

# Tools for Increasing Labor Productivity in Post-Soviet Countries: Experience of the Russian Federation and the Republic of Belarus

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**Abstract**—The relevance of the study topic is due to the deepening integration of Russia and Belarus and the need to identify joint priorities and tools to assess the interaction of regions in industrial and technological development. The purpose of this study is to identify features and systematize tools for government incentives to increase labor productivity in Russia and Belarus. The main stages of the study are: comparison of methodological approaches of performance evaluation; comparative analysis of the level and dynamics of labor productivity in the Russian Federation and the Republic of Belarus; systematization of instruments of state stimulation of labor productivity in Russia and Belarus. It was found that labor productivity in the Russian Federation and the Republic of Belarus is significantly lower than in the G7 countries. The expediency of implementing vertical and horizontal industrial policy instruments to increase labor productivity in the regions of Russia and Belarus has been substantiated. The results of the study may be useful for federal and regional authorities in developing strategies for socio-economic development, as well as programmes to increase labor productivity and support employment.

**Keywords**—*labor productivity, cross-country analysis, policy implications of increasing labour productivity, Russia, Belarus.*

## I. INTRODUCTION

In an era of neo-industrialisation, the importance of intellectual capital, including knowledge, information and human resources, is increasing [1]. Low productivity limits the growth of national economies, which makes the search for tools to increase productivity and create high-performance jobs relevant.

The problem of increasing labor efficiency in a concentrated form brings together the economic and social interests of all segments of society and the state. The task of stimulating labor productivity has macro- and mesoeconomic aspects related to the general conditions of doing business, the sectoral structure of the economy, and the qualitative characteristics of the production and labor potential of the regions. Improvement of the sectoral structure, implementation of production modernization projects in priority sectors and sectors with low labor efficiency, and the formation of an infrastructure for the development of human resources potential are important areas for increasing regional labor productivity. It is equally important to effectively use microeconomic mechanisms to stimulate labor productivity growth, which are designed to improve the qualitative characteristics of jobs and the professional qualifications of their employees [2].

A large number of foreign studies have been devoted to assessing the impact of labor intensity and productivity on structural changes in the economy, employment and the welfare of the population [3-7]. Technological factors have been identified as the main determinants of productivity growth [5]. Russian researchers focus their attention on cross-country comparisons and analysis of sectoral productivity dynamics [8-11]. Empirical studies of interregional differentiation in labor productivity confirm the high spatial unevenness of socio-economic development in Russia [2, 12-13].

Various aspects of the functioning of high productivity jobs (HPJ) are discussed in publications on the movement of jobs [14], the evolution of their qualitative structure in the economy [15-19], methods of identification and accounting of HPL [20-22], the dynamics and features of their creation in regions [23-24] and individual sectoral complexes [25].

Types of economic (industrial) policy, as well as instruments and methods of its implementation, have been studied for a long time [26-28]. At the same time, instruments of state policy to increase labor productivity are studied occasionally [2, 12, 29].

The relevance of the research topic is due to the deepening integration of Russia and Belarus and the need to identify joint priorities and tools for assessing regional cooperation in industrial and technological development. This aspect of Russian-Belarusian cooperation in justifying joint priorities for the industrial and technological development of the regions of Russia and Belarus is still poorly researched, which determines the novelty of this study. In addition, the study is based on an original theoretical and methodological approach to assessing interregional differentiation in performance as measured by the level of labor productivity and the number of high-performance jobs.

The aim of the study is to identify the features and systematize the instruments of state incentives for increasing labor productivity in Russia and Belarus.

The author's hypothesis of the need to use a differentiated approach to the development and implementation of regional programs to increase labor productivity in the national economies of the Russian Federation and the Republic of Belarus is based on the assumption that a set of factors influencing differences in regional labor productivity due to both regional production specialization and the implementation of regional industrial policy measures to improve the organizational and technical level of jobs.

The main stages of the study included: comparison of methodological approaches to assessing labor efficiency, cross-country analysis of the level and dynamics of productivity, identification of specific features and systematization of tools for government incentives to increase labor productivity in the countries studied.

