



International Journal of Economic Research

ISSN : 0972-9380

available at <http://www.serialsjournal.com>

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Volume 14 • Number 12 • 2017

Management of Economic Growth of Agro-industry in Russia

Marina Anokhina¹, Galina Zinchuk², Olga Kondrashina³ and Nika Seredina⁴

¹ Department of organizational and managerial innovations, Plekhanov Russian University of Economics, Moscow, Russian Federation
E-mail: marina_anokhina@mail.com, Anokhina.ME@rea.ru

² Department of Faculty of Economics and Law, Plekhanov Russian University of Economics, Moscow, Russian Federation
E-mail: galina-zinchuk@yandex.ru, Zinchuk.GM@rea.ru

³ Department of Economics and Management, Academy of Labor and Social Relations, Moscow, Russian Federation
E-mail: onkondr@mail.ru

⁴ Department of Economics and Management, Technical University, Bryansk, Russian Federation, E-mail: nika_belan@mail.ru

Abstract: On the basis of the statistics for the recent decade with the help of economic mathematical modeling there were determined the complex indicators of quantitative, qualitative and reproductive dynamics of the Russian agro-industrial production. The level and correlation of these indicators clearly demonstrates the necessity to change the approach to the agro-industrial complex (AIC) economic growth management. The predicted values of the parameters of agro-industrial production showed that under the current agrarian policy of Russia, it will be problematic to ensure the dynamic development of the sectoral cluster in accordance with the existing agrarian potential of the country. As part of the author's concept of the AIC economic growth management, the strategic initiatives have been developed, the implementation of which would allow to consolidate the positive trend in the production of agricultural products and to create conditions for a new quality of Russian agricultural sector growth in the long term.

Keywords: agro-industrial complex of the Russian Federation; quantitative, qualitative and reproductive trends of the agricultural production; economic growth control system.

JEL: O14, J47, Q01, Q18.

INTRODUCTION

The provision of the economic growth in the AIC during the general economic slowdown and reduction in the rate of GDP becomes one of the most urgent tasks of state regulation in the economy. Of course, when the economic growth slows down, revenues of the budget go down as well, and it is quite difficult to invest into the intensive development of the agricultural sector. This fact determines the search for new

approaches and trends in the management of the AIC economic growth, which would not only provide for a positive trend in the production of the agricultural products but also create conditions for the export of the agricultural products.

In the context of the active research, the most of the focus is on the sectoral aspects of economic growth management. Therefore, the disclosure of the essence of the economic growth of the industrial complex was carried out taking into account the following provisions:

- 1) current economic environment predetermine the transition to a new quality of economic growth;
- 2) economic growth of the sectoral complex with a general methodological basis has its own specifics, due to its place and role in the nationwide;
- 3) by managing the economic growth, it is necessary to take into account that the sustainability of the economic system is determined not only by the rate of its growth and by the ability to meet the needs of the present time, but more so by creating conditions for the dynamics of social and economic development in the future.

METHODOLOGY AND METHODS OF RESEARCH

The well-known historian of economic thought Seligman (1962), assessing the positions of prominent economists and authors of well-known theories of economic growth, noted that “it is quite obvious that economic growth is an extremely complex phenomenon. A satisfactory theory of economic growth must take into account natural resources, political institutions, legislation, as well as a variety of psychological and social factors. The development of an all-embracing theory seems to be an almost impossible task “.

Authors of various scientific papers, defining the category of economic growth, identify the quantitative and qualitative components of its essential characteristics as the basis (Table 1).

Actually, you can agree with the authors’ opinion that economic growth in the scale of social production is manifested in the form of an increase in the volume of production of goods and services over a certain timeframe, thereby highlighting the quantitative component of economic growth that reflects the voluminous

Table 1
Author’s approaches to the disclosure of the essence of economic growth

| | | |
|---|-------------------------|--|
| 1 | McConnell and Bru, 1992 | Economic growth is defined and measured in two interconnected ways: as an increase in real GNP and PPP over a period of time; Or as an increase over a period of time of real GNP or NNP per capita. |
| 2 | Abalkin, 2002 | Economic growth is directly expressed in one or another dynamic, the quantitative increase and qualitative improvement of the social product and the factors of its production. |
| 3 | Kuznets, 1966 | Economic growth is an economic development in which long-term growth rates of production are consistently higher than the growth rates of the population. |
| 4 | Gaidar, 2003 | Economic growth as per capita GDP characterizes not only the level of production and consumption, but also the way of life, employment, the ratio of the number of urban and rural populations, and the structure of the family. |
| 5 | Lucas, 2013 | Economic growth is the cumulative measure for all activity that takes place in society, and therefore inevitably somehow depends on what is happening in society. |

expansion of the economy. As the volume of GDP grows and when a high level of production is achieved, the growth rates become relatively low. "The pace is slower, the economic base is more solid" (Lenin, 1970). The naturalness of the decline in growth rates has its basis due to the qualitative changes that occur as a result of quantitative dynamics. Abalkin (2002) links economic growth not only with the quantitative increase of the social product, but also with its qualitative improvement. The point of view on the selection of the qualitative component of economic growth, which is due to the development of productive forces in the long-term time interval, is quite widespread and widely accepted.

