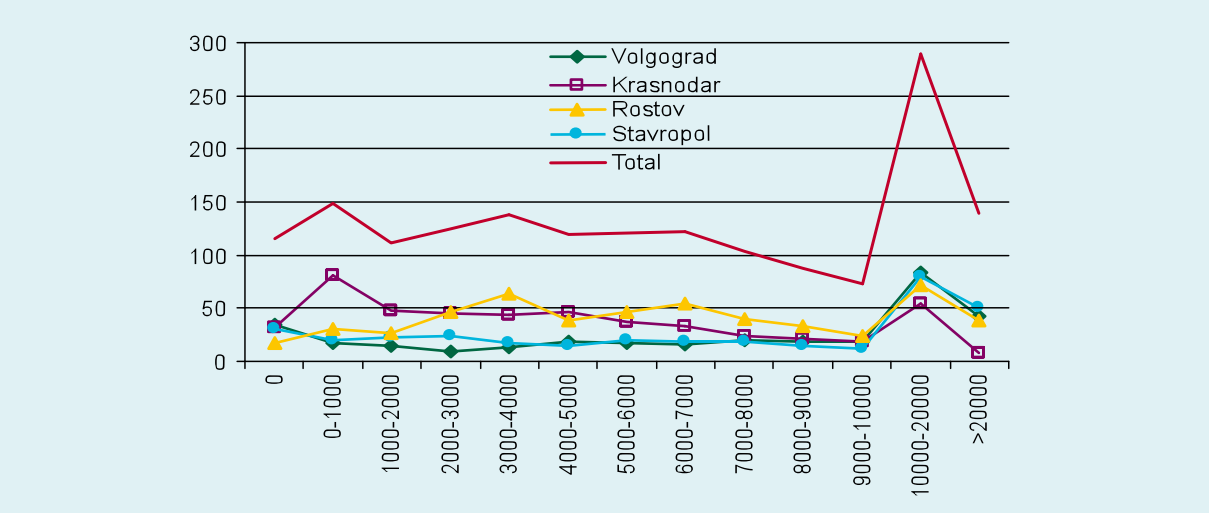
Figure 18. Production of major products by type of farm in Southern Russia, 2006



Source: compiled from data of the corresponding regional statistic agencies

The large farms in the selected regions are the biggest in the Russian Federation: almost 28% of all large farms cultivate farmland area of more than 10,000 hectares (**Figure 19**). And these large and super large farms provide almost half the sales and profit of large farms: 55–60% of grain output, 75% of meat gain.

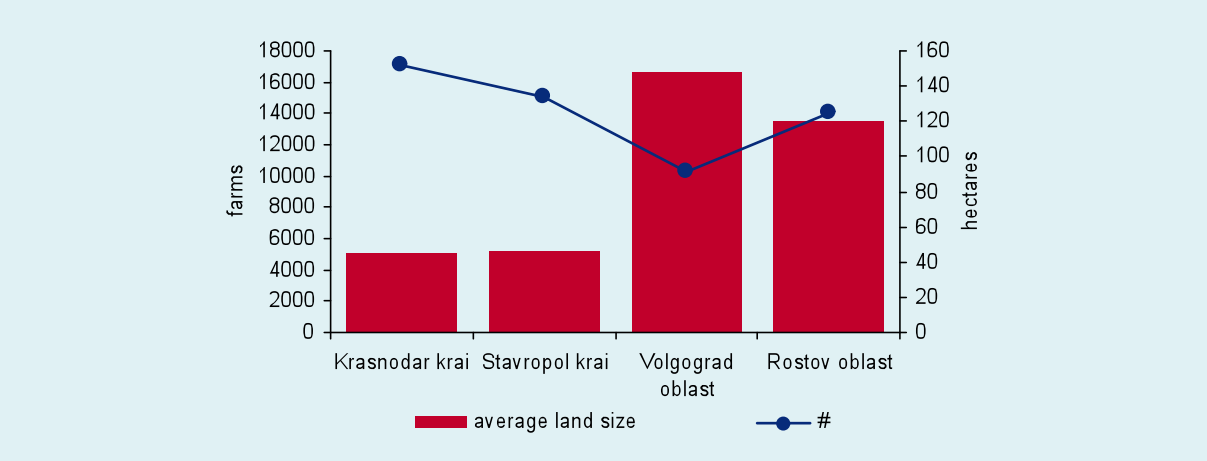
Figure 19. Distribution of large farms in Southern Russia by area (ha), 2005