## II. METHODOLOGICAL APPROACHES TO PERFORMANCE EVALUATION

The study is based on a broad interpretation of labor productivity (performance), which is due to a number of reasons. There are two approaches to analysis labor

productivity in the economic literature. Traditionally, it is assessed on the basis of indicators of productivity, profitability and labor intensity (OECD methodology) [9]. However, there are also indirect indicators of labor productivity. The qualitative structure of jobs, as well as its evolution factors, are so actively studied [15-19]. The main parameters of the quality of a job are professional qualifications (most often measured by the level of education) and wages of employees. An improvement in the quality structure of jobs in the national economy can be seen if the share of jobs with a high level of education and wages increases [18].

The empirical basis for the study was provided by the International Labor Organization (ILO):

- Annual growth rate of output per worker (GDP constant 2011 international \$ in PPP), %: This indicator conveys the annual growth rates of labor productivity. Labor productivity represents the total volume of output (measured in terms of Gross Domestic Product, GDP) produced per unit of labor (measured in terms of the number of employed persons) during a given time reference period. The indicator allows data users to assess GDP-to-labor input levels and growth rates over time, thus providing general information about the efficiency and quality of human capital in the production process for a given economic and social context, including other complementary inputs and innovations used in production.

- Output per worker (GDP constant 2011 international \$ in PPP): This measure of labor productivity is calculated using data on GDP (in constant 2011 international dollars in PPP) derived from the World Development Indicators database of the World Bank. To compute labor productivity as GDP per worker, ILO estimates for total employment are used.

- Output per worker (GDP constant 2010 US \$): This measure of labor productivity is calculated using data on GDP in constant 2010 US dollars derived from the World Development Indicators database of the World Bank. To compute labor productivity as GDP per worker, ILO estimates for total employment are used.

## III. COMPARATIVE ANALYSIS OF LABOR PRODUCTIVITY IN THE RUSSIAN FEDERATION AND THE REPUBLIC OF BELARUS

In 2019, the gross domestic product per employee in the economically developed countries (G7) was over 102 thousand USD, while in Russia it was 24 thousand USD and in Belarus 13.5 thousand USD. Over the period under review, labor productivity in the Russian Federation did not exceed 25%, while in Belarus it was 13% of the G7 countries (Figure 1).

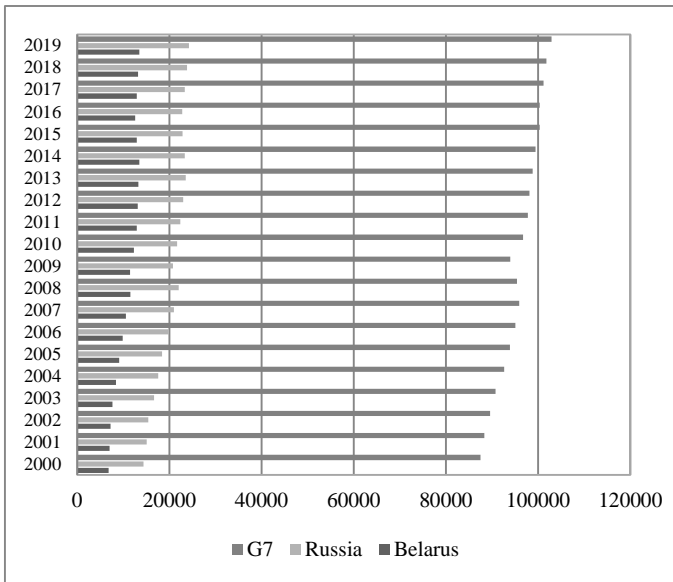


Fig. 1. Dynamics of labor productivity in the Russia, Belarus compared to the G7 countries (GDP per employee in USD, constant 2010 prices)

However, a multiple of the gap in labor productivity per employed person as compared to the G7 countries over the period from 2000 to 2019 has decreased in Russia from 6.1 to 4.2 times and in Belarus from 12.9 to 7.6 times.

The growth rate of labor productivity per employee in Belarus is higher than in Russia. As a result, Belarus' lag in labor productivity compared to Russia in 2019 fell to 1.8 times (2.1 times in 2000).

Taking into account the purchasing power parity of national currencies, the lag in labor productivity from the G7 countries has fallen from 2.7 times in 2000 to 1.9 times in 2019 in Russia and from 4.7 times to 2.8 times in Belarus (Figure 3).