Disclosure of the essence of economic growth taking into account the qualitative component is carried out on the basis of determining the relationship of this concept with the concept of economic development. The concept of economic development in the scientific literature has a broad enough interpretation and it is practically impossible to single out its essential character precisely and unambiguously. "We consider" growth "and" development "as different parts of science and growth theory, we call what we have some idea about, and development - all the rest" (Lucas, 2013). This statement by the well-known economist Robert E. Lucas shows that there is no unequivocal scientific position with respect to the essential characteristics of the notions of "economic growth" and "economic development," as well as their relationship. It should be noted that the difference between these phenomena is most often based on Schumpeter's (1982) theory of economic development, which was presented as a basis for overcoming the static character of economic growth. The author proceeded from the theory of the general economic equilibrium of Walras and considered economic development as a violation of the circuit and the old equilibrium. J. Schumpeter defined the process of economic growth by increasing the number of existing production sources - the means of production and the population that are used in the old way. Development, on the contrary, in his opinion, consists in using existing sources in new ways. This concept points to one of the main corners of the divergence of the essence of economic growth and economic development. Qualitative changes in the economic system reflect the processes of economic development, and economic growth characterizes quantitative changes.

The leveling of this discrepancy in economic theory is based on the separation of two types of economic growth - extensive and intensive (Marx and Engels, 1967).

The problem of economic growth from the point of view of achieving strategic development goals and narrowing the gap with developed entities, involves examining the relationship between the quantitative and qualitative components of this phenomenon.

The parameters of quality and product competitiveness are key to determining the relative level of economic development. The high rates of economic growth in their traditional dimension do not yet guarantee a narrowing of the gap in the level of economic development. Unexplained from the point of view of traditional economic measurements, jumps in the level of development of individual subjects can only be explained with the help of approaches that take into account the qualitative characteristics of growth and allow one to follow the influence of qualitative changes in the economy on the quantitative characteristics of growth. There are phenomena and corresponding concepts that reflect different qualitative aspects of economic development - the sectoral structure of the economy, environmental characteristics, income differentiation, longevity, the speed of innovation, etc. However, there is no single concept of quality of growth and quality of economic growth rates. The economic development of society in modern conditions is a multifaceted process that encompasses economic growth, structural changes in the economy,

raising the level and quality of life of the population, that is, we can conclude that economic growth is a component of economic development. Therefore, in macroeconomics, economic growth is used as a generalizing indicator of the process of the economic development of society and reflects the change in the material, material and social aspects of its welfare. Economic growth is expressed in the quantitative increase and qualitative improvement of GDP and its components.

In modern conditions, economic growth, reflecting the quantitative increment of the created products, is impossible in the long term without economic development. As a result of the latter, the prerequisites and conditions for economic growth at a new qualitative level are created. Therefore, taking into account the deep connection between these phenomena and noting their essential difference, considering the current economic conditions, we consider economic growth as a means of achieving development goals. This approach allows to mark out a qualitative component of economic growth and to connect it with economic development. The qualitative component fundamentally changes the nature of economic growth, maintaining its duration, intensity, innovativeness.

Mention of qualitative and quantitative components in the essential content of economic growth category, causes, in our opinion, the necessity of the third important component, the reproductive component, consideration which reflects criteria of ensuring its sustainability, balance, irrevocability.

Sustainability regarding to its essential content as measure of economic growth within a reproductive component is based on the concept of sustainable development. This concept with a certain background have become the most popular in the last decades and found reflection in works of some economists belonging to different schools. In economic aspect representatives of classical school of the economic theory A. Smith, D. Ricardo, K. Marx conceptually narrowed down sustainability to equality of demand and supply, the income and expenses, profit maximization. The concept of competitive balance, price flexibility and optimum use of resources was developed within neoclassical approach in works of Valras(2000), Pareto (1919). However, taking into account modern environmental, social and economic challenges, the concept of sustainable development got a qualitatively new content which is focused on maintenance of:

- 1) stable economy scale corresponding to its ecological system survival;
- 2) equitable resources and opportunities allocation not only within present generation of people, but also between present and future generations, between human and other species;
- 3) effective resource allocation in time which would adequately consider the natural capital (Costanza and Folke, 1994).

