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**DEVELOPMENT OF STATE INSTRUMENTS FOR FORMING
EFFECTIVE EMPLOYMENT OF YOUNG SPECIALISTS**

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Abstract

The article outlines the problems of assessing the factors and the potential for the formation of effective employment of young specialists. The author's approach to the development of tools for the reproduction of a young specialist in the context of his effective employment is proposed. The main focus of the development of the model of state instruments in this area is indicated by improving approaches to determining and calculating the integral indicator of the specific labour performance of a young specialist, which, taking into account its parameters, makes it possible to differentiate the interaction of regional vocational education and labour markets. The assessment of the specific labour performance of a young specialist (for university graduates) in Russia as a whole, as well as in one of the largest regions of the country, the Krasnoyarsk Territory, has been tested. Connecting to the designated tool (integral indicator) of the author's model for assessing the transaction costs of the state for the "entry" of young specialists into the labour sphere can increase the efficiency and efficiency of government decision-making in the field of supporting the effective employment of young specialists.

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1. Introduction

Young specialists constitute a renewable main resource that forms the strategic labor potential of the country's economy. Moreover, the problems of employment of young specialists tend to grow even with a favorable situation on the labor market. If for graduates with a higher level of education in 2015, the unemployment rate was 3.9%, for graduates in 2018 it was already 11.6%, similar indicators for graduates in terms of secondary vocational education are, respectively, for training programs for middle-level specialists - 6.4% and 16.1%, according to training programs for highly qualified blue-collar workers (office workers) - 8.4% and 17.5% (Federal State Statistics Service, 2021a).

2. Problem Statement

The problems of the effective use of young specialists in the labor sphere are the subject of many foreign and domestic studies. Authors such as Iankovets (2018), Garavan et al. (2001), Vokoun et al. (2018); Rudenko and Tilimbaeva (2013), Zakharova and Kratt (2014), Shmanev and Shmaneva (2019), Endovitsky and Durakova (2019), Iurieva et al. (2017) outlined their positions and approaches to the development of human capital, including young specialists. The employment problems of young professionals, graduates from various positions were studied by such authors as Borisov et al. (2019), Razumova and Zolotina (2019), Kibanov and Dmitrieva (2019), Tayurskiy et al. (2017a), Fedchenko (2014), and others. Authors such as N. Schlosserberg, A. Parker, M. Pines, and others (Glushach & Bishops, 2014; Protasova, 2013) investigated the general problems of young specialists (graduates) when "entering" the labor sphere from the standpoint of theories of transactions and transaction costs.

3. Research Questions

The works of such an author as Bezdenezhnyh (2005). At the same time, the approaches used concerned only certain aspects of the reproduction of a young specialist as a specific category of the labor force.

The approach developed by us to positioning the effective employment of young specialists (graduates) as "the process of their employment in their specialty in the shortest possible time, accompanied by successful adaptation in the team, professional growth and economic return for the employer" (Lobanova, 2008) in further research was supplemented with such criteria, as continuation of professional education at a higher level, in a related profession, specialization, contributing to the further development of human, social capital" and "self-employment, based on the use and development of competencies for entrepreneurship formed in the processes of primary vocational training, ensuring the competitiveness of a young specialist as an economic subject of the economy (Tayurskiy et al., 2017b).

Based on the concept of a multi-level assessment of the regional competitiveness of the labor force (Bezdenezhnyh, 2005), the author's approach to assessing the effective employment potential of a young specialist (graduate) was formed in the form of an integral indicator of regional effective employment for this specific category of the labor force (Lobanova, 2010a). The constructed system of priority indicators that make up an integral indicator made it possible to objectively evaluate, through quantitative and

qualitative analysis, various aspects of the formation of the regional potential for effective employment of a young specialist (graduate).

The methodological foundations for assessing the potential of interaction between the markets of professional education services in the reproduction processes of a young specialist (graduate) were previously formed and tested by us in the constituent entities of the Russian Federation in two time frames: 2002 and 2007 (Lobanova, 2010b).

4. Purpose of the Study

The purpose of this study is to improve the tools for the reproduction of a young specialist (graduate of an educational organization) in the context of his effective employment through the further development of the model of the integral indicator of the specific labor performance of a young specialist (graduate).

5. Research Methods

Further research in the field of methodological approaches to assessing the effective employment of young specialists (graduates) through the application of this integral indicator for later time cuts for the subjects of the country, the results of empirical studies of various aspects of the declared topic revealed the need to improve the previously indicated approach, which was carried out through the formulation and verification the following working hypothesis:

1) apparently, the process of forming effective employment of a young specialist (graduate) requires the state to monitor the situation in the regions in the context of assessing its potential, highlighting those subjects of the country where the situation deviates from the average parameters (a group of crisis regions) with the purpose of helping them to adjust the values of effective employment, for which it is necessary to propose a Model for improving the tools of reproduction of a young specialist (graduate) in the context of his effective employment. An integral indicator of the performance of a young specialist (graduate) can serve as a tool for such monitoring.

