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## LABOR PRODUCTIVITY AS A KEY DETERMINANT OF THE MULTIFACTOR PRODUCTIVITY MODEL IN THE CONDITIONS OF GLOBALIZATION SPREAD

**Abstract.** The article is based on the analysis of labor productivity, which, according to the authors, is a key determinant of the multifactor model of the productivity of socio-economic systems. The study analyzed scientific approaches to the interpretation of the category "labor productivity" and defined this category at both the micro and macro levels. It is substantiated that the change in the nature, conditions and forms of modern work, the modification of traditional forms of employment and the emergence of completely new ones, which now actively affect the main parameters of the labor market, are the main reasons for which the assessment of labor productivity today acquires new relevance and importance. Factors that affect labor productivity and that make it sensitive to significant measurement errors are analyzed. Three main models of labor productivity improvement, namely Japanese, American and Western European, were evaluated and each of them was analyzed in detail. The foreign experience of increasing labor productivity was studied using the examples of these labor productivity models, which are used today by leading international companies and corporations. The expediency of implementing these mechanisms into the practice of domestic administration is substantiated, which in turn will ensure effective management of the labor productivity of employees at Ukrainian enterprises.

**Key words:** labor productivity, productive capacity of the economy, multifactor model of productivity, factors of labor productivity, models of increasing labor productivity

**JEL classification:** R11, R51

### Introduction

The determining factor of the economic stability of the state, its regions and business entities is the strengthening and growth of its productive capacity. In the modern conditions of Ukraine's state of war, taking

into account the numerous losses of human and economic potential of its regions, this factor takes on critical importance.

Today, in the world scientific practice, there are different approaches to determining the factors of productive capacity and their priority. In our research, we will, in particular, focus on its social dimension, since the social component of productive capacity is one of the foundations of the socio-economic system of the region, the basis for its growth and strengthening both on the domestic and international markets, and in general the basis for its development

In our opinion, the social component of the productive capacity of the region reflects the availability of opportunities to increase labor productivity, because it is the intensification of human labor, as evidenced by the history of mankind, that is the main condition for achieving positive changes in the welfare of the population and the economic development of the country. Without an increase in labor productivity, it is impossible to ensure the competitive advantages of a country or region, to achieve its economic progress in the face of deepening globalization challenges.

The analysis of the concept of the economic category "productivity" made it possible to establish that the interpretation of the content of this concept depends on the characteristics of different economic schools, the used scientific approaches to the definition of productivity, the context of specific economic studies. Along with changes in ideas about the nature and content of work, the understanding of labor productivity in modern conditions is also changing.

In the classic formulations of determining labor productivity, the main emphasis is placed on increasing the product per unit of time per worker. Modern definitions of labor productivity, based on the general indicator of the efficiency of economic activity, focus attention on the competitiveness and quality of the product and aim at finding reserves for its improvement.

M. Porter saw the possibilities of increasing labor productivity in the construction of value creation chains, which include many types of enter-

prise activities and are the basis of cost analysis, and also argued that "improvement in productivity is an endless process, therefore the main task facing the enterprise in achieving competitiveness, there is an increase in productivity." (Porter, 1998).

In subsequent works, M. Porter brought the category of productivity to the general level of productivity of the country and noted the importance of increasing productivity in all the main sectors of the economy, not only manufacturing (Porter, M., Kramer, M., 2006). He believed that the stronger the country's position in a wide range of industries on the world market, the faster productivity increases.

The Western scientist D.S. Sink believes that productivity is the ratio of the number of products produced by a given system in a given period of time to the number of resources consumed to create these products in the same period of time" (Sink, 1989). Instead of the concept of "efficiency", he uses the concept of "effectiveness" (in relation to the organizational system - the enterprise).

A number of studies have been devoted to the issue of labor productivity in Ukraine and its problems. In particular, O.A. Grishnova substantiates that labor productivity is "a generalizing indicator of the use of labor force, which, like all efficiency indicators, characterizes the ratio of results and costs, in this case - the results of labor and its costs" (Grishnova, 2004).