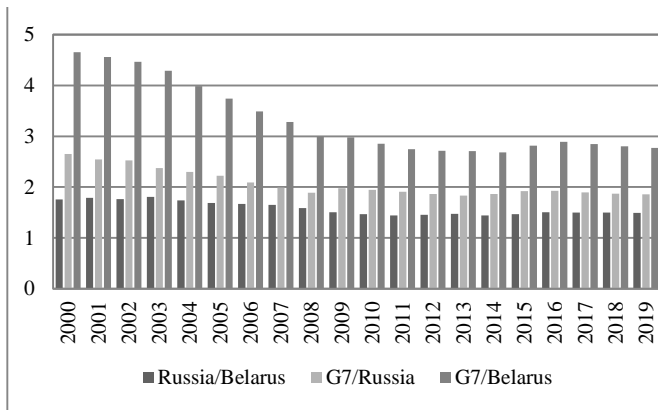


Fig. 2. Labor productivity gap between Russia, Belarus and G7 countries (GDP constant 2011 international \$ in PPP)

Despite an almost three-fold increase in labor productivity in the BRICS countries over the period 2000-2019, labor productivity in Russia and Belarus remains higher (Figure 3).

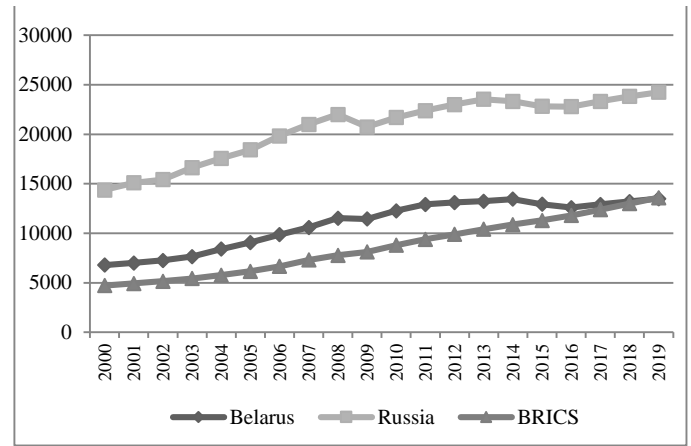


Fig. 3. Labor productivity dynamics of the Russian Federation, the Republic of Belarus and BRICS countries (GDP constant 2010 US \$)

In 2000, the BRICS countries lagged more than three times behind Russia in this indicator, and in 2019 the gap in labor productivity fell by one and a half times. In Belarus, labor productivity in 2000 was 44% higher than in the BRICS countries and in 2019. As at 2019, labor productivity in Belarus was already \$107.4 lower than in the BRICS countries (at constant 2010 prices). Thus, the analysis shows that labor productivity in the BRICS countries increased at a higher rate in 2000-2019 than in the Russian Federation and Belarus. The cyclicity of productivity changes in the countries studied in Figure 4 indicates that during the shock periods (2008-2009 and 2014-2015), Russia experienced a more significant decline in productivity than Belarus.

However, during the inter-crisis periods the growth rate of labor productivity in the Russian economy is noticeably higher than in Belarus.

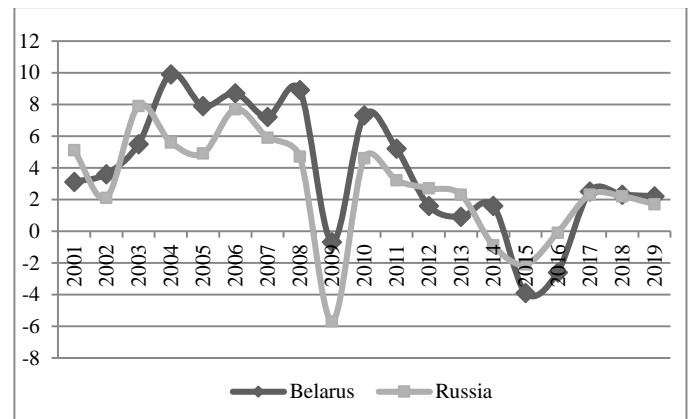


Fig. 4. Labor productivity growth rates in Russia and Belarus, % to previous year

In general, a comparative analysis of labor productivity shows that Russia and Belarus lag significantly behind economically developed countries.