2) apparently, the integral indicator of the labor productivity of a young specialist (graduate) itself needs further development, both from the standpoint of a more accurate measurement of the processes under consideration, and from the point of view of unifying statistical indicators in the context of improving the statistical accounting of the reproduction processes of a young specialist (graduate).

3) apparently, an increase in the efficiency of using the integral indicator of the labor productivity of a young specialist (graduate) can be ensured by correlating the state's costs in influencing the factors of effective employment of a young specialist in the region with the return on his investment.

To test the first part of the hypothesis in 2017-2020. the methods of expert assessments of the main participants in the markets of professional education and labor services were used both on the part of educational institutions of higher education (services for promoting the employment of graduates of the Siberian State University of Science and Technology named after M.F. Reshetnev (Siberian State University), Krasnoyarsk State Agrarian University, Siberian Federal University, Krasnoyarsk Institute of Railway Transport, Irkutsk State University of Railways, Siberian Institute of Business, Management and Psychology), the state employment service, and from employers of the Krasnoyarsk Territory (state and

commercial organizations, enterprises), as well as the graduates themselves (graduates of 2017-2018. Siberian State University). The generalized research results confirmed the need for further development of the system of tools for regulating the processes of employment of young specialists, including through the considered integral indicator (91% of experts noted this need) and the use of measures of state support for the reproduction process of a young specialist (graduate) as a specific category of labor force in region for individual actors of this process (96% of experts noted the importance of this factor).

Figure 1 shows a model for improving the reproduction tools of a young specialist (graduate of an educational organization) in the context of his effective employment. The model is based on the previously approved integral indicator (UTRi) of the regional specific labor performance of a young specialist (graduate) as an indicator of the competitiveness of this specific category of the labor force and an assessment of the conditions for the formation of competitive advantages of this labor force category as a result of the interaction of subjects of regional markets for vocational education and identifying regions with crisis parameters of the integral indicator of tools for further application to them of various mechanisms and instruments of state support for the reproduction of the labor force.

