Interaction and influence of investment process stimulating factors in agriculture on the main trends in the development of the agricultural sector in Russia

Abstract. The article reveals the latest trends in functioning of the agricultural sector in Russia and the factors influencing its further development. It describes the major initiatives of the state on the maintenance and creation of favourable conditions for the agro-industrial complex. In this regard, efficient management of economic and investment attractiveness is considered to be the most important issue. The authors present a construction of analytical function of investment trend modelling in agriculture, as well as the analysis of growth rates in investment and their influence on the volume of production and import of agricultural products in the Russian Federation in the long term.

Keywords: Agriculture; Investment Attractiveness; Investment Strategy; Modelling the Trend of Investment in Russian Agriculture

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1. Introduction

Despite the fact that world agriculture is at the stage of introduction of innovative agro-technologies Russia’s agro-industrial complex does not actively use new technologies. Last year, Russian agriculture showed a very low level of production and profitability of sales compared to other branches of the economy. The peculiarity of several branches of Russia’s agro-industrial complex is the long investment cycle. Access to credit resources is complicated for many market participants. Nowadays, Russia’s agro-industrial complex survives only on the state support and subsidies. However, it needs investments to develop efficiently. Agriculture, as the most vulnerable sphere compared to the industrial or service sectors, urgently needs regulation and support from the state’s part. In modern conditions of Russia’s economic development, the role of state regulation and support of the industry aiming at economic growth and raising social stability in the country thanks to reforms, along with the investment attractiveness of the agro-industrial complex, grows.

To justify this, we find it important to mention the example of the adoption and realisation of the State Program for Development of Agricultural Commodities Markets in 2013-2020, which envisages USD 26.58 billion investment, or an average of USD 3.3 billion a year (according to the estimates for the period of 2015-2016). Such significant state support will lead to the inflow of private capital and undoubtedly stimulate the investment process in the agro-industrial complex. In 2015, new directions and crediting rules of state support for the agro-industrial complex were introduced. The given rules and directions were suggested according to the selection criteria of investment projects, realisation of which promotes import substitutions [1].

All this will make it possible to provide food security inside the country and develop Russia’s agro-industrial complex potential. Nowadays, the share of agricultural production comprises about 2.4% of gross domestic product and 2.67% of fixed production asset. More than 6.5 million people (9.5% of the total number of the employed) are occupied in agriculture. 10% of the world arable land is on the territory of the Russian Federation [2]. Russia is the first in the world in the production of wheat, the third in the production of potatoes, the fourth in the grains and legumes production and the fifth in the realisation of cattle and poultry in carcass weight.

The following factors influence the development of agricultural production:

1) insufficient material-technical provision of production by new equipment, poor quality of production, weak assortment policy, significant dependence of domestic market on the state and poor development of the land market;

2) the price disparity between agricultural production and material resources, insufficient state support for the majority of enterprises of the agro-industrial complex who have lost their own working capital;

3) the problem of access to capital sources regarding the short-term credits with subsidising of interest rates;

4) falling investments in infrastructure improvement, development of new lands, etc.

In connection with the analysis of historical prerequisites and dynamics of the main trends in the agricultural development of the Russian Federation, it is possible to note two major factors influencing its state and functioning which all other factors and elements depend on. Firstly, it is timeliness, sufficiency and efficiency of the state support for the branches of the agro-industrial complex. Secondly, it is an optimum investment policy and access to sources of the capital of subjects of the agricultural sector, which is differentiated for large, medium-sized and small enterprises.

The solutions to these problems lie within the improvement of foreign and agrarian policies with regard to the growth of the volumes of state support for agriculture, the development of agricultural markets and their infrastructure in the regions of Russia, neighbouring countries concerning the existing international agreements. Besides, the development of public-private partnership, growth of direct and portfolio foreign and domestic investments, the establishment of joint ventures and the promotion of their activities, along with the improvement of the relevant infrastructure inside the Russian Federation, in our opinion, will lead to strengthening of the competitiveness in the field of agricultural production and will reduce the monopoly of distribution networks.

