

Econometric Assessment of Labor Productivity in Ensuring the Economic Security of Industrial Enterprises

Jamshid Sharafetdinovich Tukhtabaev¹
+99891-5409939 jamshidtukhtabaev@gmail.com

Alikul Nomozovich Rakhmonov²
+99897-4242400 alikul.rakhmonov@yandex.ru

Khusniddin Fakhriddinovich Uktamov³
+99899-8393240 husniddin1309@gmail.com

Nargisakhon Mukhtarovna Umurzakova⁴
+99897-4294602 nargisau71@gmail.com

Rakhimov Imron Ilxomovich⁵
+99899-8500088 imron.rakh@gmail.com

Tashkent State University of Economics (TSUE), Tashkent, Republic of Uzbekistan^{1,2,3,4,5.}

Annotation. This article examines the significance of the concept of labor productivity in industrial enterprises, the theoretical views of many scientists on this concept, and develops an author's definition of the concept of labor productivity. Factors influencing labor productivity have also been identified and broadly classified, each of which has been extensively analyzed using correlation, regression, absolute differentiation, and chain link analysis methods and comparisons of econometric methods have been classified, as well as scientific and practical proposals to increase labor productivity at the enterprise have developed.

Keywords: productivity of work, intensity of work, reduce expenses of work, average hour manufacture, scientific and technical progress.

Introduction

The main goal of the socio-economic reforms carried out in our country in recent years is to accelerate innovative development, further increase on our economic power and ultimately, increase the welfare of our people. "... ensuring high economic growth by modernizing and diversifying the economy, increasing labor productivity"[1] identified as an important task. In this regard, it is expedient to further deepen research on the effective use of available resources and opportunities, the introduction of innovative technologies and modern production facilities, as well as increasing labor productivity, which is an important component of a competitive economy.

The main purpose of labor activity in industrial enterprises is to achieve a result, for example, the production of qualitative products. For any worker or group of workers, the productivity of this result, that is, how many products are produced in a given unit of working time (hours, days, years) is important, and the higher this result, the more rent per unit of product, electricity the number of energy bills and similar costs are so reduced. Similarly, as labor productivity and the volume of the product increases, the cost of it also decreases.

Increased labor productivity will allow the development of material production, curb price and inflation, live labor to commodity material labor, the formation of monetary demand, increase incomes and welfare of the population and ensure innovative economic development[2].

The development of a society and the level of well-being of all its members depends on the level of labor productivity and its growth. Also, the level of labor productivity determines both the production of goods, and even the socio-political system itself. Currently, as a result of reforms in the innovative development of the economy, the level of labor productivity is significantly increasing.

The contribution of the scientists of our country A.Ulmasov, M.Sharifkhodjaev, A.Vakhabov and K.Abdurakhmanov in the theoretical development of the concept of labor productivity as an economic category is significant, in their view, "labor productivity is the amount of product produced in per unit time"[3], "labor productivity is the main indicator of production efficiency, the average output in per worker"[4], "labor productivity is an indicator of economic efficiency of employees, the number of products or services produced concerning labor costs, product produced at the expense of the unit of labor costs"[5].

In our opinion, the above tariffs complicate the possibility of fully understanding the essence of labor productivity, so it is expedient to give a broad authorial tariff on the concept of labor productivity. Labor productivity is the efficiency of labor costs, which is expressed in units of output produced by workers per unit of time, the amount of labor time spent on production, and the amount of output, the volume of output produced by workers in per unit of time[6].

Labor productivity is determined by the ratio of product volume to working time and vice versa, the ratio of working time to product volume is labor capacity, this concept reflects both the direct relationship and the reverse relationship.

The generalized indicator of labor productivity is the average hourly, daily, monthly, and annual output of per worker. Its size depends not only on the output of workers but also on their share in the total number of employees, as well as the number of days worked, the length of the working day, and the technological level.