#### IV. INSTRUMENTS TO STIMULATE LABOR PRODUCTIVITY IN THE RUSSIAN FEDERATION AND THE REPUBLIC OF BELARUS

Implementation of the Programme for Socio-Economic Development of the Republic of Belarus for 2016-2020 is aimed at ensuring efficient employment of the population, increasing competitiveness of the labor force in the labor market and its territorial mobility<sup>1</sup>. It is envisaged to ensure the transition from a policy of job preservation to a policy of maximizing the effect of a single job. Special attention is being paid to creating the legal conditions for attracting investment in modernizing production facilities and creating new jobs. It is planned to employ at least 50,000 people per year in newly created jobs. The main role in this is played by small and medium-sized businesses, which will receive additional government support.

It is planned to create new jobs in Belarus, taking into account the prospects and areas of structural adjustment of production and to provide employment for workers released during the reduction of inefficient jobs. The implementation of measures to increase labor mobility should facilitate the redistribution of staff to regions with labor shortages. To this end, it is planned to improve the information and analytical base of vacancies in the global Internet network. Financial support will be provided to the unemployed and their family members moving to a new place of residence and work.

It is planned to develop the high-tech sector of the Belarusian economy through the creation of new jobs and production facilities based on V and VI technological patterns. The core of an innovation-oriented economy will be high-tech industries [30].

According to the Plan of Industrialization of Laggard Regions of the Republic of Belarus, six innovative projects are planned to be implemented by 2020 in the backward regions of Vitebsk, Gomel, Grodno and Minsk Regions to develop new areas of high value-added activity in chemical and metallurgical production and digital technologies to create around 4,000 new jobs. Investment projects in the pharmaceutical and food industries in the Brest and Mogilev regions will be implemented to increase the share of highly efficient industries in the structure of industrial production in the lagging regions.

There are two main stages in addressing the problem of low labor efficiency in the Russian economy.

The first stage is related to the implementation of the decrees of the President of the Russian Federation (2012) and is based on the implementation of the Plan of measures to

ensure an increase in productivity and the modernization of high-performance jobs [2].

Content analysis of productivity improvement programs in Russian regions until 2018 (using the example of the regions of the Urals Federal District) has shown that both vertical (e.g. financial support for GRPM projects in the social sphere) and horizontal industrial policy (development of infrastructure to support small and medium-sized businesses) are used to increase productivity.

At the first stage, the main drawbacks of the methods of stimulating labor productivity in Russia's regions include the lack of a well-functioning risk management system in the implementation of regional GRPP programs; fragmented mechanisms; and insufficient consideration of financial support for programme implementation.

The second stage of stimulating labor productivity growth in Russia is due to the adoption in 2017 of the priority state programme "Labor Productivity and Employment Support", which provides for the allocation of federal budget funds to gradually stimulate labor productivity growth in the constituent entities of the Russian Federation. Implementation of the Priority Programme involves the gradual (2018-2025) participation of the constituent entities of the Russian Federation<sup>2</sup>.

To date, 31 regions have joined the programme (Belgorod, Vladimir, Volgograd, Ivanovo, Kaliningrad, Kaluga, Lipetsk, Nizhny Novgorod, Penza, Rostov, Ryazan, Samara, Saratov, Sverdlovsk, Tambov and Tomsk), Tula, Tyumen, Chelyabinsk, Yaroslavl Regions, Altai, Krasnodar, Krasnoyarsk, Perm and Stavropol Territories, the Republics of Bashkortostan, Mordovia, Tatarstan, Chuvash and Udmurt Republics, St. Petersburg), where certain criteria (the key ones are as follows: revenue of at least 800 million. The participating companies were selected on the basis of certain criteria (key among them: revenue of at least 800 million roubles and the potential to increase labor productivity by at least 10%). In order to achieve this goal (to increase labor efficiency at participating enterprises by at least 30% over the planned period), regional competence centers are being established, lean production tools are being trained, best practices in improving labor efficiency are being studied and implemented, and the mechanism for enterprises to receive state support is being improved [31].

All regional programmes being implemented meet the requirements of the Russian Ministry of Economic Development<sup>3</sup>. For example, the Tyumen Oblast state programme "Increasing Economic Competitiveness for 2018-2025" is based on a project approach, provides for measures to manage the risks of its implementation, is based on detailed

<sup>1</sup> On approval of the Programme of Social and Economic Development of the Republic of Belarus for 2016-2020, Presidential Decree No. 466 of 15 December 2016, National Register of Legal Acts of the Republic of Belarus, 2016, 27.12.2016, p. 1/16792.

