

Analysis of Supply Chain Policy Effects on Employment and Unemployment in the Republic of Tatarstan

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Abstract- The development of the Russian model of the labor market and its individual elements and supply chain strategy is described by a number of Russian and foreign scholars. Its main meaning is in the weak sensitivity of quantitative indicators of employment and unemployment to the dynamics of production, and over-adaptability and extreme wage flexibility. The Republic of Tatarstan has a fairly high level of employment, which conceals a significant heterogeneity of jobs. One consequence of this is the high poverty of educated people with jobs. Despite the fact that the Russian labor legislation prescribes a kind of “standard” of employment, involving a permanent employment contract and full-time work, market reforms significantly diversified types of employment. Formally, deviations from the prescribed standard are allowed only in special cases that are listed in the legislation. However, in a short time, various deviations from both the “standard” itself and the list of allowed exceptions became spread in the labor market in the Republic of Tatarstan. This led to the emergence of atypical forms of employment: unofficial, part-time, overtime, temporary. Such forms of employment facilitate a real adjustment of the supply and demand in the Tatarstan labor market. The paper considers the approaches to a comprehensive economic and statistical analysis of employment and unemployment in the Republic of Tatarstan in the conditions of their diversification in the new economic order.

Keywords- economically active population, unemployment, supply chain strategy, labor market, self-employment of the population.

1. Introduction

For the Republic of Tatarstan, the problem of reflecting employment and unemployment in the formal sector of the economy is particularly relevant. This is due to the

fact that during economic reforms and the introduction of market mechanisms of management, which were initially carried out in the context of the deepest crisis, the scale of shadow and informal activities and their role in reproduction processes increased dramatically. A number of factors contributed to the partial or complete withdrawal of many economic entities “in the shadow”, the development of the informal economy and at the same time complicated the task of economic and statistical study of employment and unemployment. Such factors on the example of the Republic of Tatarstan are the following:

- drastic institutional and structural changes in the economy, a giant increase in small entrepreneurs and business entities without establishing a legal entity;
- objective reasons prompting the active part of the population to search additional sources of income;
- the imperfection of the tax system, other institutions which ensure the functioning of a market economy or are designed to regulate it;
- unprecedented criminalization of the country.

Undoubtedly, the task of the quality of measuring the socio-economic indicators of employment and unemployment, including the task of assessing dynamic socio-economic macroparameters, is paramount.

2. Research Method

The tasks set in the study identified the need for the use of methods of comparative and economic-statistical analysis, graphical and tabular methods, as well as analytical techniques for collecting and processing the information block of indicators of living standards. The chosen methodology made it possible to ensure the

scientific validity of the results and the logic of the study in the chosen direction.

3. Results

Employment and unemployment are important indicators of a market economy. In accordance with the concept of labor that meets international standards, employment and unemployment are considered as two complementary categories. The relevance of their research is conditioned by the need to plan a consolidated budget, social spending, which is especially important to assess the situation on the labor market. In recent years, Russia has been actively pursuing a policy of modernization that is due to the objective need to improve the efficiency of social production. Modernization and innovative development of economy are two interrelated sides of one fundamental process by which the state can optimize the accumulation, updating, distribution and use of tangible and intangible assets to increase capacities for

sustainable development[1]. An important component is also the personnel potential of a territory, as information technologies need skilled personnel for their development, support, implementation, and use [2]. In this regard, the improvement of working conditions and the improvement of living standards are important criteria for the socio-economic situation of the Republic of Tatarstan. To study labor force participation rate of the population is a priority that determines the place of the region in the system of social labor division. Economically active population is a part of the population that supplies labor for the production of goods and services. According to the data of Tatarstanstat for 2016, the number of the economically active population in the 15-72 age group in the Republic of Tatarstan was 2058.2 thousand people, which is 0.2% lower than the same indicator for 2015, and compared to 2001 it increased by 13.2% (Table 1) [3].

Table 1. The number of economically active population aged 15-72 in the Republic of Tatarstan for 2001-2016, thousand people.