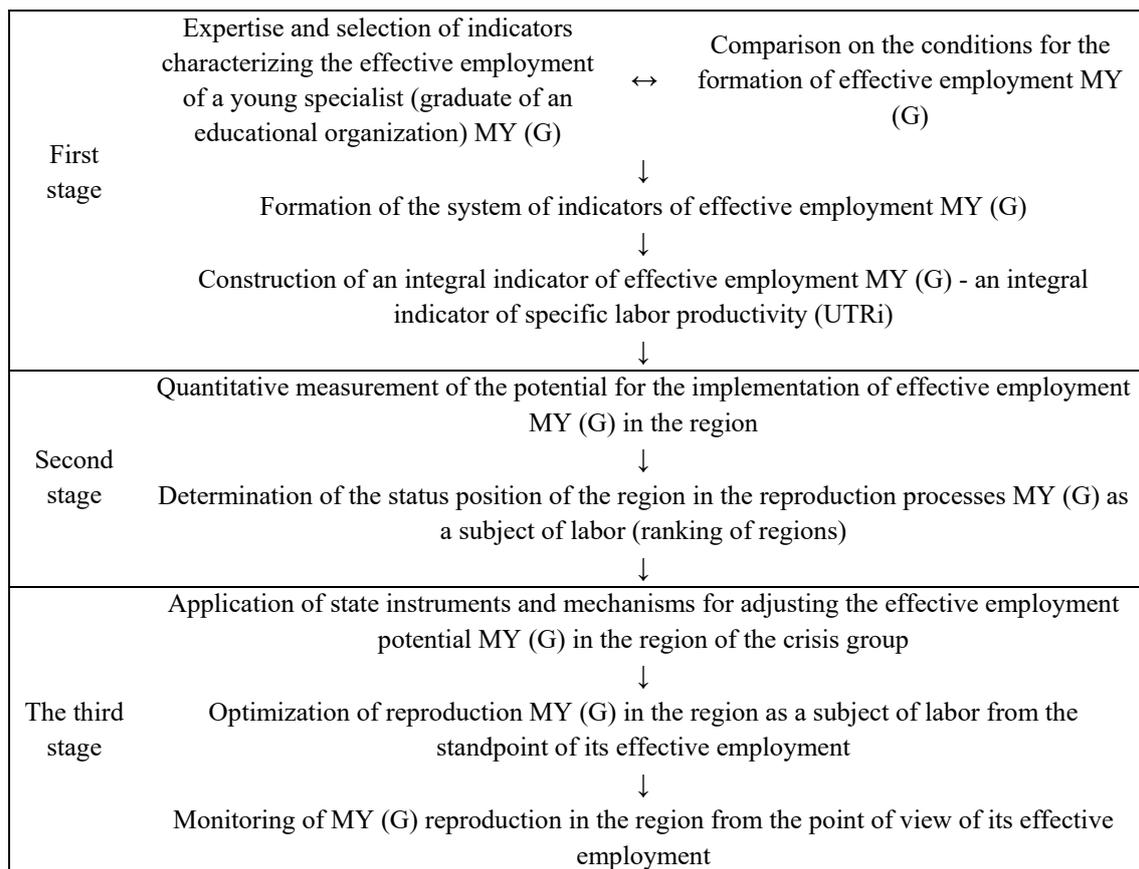


Figure 1. Model for improving the tools of reproduction of a young specialist (graduate of an educational organization) in the context of his effective employment (hereinafter the Model)

The choice of target indicators is determined by the previously developed methodological provisions:

- young specialists (including those with the status of “graduate”) are the most important component of the total workforce, influencing the prospects for the country's socio-economic development;
- the process of reproduction of a young specialist (graduate) as a specific category of labor force includes the stages: primary vocational training; primary distribution, redistribution (exchange), primary (initial) use (three years after the end of primary vocational training (at the level of higher education), two years (at the level of secondary vocational education) - by analogy with the period of validity of the "young specialist" status in socialist Russia);
- a young specialist (including in the status of “graduate”, the duration of which is determined by Article 70 of the Labor Code within a year after graduation) (Consultant Plus, 2021) contributes to the formation of the gross product;
- the basis of reproduction and stimulation of the effectiveness of labor costs of a young specialist (graduate) is wages;
- low starting positions of a young specialist (graduate) in the labor market are reflected in the level of their wages during the period of initial employment;
- quantitative parameters of young specialists (graduates) as a labor force for demographic reasons tend to decrease, which enhances the relevance of their presence in the employed population of the country;
- a professionally trained young specialist (graduate) quite often remains unclaimed by the economy for a certain period of time due to less competitiveness in comparison with the contingent of the labor force, older age, with experience in the specialty;
- the time of job search for a young specialist (graduate) is determined by his competitiveness in the labor market, as well as the current situation in the regional labor market;
- the level of return on the funds invested in the professional training of a young specialist (graduate) (from the state, business entities, individuals) is determined by the directions of its implementation in the labor sphere (hired labor (in a specialty, not in a specialty), self-employment) or continuing vocational training for more high level or other profile of professional education.

The initial formula of the UTR_i (Lobanova, 2010a) was taken as the basis for constructing the model of the integral indicator, which has undergone some adjustments and currently looks as follows (formula 1):

$$SLP_{ys(g)i} = SI_{grpi} * K_{si} * K_{pys(g)ui} / K_{pys(g)ui} * K_{rsys(g)i} * K_{rrys(g)i} \quad (1)$$

where $SLP_{ys(g)i}$ – specific labor productivity of a young specialist (graduate) in the i -th region; SI_{grpi} – gross regional product salary intensity; K_{si} – the coefficient of job search by a young specialist (graduate); $K_{rsys(g)i}$ – coefficient of the reproductive-stimulating labor function of a young specialist (graduate). $K_{pys(g)ei}$ – the coefficient of the presence of young professionals (graduates) in the total number of employees; $K_{rrys(g)I}$ – the coefficient of reproduction of a young specialist (graduate) as a labor resource; $K_{pys(g)ui}$ – the coefficient of the presence of young professionals (graduates) in the total number of unemployed;

The correction of the initial formula of the integral indicator was carried out in terms of clarifying the multidirectional influence of the particular SLPys (g) i indicators on the generalizing indicator, as well as taking into account the existing problems of constructing time series of individual indicators using Rosstat data. Thus, the indicator “the reproduction rate of a young specialist (graduate) as a labor resource” (Krsys (g) i), estimated in the original version of the formula (Tayurskiy et al., 2017b) As the sum of the shares of wages in the average wages of senior citizens (up to three years of work experience) and age groups (20-25 years), which can be conditionally correlated with the status of "young specialist", turned out to be difficult to calculate in dynamics due to the trends in the development of statistical observations of wages in the Russian Federation.

Therefore, we have made changes to this indicator (Krsys (g) i) towards simplifying its definition, which, in fact, sets the share of wages of a young specialist in average wage in a country or region and assesses its impact on the formation of effective employment of a young specialist as follows: the higher it is, the more chances young specialists have to provide their employment with the reproductive and stimulating function of wages.