Thus, in the modern concept of sustainable development it is possible to mark out three components which are closely connected with each other: economic development, social equity and high-quality environment.

Economic component of sustainable development is defined by regulations on economically optimum employment of limited natural resources. Actual nonavailability of “gratuitous goods of nature” as fundamental economic fact is a core of the concept of sustainable development (McConnell and Brue, 1992).

Social focus of the sustainable development concept is defined by the fundamental idea of respect for rights of future generations on social and cultural stability, the natural resources as less as depleted and contaminated as possible (Peccei, 1980).

Within the ecological component of sustainable development concept, the major importance is attached to viability of local ecosystems defining global stability of all biosphere. Further existence of mankind will be impossible if environmental degradation of human habitat exceeds some, not yet known, and possibly, that essentially undefinable, critical level (Reimers, 1994).

Sustainability as measure of economic growth, in our opinion, should be defined, in accordance with terminology of World Commission on Environment and Development (Brundtland Commission) which in 1987 defined concept of sustainable development as development which meets requirements of the present, but does not threaten capacity of future generations to meet their requirements. Practically sustainability of economic growth is shown in regulation of its rate and content on the basis of four principles:

- 1) meeting the current needs of society in the present;
- 2) equal standards of meeting needs for all population;
- 3) sustainable use of natural resources;
- 4) the continued availability of satisfying the main needs of future generations.

There is another dimension of economic growth which is closely connected with sustainability regarding to its reproductive component – it's balance. Sustainability of economic system as a capability of dynamic system to keep the movement near some planned trajectory despite the disturbances influencing the system, is provided with its internal potential due to balance of elements and structure. Sustainability of economic growth is provided with its balance regarding overcoming economic disproportions, production efficiency in the complex, dynamic environment; harmony of interests in relations between market participants; preventing the social conflicts; its coherence with laws of development of the biosphere that prevents environmental disasters.

Except balance and sustainability, the reproductive component of economic growth assumes one more dimension, the irrevocability, which makes it the irreversible process coupled with qualitative changes in the state of the economy.

In modern conditions the reproductive component of economic growth determines both the opportunity, and quantitative and qualitative level on positive economic dynamics. Therefore economic growth in its essential characteristics due to current social and economic trends should be defined as the reproductive economic growth which acts as real indicator (by means of specific indicators) economic system state and assessment of its development potential. Namely reproductive economic growth, including quantitative and qualitative dynamics at a certain ratio, creates not only possibilities of economic system existence and development in the present, but also provides it sustainability in the long term, without breaking balance between economic and social trajectories of development.

Thus, it can be concluded that the reproductive component of economic growth reflects special type of economic dynamics which meets the requirements of the present, creates conditions for future generations to meet their requirements and it is provided by the system of state regulation of economy.

Emphasizing three components of economic growth and taking into account agro-industrial complex structure specifics within this research allows to articulate the concept of economic growth in agro-industrial complex as process of social and economic dynamics of its state in unity with the quantitative, qualitative

and reproductive changes providing in a certain ratio the volume and content of the created agro-industrial product according to present and future consumers values (Anokhina, 2017).

RESULTS AND DISCUSSION

The quantitative component of the AIC economic growth within the scale of social production manifests itself in the form of the growth in agricultural production in a specified time period and reflects the volumetric expansion of the agrarian economy with an extensive nature of its development. The quantitative dynamics in modern conditions (Table 2) is characterized by a positive trend in such indicators which are adopted as general for the purposes of implemented of the agrarian policy (the production of the agricultural goods in value terms, the availability of capital stock, grain production as the basis of the exports in the economic policy).

Table 2
Main indicators of the AIC quantitative dynamics

| <i>Indicator</i> | <i>2000</i> | <i>2005</i> | <i>2010</i> | <i>2011</i> | <i>2012</i> | <i>2013</i> | <i>2014</i> | <i>2015</i> |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| The output of agricultural products in current prices, bln rub. | 742.4 | 1500.9 | 2855.5 | 3604 | 3561.5 | 3687.1 | 4319.1 | 5165.7 |
| Grossgrain gathering, mln tones. | 65.4 | 77.8 | 61 | 94.2 | 70.9 | 92.4 | 105.3 | 104.8 |
| Production of milk, mln tones. | 32.3 | 31.1 | 31.8 | 31.6 | 31.8 | 30.5 | 30.8 | 30.8 |
| Average annual number of employed in agriculture, mln people. | 8.4 | 6.7 | 6.1 | 6.0 | 5.9 | 5.8 | 5.6 | 5.4 |
| Cropacreage, thousand hectares. | 84670 | 75837 | 75188 | 76662 | 76325 | 78057 | 78525 | 79319 |
| Number of cattle, mln of animal units. | 27.5 | 21.6 | 20 | 20.1 | 20 | 19.5 | 19.3 | 18.9 |
| Change of fixed assets availability (in comparable prices), in percent correlation compared to the previous year. | 97.1 | 97.9 | 101.2 | 101.8 | 101.6 | 102.2 | 101.9 | 101.7 |

Source: The official website of the Federal State Statistics Service of the Russian Federation, URL: <http://www.gks.ru/>.