As for labor productivity, according to the recommendations of the International Labor Organization, it is an indicator that reflects the degree of efficiency in the use of one specific factor of production (or resource) - labor. Adhering to this position, the scientists E.P. Kachan, O.P. Dyakov, S.A. Nadvinichnyi, V.M. Ostroverkhov and their supporters claim that "labor productivity is the efficiency of the costs of specific labor, which is determined by the amount of products produced per unit of working time, or the amount of time spent on a unit of production" (Kachan, Dyakov, Ostroverkhov and others 2008). Summarizing scientific approaches to the interpretation of the category "labor productivity", we agree with the opinion that it should be defined in a broad and narrow sense or at the micro

and macro level. Thus, in a narrow sense, this category is characterized as an indicator of specific labor productivity at the microeconomic or individual level, which is the ratio of the volume of produced products (services) to the costs of only one of the factors of production - live labor, which can be measured per hour, day, quarter, year (person-hours, person-days, in annual calculations - the average number of personnel). Accordingly, in a broad sense, it should be interpreted as the productivity of the production process at the macro level, which reflects the ratio of the total volume of produced products and services to the total labor costs.

### **Research methodology and methods**

The research is based on official regulations, analytical reports and scientific literature on the basis of multifactorial productivity and the essence of labor productivity. The historical-logical method was used in the study to study the theoretical foundations of labor productivity and to identify the features of its increase and decrease. The methods of theoretical generalization, systemic and economic analysis were used to analyze the category of labor productivity and differences in its interpretation, to determine the main obstacles and directions of its growth. The method of the system approach is used to substantiate the implementation of mechanisms for increasing labor productivity in the practice of domestic administration.

Formulation of the problem. The purpose of the article is to systematize scientific approaches to measuring labor productivity, to define socio-economic prerequisites and levers for its assessment, as well as to justify the implementation of foreign experience and mechanisms for increasing labor productivity in the practice of domestic management.

## Results and discussion

The importance of evaluating labor productivity today is due to many reasons. First of all, this is a change in the nature, conditions and forms of modern work, namely, the modification of traditional forms of employment and the emergence of completely new ones, which now actively affect the main parameters of the labor market. These include personnel leasing, outsourcing, outstaffing, freelance, remote employment, non-standard working hours, etc. - all these elements that characterize the labor activity of a modern employee and, in turn, are based on the latest approaches, scientific and technical achievements, the use of mechanization tools, automation, computerization, dictated by the challenges of time.

In addition, the transformation of the very understanding of the process of production activity and attitude to work. At the same time, an increase in interest in the final result under the conditions of increased competition and prices for means of production is significant.

Another reason is the change and active development of social and labor relations. Today, in this system of relations between employees and employers with the participation of the state, freedom of choice of activity or employment on the basis of preservation of personal independence and social partnership comes to the fore (Balan, 2011).

The next reason is the problem of the aggravation of the economic crisis in Ukraine, as a result of the deployment of a full-scale war on its territory. Such a situation unequivocally actualizes the issue of the need to find opportunities and unused reserves of economic growth for further reconstruction and restoration of the Ukrainian economy. It is obvious that the development of Ukraine in the post-war period will require the maximization of the productivity of not only labor, that is, human resources, but also the growth of the overall resource productivity of the country's economy. Post-war reconstruction of the country will be possible only under such conditions, in combination with partner assistance from the countries of the world.

All these, as well as many other reasons, encourage researchers, scientists of various fields to think about the search for various ways and potential opportunities for increasing labor productivity and stimulating the economic growth of countries and regions under the influence of globalization.

Labor productivity is the main source of economic well-being in a market economy. According to the methodology of the Organization for Economic Cooperation and Development (OECD), it is calculated as gross domestic product (GDP) per hour of time worked. To compare labor productivity levels between countries, GDP in national currency is converted to US dollars at purchasing power parity.