Currently, the most interested subject of tracking the dynamics of wages in the group of "young professionals", for obvious reasons, are financial and credit organizations. So, the Russian financial conglomerate, the largest transnational and universal bank in Russia, Central and Eastern Europe - PJSC "Sberbank" (full name Public Joint Stock Company "Sberbank of Russia") in 2017-2018. conducted large-scale research in the field of wages of young specialists in the sectoral and regional context, which allows us to establish real ratios in the wages of young specialists (age 21 and 25) and the average prevailing level of wages in society. It is possible to predict with a greater degree of probability that in the future this most important subject of the country's financial system will also track the development of trends in this age group due to its professional interests. This, in turn, makes it possible to adapt the UTRi formula in the stated way according to the indicator - Krsys (g) i. As a starting point for this indicator, Sys (g) (the average salary by the age group corresponding to the age parameters of a young specialist (graduate)) was determined based on the results of the assessment of Sberbank as the arithmetic mean of the salaries of young specialists aged 21 and 25 years) (Vc .ru, 2018). When calculating the dynamic time series of the indicator of the specific labor productivity of a young specialist (SLPys (g) i), the value of the Krsys (g) i coefficient for 2017-2018. was extended for the entire period under consideration, which is a conditional assumption of the assessment of this process in order to refine the model of the considered integral indicator. Thus, the considered indicator in formula (1) is calculated as follows formula (2).

$$\text{Krsys(g)i} = \text{Sys(g)} / \text{Says(g)}. \quad (2)$$

where Krsys(g)i – coefficient of the reproductive-stimulating labor function of a young specialist (graduate). Says(g) – average salary for the age group corresponding to the age parameters of a young specialist (graduate), rub.; Sys(g) – average salary of young professionals.

This indicator characterizes the starting opportunities for material remuneration of a young specialist (graduate) in labor activity and assesses the level of his realization of the reproductive-stimulating labor function. The greater the value of this indicator, the more opportunities a young specialist (graduate) has for the effective implementation of the reproduction process and the stimulating function of labor. In

addition, taking into account the changed vector of influence of $K_{rsys}(g)_i$ on $SLP_{ys}(g)_i$, this indicator was moved to the denominator of the integral indicator formula (formula 1).

The methodology for calculating the remaining indicators has practically not changed compared to the original version of calculating the integral indicator (Tayurskiy et al., 2017b).

At the same time, in formula 1 (in comparison with the original version), the vector of influence of another indicator, $K_{rrys}(g)_i$, has changed. In the initial formula of the integral indicator, the reproduction of a young specialist (graduate) as a labor resource ($K_{rrys}(g)_i$) assesses the possibilities of the regional level of wages to provide a reproductive function by correlating with the subsistence minimum.

At the same time, this particular indicator was determined by correlating the subsistence minimum with the average wage, and its influence was interpreted as positive in the event of a decrease in its value. In recent years, a lot has changed in the very approaches to calculating the subsistence level, it became possible to implement it as a real tool for determining the minimum wage, and in May 2018, the actual implementation of the Labor Code norm (Art. 133) that not there may be a minimum wage below the subsistence level of the working-age population (Consultant Plus, 2021). An analysis of the assessment of population reproduction in Russia and abroad from the standpoint of the subsistence level indicates an increase in the well-being of citizens as not only their average incomes, but also the level of the subsistence level increase. In our studies, we adhere to the position of a number of authors (Kookueva, 2017; Pollak, 2014; Reprinceva, 2019), correlating the level of well-being of society members with the share of the subsistence minimum in the average wage, which is at least 50% in developed European countries, about 30% for USA. In Russia, this level is lower (22% -25%), but the country's course towards the growth of incomes and welfare of citizens makes it possible to predict the possibility of positive trends in increasing the reproduction function of wages in the future. Based on this, we consider it expedient to evaluate the influence of the considered indicator $K_{rrys}(g)_i$ (as opposed to the original formula) on the integral indicator as positive if it increases (that is, an increase in the value of the subsistence minimum itself), due to which in formula 1 it is presented in denominator. The interpretation of the influence of this index will be as follows: the higher this indicator, the lower the value of $SLP_{ys}(g)_i$, and, therefore, the higher the potential for effective employment of a young specialist (graduate).

For an objective assessment of the statistical possibility of using the digital values of the indicators of formula (1), a correlation analysis was applied both between the particular indicators of the formula, and pairwise correlation sequentially between each component of the integral indicator of the particular indicator and the resulting indicator itself ($SLP_{ys}(g)_i$). Correlation analysis confirms the possibility of using these particular indicators: weak and medium collinear relationship between the particular indicators of formula (1); medium to strong relationship between each indicator and $SLP_{ys}(g)_i$.