The output is the main indicator of labor productivity, which is the volume of output (in natural terms) or its value, which corresponds to the average per employee in per unit of time (hour, quarter, year). The hourly output represents the productivity of labor during each working hour. Production during the day depends on the production of the product on an hourly basis and the length of the working day. The monthly (annual) level of product production is affected by the change in the number of days worked in a month (year) and the average number of days worked by an average worker[7].

Methods

Determining the production of a product using the generalized indicator of labor productivity is carried out based on the analysis of the factors influencing it. In the factor analysis of labor productivity, the factors influencing the average annual output of industrial enterprises are selected and calculated: the number of workers, the number of days worked, the average length of the working day, the average hourly output of the worker:

$$P_v = E_n \times W_d \times W_{d.d} \times H_p \quad (1)$$

We analyze the impact of these factors on the change in the average annual output of industrial workers using the methods of analysis "Absolute Differentiation" and "Chain Link".

The analysis is carried out on the example of LLC "Karshi secondary ferrous metal", which was awarded the international standard certificate of quality management ISO 9001:2008. The analysis of this enterprise example is carried out first using the methods of "Absolute Differentiation" and then "Chain Link". According to Tables 1 and 2 below, the average annual production of employees in 2020 is 10.8 million soums more than planned. The average annual output increased by 1.70 million soums due to the increase in the share of workers in the total number of industrial production of workers, and by 258.6 million soums due to the increase in the average hourly output of workers. Its level was negatively affected by an unscheduled waste of working time throughout the day and during shifts, resulting in a decrease of 36.7 and 30.6 million soums, respectively. Therefore, we believe that the analysis should be deepened in this direction.

Table 1
Preliminary data required for factor analysis [8]

	Indicator name	Years							The difference between the 2020 plan and the practice (+;-)
		2015	2016	2017	2018	2019	2020		
							plan	inpractice	
	Production volume (P _v), mln.soums	1461.3	1623.1	1954	9749.2	9932.3	3907.4	4836.5	929.1
	Industrial production workers (W _i)	50	47	53	66	64	56	60	4
.1	including: number of employees (E _n)	39	35	3	50	48	41	45	4
.	The share of workers in industrial production,%	78.0	74.5	73.6	75.8	75.0	73.2	75.0	1.79
	The number of days an employee worked	262	254	252	248	256	268	252	-16
.1.	including: daysworked (W _d)	258	248	250	242	244	268	248	-20
	Average length of working day, hours (W _{d,d})	7.7	7.78	7.72	7.8	7.85	7.95	7.85	-0.1
	Labor cost of all workers (E _{p,h}), person-hours	77477	67530.4	75270	94380	91939	87354	87606	251.4
	Labor cost per worker (W _{p,h}), person-hours	1986.6	1929.4	1930	1887.6	1915.4	2130.6	1946.8	-183.8
	Production in per employee, mln.soums (W _p)	29.23	34.53	36.88	147.72	155.19	69.78	80.61	10.83
.1.	including: per employee (W _p)	37.47	46.37	50.11	194.98	206.92	95.30	107.48	12.18
	Average daily output of the worker (D _p), mln.soums	0.15	0.19	0.20	0.81	0.85	0.36	0.43	0.08
0	Average hourly output in per worker (H _p), thousand soums	18.86	24.04	25.97	103.30	108.03	44.73	55.21	10.48
1	Unproductive time consumption (T _u), thousand soums*	-1775	-1666.4	-980.8	-670.2	-726.0	-	251.4	251.4
2	Unscheduled time saved due to the introduction of scientific and technological measures (S _t), thousand people per hour*	918	1099	612	393	754	-	532.5	3532.5
3	Change in the value of goods as a result of structural changes (S _{ch}), mln.soums*	26.30	24.35	27.36	126.74	139.05	-	58.04	58,038