Year	Economically active population	Including:	
		Males	Females
2001	1818,1	942,1	876,0
2002	1822,2	941,7	880,5
2003	1871,3	959,2	912,1
2004	1891,7	949,9	941,8
2005	1904,8	960,1	944,7
2006	1902,3	947,7	954,6
2007	1922,2	957,8	964,4
2008	1974,9	992,6	982,3
2009	1991,2	992,6	998,6
2010	2025,5	1028,4	997,1
2011	2034,7	1034,9	999,8
2012	2050,9	1038,0	1012,9
2013	2042,1	1048,1	994,0
2014	2056,7	1054,0	1002,7
2015	2062,2	1058,6	1003,6
2016	2058,2	1054,1	1004,1

Labor force participation rate in the Republic of Tatarstan in 2016 was 71.4%, which is higher than in the Russian Federation and the Volga Federal District (VFD) by 3.2% and 0.1%, respectively. Among the regions of the Volga Federal District in terms of labor force participation rate in 2016, the Republic of Tatarstan ranked third, which is a positive change [3]. In 2016, the labor force participation rate among females was lower than among men by 18.8% (in 2015 - by 19.3%, in 2014 - by 18.9%) [4]. The participation of females, unlike males, is negatively affected by the number of children. In the Republic of Tatarstan in 2016, 1981 thousand people were accounted for by the employed population and 77 thousand people - for the

unemployed [5] in the total economically active population. Over 2001-, the most numerous group was made up of people aged 30 to 49, who accounted for 48.3-33.1% of the total number of the employed (Table 2). The smallest share in the structure of the employed is taken by individuals aged up to 20 (0.9-2.8%) and in the 60-72 age group (2.3-4.4%). During the same period of time, the structure of employment changed somewhat: there was a tendency to reduce the share of the employed people aged 30-49 (from 58.1% in 2001 to 49.1% in 2016) and to increase in the 55 -59 age group from 3% in 2001 to 9% in 2016. A similar situation is observed in the Russian Federation [5, 6].

Table2.The age composition of the employed population in the Republic of Tatarstan, for 2001-2016,%

Year	upto20	20-24	25-29	30-49	50-54	55-59	60-72
2001	2,5	9,8	12,5	58,1	10,5	3,0	3,7
2002	2,8	10,1	12,5	56,7	10,9	3,5	3,4
2003	2,8	9,5	12,3	56,6	11,4	4,0	3,4
2004	2,4	10,3	12,3	56,6	11,1	4,3	3,0
2005	2,0	9,6	12,8	55,8	11,5	5,3	3,0
2006	2,2	10,3	12,8	55,0	11,9	5,6	2,3
2007	1,7	10,2	13,3	54,0	11,9	6,3	2,6
2008	2,2	11,3	12,6	52,8	12,0	6,4	2,7
2009	1,8	11,4	13,1	50,7	12,8	7,1	2,7
2010	1,3	11,6	13,5	50,2	13,0	7,1	3,3
2011	1,4	11,0	14,2	49,2	13,1	7,4	3,8
2012	0,9	10,6	14,8	48,6	13,6	7,6	4,0
2013	1,4	10,2	14,5	48,3	13,7	7,7	4,2
2014	1,1	9,3	15,4	48,7	14	7,9	3,8
2015	0,9	8,3	15,6	48,3	13,5	9	4,4
2016	0,9	8	15,6	49,1	13,5	9	3,9

Employment pattern of the population in the Republic of Tatarstan by the level of education for 2001-2016 is presented in Fig. 1.