Approbation of Formula 1 by the level of higher education (the object of the study was graduates of universities of the Russian Federation and one of the largest regions of the country (Krasnoyarsk Territory) for the time series: 2014-2018 is presented in Table 01. Data for calculations obtained from official sources (Federal State Statistics Service, 2017, 2018, 2021b; Posobie guru.ru, 2020; Rosstat, 2018, 2019; Vc.ru, 2018), in some cases were used with a number of assumptions due to the imperfection of the Russian statistical base for recording indicators of interaction between subjects of the professional education services markets and labor in relation to the age and status category of young specialists (graduates).

Table 1. Integral indicator "specific labor performance of a young specialist (graduate)" by the level of higher education

SLPys (g) i by subject	2014	2015	2016	2017	2018	Growth rate, %			
						2015to 2014	2016 to 2015	2017 to 2016	2018to 2017
Russia	0.0284	0.0372	0.0366	0.0341	0.0362	+30.9	-1.6	- 6.8	+ 6.2
Krasnoyarsk region	0.0238	0.0169	0.0194	0.0166	0.0182	-28.9	+14.8	- 14.4	+ 9.6

The determination of the status position of the region in the processes of reproduction of a young specialist (graduate) as a subject of labor according to the model presented in Figure 1 (second stage) was carried out by ranking the regions in accordance with the previously indicated methodological approach (Lobanova, 2010a).

It should be noted right away that according to the level of SLPys (g) i, the Krasnoyarsk Territory throughout the considered time series was in the group of subjects of the second group (with the average level of implementation of effective employment), moving due to the influence of multidirectional factors over the years in the range of deviation of the integral indicator SLPys (g) i no more than 20% modulo.

The general trend in the formation of the integral indicator "specific labor performance of a young specialist (graduate)" (SLPys (g) i) in the Russian Federation for 2014-2018 as a whole has a negative direction, since the lowest value, and, consequently, the greater potential of effective employment by the time intervals under consideration, it was exactly in 2014. Thus, over five years (by 2018) SLPys (g) i increased by 27.5% and the potential for effective employment of a young specialist (graduate) decreased by the same amount. While in the Krasnoyarsk Territory, for the same period under review, SLPys (g) i decreased by 23.6% and the potential for effective employment of a young specialist (graduate) increased by the same amount.

It should be noted that the annual rate of change of the integral indicator (Table 1) revealed a state of deterioration in its values: across the Russian Federation in 2015. By 2014 - an increase in SLPys (g) i by 30.9% and in 2018. By 2017 - an increase in SLPys (g) i by 6.2%, in the Krasnoyarsk Territory in 2016 compared to 2015 - an increase by 14.8% and in 2018. By 2017 - an increase in SLPys (g) i by 9.6%. In the rest of the time frames, there is a positive dynamics of the integral indicator, in the context of its decrease.

6. Findings

The proposed model for assessing the potential of effective employment of a young specialist (graduate) in the region through the value of the inverse indicator - the specific labor productivity of a young specialist (graduate) - allows not only to identify a trend in the direction of development of reproduction processes of this category of labor, but also to determine the degree of influence of factors on the identified trend through changes in particular indicators of the integral indicator (Table 2).

Table 2. Dynamics and factors of changes in SLPys (g) i by years by level of higher education

Assessment of the trend of the effective employment process (compared to the previous year), factors	Influence of factors			
	2015	2016	2017	2018
Russia				
Trend assessment	Negative process	Positive process	Positive process	Negative process
Factors of negative impact on SLP ys (g) i	Growth:SIgrpi to 3.7 %; Ksi to 8.5%; Decrease:Kpys(g)uito 2.8%, Kriryys(g)ito 13.8%;	Decrease:Kpys(g)uito 2.8 %, Kriryys(g)ito 9.3 %	Growth:SIgrpito 6.4 %, Ksito 1.2 %,Kpys(g)uito 10.7 %; Decrease:Kpys(g)uito 3.8 %	Growth:Kpys(g)uito 4.3 %, KsiHa 1.1 %, Decrease:Kriryys(g)ito 5.2 %
Factors of positive influence on SLP ys (g) i	Decrease:to 3.3% Kpys(g)ui	Decrease:SIgrpi to 1.0 %, Ksito 2.2 %, Kpys(g)uito 10.4 %	Growth:Kriryys(g)ito 7.2 %	Decrease:SIgrpi to 9.9 %,Kpys(g)uito 5.5 %.
Krasnoyarsk region				
Trend assessment	Positive process	Negative process	Positive process	Negative process
Factors of negative impact on SLP ys (g) i	Decrease:Kpys(g)uito 5.3 %	Decrease:Kriryys(g)ito 4.3 %, Kpys(g)uito 1.7 %	Decrease:Kriryys(g)ito 4.6 %, Kpys(g)uito 4.0 %	Decrease:Kriryys(g)ito 5.0 %, Kpys(g)ui to 4.6 %.
Factors of positive influence on SLP ys (g) i	Growth:SIgrpi to 10.5 %, Ksito 4.4 %, Kpys(g)uito 14.5 % Growth:Kriryys(g)ito 9.1 %,	Growth: Ksi to 15.5 % Decrease:SIgrpi to 0.5 %, Kpys(g)uito 2.4 %	Growth: SIgrpi to 7.1 % Decrease:Ksito 5.8 %, Kpys(g)uito 13.3 %	Growth: Ksi to 1.2 % Decrease:SIgrpi to 14.3 %, Kpys(g)uito 14.8 %

