

# The impact of migration activity of the rural population on the pace of economic development of Russia

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**Abstract.** The basis of sustainable socio-economic development of the country is the rational use of labor resources, providing the population with healthy and affordable food. The achievement of this goal involves preserving the number and improving the quality of the rural population, ensuring the growth of the capital-labor ratio, the development of the organizational and economic mechanism of interaction between producers and consumers of agricultural products.

**Keywords:** sustainable development, consumer basket, rural population, internal migration, capital-labor ratio, rates of economic development, organizational and economic mechanism

## 1. Introduction

The aim of the study is the impact of migration activity of the rural population on the pace of economic development of the country. In 1992, the United Nations Conference on Environment and Development (UNCED) decided on the need to transition to a sustainable development model based on a fundamental transformation of human development. The model assumes a rejection of using a modernization-catching development strategy of states in favor of a transformation-leading strategy ensuring human survival and safety. In 1996, the Decree of the President of the Russian Federation No. 440 approved the *Concept of Transition of the Russian Federation to Sustainable Development*, providing for the addition of a catch-up modernization strategy of the country with an innovative leading strategy in the main areas of sustainable development (social, economic, and environmental) [1].

The main goal of sustainable development is to achieve scientifically based parameters of people's lives, including increasing life expectancy, rationalization of consumption patterns, etc. One of the main objectives of achieving sustainable development of the country arises from the latter. It consists in the unconditional provision of the population of the Russian Federation with food products in full and assortment, provided that the state food security is preserved. The significance this task is determined by the fact that the rational use, development, and reproduction of labor resources, which have a decisive influence on the economic development of the country, implies providing the population with healthy and affordable food.

## 2. Materials and Methods

World practice assesses the level of economic development of a country based on an assessment of the completeness of the product basket of the population. The satisfaction of food needs is one of the

conditions for preserving health and rational allocation of human resources, maintaining the working capacity of the employed population for a sufficient long period of professional activity. The volume of the consumer basket of Russian citizens was revised in 1999, 2006, 2010, 2012. It is set in the Federal Law of December 28, 2017 No. 421-FZ [2, 3, 4].

The volume of the consumer basket is set taking into account the real possibilities of providing them for the entire population of the Russian Federation and the recommendations of the Ministry of Health of the Russian Federation [5]. In conjunction with the increasing minimum wage, this indicates a sustainable course of the Government of the Russian Federation to ensure the requirements of healthy nutrition based on a revision of food consumption standards. The recommended norms of per capita consumption of the main product groups take into account their chemical composition and energy value and provide the estimated physiological human need for the assortment and quantity of food consumed. Table 1 presents the food consumption norms by the working population established in 2006–2017 and the recommendations of the Ministry of Health of Russia on their development.

**Table 1.** Volumes of food products of the food basket of the working population.

No.	The indicator, unit	Federal law		Volume change, %	Recommendations of the Ministry of Health of Russia with amendments No. 614 of August 19, 2016
		No. 44-FZ	No. 421-FZ		
1	2	3	4	5	6
1	Bread products, kg	133.7	126.5	-5.4	96.0
2	Potatoes, kg	107.6	100.4	-6.6	90.0
3	Vegetables and melons, kg	97.0	114.6	+18.4	140.0
4	Fresh fruits, kg	23.0	23.8	+3.5	100.0
5	Sugar and confectionery in terms of sugar, kg	22.2	22.2	-	24.0
6	Meat products, kg	37.2	58.6	+57.5	73.0
7	Fish products, kg	16.0	18.5	+15.6	22.0
8	Milk and dairy products in terms of milk, kg	238.2	290.0	+21.8	325.0
9	Eggs, pieces	200	210	+5.0	260.0
10	Vegetable oil, margarine and other fats, kg	13.8	11.0	-20.3	12.0
11	Other products (salt, tea, spices), kg	4.9	4.9	-	4.0

Table 1 clearly demonstrates that since the beginning of the 2000s, the change has taken place in the recommended volumes of foodstuffs in the consumer basket in favor of vegetables, fruits, meat and fish products, milk and eggs. This revision with respect to the volume of the consumer basket was made no more than 5 years ago. More than that, the presence of a tendency to make changes in the share of individual products in the total amount of food, the Recommendations made by the Ministry of Health of Russia on rational food consumption standards (which meet contemporary requirements) pose an important and difficult task for the agricultural sector of the economy providing the Russian population with domestic food.