* Differences from the plan

As can be seen from the data in Table 1, "Karshi secondary ferrous metal" LLC increased production by 3 times in 2020 compared to 2015, in 2019 - by 6.8 times. The number of employees in 2020 decreased by 4 compared to 2019, which is an increase of 10 employees compared to 2015. An

increase or decrease in the number of employees has affected the change in the average production volume ratio over different periods. In particular, the average volume of production of per employee in 2015 amounted to 29.23 million soums, in 2017 - 147.72 million soums, in 2019 - 155.2 million soums and 2020 - 80.61 million soums. The change in this indicator was influenced by various factors: the number of employees, working days, the average duration of the working day, technological updates, and other factors. If we look at working days and its average duration, we can see that the average duration of working days has increased if the working days have a downward trend. In particular, in 2015 it was 7.7 hours, in 2016 - 7.8 hours, in 2020 - 7.85 hours, an increase of 101.9% compared to 2015 and reduced inefficient time by 10 minutes. At the same time, this had a positive effect on the average annual production level of employees.

In the analysis of the factors affecting the average annual level of production, we find out using the method of "Absolute Differentiation".

Table 2
The effect of factors on the average annual level of production is calculated by the method of "absolute differentiation"

Name of factors	Computational Algorithm*, P _v		Account analysis, mln.soums
W _h change in the share of workers	$T_{e.ch} = T_{s.p} \times W_{p.c.p}$	$T_{s.p} = T_{s.p.r} - T_{s.p.n}$ $T_{s.p.r} = \frac{P_{n.w}}{T_{s.p.n}} \times 100$	$0,0178 \times 95,30 = 1,70$
Change in the number of days worked by one worker per year	$W_{ch.d} = T_{p.n.e} \times W_{d.r} \times W_{d.a.d}$	$E_{ch.n.e} = \frac{W_{a.n}}{T_{s..p.n}}$ $T_{p.n.e} = T_{s.a.sh} - E_{ch.n.e}$	$5,357 \times (-20) \times 1,8339 = -$
Changes in the length of the working day	$Ch_{w.d} = T_{p.n.e} \times D_w \times H_{p.p}$	$D_{a.w} = \frac{W_{h.p.p}}{W_{d.d}}$	$5,357 \times 248 \times (-10) \times 0,2307 =$
Changes in average hourly product production	$H_{p.ch} = T_{p.n.e} \times D_w \times W_{d.a.d} \times H_{p.p}$	$H_{p.p.r} = \frac{W_{h.p.p}}{H_{p.sh}}$ $H_{p.sh} = \frac{W_{h.p.p}}{H_{a.o}} \times 100$	$5,357 \times 248 \times 7,85 \times 0,0248 =$

*Where: $T_{e.ch}$ - change in the share of workers in the total number of employees; $T_{s.p}$ - is the proportion of workers in the total staff; $T_{s.p.r}$ - plan ratio of workers in total staff; $P_{n.w}$ - plan of the number of workers; $T_{s.p}$ - total staff plan number; $T_{s.a.sh}$ - the actual share of workers in the total staff; $W_{p.c.p}$ - the average production capacity plan per worker; $W_{ch.d}$ - change in the number of days worked by one worker per year; $T_{p.n.e}$ - is the total plan employee of the number of employees; $W_{a.n}$ - is the number of workers actually; $E_{ch.n.e}$ - is actually the change in the weight of the number of employees relative to the total plan employees; $W_{d.r}$ - is the ratio of days worked to the plan; $W_{h.p.p}$ -is the average hourly product production plan of the worker; D_w - is the number of days the worker actually worked; $H_{p.p}$ - the ratio of the actual average hourly production to the plan; $D_{a.w}$ -is the number of days actually worked; $W_{d.d}$ - is the average plan duration of the working day; $Ch_{w.d}$ - change in the working day; $W_{d.a.d}$ - is the average actual duration of the working day; $H_{p.p.r}$ - is the average hourly product production rate of the worker; $H_{p.sh}$ -is the share of the average hourly product production plan of the worker; $H_{a.o}$ - is the actual average hourly output of the worker; $H_{p.ch}$ - is the change in average hourly product production.