In Table 2, there is no influence of the private indicator (coefficient of the reproductive-stimulating labor function of a young specialist (graduate)), since its values were entered into the proposed model for all years of the time section in the same revealed value according to the research data of Sberbank for 2017-2018. In the future (with the appearance of statistical information for the calculation), it is possible to track the impact on SLPys (g) i and this factor.

In general, across the Russian Federation, for the time periods from 2014 to 2018, there is a growth of GDP by 43.6%, an increase in employed by 5.8%, %, which ensures the fulfillment of the basic law of growth in labor productivity (outstripping the rate of growth of wages). At the same time, the share of employed persons aged 20-29 years decreased from 24.1% in 2014 to 20.8% in 2018, the number of unemployed during the same period decreased by 5.9%, and the share of young specialists in the unemployed also decreased from 3.63% in 2014 to 2.4% in 2018. In our opinion, demographic aspects make a significant contribution to these processes: a decrease in the number of young people in the population. The time for finding a job over the period under review did not change - 7.3 months, while the

time for finding a job for unemployed people under the age of 29 increased from 6 months in 2014 to 6.5 months in 2018. In our opinion, such statistics indicate shortcomings of the state in terms of supporting young specialists (graduates) during the period of adaptation to the world of work, which is especially irrational in the context of a significant decrease in their share in the population, which is manifested due to negative demographic factors.

The reproduction function of wages slightly increased (taking into account inflationary processes for the period under review) in the following parameters: the subsistence minimum increased by 25.2%, nominal wages by 33.7%, due to which the ratio between these indicators changed for the better.

The revealed all-Russian tendencies of the factors of potential effective employment of young specialists (graduates) in specific years changed from positive vectors to negative vectors of formation of the potential for effective employment of young specialists (graduates) and vice versa under the influence of the ratio of the values of private indicators of the integral indicator SLPys (g) i.

Summarizing the above conclusions and the results of the study, it can be noted that the main part of the working hypothesis in terms of the necessity and possibility of the state monitoring the processes of forming effective employment of a young specialist (graduate) through the proposed Model, which is based on the integral indicator of the specific labor performance of a young specialist (graduate), is tested and proven.

The second part of the working hypothesis, concerning the need to develop a methodology for determining the integral indicator itself, both from the standpoint of a more accurate measurement of the processes under consideration, and from the point of view of unification of statistical indicators in the context of improving the statistical accounting of the reproduction processes of a young specialist (graduate), was also confirmed and proven. The necessity of adjusting the initial formula for calculating the indicator and transforming it into formula (1) by substantiating a more accurate account of the influence of private indicators on the final result has been proved: the reproduction rate of a young specialist (graduate) as a labor resource ($K_{riry}(g) i$); coefficient of the reproductive and stimulating labor function of a young specialist (graduate) ($K_{rsys}(g) i$). To eliminate the problems of regular application of Formula 1 as a state instrument for regulating the employment of young specialists (graduates), in our opinion, it is necessary in the statistical records of the country to single out the category of labor force - "young specialist (graduate)" - by age (20-24 years) as a target group) according to the parameters of the time of searching for a job, the presence of employed and unemployed persons, and the level of remuneration. The beginning of solving the problems of effective employment of young specialists of a statistical nature is the fact of establishing accounting for this category by organizing the Portal for monitoring the employment of graduates (Federal State Statistics Service, 2021b), monitoring the employment of graduates of educational institutions of secondary vocational and higher education since 2015 (Federal State Statistics Service, 2021a).

