

Human resources as a factor of sustainable development of the region in the conditions of formation of digital economy

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Abstract — The modern economic situation in Russia is characterized by the increasing growth of negative trends in the field of human resources of regions. Features of influence of human resources on sustainable development of regions of Russia are studied insufficiently. Therefore the purpose of this work consists in consideration of human resources as the factor influencing sustainable development of regions on the example of the certain Areas of Central Federal District of the Russian Federation in which there were similar parameters of economic development. The situation in regions becomes aggravated in connection with development of digital economy, relations of production, structure of economy and education change and also there are new requirements to communications, computing power, information systems and services. The research which formed the basis of this article has search character. The key indicators characterizing the human resources of regions of the CFD of the Russian Federation having an impact on sustainable development of these regions were studied. As a result of the conducted research, it is possible to draw the general conclusions. In a research trends of change of human resources, dangerous to sustainable development, are revealed in the conditions of formation of digital economy.

Keywords — *component, formatting, style, styling, insert*

I. INTRODUCTION

In modern conditions, sustainable development involves achieving a high quality of life. Scientific works show that human resources are one of the important factors of sustainable economic development of any region and the state as a whole. In the context of the digital economy, the development of modern information technologies, the labor

market is changing the requirements for human resources. There are new systems of motivation for the development of necessary competencies and participation of personnel in the development of the digital economy of Russia.

This type of resources has a great contribution to the economic potential of the regions. Statistical data show a decrease in the quantitative and qualitative characteristics of human resources in most regions of the Russian Federation. Therefore, the aim of the work is to study human resources in the context of the impact on sustainable development of regions. Based on the purpose, the objectives of the study were formulated. First, the concept of sustainable development was defined, within the framework of which the study was conducted. Secondly, the regions of the Central Federal district were chosen and their economic development trends were assessed. Third, we have analyzed the characteristics of human resources, from our point of view, affecting the sustainable development of the regions of the Central Federal district of the Russian Federation. Fourthly, the directions of formation and development of the digital economy, the degree of their impact on human resources and sustainable development of the region are analyzed.

II. MATERIALS AND METHODS (MODEL)

According to a research objective, we study 5 Areas of Central Federal District: The Kaluga, Oryol, Tula, Bryansk and Kursk regions which share on VRP value in 2016 made 7.27% in VRP CFD. A basis of selection is the fact not only a close geographical location of the listed areas, but also an opportunity and threat of development of these regions. As the generalizing indicator characterizing process of production of

goods and services for end use we chose the Gross Regional Product (GRP) in the current basis prices. The reporting period are 2013-2016, indicators were determined by official statistical reporting of regions. On each region information from open sources was collected.

The analysis of VRP of certain regions of the CFD for 2013-2016 showed that all areas show steady growth of the Gross regional product. At the same time, for the reporting period the greatest growth rates are observed in Tula region (148.8%), on the second place - Kursk (134.27%), on the third place - Bryansk (130.2%), the fourth place is taken by the Oryol region (129.1%), the Kaluga region - 127.5%. Specific weight of total VRP of the analyzed areas in the CFD for 2013-2016 is in reporting year 7.27%, in 2013 - 6.77%. The most exact assessment of development of the region can be received in the analysis of indicators of the Gross regional product per capita. Dynamics of this indicator on 5 areas demonstrates its increase for the reporting period. It should be noted that in 2016 the VRP greatest value per capita is the share of the Kaluga region - 368,913.4 rubles, the smallest value - 233701.0 rubles - to the Bryansk region. The comparative analysis of values of indicators of the Gross regional product per capita of the explored areas showed that they considerably lag behind average value in general across the CFD that is explained, first of all, by a considerable share of the Moscow agglomeration.

VRP per capita in 2016 of the Kaluga region makes 59.8% of VRP per capita of the CFD; Tula region – 55.9%; Kursk region – 55.9%. The lowest value at the Bryansk region – only 37.9%. Despite positive dynamics of an indicator for the reporting period, lag from the VRP average value per capita in general across the CFD is observed. This fact is explained by inclusion of values of an indicator on the Moscow agglomeration.

Certainly, human resources render important value on regional development. Under "human resources as a factor of sustainable development of the region" we will understand set of the main, basic reasons relating to demographic and social spheres of the region which are a source of development and functioning of the region. For obtaining the best results of the analysis of human resources for ensuring sustainable development the following indicators were chosen:

- A relative indicator of the natural movement of the population - natural increase / decrease on 1000 people of the population;
- The indicator characterizing the general results of population shift - migration gain / decrease, the person;
- The geography of migration flows is defined by migration gain / decrease, the person with foreign countries and the participating states of the CIS;
- Load of the unoccupied population on 100 stated vacancies;
- The indicators characterizing the standard of living of the population - a monetary income and consumer spending on average per month per capita, rubles; average monthly nominal salary.

The qualitative analysis of collected information as a result of which trends of change of human resources which are possible for estimating as deterrents of sustainable development of regions are defined was carried out.