2. Brief Literature Review

The founder of the theory of investments from the macroeconomic positions J. M. Keynes (1930, 1936) considers the peculiarities of investment processes within the mechanism of state regulation. The monetarism school overviews investment process exclusively from the market point of view, e.g. M. Friedman (1963, 1970, 1982). Issues on investment flows management, investors’ behaviour and the investment sphere are reflected in W. Sharpe’s works (1978). In modern economic theory investments are overviewed in the main context of increasing the economic growth and innovative development, which is described in the works by B. Bolskhalov (2011, 2013), N. Peshkov (2012, 2013), Investment attractiveness and the development of direct foreign investments were studied by J. H. Dunning (1979, 2001), A. Bevan (2000, 2004), S. Estrin (2000, 2004), K. Meyer (2004), T. Dutas (2004, 2010) and M. Fabus (2012, 2014). The problem related to the strategic development of Russia’s economy in...
the conditions of the crisis was mentioned by S. Glazyev (2013), while the issues of state promotion of economic growth through the investments in infrastructure were developed by A. Nekipelov (2014).

3. Purpose
The main task of the research is to study the impact of foreign and domestic policies on the main trends in Russia's agricultural development, to identify the consequences relevant to the impact of the state and private investments on the development of the agrarian market, to forecast and analyse the growth rates of investment volumes of the agro-industrial complex, to study the influence of the investment process on agricultural production and imports of agricultural products, as well as on the increase of competitiveness of the agro-industrial complex in the Russian Federation.

Methodology. The authors used monographic, descriptive, statistical methods, as well as the method of grouping to conduct this research. While using the descriptive and monographic methods, the authors considered and carried out forecasting of trends in the development of the agricultural sector and the main investment strategies for farms. The method of statistical grouping was used by the authors to conduct an analysis of the types and volumes of the attracted investments in Russia’s agriculture and their main directions in the agricultural sector. The authors have constructed an analytical function and conducted modelling of trends in the field of investments in agriculture, analysed the growth rates of investments in Russia’s agriculture and the growth rates of volumes of agricultural production import regarding market demand.

4. Results
The main initiatives of the State in the assistance to the creation of favourable conditions via increasing the investment attractiveness of the agricultural sector in Russia are as follows.
1. Russia's land market has been developing since 2005. The main problem here is the imperfection of the land legislation, as well as its opacity, which negatively affects the investment attractiveness of land. In 2014, the area of agricultural lands was 386.5 million hectares, of which the area of farmlands owned by legal entities was 15.2 million hectares, or 0.5% [3]. It will be possible to consider the full-fledged land market when at least 50% of lands are involved in market turnover.
2. Tax privileges have been applied to agricultural enterprises since 2005, and today they already have a set of the elements favouring the development of production and investment. Since 2012, the permanent zero rate of income tax for all farm enterprises, as well as privileges on value added tax of 10% and other privileges, has been applied since 2012 [4].
3. The improvement of credit policy. In 2014, the subsidisation of rates on credits for agricultural enterprises was equal to 5.7%; it has been 14.7% since 2015; another 2-3% of compensations is to be added from the budgets of regions, which will finally lower the rate to 3-7%. [5] In this regard, 0.6 billion dollars on compensation of expenses on the short-term credits to improve the investment process in the branches were transferred to the country’s regions at the beginning of 2015 [6].
4. Protectionism in the regulation of import of agricultural products. Since August 2014, the ban on import of Russian agricultural products to the countries which imposed sanctions on the Russian Federation, which forces Russia to look for and develop communications in the Customs union, the CIS countries, and with the neutral and friendly countries. For example, there is cooperation between Russia and China related to the delivery of agricultural products from the People’s Republic of China to the Russian market and the sale of Russian lands by Chinese companies, which is planned for 2016 [7].
5. The Ministry of Agriculture has created a special fund for compensating costs for fertilisers, seeds, fuels and lubricants compensation. Agricultural producers can count on partial (not exceeding 50%) covering of these expenses. However, different mechanisms of compensation are used in different regions of Russia [9].
6. For the past 10 years, the agricultural policy of the State has been aimed at stimulating investments in agriculture. The total volume of credit resources attracted in 2014 by different organisations related to the agro-industrial complex was more than 20.4 billion US dollars. Besides, a credit of 7.2 billion US dollars was issued in 2015 to perform seasonal field works in agriculture [10].

All the above is especially important for big companies in attracting investments.