In our opinion, it is advisable to combine the proposed model with the approved author's approach to the formation of transaction costs of the state (Lobanova et al., 2020) in the form of a dynamic model of transformation of transaction costs of the state by the "entry" of graduates (young specialists) into the labor sphere, which will allow more accurately and substantively assess the impact of state instruments to support the employment of young specialists (graduates) in the regions that require support from the state in these

matters. In particular, the transaction costs of the state calculated by us for university graduates (using the example of the Krasnoyarsk Territory for 2017) amounted to 2,174.2 million rubles, and if state-funded internships were introduced, they would already amount to 2,174.2 million rubles, that is, the savings could amount to 200.1 million rubles (Lobanova et al., 2020). The state of the potential for effective employment in this subject, assessed by means of the integral indicator of the specific labor efficiency of a young specialist (graduate), was 0.0166 in 2017, and already in 2018 caused a dynamic to deteriorate through an increase in the indicator to 0.0182 (table one). At the same time, the acting factors (particular indicators) contributing to such a deterioration were manifested through the following trends: a decrease in the reproduction rate of a young specialist (graduate) as a labor resource by 5.0%, a coefficient of presence of young specialists (graduates) in the total number of employed by 4.6%; increase in the coefficient of job search by a young specialist (graduate) by 1.2%. It can be assumed that the implementation of the use by the state in the Krasnoyarsk Territory in 2017 of internships for all graduates of universities would increase the potential of their effective employment in 2018 and the SLPys (g) i indicator would be significantly lower due to a decrease in the job search rate for a young specialist (graduate), increasing the coefficient of the presence of young specialists (graduates) in the total number of employed. The same approach makes it possible to assess the impact of other government tools to support effective employment of this category of labor force. The necessity and significance of them was identified by us in the course of research in 2017-2020. employers' views on the importance of measures that facilitate their decision-making on hiring young specialists (first of all, in the status of "graduate"): incentives for local taxes and insurance premiums on wages for employers who have hired young specialists (share of average points 0.177); development of internships funded by the state (specific weight according to average scores 0.176); improving the mechanisms of targeted training (the share of the average score is 0.169), etc.

7. Conclusion

Implementation and monitoring on an ongoing basis of the results of the applied methodological approach to assessing the potential for the formation of effective employment of young specialists (graduates), takes into account the interaction of the subjects of regional markets for vocational education and labor services and allows the state and its subjects to receive the necessary information for adjusting and planning the parameters of the reproductive process of this specific category of the labor force and acts as a tool for managing the interaction of subjects of regional markets for vocational education and labor services. Connection to the designated tool (SLPys (g) i) of a dynamic model of a dynamic model of transformation of the state's transaction costs for graduates (young specialists) to enter the labor sphere allows one to more accurately calculate all the risks of state funding of measures to support young specialists (graduates).

References

Bezdenzhnyh, T. I. (2005). *Employment, labor market and labor force competitiveness: concepts, forms and methods of management at the regional level* (Doctoral Dissertation). Sankt-Peterburg.