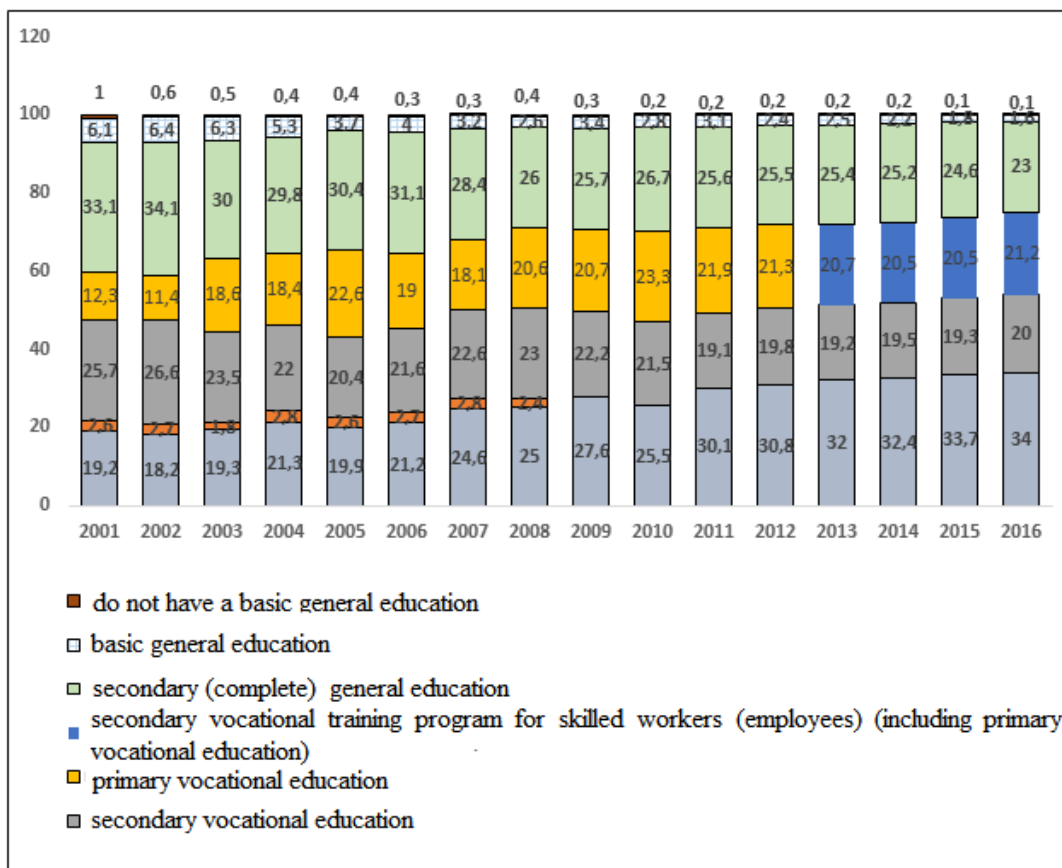


Figure1. Employment pattern of the population in the Republic of Tatarstan by the level of education for 2001-2016, %

Figure 1 shows that during the analyzed period, the largest share in the total number of employed is accounted for by persons with higher education (19.2-34%) and with secondary general education (33.1-23%). In 2016, an increase is observed in the share of the employed with higher and secondary vocational education in the training program for skilled workers

and employees (34% and 21.2%, respectively). Insignificant proportion is made by the persons who do not have the basic general education. In 2016, this category of persons was 0.1%, which is 0.1% less than in 2014. On average in the Russian Federation, similar trends are seen [4, 7]. The unemployment rate is one of the main key indicators reflecting the general state of

the economy. According to the standards of the International Labor Organization (ILO), the unemployed are people aged 15 and over who, at the same time, met the following criteria:

- did not have a job (gainful employment);
- were searching for a job during the four weeks preceding the week under survey using any means;

- were ready to start work during the surveyed week.

In the Republic of Tatarstan in 2016, the number of the unemployed was 77468 people and in comparison with 2015 it decreased by 5.9%, and in comparison with 2001 - by 49.9%, which is a positive trend (Fig. 2).