In August 2014, the President of the Russian Federation signed a decree banning the imports of agricultural products, raw materials and food products from the countries which had imposed sanctions against the Russian Federation. According to experts, stimulating of 2015 the volume of imports of agricultural products decreased by 40% due to the imposed sanctions. In general, the Russian agro-industrial complex shows positive dynamics: the volumes of production in its branches increased almost by 2% within a period of 8 months in 2015 [6]. However, the process of substitution of imported products is slow. There are two main reasons for this. On the one hand, the demand for imported products has fallen in connection...
with the fall of the income of Russia’s population. On the other hand, domestic producers can’t replace large volumes of import production in one or two years.

Agricultural enterprises’ own means which are formed at the expense of profit and depreciation charges have been and remain the main source of investments in fixed capital. However, financial constraints of the agricultural enterprises, the lack of profit, the dissolution of depreciation charges in proceeds from sales of production make this source of investments insignificant. An increase in production, the creation of new enterprises and implementation of various investment projects is only possible by attracting external sources of financing [12].

According to the Central Bank of Russia, direct foreign investments in the agriculture of Russia equalled 598 million US dollars in 2014 (Figure 1) [13].

The greatest volume of investments in agriculture was in 2013 (Figure 1). By 2015, the volume of foreign investments into agriculture had increased by 70% compared to 2010 and equalled 934 million US dollars. To conduct a quantitative measurement of the trend, it is possible to apply analytical levelling of the row using the equation characterising the dynamics of the process best of all.

The assessment of parameters of the regression equations was carried out by means of MS Excel «Analysis of Data». As a result of the solution, we have received the following estimates of the parameters of the equations and the coefficient of determination of R²:

\[
\begin{align*}
y &= 36.63x + 570.56 \\
R^2 &= 0.15 \\
\end{align*}
\]

\[
\begin{align*}
y &= -44.38x^2 + 302.91x + 259.9 \\
R^2 &= 0.46 \\
\end{align*}
\]

\[
\begin{align*}
y &= -0.39x^3 + 519.13x^2 - 650.29x + 938.45 \\
R^2 &= 0.72 .
\end{align*}
\]

where it is supposed that dynamics of investments in agriculture \(y_t\) depends on time \(t\) from 2010 to 2014.

The choice of the best equation of the trend was made on the basis of the coefficient of determination of value. The third model has the greatest value of the coefficient of determination. As a result of the analysis of the temporary number of investments in Russia’s agriculture in the period of 2010-2014, we have concluded that the investment dynamics is described by a third degree polynomial with the maximum value in 2013.

Using this model (3) we will predict the volume of investments in Russia’s agriculture. The forecast is received by the substitution in the regression equation of the expected value of a factor. The probability of exact implementation of such forecast is extremely small. It is necessary to accompany it with a calculation of value of an average error of the forecast or a confidential interval of the forecast with a rather high probability (reliability).

In 2015, the volume of foreign investments fell to the level of 2012 and made from 454 to 728 million US dollars. In 2016, positive investment dynamics are not expected, the volume of foreign investments will be in the range of 436-697 million US dollars. The introduction of separate sanctions on imported products of a number of countries has not exerted a positive impact on the dynamics related to the internal investments (Figure 2).
To provide the sustainable development and functioning of the agro-industrial complex in modern conditions of financial and economic crisis, it is necessary to promote the policy of import substitution along with the state support for the investments in different branches of agriculture, especially it concerns more unprotected branches with a long investment cycle, high seasonality and resource intensity, such as production of beef, vegetable growing, etc.

Thus, to attract investments into the agro-industrial complex, it is necessary to create favourable conditions for promoting enterprises of different levels and to improve regional support and the policy of import substitution according to the peculiarities of regions, applying an optimum strategy for development and investment. It is also necessary to consider the main trends in the development of branches of the agro-industrial complex in the regions and the major factors influencing the increase in the investment attractiveness of agriculture.

Finally, it is necessary to understand that payback and efficiency of investments, as well as realisation and management of investment projects, including the policy of import substitution and the implementation of the application of new technologies, which is impossible without qualified personnel. The sanctions imposed on Russia, the lack of the competitive environment will contradict the growth in the agro-industrial complex of the Russian Federation.

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