<sup>2</sup> Certificate of priority programme "Labor productivity and employment support", Approved by the Presidium of the Presidential Council for Strategic Development and Priority Project, Protocol dated 30.08.2017 № 9, Ministry of Economic Development of the Russian Federation, URL:

<http://economy.gov.ru/minec/activity/sections/lp/201819012> (accessed on: 15.10.2018).

<sup>3</sup> Recommendations for the development and implementation of regional programmes to increase productivity and support employment under the priority programme "Increasing Productivity and Supporting Employment", Ministry of Economic Development of the Russian Federation, URL: <http://economy.gov.ru/minec/about/structure/depino/201807032> (accessed on: 15.10.2018).

budget planning, and includes a schedule and methodology for assessing the effectiveness of programme implementation<sup>4</sup>.

The main instruments to stimulate labor productivity growth are shown in Figure 5.

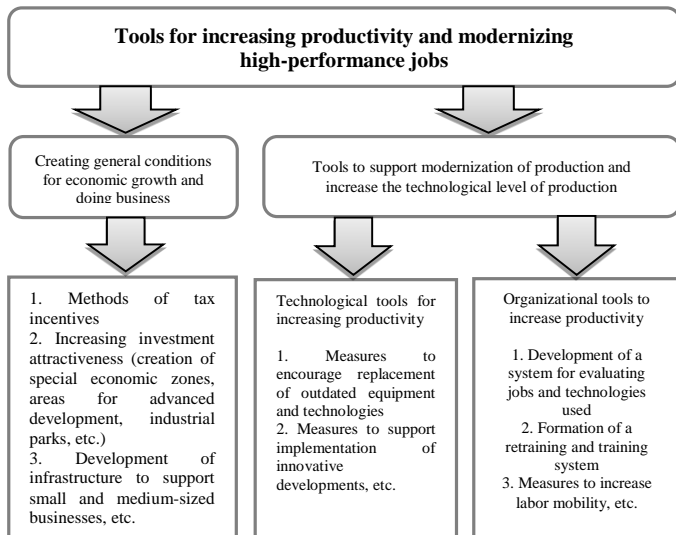


Fig. 5. Tools for Improving Labor Productivity in Russia [2]

In many regions of the Russian Federation there are advanced companies from various industries, which are characterized by extremely high labor productivity and can act as local innovative drivers within the regions [31]. Thus, there are separate points of productivity growth in Russia, which need to be supported and adopted by domestic leading companies. The presence of highly productive enterprises against the background of a technologically backward landscape indicates major problems with technological diffusion: new solutions from leading companies do not move to the rest of the market.

At the moment, the potential of the country's leading companies is gradually being used by launching the programme "Enhancing Productivity and Supporting Employment", which creates an organizational and information basis for implementing innovative projects in Russia.

**V. CONCLUSION**

The results of the study to identify features and systematize methods of state incentives for increasing labor productivity in Russia and Belarus have led to the following conclusions.

In addition to the traditional approach (indicators of productivity, profitability and labor intensity), it is advisable to use indirect indicators for comprehensive evaluation of labor efficiency. For example, an increase in the share of highly productive jobs in the total number of jobs in the economy of the country (region) indicates an increase in labor efficiency.

Labor productivity in the Russian Federation and the Republic of Belarus is significantly lower than in the G7 countries. Despite the growth of labor productivity in the

countries studied, the BRICS countries demonstrated higher rates of economic development between 2000 and 2017.

The significant inter-regional differentiation of labor productivity in Russia and the Republic of Belarus necessitates a differentiated approach to the elaboration of public policy to spur labor productivity in the regions. The analysis of federal and regional programmes to promote labor productivity in Russia and Belarus has shown that they are based on vertical and horizontal industrial policy instruments. The use of a differentiated approach to developing regional programmes to promote labor efficiency will not only reduce the spatial inequality of socio-economic development between Russia and Belarus, but also improve the efficiency of the use of budgetary funds allocated to increasing labor productivity and supporting employment.

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<sup>4</sup> Tyumen Oblast State Programme "Enhancing the Competitiveness of the Economy for 2018-2025", Resolution of the Tyumen Oblast Government No.322-p of 16.08.2018, URL:

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