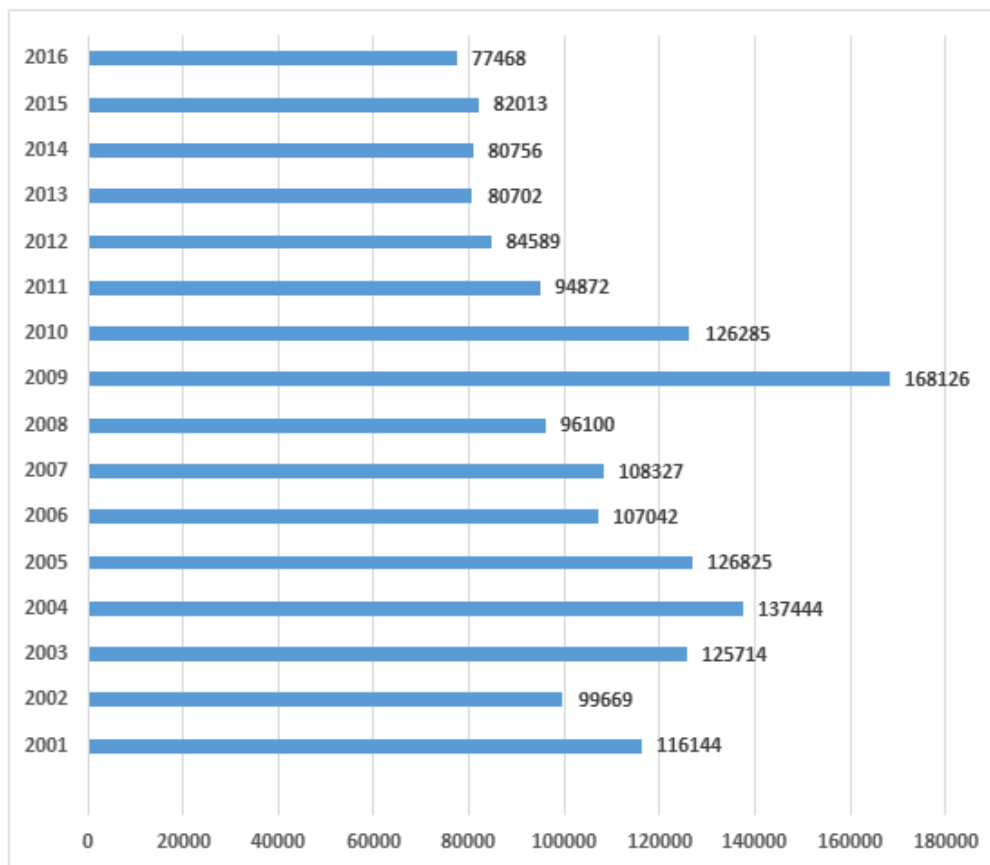


Figure2. The number of unemployed in the Republic of Tatarstan, for 2001-2016, pers.

From Figure 2 it can be seen that the largest number of unemployed is observed in 2009 (168126 people), and there is a steady decline for 2010-2016. Among the unemployed, males predominate. In 2016, their share was 53.0% of the unemployed, against 51.8% in 2015.

In general, the share of unemployed males in the Russian Federation remained virtually unchanged and in 2016 it was 53.5% (in 2015 - 53.8%) [4]. The age structure of the unemployed in the Republic of Tatarstan for 2001-2016 is presented in Table 3.

Table3. The age composition of the unemployed in the Republic of Tatarstan, for 2001-2016,%

Year	15-19	20-24	25-29	30-49	50-54	55-59	60-72
2001	7,9	21,4	12,7	48,1	6,9	2,5	0,5
2002	8,7	18,7	15,6	40,9	10,8	1,8	3,5
2003	10,2	20,0	11,2	49,1	7,7	1,0	0,8
2004	7,9	14,3	13,2	48,8	11,6	4,1	0,3
2005	12,7	15,7	11,5	46,8	10,6	2,3	0,6
2006	9,2	19,0	14,3	47,2	7,3	1,9	1,0
2007	7,6	20,9	8,6	53,5	5,8	3,1	0,5
2008	7,1	23,2	15,9	33,4	12,0	6,6	1,9
2009	9,4	19,0	12,3	40,8	9,5	7,8	1,2
2010	7,0	23,7	13,9	39,2	10,3	4,2	1,7
2011	6,7	19,9	12,0	39,7	14,0	6,1	1,7

Year	15-19	20-24	25-29	30-49	50-54	55-59	60-72
2012	4,5	23,2	12,0	42,0	9,5	5,3	3,4
2013	4,5	22,6	13,6	35,9	11,9	6,1	5,4
2014	4	25,5	13,8	35,2	9,8	7	4,7
2015	5,1	24,9	13,5	33,2	11,3	6,7	5,3
2016	4,8	23	15,5	38,6	8,6	6,8	2,8

From Table 3 you can see that the highest proportion of the unemployed in the Republic of Tatarstan accounted for by people aged 30-49 (from 33.2% to 53.5%). In 2016, the share of people aged 30-49 in the total number of the unemployed was 38.6% and increased by 5.4% compared to 2015. However, there is no steady increase in the share of the unemployed people in this age group [4]. In the Russian Federation, among the unemployed, the proportion of those aged 30-49 was 40.9% in 2016, against 39.9% in 2015 [4].

In the Republic of Tatarstan, this situation is somewhat better than in the Russian Federation as a whole [4, 8]. In 2016, the average age of the employed population in the Republic of Tatarstan was 40, which corresponds to the level of 2015, and the unemployed - 34.8, against 35.8 in 2015. A similar situation is seen on average in the Russian Federation, where in 2016, the average age of employees was 40.7, and that of the unemployed made 35.8 years [5, 9].