According to the analysis of the calculation of the average annual output by the method of absolute differentiation given in Table 2 above, it should be noted that the change in average annual

output was expressed in changes in the number of working days, duration of working days and average hourly output.

Changes in average hourly output are an important factor influencing changes in average daily and annual output. The change in this indicator was influenced by the group of factors shown in Figure 1.

We study these factors using correlation and regression analysis methods to determine the extent of their impact on changes in average hourly output.

Based on the multifactor correlation model, the change in average hourly output is influenced by the stock of labor, the average tariff of workers, the average service life of the equipment (validity), the total ratio of modern equipment, and other factors. In absolute terms, the regression coefficient is used to determine how much each factor changes by one unit to change the average hourly output [9].

The change in the average hourly product production rate as a result of a change in a particular factor ($\Delta H_{p^{xi}}$) can be calculated based on the following formula:

$$\Delta H_{p^{xi}} = \frac{(\Delta W_{h^{xi}} \times 100)}{100 - \Delta W_{h^{xi}}} (2)$$

Here: $\Delta W_{h^{xi}}$ - The percentage of the relative reduction of working hours due to a particular event.

Due to these factors, the average annual output of workers changes ($\Delta A_{o.w^{xi}}$) to determine the average hourly product conversion ($\Delta H_{p^{xi}}$) is calculated by multiplying the amount of time ($T_{a.w}$) actually worked by one employee:

$$\Delta A_{o.w^{xi}} = \Delta H_{p^{xi}} \times T_{a.w} (3)$$

The average annual output of workers ($\Delta A_{o^{xi}}$) the change in average annual product production to determine the impact of these factors ($\Delta A_{o.w^{xi}}$) multiplied by the weight of the actual number of employees in the total number of employees ($A_{n.e}$):

$$\Delta A_{o^{xi}} = \Delta A_{o.w^{xi}} \times A_{n.e} (4)$$

These factors affect the change in production volume ($\Delta P_{p^{xi}}$) can be found using two types of calculation methods to determine the effect, namely [10]:

1. The change in the average annual output of workers at the expense of the i-factor ($\Delta A_{o^{xi}}$) is determined by multiplying the actual number of production staff (W_i) by:

$$\Delta P_{p^{xi}} = \Delta A_{o^{xi}} \times W_i (5)$$

2. The change in the average hourly output at the expense of the i-factor ($\Delta H_{p^{xi}}$) is calculated by multiplying the length of the working day ($W_{d.d}$), the number of days worked by the average worker (W_d), the total share of workers ($A_{n.e}$) and the number of production workers (W_i):

$$\Delta P_{p^{xi}} = \Delta H_{p^{xi}} \times W_{d.d} \times W_d \times A_{n.e} \times W_i (6)$$

Thus, the level of labor productivity in enterprises is defined as the product produced. It certainly allows you to compare the dynamics of labor productivity (production) with other enterprises in different periods (months, quarters, years), the efficiency of enterprises, and changes in overall productivity.

It allows us to determine the cause of the change based on the order of the factors influencing the change in labor productivity. Analysis of the impact of factors on labor productivity allows a clear assessment of the impact of each factor (the role of direct and indirect labor productivity). The

ordering of influencing factors allows for an economic analysis of the scope of impact on changes in labor productivity[11].

Results

It can be seen from the analysis of data in Table 2 above that the change in the share of workers in the total workforce changed labor productivity by 1.70 million soums. At the same time, we calculate factors such as changes in the number of days worked by a worker, changes in the length of the working day, and changes in average hourly output using an absolute system of indicators (Table 3).