But the figures which determine the level of the food supply security and the basis of their achievements have a clear negative trend. The number of people employed in the AIC field has decreased more than by one-third, cattle population has fallen, the pre-reform values for the production of milk and the crop area size have not been reached.

The qualitative component fundamentally changes the nature of the AIC economic growth, providing it with duration, intensity, innovation. These days the qualitative changes in the AIC state (Table 3) demonstrate a lack of conditions for an intensive development of the agricultural production (reduction of energy capacity, increase of the load on technical means), which results in a decrease or just a slow increase in productivity and efficiency.

The selection of quantitative and qualitative component within the content of economic growth of AIC determines the need to consider a third important component (reproduction), which reflects the conditions for its stability, balance, and irrevocability. Nowadays the business reproduction component of

the economic growth of AIC with the defined correlation with quantitative and qualitative trends forms the possibility of functioning and development of the business unit, which is consistent with the current and future value for the consumers. The reproduction trends (Table 4) clearly shows that with the existing approach and management system it would be impossible to ensure sustainable economic growth of the

Table 3
Main indicators of the AIC qualitative dynamics

| <i>Indicator</i> | <i>2000</i> | <i>2005</i> | <i>2010</i> | <i>2011</i> | <i>2012</i> | <i>2013</i> | <i>2014</i> | <i>2015</i> |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Workforce productivity growth rate (as a percentage of the previous year), % | n/a | 101.8 | 88.3 | 115.1 | 98.2 | 106.0 | 102.9 | 103.8 |
| Profit per one employed in agriculture, ths rubles | 3.1 | 8.21 | 18.08 | 21.84 | 27.05 | 22.87 | 46.85 | 61.23 |
| Loss per one employed in agriculture, ths rubles | 2.37 | 3.36 | 7.05 | 5.3 | 4.96 | 12.37 | 14.52 | 9.36 |
| Yeild of cereal and pulse crops, hundred kilograms per hectare. | 15.6 | 18.5 | 18.3 | 22.4 | 18.3 | 22.0 | 24.1 | 23.7 |
| Milk production per 1 cow, kg. | 2502 | 3176 | 3776 | 3851 | 3898 | 3893 | 4021 | 4134 |
| Farm field for 1 tractor, ha | 135 | 181 | 236 | 247 | 258 | 274 | 289 | 307 |
| Generating capacity per 1 hectare of planted acreage, horsepower | 3.29 | 2.7 | 2.27 | 2.12 | 2.11 | 2.01 | 2.01 | 1.97 |

Source: The official website of the Federal State Statistics Service of the Russian Federation, URL: <http://www.gks.ru/>.

Table 4
Main indicators of the AIC reproduction dynamics

| <i>Indicator</i> | <i>2000</i> | <i>2005</i> | <i>2010</i> | <i>2011</i> | <i>2012</i> | <i>2013</i> | <i>2014</i> | <i>2015</i> |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Amount of public funds per 1 ha of planted acreage, ths rubles | 0.14 | 0.25 | 1.79 | 1.8 | 1.8 | 2.26 | 2.00 | 2.8 |
| Creditor indebtedness of agricultural organizations falling on 1 ruble of profit, rubles | 8.78 | 7.96 | 13.45 | 13.1 | 11.89 | 15.57 | 8.36 | 7.64 |
| Investment into basic capital (in comparable prices), in percent correlation compared to the previous year | 104.9 | 110.6 | 88.8 | 130.5 | 101.7 | 106.6 | 94.8 | 90.4 |
| Mineral fertilizers applied 1 to 1 ha of total planted acreage, kg | 19 | 25 | 38 | 39 | 38 | 38 | 40 | 42 |
| The ratio of nominal average monthly wages in agriculture to the average level in Russia, % | 40.0 | 43.0 | 51.0 | 53.0 | 53.0 | 52.2 | 54.0 | 57.9 |
| Number of institutions of general education in rural areas, ths units | 45.4 | 40.7 | 30.6 | 28.6 | 27.4 | 26.4 | 26.1 | 26.0 |
| Opening of hard-surface roads of general use in rural areas, km | 5626 | 1790 | 1482 | 1623 | 1735 | 1995 | 1573 | 2047 |