Table 2 presents the actual data on the demand and food production for 2013-2017, as well as the forecast of the need for 2020. The list of products presented is made on the basis of the data in Table 1 and is due to the increase in their consumption rates. The demand is calculated on the basis of per capita food consumption.

In 2017, as follows from Table 2, the tasks of providing the population with vegetables and melons, fresh fruits and eggs were successfully solved. The provision of fish products is still not enough. In terms of gross output of meat products, the needs of the population are met. At the same time, rational healthy nutrition presupposes the availability of food resources of the respective types and range. Since 2013, the provision of meat and meat products meets the consumption standards, but it is carried out

due to the high proportion of poultry meat and food by-products, which is 68.8% in the total share of meat products (the standard value is 42.5%). The recommendations of the Ministry of Health of Russia provide for the gradation of meat products, highlighting a rational consumption rate of poultry meat (31 kg per year and 42 kg of cattle), pork, and other meat. In addition, introducing new norms of rational nutrition beyond 2020 may exacerbate the problem of providing the population with meat, even at minimum standards, as well as other essential food for health (Table 1).

**Table 2.** Demand and production of food products.

No.	Indicator units	Years						
		2013		2015		2017		2020
		Need	Production	Need	Production	Need	Production	Production
1	Vegetables and melons, million tons	15.75	14.69	16.09	15.91	16.13	16.40	16.19
2	Fresh fruit, million tons	3.25	2.30	3.32	2.90	3.33	3.50	3.34
3	Meat products, million tons	7.71	8.54	7.88	8.40	7.90	10.40	7.92
4	Fish products, million tons	2.57	1.99	2.62	1.28	2.63	0.82	2.64
5	Milk and dairy products in terms of milk, million tons	42.95	30.50	43.86	39.75	43.98	39.40	44.13
6	Eggs, billion pieces	29.43	41.30	30.06	41.10	30.14	44.90	30.24
7	Population, million people	143.35		146.41		146.80		147.30

Thus, the state of the agricultural sector has an impact on the sustainable development of the country, its economy. In turn, the development of the agricultural sector is determined by the state of the production base and the availability of labor resources. In this regard, the study of the value of fixed assets of agricultural production and the number of rural population is of interest. The choice of these parameters is due to the importance of labor and capital for economic development.

Professor A. A. Akaev substantiated the dependence for determining the predicted values of the rates of economic development as follows [6]:

$$T_{er} = \frac{1}{1-a} \cdot T_{tp} + T_{nas}, \quad (1)$$

where  $T_{er}$  is the pace of economic development;  $T_{tp}$  is the pace of scientific and technological development. In the conditions of neutral scientific and technical progress, the rate of change in the value of fixed assets is an indicator of  $T_{tp}$ ; in turn,  $T_{nas}$  is the rate of change in population;  $a$  is a parameter that takes into account the influence of geographical, climatic, and other conditions of economic development (country, region, industry), and it can be taken as a conditionally constant value for a period of less than 100 years.

Given  $a = \text{const}$ , dependence (1) can be represented as (2):

$$T_{er} = T_{of} + T_{nas}. \quad (2)$$

The determination of the quantitative value  $T_{er}$  becomes possible as a result of using the actual values of the value of fixed assets, population. When comparing the values of fixed assets, we need to take into account changes in the producer price index of industrial goods in the study period. For the period 2005-2014, the price index was 2.21 [8].