The pattern of the unemployed population in the Republic of Tatarstan by the level of education for 2001-2016 is presented in Fig. 3

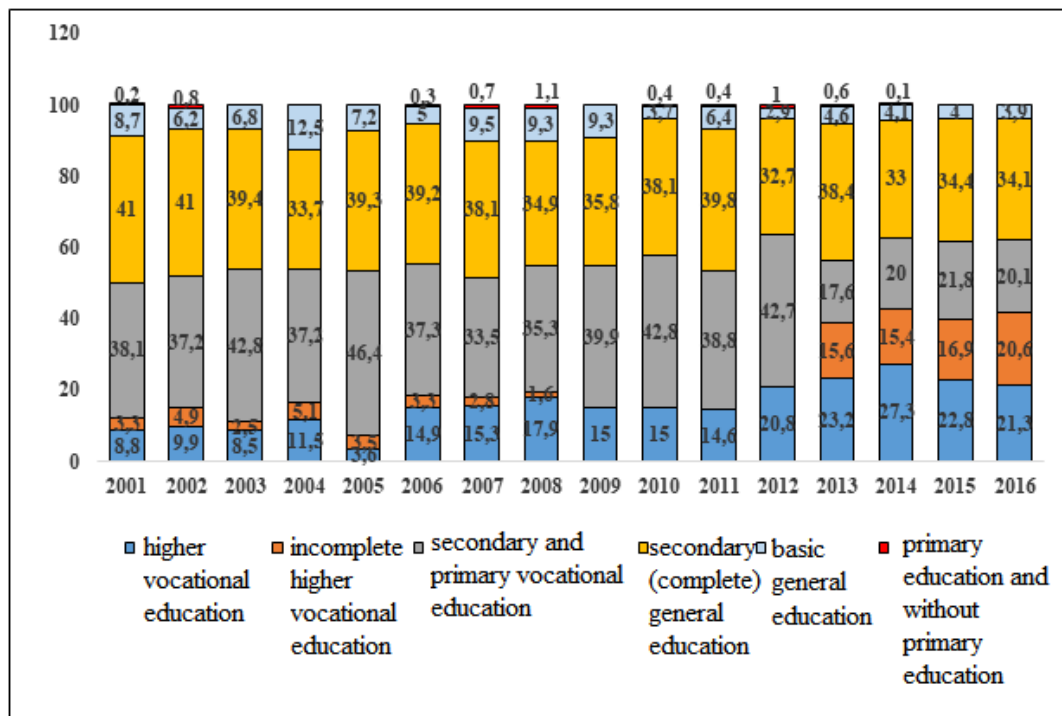


Figure3. The pattern of the unemployed population in the Republic of Tatarstan by the level of education for 2001-2016,%

From Figure 3 it is seen that over the past 16 years, from 40.8% to 63.5% of the unemployed at different periods of time had a higher or secondary vocational education. In 2016, the proportion of the unemployed with this type of education was 41.4%, which is 3.2% and 5.5% lower than in 2015 and 2001, respectively. Among those employed, the share of persons with this education is significantly higher (in 2016 - 54.0%), which testifies to the demand for professionals with higher and secondary vocational education in the Republic's labor market [4, 6, 10]. It is significant that there is no unemployment among those with or without

primary education, which is explained by the low requirements of workers in this category to the conditions and nature of work. This exacerbates the problem of employment of skilled labor. In the Republic of Tatarstan in 2016, the largest number of the unemployed (9,533 people) was in the category of resigned people, and the lowest number (524 people) was in the category with no work experience (Fig. 4). This witness that there is no difficulty in employing young people without work experience in the republic [4].