Source: The official website of the Federal State Statistics Service of the Russian Federation, URL: <http://www.gks.ru/>.

agricultural production. The lack of own funds, insufficient government funding, low salaries, high debt load of agricultural manufacturers cannot provide for the modern technical and technological level of production, improve soil fertility, create life-supporting infrastructure in rural areas, preserve and increase strategic resources. As a whole, even the assessment of very limited trends shows the weakening of reproduction component of economic growth; in comparison with foreign countries (Table 5), in which the development and support of the agricultural sector are considered as a basis for national policy, the need to change the approach to the management of the AIC economic growth becomes apparent.

Table 5
Comparison of the parameters of the economic dynamics in the AIC between Russia and foreign countries

| <i>Indicator</i> | <i>Russia</i> | <i>Belarus</i> | <i>Germany</i> | <i>France</i> | <i>India</i> | <i>USA</i> | <i>Canada</i> | <i>China</i> |
|---|---------------|----------------|----------------|---------------|--------------|------------|---------------|--------------|
| Farm area per 100 people, ha. | 153↓ | 92 | 21 | 45↓ | 13 | 129↓ | 180↓ | 38 |
| Crop capacity, centners per hectare. | 24.4↑ | 37.2↑ | 80,5↑ | 58.29↓ | 29.8↑ | 76.4↑ | 36.7↑ | 58.86↑ |
| Number of cattle, mln. animal units | 20.1↓ | 4.4↑ | 12,6↓ | 19.1↓ | 330↑ | 92.7↓ | 12.2↓ | 106.0↓ |
| Milk production per 1 cow, kg. | 3851↑ | 4482↑ | 7236↑ | 6674↑ | 1350↑ | 9678↑ | 8699↑ | 3003↑ |
| Fertilization per one hectare, kg. | 15.2↓ | 255.7↓ | 203.5↑ | 140.6↓ | 165.1↑ | 131.9↑ | 88.3↑ | 364.4↓ |
| Number of harvester-threshers per 1000 hectares of arable lands and plantation crop fields, items | 0.7↓ | 2.02 ↓ | 7.8↓ | 4.07↓ | 2.7↑ | 2.11↓ | 1.66↓ | 1.76↑ |
| Number of tractors per 1000 hectares of farm lands, items | 2.67↓ | 8.38↓ | 92.54↓ | 59.89↓ | 12.85↑ | 26.69↑ | 14.51↑ | 7.48↑ |
| Agriculture gross value added per one worker in prices of 2010, \$. | 11593↑ | 15814↑ | 33048↓ | 95420↑ | 1156↑ | 78224↑ | 82512↑ | 1465↑ |

Source: FAOSTAT. URL: <http://www.fao.org/countryprofiles/ru> and World Bank. URL: <http://data.worldbank.org/indicator/ea.prd.agri.kd>

Note: The arrow indicates the general trend in the changes over the past 5 years.

To ensure dynamic and sustainable economic growth of the agro-industrial complex, it is necessary in the management system of the processes of the economic dynamics of agro-industrial production to constantly maintain consistency between the parameters of quantitative, qualitative and reproductive changes in the state of the industry complex. Therefore, it is important to determine the effect of each of these components of the economic dynamics on the overall productive performance of the agricultural production. To ensure the objectiveness of the assessment of the nature and strength of its influence, it is advised to input the off correction factors that take into account the specifics of the AIC and its role in the national economic system.

In order to assess the impact of quantitative, qualitative and reproductive changes in the state of the domestic agricultural industry on the economic growth of the AIC, 147 statistical indicators for the period from 2005 to 2014 have been differentiated into four groups:

- Quantitative dynamics indicators (X_1);
- Qualitative dynamics indicators (X_2);

- Reproductive dynamics indicators (X_3);
- Resulting indicators (Y).

Each of the parameters depending on the economic content has been identified as a stimulative or de-stimulative indicator. A comprehensive indicator for each group is determined as the sum of the normalized values of the indicators included in the corresponding group.

In general, over the last 10 years, the growth of the reproductive part of the economic dynamics of the AIC has been more intense (Fig. 1).

Objectively, these trends have provided the possibility of functioning of the AIC and created the basis for its moderate growth in modern conditions. However, in the period from 2010 to 2014. The ratio of complex parameters of the economic dynamics in AIC has changed: the quantitative growth was 53%, the qualitative growth was 46.7%, and the reproductive growth constituted 48.5%. This situation does not allow forming the basis for the development of the AIC, and poses a threat to the resolution of the agrarian problems in the country.