The economic value of  $T_{nas}$  is determined by the influence of the quality and quantity of human capital. In a stable education and health care system, the population size / number of employees has a

major impact on the amount of human capital (country, region, industry). Table 3 presents the rate of change in the value of the fixed assets of the economic complex of the Russian Federation, branches of the economy without taking into account the agricultural sector, including fixed assets of agriculture and forestry, hunting, fishing and fish farming.

**Table 3.** Dynamics of fixed assets of branches of the Russian economy (billion rubles).

No.	Indicators	Years		T <sub>of</sub> , %
		2005	2014	
1	Fixed assets of the Russian Federation	41,494	146,468	59.72
2	Fixed assets of the Russian Federation (without agrarian sector)	39,999	142,318	60.99
3	Fixed assets of the agricultural sector of the Russian Federation	1,495	4,150	25.60

From Table 3 it follows that the growth rate of fixed assets of the agricultural sector is significantly inferior to that of other sectors of the economy and had a negative impact on the rate of fixed assets of the Russian Federation as a whole. The share of fixed assets of the agricultural sector in the structure of fixed assets of the country decreased from 3.6% to 2.83%. (Hereinafter, calculations for a later period were not carried out in connection with the formation of the Crimean Federal District).

In 2005-2014, the number of people employed in agriculture and forestry, hunting, fishing and fish farming decreased by 16.5%. This is more than in any other sector of the economy. Table 4 presents the rates of change in the population of the Russian Federation, the urban and rural population in 2005-2014.

**Table 4.** Dynamics of the population of the Russian Federation, million people.

No.	Indicators	Years		T <sub>nas</sub> , %
		2005	2014	
1	Population of the Russian Federation	143.8	143.7	-0.07
2	Urban population of the Russian Federation	105.2	106.6	1.33
3	Rural population of the Russian Federation	38.3	37.1	-3.13

An analysis of table 4 shows that the total population of the Russian Federation has decreased by 0.1 million people over the period 2005-2014. The urban population increased by 1.4 million, including due to rural residents. The proportion of rural residents in the total population of Russia decreased from 26.63% to 25.82% ( $\Delta = -0.81\%$ ).

Below are the results of calculating the rates of economic development of the economic complex of the Russian Federation – ( $T_{er}^{hk}$ ) industrial ( $T_{er}^{pk}$ ), and agrarian ( $T_{er}^{ak}$ ) complexes for 2005-2014, – using the data from Tables 3 and 4, as well as the following dependency (2):

$$T_{er}^{hk} = 59.72\% - 0.07\% = 59.65\%; \quad (3)$$

$$T_{er}^{pk} = 60.99\% + 1.33\% = 62.32\%; \quad (4)$$

$$T_{er}^{ak} = 25.60\% - 3.13\% = 22.47\%. \quad (5)$$

The dependency analysis (3, 4, 5) shows that an aggregate of a group of branches of the industrial complex, including trade, financial services, and public administration, mainly determines the pace of economic development of the entire national economic complex of Russia. The contribution of

agriculture and forestry, hunting, fishing and fish farming is much more modest. This is due to a number of reasons, including a slowdown in the dynamics of growth in the value of fixed assets and the outflow of the rural population of working age. An insufficient capital-labor ratio is accompanied by its low productivity and low wages and stimulates migratory moods.

### **3. Results**

Resolution of the Government of the Russian Federation No. 717 dated July 14, 2012 regarding state programs for the development of agriculture and regulation of markets for agricultural products, raw materials and food for 2013–2020 has an impact on the creation of contemporary storage facilities, the growth of production volumes in agricultural organizations and farms, and an increase in the level of remuneration of the rural population. This can be judged based on the fact that already in 2015, while maintaining the total number of rural migrants at the level of 2014 (1.23 million people), 31.3% of them moved not to the city, but to other rural settlements. At the same time, insufficient attention is still paid to the development of the organizational and economic mechanism of interaction between producers and consumers of agricultural products, including processing enterprises, producers and suppliers of agricultural machinery and equipment, trade and the population.

### **4. Acknowledgments**

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