Labor productivity and labor cost per unit of production are included by the International Labor Organization (ILO) in the list of key indicators of the country's labor market. In its recommendations, the ILO proposes to distinguish between the concepts of "productivity" and "labor productivity". The same terms are used in foreign literature - productivity and labor productivity. According to the definition of the International Labor Organization, labor productivity is an indicator that reflects the degree of efficiency in the use of one specific factor of production (or resource) - labor and is defined as GDP at constant prices per employed worker (Pasinovich, Starko, 2020).

Labor productivity depends on many factors that make it sensitive to significant measurement errors. Assessing these factors is critical to our understanding of how labor markets function in both the long and short run.

Historically, after World War II, for most industrialized countries, labor productivity was procyclical for a significant period of time, that is, it changed with overall economic activity. It is noteworthy that the USA was an exception to this chain (starting from the mid-1980s), as well as Spain (in the period of 1975 after the death of General Franco). A common feature of these two countries is the decrease in the influence of the institutions of collective agreements (as one of the main instruments of

influence on labor productivity) and the increase of flexibility in the labor market.

The procyclical nature of productivity also depends on the accumulation of labor resources by companies. However, reducing such accumulation, in turn, can lead to increased efficiency, lower prices, and better allocation of resources. In addition, one of the factors for changing the cyclical behavior of labor productivity may be the termination of the institution of collective agreements and the increase in the flexibility of labor markets.

The results of studies conducted in OECD countries show that indicators of labor productivity levels and GDP per capita are highly correlated between countries. This means that even among the richest countries in the world there is a significant dispersion in the levels of labor productivity. The reasons why some OECD countries have not yet reached the marginal level of hourly labor productivity (the theoretical maximum level of output per unit of time that can be achieved, *ceteris paribus*) may be as follows:

- quantity and quality of modern technological support;
- educational level;
- number of innovative products in high-tech industries.

However, there are also other factors, which we can call "soft" or intangible elements of the economic environment, which also affect the level of labor productivity. They include:

- the rule of law and the development of civil society;
- reliability of the legal system and transparency of the regulatory and legal field in the country;
- a developed culture of market relations and a general level of trust between market participants.

Despite the crucial importance of these factors, they are obviously difficult to measure and impossible to change in a short period of time. Another interesting study shows that even if countries like Nigeria and the



US had the same material and human resources, US workers would be seven times more productive (Hall and Jones, 1999).

The increase in productivity should be based on two main interrelated goals, namely the improvement of the standard of living of the population and the efficiency of the functioning of industries and enterprises, as well as the personal income of employees. World experience shows that as a result of the increase in labor productivity, countries with transformational economies (which are currently market-based) managed to raise the standard of living of the population from 40 to 90% (Baksa, 2015). This result was the result of a combination of material and non-material incentives that provide modern methods of motivation, which are successfully used in foreign practice today.

It should be noted that labor productivity in the world is closely interconnected with such categories as motivation, payment and labor regulation. Therefore, studying the experience of developed countries and its adaptation to national conditions is quite an important element and, in our opinion, necessary for application in domestic practice in order to build highly effective labor productivity models in Ukraine.

Therefore, based on the generalizations of literary sources, we can note that in foreign practice today there are three (according to some sources four) main models of increasing labor productivity, which are based on the motivation of employees, namely: Japanese, American and Western European (or American, European, Swedish and Japanese). Let's consider each of them in more detail.

The Japanese model is characterized by outpacing the growth of labor productivity in relation to the increase in the standard of living of the population, in particular the level of wages. It is determined primarily by the requirements of the Japanese economy and the peculiarities of the life of the inhabitants of this country. Historically, the rapid growth of the population has caused a constant shortage of jobs, which, in turn, has had a significant impact on the worldview and personal beliefs of workers, who especially value their workplace and work in general.