Source: compiled from data of the corresponding regional statistic agencies

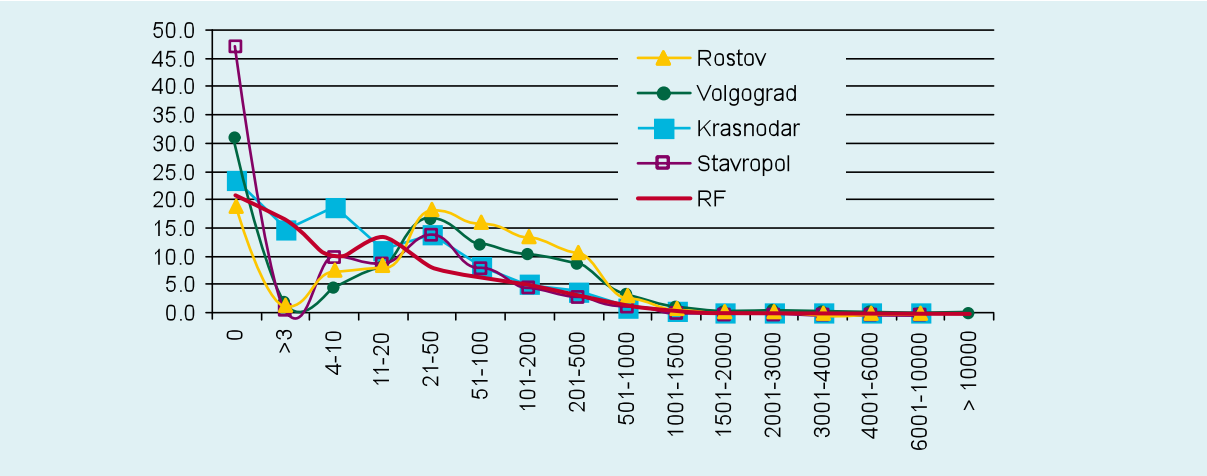
Small family farms in the region are also not very small. The average size of this type of farm in Rostov and Volgograd oblast is about 150 hectares, while the national average is 80 hectares (in the two other regions the average size of family farms is about 45 hectares) **(Figure 20)**. In the last five years the number of family farms has steadily decreased while the average size has increased by 1.2 to 1.5 times. The share of small family farms operating above 50 hectares varies from 18% in Krasnodar and Stavropol krais to almost 45% in Rostov oblast and above 37% in Volgograd oblast, while in Russia as a whole this share is 22% **(Figure 21)**.

Figure 20. Number and average size of small family farms in Southern Russia, 2006



Source: Compiled from Rosstat data

Figure 21. Distribution of small (family) farms in Southern Russia by area (ha), 2005, %



Source: Agricultural Census data, Rosstat

The four regions under consideration not only have favourable climate and soil conditions for farming, but they also have a relatively favourable geographical location. The regions are located along major Russian waterways – the Don and Volga rivers. They have connections to the major Russian Black Sea port in Novorossiysk city; sea-river vessels can go from the Caspian Sea up to Volgograd city and from the Azov Sea up to Rostov-upon-Don city. The region has relatively good railway connections and highways.

Another comparative advantage of the region is its educational base: there are at least three nationally well-ranked universities preparing experts for agriculture – the Kuban and Stavropol agricultural universities and the Rostov state university.

The national agri-food policy was described in section 1. However, in accordance with Russian legislation, agri-food policy comes under the jurisdiction of the regional authorities. In the majority of cases, regional administrations duplicate the measures of the national policy with supplementary budget spending in accordance with the capacity of the regional budgets. Nevertheless, there is a notable difference in regional policy.

Thus, the level of support to agriculture from regional budgets differs in each of the four regions under consideration, although in all regions it is above the national average level **(Table 7)**.

Table 7. Agricultural budget, 2005

	Share of agriculture in regional budget	Share of agri-cultural budget in gross regional product	Expenditures on agriculture per 1 RUR of regional agricultural output	Expenditure on agriculture per person emplo-yed, '000 RUR
Stavropol	6.3%	1.0%	3.2%	5.0
Krasnodar	4.2%	0.5%	1.8%	3.8
Rostov	4.4%	0.6%	2.7%	4.9
Volgograd	6.6%	0.7%	4.1%	6.4
RF	2.6%	0.4%	5.2%	n.a.

Source: Regional budget laws. 2006–2007 (Consultant Regions database). data of Rosstat

The structure of agricultural expenditure also differs from region to region: Stavropol and Krasnodar krais spend a major part of their agricultural budgets on subsidies to producers. The Rostov budget is allocated mostly for general services of which the biggest share belongs to the rural development programmes. Volgograd oblast supports the development of social infrastructure in rural areas. As is commonly recognised, transitional economies suffer most of all from lack of infrastructure, therefore one can conclude that the last two regions have a more rational structure of agricultural budget spending than the previous two. Among the different subsidies in all regions, the major part falls upon input subsidies (compensation for production costs) – this is common particularity of agricultural subsidies in transitional economies **(Table 8)**. On the other hand, Rostov and Volgograd oblasts use a policy tool known as the budget loan, which is explicitly prohibited by the National Budget Code **(Table 9)**.