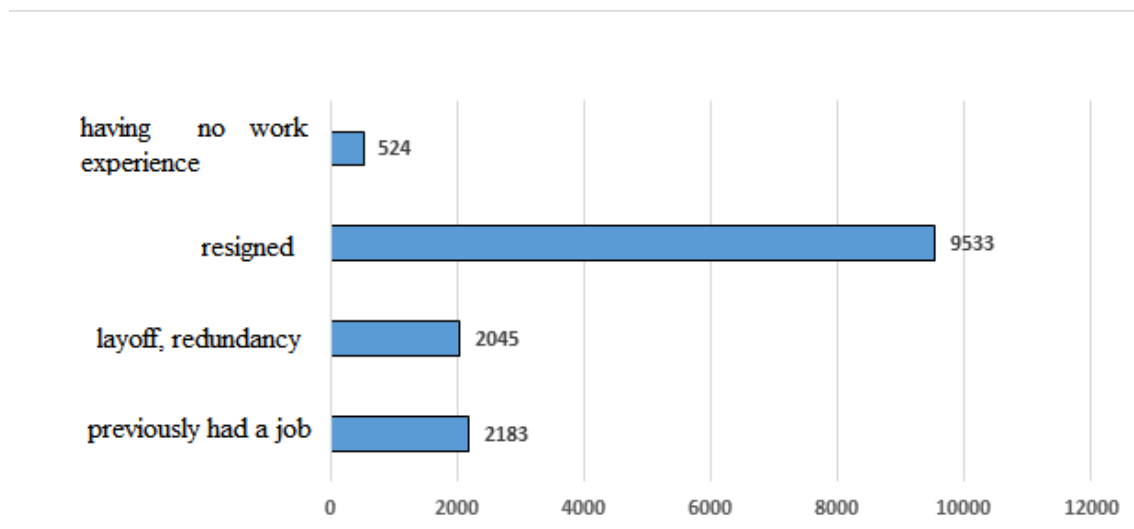


Figure4. The number of unemployed in the Republic of Tatarstan owing to unemployment for 2016, pers.

Most modern employers see students and graduates as promising specialists rather than just cheap labor for closing low-popular jobs. To find a good job, the Republic of Tatarstan has an extensive job bank and a system for informing young people about the demands in the labor market [4, 11]. The total unemployment rate in the Republic of Tatarstan in 2016 was 3.8% of the economically active population (in 2005 and 2010 the number is 6.7% and 6.3%, respectively), which is the best indicator for the period under review. In 2016, the overall unemployment rate in the republic was lower than the average for the Volga Federal District and the Russian Federation by 1.0% and 1.7%, respectively (in 2010, it was lower by 1.4% and 1.1%, respectively) that is positive dynamics [4]. In terms of total unemployment among the 14 regions of the Volga Federal District in 2016, the Republic of Tatarstan ranked 1st compared to 3rd place in 2005 and 2010 [5, 12].

4. Conclusion

The results of the economic and statistical analysis of employment and unemployment in the Republic of Tatarstan enabled to conclude the following:

1. Employment and unemployment are important indicators of a market economy. In accordance with the concept of labor that meets international standards, employment and unemployment are considered as two complementary categories.
2. In recent years, Russia has been actively pursuing a policy of modernization, due to the objective need to improve the efficiency of social production. In this regard, the improvement of working conditions and the improvement of living standards are important criteria

for the socio-economic situation of the Republic of Tatarstan.

3. In the Republic of Tatarstan, there has been an increase in the proportion of the employed people with higher and secondary vocational education in the training program for skilled workers and employees. Insignificant proportion is accounted for by the people who do not have the basic general education.
4. The unemployment rate is a main key indicator reflecting the general state of the economy. In the Republic of Tatarstan, the number of unemployed tends to decrease, which is a positive trend.
5. There is no unemployment among people with or without primary education, which is explained by the low requirements of workers in this category for the conditions and nature of work. This exacerbates the problem of employing the skilled labor in the republic.
6. In the Republic of Tatarstan, a large number of the unemployed is accounted for by category of the resigned persons, and the lowest number is by those who have no work experience. This evidences that in the republic there is no difficulty in finding employment for young people without work experience.
7. Among those employed, the share of persons with higher and secondary vocational education is much higher, which confirms the demand for professionals with this type of education in the republic labor market.
8. The overall unemployment rate in the Republic of Tatarstan is lower than the average for the Volga

Federal District and the Russian Federation, which is a positive trend.