The dependence ($Y = -4.01 + 0.157X_1 + 0.221X_2 - 0.015X_3$) allowed us to determine a positive effect of qualitative and quantitative dynamics and negative impact of the reproductive dynamics on the resulting parameters of economic growth of agribusiness. However, it should be noted that changes in the reproductive state of the AIC involve costs that have social and economic importance both for the AIC and the national economy. Therefore, given the role of the AIC in the national economic system and the fulfillment of social welfare functions, for a meaningful assessment of the impact of quantitative, qualitative and reproductive dynamics on the economic growth of agricultural production the following correction factors have been introduced: the coefficient of the national role and the coefficient of social importance of agriculture. The adjustment of parameters allowed us to determine the positive impact of qualitative and reproductive dynamics of the economic growth in the AIC ($Y = -3.27 + 0.029X_1 + 0.264X_2 + 0.0585X_3$). However, the effect of reproducing dynamics of economic growth was insufficient. It should be noted that the exclusion of the role of AIC in the national economic system and the social importance of the agricultural production of the priorities of economic policy in terms of quantifying dynamics of agricultural production at the expense of reproduction have led to the abuse of agricultural resources without proper

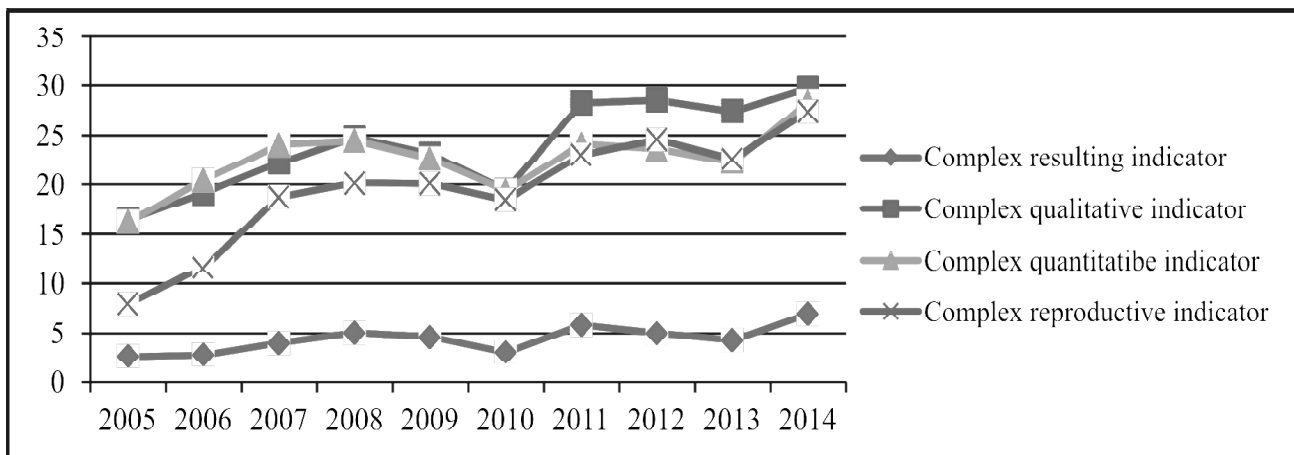


Figure 1: Trends of the complex indicators of the Russian AIC

reproduction. With such an approach it would be impossible to achieve the desired level of parameters of economic activity in the nearest time, and the economic basis of AIC growth in the long term will be ruined.

The identified parametric content of the AIC management system sets the inertial model of economic dynamics in the industrial complex, which was confirmed by modeling the predicted values of productive indicators of the agricultural production to 2020 while at the current agricultural policy approach (Table 6). The average annual rate of growth of agricultural production in farms of all categories will be 102.6%, the food production will increase annually by an average of 2.7%. The food safety requirements for the country will not be achieved. For example, the rate of self-sufficiency with milk and dairy products according to the calculation will have a negative trend.

Therefore, the need for conceptual reorganization of the system for managing the economic growth of the agro-industrial complex in the direction of strengthening the production dynamics is obvious.