Table 8. Structure of agricultural budget, 2006–2007

	Stavropol	Krasnodar	Rostov	Volgograd
Administrative costs	17.0%	21%	36%	22%
Infrastructure	3.0%	6%	8%	19%
Veterinary and phytosanitary measures	0.6%	1%	1%	0%
Research	0.3%	1%	0%	0%
Education	0.1%	0%	2%	1%
Miscellaneous	2.1%	5%	26%	2%

	Stavropol	Krasnodar	Rostov	Volgograd
General services	**23.1%**	**34%**	**73%**	**45%**
Product subsidies	3.3%	4%	6%	0%
Costs compensation	61.5%	58%	16%	41%
Miscellaneous	12.2%	4%	5%	14%
Subsidies	**76.9%**	**66%**	**27%**	**55%**
Total	**100.0%**	**100%**	**100%**	**100%**

Source: Regional budget laws. 2006–2007 (Consultant Regions database)

The measures applied by all the regions under consideration are mostly input subsidies. In the 2000s interest rate subsidies demonstrated their high efficiency in the support of both producers and processors. Therefore, this tool has become widespread among all regions of the Russian Federation, including among those under our consideration (**Table 9**).

Regional administrations are allowed to transfer some of the policy measures together with corresponding budget subventions to the municipalities. Thus, policy can differ not only from region to region, but from municipality to municipality (**Table 9**).

Table 9. Policy measures in selected regions of the Southern Federal Okrug of the Russian Federation, 2007

Type of measure	Stavropol	Krasnodar	Rostov	Volgograd
Regional administration				
Input subsidies	Leasing of machinery and animals at preference rates	Interest rate subsidies (2/3 of Central Bank refinancing rate) to private leasing companies, providing machinery, trucks, equipment for farms and processing enterprises	Budget loans to: ● farm cooperatives ● dairy plants for modernisation ● farms for purchase of fuel	Budget loans to small family farms
	Interest rate subsidies for 1-, 3-, 5-, 8-year loans (2/3 of Central Bank refinancing rate)	Interest rate subsidies for farm cooperatives (2/3 of Central Bank refinancing rate)	Subsidies to the equities of farm cooperatives	Interest rate subsidies for: ● farm cooperatives (2/3 of Central Bank refinancing rate) ● farms ● service enterprises ● processors enterprises procuring flour and grain ● others
	Compensation of 30% of insurance cost (crops and livestock)	Partial compensation of crop insurance cost	Partial compensation of crop insurance cost	Partial compensation of crop insurance cost (7–11%)

Type of measure	Stavropol	Krasnodar	Rostov	Volgograd
	Subsidy for diesel	Subsidy for diesel	Subsidy for diesel (per hectare of crops)	Subsidy for diesel used for feed crops and orchards
	Partial compensation of costs of purchasing breeding animals and semen	Partial compensation of costs of purchasing breeding animals and semen	Partial compensation of costs of purchasing breeding animals and semen	Partial compensation of costs of purchasing breeding animals and semen
		Partial compensation of fertilisers and other chemical costs	Partial compensation of fertilisers and other chemical costs	Partial compensation of chemical costs
		Subsidies for arrangement of vineyards, tea plantations, and orchards		Subsidies for arrangement of vineyards, tea plantations, and orchards
		Partial compensation of high quality seeds		Partial compensation of high quality seeds
		Partial financing of soil improvement work	Partial financing of soil improvement work	
			Partial compensation of costs of soil tests	
Output subsidies		Sugar beet seeds	Sheep (subsidy per head)	Meat, eggs, milk, freshwater fish
Municipalities				
Input subsidies	Partial compensation of fertiliser and other chemical costs	Partial compensation of fertiliser and other chemical costs	Partial compensation of fertiliser and other chemical costs	
	Partial compensation of cost of energy for on-farm irrigation		Partial compensation of cost of purchasing spare parts, animals, seeds, feed, fuel	
			Partial compensation of crop insurance cost	
Output subsidies	Subsidies for milk and eggs	Subsidy for animal products		
	(Only in 2006) Subsidies for pork and beef	Subsidy for flax and hemp		
		Subsidy for production of high quality seeds		

Source: Compiled with Source: Regional budget laws. 2006–2007 (Consultant Regions database)