5. Conclusion

Analysis of employment and unemployment in the Republic of Tatarstan for 2001-2016 suggests that there are positive trends in the labor market. Along with measures of state support for the real sector of the economy, the implementation of two state programs helped to reduce tensions in the labor market: "Promoting employment of the population of the Republic of Tatarstan for 2014–2020" and "Implementing additional measures in the field of employment aimed at reducing tensions in the labor market of the Republic of Tatarstan, for 2016". The policy of the republic's government, carried out jointly with the regional agency of labor and employment, has contributed to the development of a number of programs aimed at reducing unemployment in the Republic of Tatarstan in recent years. They include a program to promote the development of small businesses and self-employment of the population, a program to improve the qualifications of females on leave to care for a child under the age of 3 and who plan to return to work, a program to assist in the employment of disabled people. At the same time, the issue of providing employment and reducing unemployment for people aged 30-49 requires solving. A lot is being done in the Republic to provide the unemployed with work, but not everyone can find the one with a decent salary [5]. Currently, Tatarstan is among the ten most prosperous regions of Russia, where the employment situation is much better than in other regions [6]. Living standards are primarily determined by incomes which in turn depend on the state of the labor market [7]. To improve the employment situation, it is necessary to create conditions for the development and expansion of existing enterprises on the territory of the republic, to create new jobs for people, to stimulate various flexible forms of employment, and also to stimulate the growth of small and medium entrepreneurship. The level of development of small and medium entrepreneurship directly determines the degree of development of the country's economy as a whole [13-15].

Conflict of interest

The authors declare no conflict of interest relating to the material presented in this paper.

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References

- [1] Mustafin A.N., *Incentives and factors affecting the improvement of the human capital quality in the innovative economy*, Journal of Economics and Economic Education Research. Vol.17, Special Issue 2. - P.128-137,2016.
- [2] Seliverstova N.S, Mustafin A.N, Benková E., *Analysis of the factors affecting the choice of information systems by economic subjects of Russian Federation*, Journal of Social Sciences Research. Vol.2018, Is.Special Issue 5. - P.46-51, 2018.
- [3] "Labor market, employment and wages", Official statistics. - URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/.
- [4] "Russian Statistical Yearbook", *Official Statistics*, 2016 - URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_113_5087342078.
- [5] "Regions of Russia. Socio-Economic Indicators", *Official Statistics*, 2016 - URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_113_8623506156.
- [6] L.E. Fatikhova, A.R. Sulimanova, S.G. Chibugaeva, "Regional features of youth employment and unemployment in the Republic of Tatarstan", *Young Scientist*, No. 21, p. 448-449, 2014. - URL <https://moluch.ru/archive/80/14384/>.
- [7] I.A. Kodolova, S.N. Savdur, Yu.V. Stepanova, E.D. Khisamova, "Economic-statistical analysis of the standard of living of the population of the Republic of Tatarstan", *Kazan Science*, No. 5, P. 49-52, 2017.
- [8] M.N. Sitkin, A.G. Lukashov, A.L. Sannikov, A.I. Kudryakova, "Social characteristics of unemployment in the Arkhangelsk region", *Human Ecology*, № 4, p. 51-54, 2007.
- [9] I. V. Trotsuk, N. A. Nevzorova, "Structural imbalances as a key factor in unemployment in the Russian labor market", *Bulletin of Peoples' Friendship University of Russia*, Series: Sociology, V. 15, No. 2, P. 93-103, 2015.
- [10] V.E. Toskunina, A.V. Karmakulova, "Female employment in the regions of the north of Russia: problems and solutions", *Economy of the region*, № 4 (36), pp. 27-35, 2013.
- [11] V.N. Belkin, V.S. Osankin, "Structural mismatches of supply and demand on the labor market as the basis of regional unemployment", *Regional Economy*, No. 2 (6), pp. 76-87, 2006.
- [12] Yu. I. Azimov, S. N. Savdur, E. L. Fesina, "Ensuring Environmental Safety Based on the Modeling of Biological Process of Oily Sewage", *Mediterranean Journal of Social Sciences*, Vol. 5, No 24, C. 372 – 376, 2014.

- [13] Khafizov M.D, Mustafin A.N., *Development of small and medium entrepreneurship: Evidence from Russia*, International Journal of Economic Perspectives. Vol.11, Is.3. - P.1529-1534, 2017.
- [14] Zikai T. *An Overview of Economical Corruption in USA and Analysis of its Future*, Journal of Humanities Insights. 02(01):43-50, 2018.
- [15] Farzaneh, Dalir Rezagholi Gheshlaghi , Yunes ,Ahmadzadeh , Fahimeh, Faal. *The cash flow statement's component effect on Management Performance in firms enlisted in Tehran Stock Exchange*, UCT Journal of Management and Accounting Studies, Issue1, pp. 14-21,2014.