To do this, it is advisable to implement the following strategic initiatives:

1. Ensure the development of the social sphere in the AIC. This strategic initiative is the most complex in terms of its implementation, as it affects changes in public evaluation of the place and role of agriculture in the life of the nation. Therefore, we should start by building the

Table 6
The projected indicators of the AIC economic growth under the current agricultural policy

| <i>Показатели</i> | <i>2015</i> | <i>Ministry of Agriculture of Russia 2016 forecast*</i> | <i>Indicators of Government program (2020) and Food Security Doctrine of the Russian Federation**</i> | <i>2020 forecast based on simulation observations</i> |
|--|-------------|---|---|---|
| The index of agricultural production in all categories of farms (in comparable prices), compared to the year 2015, % | 103.0 | 101.0 | 109.75 | 113.92 |
| The index of food production, including beverages (in comparable prices) compared to the year 2015, % | 102.2 | 102.0 | 120.5 | 114.48 |
| The index of labor productivity (compared to the year 2015), % | 103.8 | 102.0 | 119.3 | 109.26 |
| Relative share of domestic food in general resources, %: | | | | |
| -grain | 99.2 | - | 95 | 132.59 |
| -milk and milk products (in milk equivalent) | 81.2 | - | 90 | 71.83 |
| -meat and meat products (in meat equivalent) | 87.4 | - | 85 | 96.52 |

* National Report on the progress and results of the implementation of the State program of agricultural development and regulation of agricultural products, raw materials and food for 2013-2020 in 2015: <http://www.mcx.ru/documents/document/show/22026.htm>** Calculated according to the State program of agricultural development and regulation of rural-agricultural-product markets, raw materials and food for 2013-2020 and the Doctrine of the Russian food safety

economic foundations of such changes. First of all they include the creation of material living conditions in rural areas according to social standards, the increase in the level of remuneration in line with the average wages, the implementation of infrastructure projects in full compliance with the policy documents. The AIC economic growth management system should ensure convergence of the conditions of employment of the urban and rural population, taking into account differences in the intensity and complexity of the work, improvement of the quality of the workforce in rural areas as a basis for increased agricultural production and efficiency. However, the long-term strategic initiative on the social development of rural areas should be focused on priority development of agriculture as the root of human society, forming a powerful stimulus to the overall progress in the national economy, which requires a change in social consciousness in relation to agricultural work, improving its attractiveness.

2. Raise the level of intensification of agricultural production. The need for a large-scale modernization of agriculture, processing industry, AIC industrial maintenance is quite obvious. At the stage of the forming of potential economic growth, the intensification of agricultural production should be based on the mass development of progressive resource-saving technologies in the production of agricultural products, veterinary drugs, new types of fertilizers, accelerated selection and breeding. It is necessary to ensure the widespread use of technologies such as drip irrigation, integrated pest control, pen system for cattle, “conveying” animal husbandry, no-till agriculture, and others. The timeliness of the development of a new technology in agricultural production should also be taken into account. Otherwise, the introduction of new technologies in the “catch-up” format will result in higher costs, which will restrict the set parameters of the production intensification.
3. Improve the profitability of agricultural producers. There must be a level of profitability of agriculture and a sufficient income for expanded reproduction, investment, scientific and technical progress. The specific features of agricultural production necessitate the state support of agriculture in the conditions of market economy. To maintain the level of profitability of agricultural production through the expedient guaranteed prices for the main types of agricultural products. This will create conditions for sustainable development in all sectors of agribusiness, continuous investing, relative decrease in food prices, the reduction of dependency on the external markets, increase the efficiency of efforts for the growth of economic well-being of the population. In addition, the mechanisms of guaranteed minimum prices for agricultural products will contribute to the alignment of the inter-branch relations and protect the domestic agricultural producers.
4. To ensure the development of agricultural education and the restoration of agricultural science. This strategic initiative in its content should become a bridge between the two stages in the management of economic growth and create the conditions for a transition to a new quality of growth. It is important to understand that today’s efforts should be made to form a new core technology in domestic agriculture. The education and science are the basic tools in the development of the new technological system. As studies have shown, the “labor” factor is the main constraint on economic growth of agribusiness. The solution to this problem should be primarily related to the provision of agricultural production with highly skilled workforce. The

monitoring and control system of the AIC staffing should be restored at the new level with an appropriate information and technical support.

5. Ensure that the perception of the rural way of life as the root of human society, forming a powerful stimulus to the overall progress in the national economy. The implementation of this initiative is associated with a change in public consciousness in relation to agricultural work. For such changes, you must create an economic and social basis of life in the countryside. First of all, the possibility of successful implementation of the initiative will depend on the quality implementation of the AIC social standardization system and strict implementation of its parameters. Secondly, it will depend on the content of the labor in agriculture, which should change with the growth of the intensification of agricultural production, increase in the share of used advanced technologies. Thirdly, it is impossible to ignore the ideological component in the implementation of this strategic initiative. Based on the systematic approach, using modern information, communication, social technologies, it is necessary to create a new attractive image of rural life, linking it to the national and historical features of society and the importance of agriculture in solving national problems.
6. Transition to a high-tech agricultural production. The general landmark in the implementation of this strategic initiative should be directed to the development of a new technological paradigm, which provides not only for highly efficient production, but also for the competitiveness of the industrial complex in the global markets. The new technological paradigm involves the use of advanced technologies for mass production and export of agricultural products with high added value. Priority should be given to technological solutions in areas such as biotechnology, the use of composite fertilizer, precision agriculture, organic agriculture, bio-energy intelligent converged technology, logistics technology based on system integration, etc. The demand for advanced technologies in the AIC should be provided by a deep modernization of production, high-quality workforce, advanced research base, and the social conditions of life in the rural territories.