The basis of this model is the principle of lifelong employment of employees, and the main components of their work cycle are training, rotation and retraining of personnel. These components function as a single motivational mechanism, as a result of which the enterprise receives highly qualified personnel who are loyal and loyal to it, who, in turn, are motivated to realize their personal professional, intellectual and creative abilities.

In this way, the company forms its own motivational environment with its own social and corporate culture, in which personnel have the opportunity to work effectively and devotedly and improve their knowledge and skills, thereby steadily increasing their own labor productivity, and at the same time, the economic indicators of the company itself. Such an environment promotes the interest of the personnel in the strategic goals of the company, since the results and success of the company will depend on their achievement, which will further determine the income of those employees who are involved in this success.

The principle of personnel rotation occupies a special place in the Japanese motivational model. It allows you to systematically and timely change the field of activity in order to prevent burnout and fatigue from routine or monotonous work, promotes the diversification of work activities, the development of new qualifications and skills.

A special value for Japanese employees is the development of a good reputation, which everyone diligently nurtures and protects. Under such circumstances, low-quality work is unacceptable in this mentality.

Another feature that distinguishes the Japanese motivational model from others is a sufficiently high level of flexibility, which is based on three main factors: professional skill, age and work experience. Taking into account these factors, the amount of earnings of each individual employee is formed on the basis of the tariff grid, in accordance with qualification categories and ranks.

All these and many other principles were the basis of the Japanese concept of personnel motivation. Today, the formation of the total ear-

nings of a Japanese employee is influenced by six main factors, namely (Krivorotko, 2013):

- age, seniority, education;
- position, profession, duties;
- working conditions;
- performance results;
- benefits for housing, family and transport;
- regional benefits (which take into account the peculiarities of the region where the enterprise is located).

In general, at present, a number of characteristic features of the Japanese model of work motivation can be identified (Andriychuk, 2016):

1. Significant dependence of the wages amount on the length of the employee's service at the enterprise.

In particular, not total work experience, which the employee has gained during the entire period of work, is taken into account, but only work experience at the last enterprise, which is considered the only one;

2. Taking into account life peak situations, which may be several during the life of each employee, in particular:

- graduation from the university (approximately at the age of 22) and coming to work in the company, receiving the minimum wage, which is defined and provided for by law;
- marriage, after which earnings automatically increase by 5-7%;
- the arrival of a child, in connection with which the authorities recommend that all employers additionally increase earnings by a certain percentage. Such a feature reflects the concern of the authorities and employers for the well-being of each employee.

Another characteristic feature of the Japanese model is that the earnings of managers largely depend on the general indicators of the company's activity, and since its team is perceived as a single entity, the

manager is called upon to organize and direct its work. If labor activities are organized correctly, then the company manages to achieve significant results, and vice versa - inefficient management of employees leads to inefficient work of the entire company.

As you can see, today Japan is one of the countries with the highest levels of labor productivity in the world, which indicates the high efficiency of the methods and tools that are the basis of its model of increasing labor productivity based on employee motivation. However, motivation is not the only area used to stimulate labor productivity in a given country. The development of the Japanese economy required innovative approaches not only in the field of motivating personnel, but also in the remuneration system. In order to regulate this area, Japanese entrepreneurs were suggested to first establish the dependence of wages on the age of the employee. This made it possible to take into account seniority and practical experience of the employee in the work of the company. Another point was the formation of a correlational dependence of the salary on the results of the employee's activity, the quality of his performance of his professional duties, as well as the level of achievement of the goals and objectives set by the company (Andriychuk, 2016).

In contrast to the Japanese model, the American model of labor productivity is built on comprehensive encouragement of entrepreneurial activity and enrichment of the most active part of the population. The model is based on the socio-cultural features of the nation — a mass orientation towards achieving personal success for everyone, as well as a high level of economic well-being (Balan, 2011).