A similar calculation method is used to determine the change in the average annual output of an employee in an enterprise, which depends on the number of days worked by an employee during the year, the average duration of the working day, and the average hourly output:

$$W_p = W_d \times W_{d.d} \times H_p \quad (7)$$

We calculate the effect of these factors by the method of absolute differences:

Table 3
Analysis of the calculation of the factors affecting the average annual output of the worker by the method of absolute differentiation

Name of factors	A computational algorithm, P_v	Account analysis, mln. soums
Variation in the number of days the worker worked	$W_{ch.d} = W_{d.r} \times W_{d.d.p} \times D_{a.w}$	$(-20) \times 7,95 \times 0,2307 = -36,68$
Changes in the length of the working day	$Ch_{w.d} = D_w \times H_{p.p.x} \times D_{a.w}$	$248 \times (-0,10) \times 0,2307 = -4,84$
Changes in average hourly production	$H_{p.ch} = D_w \times W_{d.a.d} \times H_{p.p.r}$	$248 \times 7,85 \times 0,0248 = 48,28$
Total:	x	6.76

Based on a factor analysis of changes in the average annual output of an employee presented in Table 3, it was possible to determine changes in an employee's working day, workday duration, and average hourly output. For example, changes in the number of days worked and the length of the working day had a negative impact on production, resulting in a decrease of 36.68 and 4.84 million soums, respectively. The change in the average hourly output of the worker was influenced by the factor of the average hourly output of the worker during the working day, the average hourly output increased by 48.28 million soums.

For a more detailed analysis of the factors influencing the change in average hourly product production in the enterprise, it is advisable to use the calculation method developed by N.A. Rusak [12], according to which the size of the indicator depends on factors related to changes in product productivity and value. The first group of factors includes factors such as the technical level of production, the organization of labor, the inefficient use of time associated with a defective product, and its repair. The second group consists of factors related to changes in the value of the volume of production. To calculate the effect of these factors on the average hourly output, we find the "chain link" method. In addition to the planned and actual level of average hourly output, it is necessary to calculate three main changes in its volume.

The first change in average hourly output ($Ah.p.ch^1$) should be calculated under conditions comparable to the plan (effective processing time, the planned structure of the product, and the planned technical level of production). To do this, it is necessary to adjust and calculate the time saved by the volume of production, structural shifts, labor costs of workers, unproductive time, the introduction of scientific and technological advances to the average hourly production plan. Detection algorithm:

$$A_{h.p.ch}^1 = \left(\frac{P_v - S_{ch}}{E_{p.h} - T_u + S_t} \right) \times 1000 = \left(\frac{4836,5 - 58,04}{87606 - 251,4 + 3532,5} \right) \times 1000 = 52,57 \text{ thousand soums}$$

Comparing the identified result with the planned result, it is possible to determine the change in average hourly output ($A_{h.p.i}$) due to labor intensity due to improved labor organization:

$$A_{h.p.i} = A_{h.p.ch}^1 - W_{h.p.p} = 52,57 - 44,73 = 7,85 \text{ thousand soums}$$

The second indicator of change ($A_{h.p.ch}^2$) is calculated by subtracting the saved time based on scientific and technical progress from the change in average hourly output due to labor intensity:

$$A_{h.p.ch}^2 = \left(\frac{P_v - S_{ch}}{E_{p.h} - T_u} \right) \times 1000 = \left(\frac{4836,5 - 58,04}{87606 - 251,4} \right) \times 1000 = 54,702 \text{ thousand soums}$$

The difference between the result of the second change and the result of the first change makes it possible to determine the change in average hourly production ($A_{h.p.S_t}$) due to unplanned time savings due to the introduction of scientific and technical advances in production:

$$A_{h.p.S_t} = A_{h.p.ch}^2 - A_{h.p.ch}^1 = 54,702 - 52,57 = 2,13 \text{ thousand soums}$$

In determining the third change in average hourly output ($A_{h.p.ch}^3$), the volume of production and the value of the product in structural shifts are calculated based on the ratio of labor costs of workers:

$$A_{h.p.ch}^3 = \left(\frac{P_v - S_{ch}}{E_{p.h}} \right) \times 1000 = \left(\frac{4836,5 - 58,04}{87606} \right) \times 1000 = 54,545 \text{ thousand soums}$$