The parameters of the control over the implementation of the strategic initiatives during the management of AIC economic growth are selected based on the developed the priorities of the agricultural policy and the role of the industrial complex in the national economic system. The values of the indicators are established on the basis of economic and mathematical modeling taking into account the targets and contents of strategic initiatives in each of the stages of the control stages of the economic dynamics in the industrial complex. The main forecasted agribusiness growth indicators are as follows:

- Index of agricultural production in the farms of all categories (in comparable prices) by 2015 (Y_1);
- Index of production of food products and beverages (in comparable prices) in 2015,% (Y_2);
- Labor productivity index (2015) (Y_3).

To determine the predictive values of the agricultural production indices and productivity, their dependence on the three most important macro-economic indicators has been revealed:

- Share of imports in food consumption (X_1);
- Share of exports in agricultural production (X_2)

- Russian share in the world exports of agricultural products (X_3).

The third indicator of economic growth - the index of production of food products and beverages (in comparable prices) by 2015 has been determined as the derivative of the index of agricultural production and productivity index. The dependency simulation results showed that the quality of the model meets the requirements of proximity and adequacy. The regression can be calculated using the following formula:

$$Y_2 = 5.74 + 0.557Y_3 + 0.386Y_1$$

The values of the indicators of the implementation of strategic initiatives to manage the economic growth of the AIC are shown in Table 7.

Table 7
The indicators of the implementation of strategic initiatives to manage the economic growth of the AIC

| <i>Indicator</i> | <i>2015 r.</i> | <i>2016*</i> <i>Forecast</i> | <i>2020</i> | <i>Phase I</i> <i>2020</i> | <i>Phase II</i> <i>2025</i> |
|--|----------------|---------------------------------|-------------|-------------------------------|--------------------------------|
| The index of agricultural production in all categories of farms (in comparable prices), compared to the year 2015, % | 103.0 | 101.0 | 109.75** | 131.1 | 190.3 |
| The index of food production, including beverages (in comparable prices) compared to the year 2015, % | 102.2 | 102.0 | 120.5** | 134.5 | 198.8 |
| The index of labor productivity (compared to the year 2015), % | 103.8 | 102.0 | 119.3** | 140.0 | 214.3 |
| The ratio of nominal wages in agriculture to the average level in Russia, % | 57.9 | - | - | 80.0 | 100.0 |
| Level of self-production of basic food staples, %: | | | | | |
| -grain | 99.2 | - | 95*** | 100 | 100 |
| -milk and milk products (in milk equivalent) | 81.2 | - | 90*** | 90 | 100 |
| -meat and meat products (in meat equivalent) | 87.4 | - | 85*** | 95 | 100 |
| -sugar | 83.5 | - | 80*** | 95 | 100 |
| -seedoil | 83.9 | - | 80*** | 95 | 100 |
| -potato | 97.4 | - | 95*** | 100 | 100 |
| Import share in food consumption | 0.31 | - | - | 0.15 | 0.08 |
| Export share in agricultural industry | 0.16 | - | - | 0.2 | 0.3 |
| The share of Russia in the structure of world export of agro-industry products | 1.3 | - | - | 2.6 | 3.9 |

* The National Report on the progress and results of the implementation in 2015 of the State program of agricultural development and regulation of the agricultural products, raw materials and food for 2013-2020: <http://www.mcx.ru/documents/document/show/22026.htm>

** Calculated according to the State program of agricultural development and regulation of rural agricultural product markets, raw materials and food for 2013-2020

*** The threshold values for the Doctrine of food security.

CONCLUSION

The changes in management system economic growth agricultural production of the Russian will ensure the sustainable development of the AIC (increase of agricultural production by 1.9 times), eliminate the dependence on food supplies (full self-sufficiency of the main types of food), form the potential for the exports of the agricultural products (the Russian share in the structure of the world exports of agricultural products will be 3.9%).

ACKNOWLEDGMENTS

The authors are expressing their gratitude to Russian Foundation for Basic Research their financial support for the present research (Grant No 16-02-00030).

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