If the basis of the Japanese model of increasing labor productivity was the motivation of employees, then in the American model this place is occupied by the payment of labor. Today, in the United States there are many varieties of hourly wage systems with standardized tasks. If, under certain conditions, the employee does not meet the daily rate of production, he is forced to continue his work until the rate is met. The American model does not provide for the payment of a bonus to employees, since it is believed that the bonus is a priori embedded in the high tariff rate of the

worker and the salary of the employee. However, as practice shows, mostly both in the USA and in other countries, companies use a system of bonuses along with the basic salary, and also use collective bonuses.

Similar to the Japanese model, this system is also quite flexible due to the application of the practice of systematic attestation of personnel. This allows the company to set the threshold level of the employee's salary for a certain period of time with a periodic review of the salary once every three months, and after working in the company for one year, such a review is carried out twice or once a year.

Another payment mechanism used in the American model consists in the proportional dependence of the employee's salary on the level of his qualification, and not on production. The advantage of such a mechanism for the company consists in increasing the mobility of its labor resources, increasing job satisfaction, eliminating intermediate levels of management and, in general, reducing the number of personnel. As experience shows, this leads to an increase in the quality of the work performed, as well as to the improvement of relations between employees within the company.

Another model aimed at increasing labor productivity is the European labor motivation system, or it can also be called a combined productivity model, as it is based on a combination of labor stimulation tools and methods, as well as state social guarantees. Given this fact, Western scientists consider it one of the best models known in the history of economic theories, due to its optimality and balance.

This model is based on the use of a wide range of economic tools, in particular strategic planning and stimulation of competition, as well as its inherent flexible taxation system. Thus, a feature of the European model is equal provision of both economic well-being and social guarantees.

The wage mechanism in this model defines two directions, namely wage indexation depending on the cost of living and individualization of wages. The first direction involves taking into account the inflation index

and embedding it in the wages of employees. This principle applies in almost all large companies and is reflected in collective agreements.

The second direction outlines the mechanism for calculating the individual level of remuneration by taking into account the degree of professional qualification and quality of the work performed by the employee, the number of work proposals made by him, as well as the level of his mobility. In practice, three main approaches to the implementation of the principle of individualized remuneration are used (Balan, 2011):

1) for each workplace evaluated on the basis of a collective agreement, the minimum wage and "fork" of wages are determined. The evaluation of the work of each employee is carried out in relation to the work performed, and not in relation to the work of workers employed at other workplaces. The criteria for an employee's labor contribution are the quantity and quality of his work, as well as participation in the social life of the enterprise;

2) salary is divided into two parts: permanent, depending on the position or workplace, and variable, which reflects the efficiency of the employees. In addition, bonuses are paid for high quality of work, conscientious attitude to work, etc. The staff actively participates in the discussion of salary issues within the framework of special commissions;

3) such forms of wage individualization are carried out at enterprises, such as profit sharing, sale of company shares to employees, payment of bonuses.

Thus, the European model, based on the principles of solidarity and balance, provides for economic freedom, which is based on a person's deep awareness of the interests of society, seeing himself as a part of the general production-consumer system and understanding his responsibility to the community. The application of this model makes it possible to achieve tangible progress in stimulating productivity and quality of work, self-regulation of the size of the wage fund, as well as broad awareness of employees about the economic state of the company.

Usually, in their pure form, the models of increasing labor productivity described above are extremely rare in the world, in most cases they are combined and supplemented with new methods and tools, which is explained by the effects of globalization processes, as well as other domestic and global challenges.

## **Conclusions**

Thus, having studied the foreign experience of increasing labor productivity on the example of the main models that are actively functioning in the world today and are used by leading international companies and corporations, it is expedient to introduce these mechanisms into the practice of domestic management, which in turn will ensure effective management of the labor productivity of employees at Ukrainian enterprises. In addition, the legal framework for labor relations in our country allows the application of world achievements in the practice of regulating social and labor relations through similar mechanisms and models of increasing labor productivity based on motivation and remuneration.

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