- Borisov, A. F., Tarando, E. E., Pruel, N. A., Vorontsov, Y. A., & Trofimova, T. A. (2019). Interaction of employers and universities in training and employment of young professionals. *International Journal of Recent Technology and Engineering*, 3(8), 7336-7343.
- Consultant Plus. (2021). *Labor Code of the Russian Federation: Federal Law of 30.12.2001. No. 197 – FZ*. http://www.consultant.ru/document/cons_doc_LAW_34683/
- Endovitsky, D. A., & Durakova, I. B. (2019). Global labor market: providing employment opportunities for young professionals. *International Journal of Recent Technology and Engineering*, 3(8), 7301 - 7307.
- Fedchenko, I. V. (2014). *Formation of effective employment of graduates of educational institutions of higher education* (Doctoral Dissertation). Tomsk.
- Federal State Statistics Service. (2017). *The unemployment rate of graduates of 2015-2017 organizations of higher and secondary vocational education*. https://rosstat.gov.ru/labour_force?print=1
- Federal State Statistics Service. (2018). *Distribution of graduates who graduated from educational organizations in 2016-2018 by the status of participation in the labor force*. https://rosstat.gov.ru/labour_force?print=1
- Federal State Statistics Service. (2021a). *Employment of graduates of educational organizations of secondary vocational and higher education*. https://rosstat.gov.ru/labour_force?print=1
- Federal State Statistics Service. (2021b). *Portal for monitoring the employment of graduates*. https://rosstat.gov.ru/labour_force?print=1
- Garavan, T., Morley, M., Gunnigle, P., & Collins, E. (2001). Human capital accumulation: the role of human resource development. *Journal of European Industrial Training*, 2-4(25), 48-68.
- Glushach, A. V., & Bishops, C. B. (2014). The socio-economic nature of transactions, their types and features of manifestation in the labor market. *Business Inform*, 5, 8-13.
- Iankovets, T. (2018). *Round of human capital development in the context of forming the economy of knowledge*. Eureka: Social and Humanities, 2, 3-9.
- Iurieva, L. V., Sinianskaia, E. R., Ilina, A. V., & Savostina, O. V. (2017). *Personnel costs as an element of investment in regional human capital*. *The European proceedings of social & behavioral sciences*, 302-317.
- Kibanov, A. Ya., & Dmitrieva, Yu. A. (2019). *Managing the employment of university graduates in the labor market*. INFRA-M.
- Kookueva, V. V. (2017). Minimum wage as a tool of social policy: realities and problems. *Financial Analytics: Problems and solutions*, 10(340), 1157-1152.
- Lobanova, E. E. (2008). *Graduates of vocational education institutions in the labor market of the Krasnoyarsk Territory*. Sibirskij gosudarstvennyj tekhnologicheskij universitet.
- Lobanova, E. E. (2010a). *Interaction of regional markets of professional education and labor services as a factor in promoting effective employment of young professionals*. Sibirskij gosudarstvennyj tekhnologicheskij universitet.
- Lobanova, E. E. (2010b). Methodological approaches to assessing the potential of interaction between regional markets of vocational education and labor services in the reproduction process of the primary labor resource. *Economic sciences*, 12(73), 170-173.
- Lobanova, E. E., Demidova, E. V., & Shendel, T. V. (2020). Evaluation Transaction Costs For The State "Start" Young Professionals In The Workplace. In *European Proceedings of Social and Behavioural Sciences* (pp. 93-102). https://www.europeanproceedings.com/files/data/article/10005/11332/article_10005_11332_pdf_100.pdf
- Pollak, A. P. (2014). Methodological approaches to the justification of the minimum wage. *Bulletin of Eurasian Science – online journal "SCIENCE STUDIES"*, 6(25). <https://cyberleninka.ru/search?q=Поллак%20Антон%20Павлович&page=1>
- Posobieguru.ru. (2020). *Living wage by year in Russia*. <https://posobieguru.ru/prozhitochnyj-minimum/pogodam-v-rossii/>
- Protasova, E. N. (2013). Features of transactions and transaction costs in the labor market. *Global Scientific*.
- Razumova, T. O., & Zolotina, O. A. (2019). Features of employment of graduates in the Russian labor market. *Bulletin of Moscow University*, 2(6), 138-157.

- Reprinceva, E. V. (2019). The ratio of the nominal wage and the subsistence minimum in Russia. *Economic sciences*, 2, 8.
- Rosstat. (2018). *Labor force, employment and unemployment in Russia*. (results of sample labor force surveys). https://www.gks.ru/free_doc/doc_2018/rab_sila18.pdf
- Rosstat. (2019). *Labor and employment in Russia*. https://rosstat.gov.ru/storage/mediabank/Trud_2019.pdf.
- Rudenko, D. Y., & Tilimbaeva, A. B. (2013). Investment in human capital and socio-economic development: relationship analysis and impact evaluation. *Tyumen State University Herald*, 11, 17-25.
- Shmanev, S. V., & Shmaneva, L. V. (2019). The human capital investment in the modernization of the real economy sector. In *The European Proceedings of Social & Behavioural Sciences EpSBS* (pp. 836-842).
- Tayurskij, A. I., Lobanova, E. E., & Tayurskaya, M. V. (2017a). Formation of the University complex as a model of interaction between the markets of continuing professional education and labor services. *Bulletin of the Tomsk State Pedagogical University*, 1(178), 126-130.
- Tayurskij, A. I., Lobanova, E. E., & Tayurskaya, M. V. (2017b). *Integration of the subjects of the regional markets of continuing professional education and labor services as a factor of young specialists ' readiness for innovation*. Siberian Federal University.
- Vc.ru. (2018). *Figures: the average salary of young professionals in Russia according to Sberbank*. <https://vc.ru/hr/45373-cifry-srednyaya-zarplata-molodyh-specialistov-v-rossii-po-ocenke-sberbanka>
- Vokoun, M., Caha, Z., Straková, J., Stellner, F., & Váchal, J. (2018). The strategic importance of human resources management and the roles of human capital investment and education. *Scientific Papers of the University of Pardubice. Series D: Faculty of Economics and Administration*, 42(25), 258-268.
- Zakharova, O., & Kratt, O. (2014). The strategic importance of human resources management and the roles of human capital investment and education economic study and risk estimate of the investment in the human capital. *Economics & Sociology*, 2(7), 94-108.