III. RESULTS AND DISCUSSION

Human resources as an object of research for a number of years interested economists, sociologists, political scientists. This kind of resources are most commonly analyzed in the context of the development of regions as the factor contributing to their sustainable development. The strategy of sustainable development of the region is considered as the main priorities – the development of the region's economy, increasing investment attractiveness, efficient use of resources, ensuring the growth of well-being and the level (quality) of life of the population.

According to statistics, in 2017 in Russia recorded a decline in the population.

In all considered areas natural losses of the population are observed, in Tula region in 2017 on 1000 people of the population the number of the dead exceeds 7 people, in the Oryol region – more than 6 people, in Bryansk and Kursk – also about 5 people, in the Kaluga region – 4 persons. Annual rates of decrease in the population are small, however, in a three-year retrospective decrease in population of these regions by 2% and also preservation of the planned trends, is considered by us as negative impact of this factor on sustainable development of these areas. Also during the research reduction of the population in working-age in the explored regions on average for 3% for the last three years was revealed.

Inflow of migrants can compensate a certain part of the losses suffered as a result of natural losses of the population. The number of the foreign citizens who are in Russia grew up. In 2017 migration increase in population was observed in Tula region – 3794 persons, the Kaluga region – 1631 persons. In other areas on the contrary - the number left exceeds number of arrived. In Kursk region migration decline in population in 2017 was 988 people, in the Bryansk region – 2478 people.

The positive migration balance with foreign countries developed in 2017 with Tula region – 476 people, with the Kaluga region – 19 people. Migration decrease at exchange of the population with foreign countries is observed in Kursk region – 2542 persons, with the Oryol region – 24 persons, with the Bryansk region – 3 persons. The greatest number left to foreign countries is observed in Kursk region from where in 2017 3168 people left.

The analysis of migration flows showed that in all studied areas the number arrived from the CIS countries prevails. The greatest migration gain in Tula region where the number arrived 8332 people more, than left. The positive balance with camps of the CIS in 2017 developed in Kursk region – 4612 people, the Kaluga region – 3526 people, the Bryansk region – 1390 people, in Oryol – 343 persons. The regions accepting migrants are, as a rule, the most densely populated territories which are closer to the Moscow agglomeration. In our case, it is the Tula, Kaluga regions. Kursk region can be carried to a

boundary region which is the temporary destination for migrants.

However it should be noted that the number of the foreign citizens having the work permit, or the patent for implementation of work decreases in all explored regions on average by 0.5% a year.

Specifics of regions of Central Federal District is the existing center of gravity of human resources of the All-Russian scale - Moscow. The huge city with capital functions, the developed infrastructure, the high standard of living and low unemployment rate is the most powerful center of the country accepting a significant amount of migrants. Most brightly it is traced in a sheaf the Moscow region - adjacent regions which are a research object.

The capital of the Russian Federation attracts a significant amount of human resources from the Moscow region in connection with higher level of the salary and the provided package of social services. Pendular migration daily makes 800 - 850 thousand people. In the organizations of the capital highly qualified specialists (top managers, heads, economists, lawyers, accounting workers) and also skilled workers find a job.

In turn, in the cities and areas of the next Moscow area residents of more remote regions of the Russian Federation and the neighboring areas work. Having deficiency of human resources for filling of empty seats by working professions, the organizations of Moscow area attract for work of nonresident inhabitants for whom working conditions are represented attractive.

Migration flows of the population are capable to have an impact on interregional differentiation on indicators of labor market and the average per capita income.

Load of the unoccupied population on 100 stated vacancies in 2017 according to Federal Service for Labour and Employment was the greatest in the Bryansk region – 81.4 persons, the smallest – in Tula region – 69 people on 100 vacancies, in other areas on average 71 persons. And this indicator grows in all explored regions.

The analysis of monetary income and expenses of the population in 2017 showed that on average the highest level of monetary income received residents of the Kaluga region- 28735 rubles, and the lowest in the Oryol region – 23700 rubles, the highest consumer spending was observed in the Kaluga region – 20424 rubles, and the lowest in the Oryol region - 17760 rubles. The greatest difference between monetary income and consumer spending in 2017 it was observed at inhabitants the Tula, Kaluga, Kursk regions - on average 40%, and small 32% - at residents of the Bryansk region.

Residents of the Kaluga region – 33899 rubles, and the lowest in the Bryansk and Oryol regions, according to 24390 rubles and 24652 rubles have the highest salaries.

The analysis of human resources showed that in the conditions of formation of digital economy key competences of human resources qualitatively change. On the basis of the conducted research it is possible to draw conclusions on

discrepancy of educational programs to needs of digitalization of society, besides there was a serious staff deficit in educational process of all education levels. In procedures of a final assessment of graduates digital instruments of educational activity are insufficiently used, process is not included completely in the digital information environment.

The innovative system capable to provide an effective transfer of separate breakthrough technologies in the products making profit is also an important factor of development of the region. Elements of an innovative system of the region allow to reduce outflow of the population from the region and to provide highly paid jobs.

Sustainable development of the region in the conditions of development of digital economy is reached also due to the high system effectiveness of education capable to develop the labor capacity of the region, providing necessary parameters of development. Within the conducted research it should be noted that in the explored regions there was a difficult situation in this sphere. The number of the educational organizations which are carrying out educational activities for educational programs of secondary professional education and also number of the branches which are carrying out educational an average professional on average in the region decreases. The number of the teachers and training officers implementing educational programs of secondary professional education also decreased. The number of the students studying according to programs of training of the skilled workers serving for the last three years decreased. The number of the students studying according to programs of training of specialists of an average link grows at small rates on average in 0.1% for the last 3 years. The number of the educational organizations of the higher education and the scientific organizations remains almost invariable, and makes totally 26 higher educational institutions in the region in 2017/2018 academic year. The number of branches of the educational organizations of the higher education makes 36 in 2017/2018 academic year. The number of the students studying according to programs of a bachelor degree of a specialist programme and a magistracy decreases, in different regions different rates from 3% in the Oryol region to 24% in Kursk. The release of bachelors, experts and masters also decreases big rates. The trends which developed in education, and many listed facts are threat to sustainable development of the explored regions.

IV. CONCLUSION

In the long term human resources of the explored regions of the CFD of the Russian Federation will be characterized by reduction of the offer of human resources which reason decrease in population of working-age is. This fact, certainly, will lead to increase in demand for skilled workers, requirements to whom, in turn, will also increase. Besides, owing to increase in demand for work and, therefore, its cost will increase.

Growth of a share of the population is more senior than working-age has significant negative impact on the offer in labor market of regions of Central Federal District. The resident population of working-age is reduced. Due to migration inflow this reduction can be compensated and the

total number of able-bodied population will be reduced not so catastrophically. Change of the revealed trends in the short term is not predicted that is threat for sustainable development of the explored regions. Reduction of human resources as a trend, in the short term is not predicted that is threat for sustainable development of regions. Therefore regions are faced by a problem of increase in labor productivity level and also decrease in unemployment rate. Besides reduction of total number of human resources also their age structure changes:

in the total number of able-bodied population sharp reduction of a share of people of younger working-age (17 - 26 years) is observed;

there is an increase in a share of the population of the most active and demanded age (29 - 39 years);

shares of able-bodied population at the age of 40 - 50 years decreases.

Functioning in regions developed the systems of primary professional, secondary professional and higher education is the factor allowing to increase competitiveness and quality of labor that cannot but affect the prospects of sustainable development of regions.

In the conditions of digitalization of economy requirements to human resources change, increase in digital literacy of the population, professional development and involvement in digital economy of public servants, teachers, the senior generation, disabled people, creation of a system of motivation of participation in digital economy of Russia are necessary.

The sustainable development of regions of the CFD of the Russian Federation based on investment and innovative development is impossible without solution of problems of human human resources. The balanced economic and social development has to be carried out on the basis of rational use of all resource capacity of regions. At preservation of the trends existing in the explored regions their sustainable development causes scepticism. Overcoming negative calls is possible only within complex process of preservation and enhancement of human resources.

Implementation of draft decisions of social and demographic problems of regions of the CFD of the Russian Federation provides the solution first of all of problems in spheres of family support, public health care, ensuring access to the developed infrastructure, creations of jobs. As the main financial instrument at the same time the state programs of area directed to the solution of the listed problems act.

Within implementation of the "Digital Economy of the Russian Federation" program in the Oryol region on 3 regional projects within development of digital economy – "Information security" (creation of steady and safe information and telecommunication infrastructure of the high-speed transfer, processing and storage of large volumes of data available to all organizations and households of the Oryol region), "Information infrastructure" (for connection to the Internet medical, educational institutions, households), "Digital public administration" were approved (implementation of digital technologies and platform decisions

in spheres of public administration and rendering public services, including for the benefit of the population and subjects of small and average business, including individual entrepreneurs). The important role for digitalization is brought by the Oryol state university of I.S. Turgenev. Implementation of the project on creation and development of the engineering center on the basis of the university can be an example. In 2018 the Ministry of science and the higher education of the Russian Federation supported for subsidizing the project of the Oryol state university of I.S. Turgenev on creation and development "The engineering center of technologies of the digital environment: telecommunications, means of communication and energy efficiency". The main activities of the engineering center are Big Data, artificial and industrial intelligence, telecommunications, new production technologies, robotics and a sensorika, the general, special and medical instrument making, technologies of wireless communication, energy efficiency.

As a result of this basic research it is revealed trends of change of human resources in regions of the CFD of the Russian Federation are revealed, the role of human resources in achievement of sustainable development of regions is defined; in the conditions of digitalization of economy, in improvement of quality of life.

Besides, the received results can be used for further researches of sustainable development in other regions.

Acknowledgment

This work was carried out within the framework of the program of strategic development "Engineering center of digital environment technologies for integrated security: telecommunications, communications and energy efficiency", which is the winner of the competition for the provision of state support for projects for the creation and development of engineering centers on the basis of educational institutions of higher education, subordinated to the Ministry of Science and Higher Education of the Russian Federation.

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