The difference between the change indicators of the third and second average hourly output identified means that the unproductive spent time changes as a result of the impact on the average hourly output ($A_{h.p.T_{ch}}$):

$$A_{h.p.T_{ch}} = A_{h.p.ch}^3 - A_{h.p.ch}^2 = 54,545 - 54,702 = -0,16 (-0,157) \text{ thousand soums}$$

If we compare the third change indicator determined by the calculation with the actual figure, it will be possible to determine how much the average hourly product output has changed ($A_{h.p.S_{sh}}$) as a result of structural shifts in product production:

$$A_{h.p.S_{ch}} = H_p - A_{h.p.ch}^3 = 55,21 - 54,545 = 0,66 \text{ thousand soums}$$

Thus, the average hourly output changed as a result of labor intensity, improvement of technological level, unproductive time consumption, and structural shifts (balance of factors: $7.85 + 2.13 - 0.16 + 0.66 = 10.48$ thousand soums) analyzed (Table 4).

In the study of the degree of influence of the factors influencing the average product output in an enterprise, it is of great practical importance to calculate them using interrelated - regressive analysis methods. The following factors can be included in the interconnected model of many factors of average product production: labor or power supply of labor, highly skilled workers, the average service duration of the equipment, the share of advanced equipment in its total cost, working day, its duration and so on. The coefficients of the regressive equations allow us to determine the change in average product production when the indicator of each factor under analysis changes by one unit in absolute terms [13]. To determine how the change in the average annual output of workers has changed due to these factors, it is expedient to analyze the interrelationships of the factors [14]. The results of the analysis of the change factor of average annual production are expressed in Table 4.

Table 4
The results of the analysis of the change factor of product produced by the method of “Chain link”

№	Influencing factors	Change under the influence of factors			
		Change in average hourly output, thousandsoums	Average annual change in production (per worker) mln.soums	Average annual change in production (per employee) mln.soums	Change in production, mln.soums
1.	Number of employees	-	-	-	279.10
2.	Average annual output per employee	-	-	-	650.00
Total		-	-	-	929.1
2.1.	The weight of workers	-	-	1.70	102.11
2.2.	The number of days a worker worked	-	-7.11	-5.33	-320.05
2.3.	The average duration of the working day	-	-1.11	-0.83	-49.92
2.4.	Changes in average hourly product production	-	20.40	15.30	917.85
Total		-	12.18	10.83	650.00
2.4.1.	Organization of production (increase in labor intensity)	7.85	15.27	11.46	687.31
2.4.2.	Improving the technical level in production	2.13	4.14	3.10	186.26
2.4.3.	Unproductive waste of time	-0.16	-0.31	-0.23	-13.75
2.4.4.	Structural shift in production	0.66	1.29	0.97	58.04
Total		10.48	20.40	15.30	917.85

From the analysis of Table 4, it can be seen that the change in influencing factors affected the change in product production.

Changes in the average annual output of the enterprise (except for indicators that affect the change in average hourly output) have a direct impact on changes in the level of labor productivity.

Discussions

The data analyzed using these indicators of labor productivity changes can be explained by an increase in the average hourly output per employee, primary productivity and intensity, rational organization of labor, scientific and technological advances, and efficient use of labor resources.

Using the above indicators allows you to determine the level of labor productivity and scientific analysis of the effective use of labor resources involved in the production of the product. On this basis, it is determined what measures need to be developed in the future to improve the efficient use of labor resources and increase the productivity of labor that needs to be expended.

Table 5 below provides a comparative description of how much production per employee has changed by “absolute differentiation” and “chain link” methods due to factors that shape the average annual output of industrial workers. The negative consequences of the impact of some factors can be qualitatively assessed as the lack of opportunities to increase the efficiency of labor resources in the enterprise.

Table 5
A comparative description of the factors of change in production per employee with the methods of "Absolute Differentiation" and "Chain Link"

	Change of factors	Absolute differentiation method		Chain link method	
		W_p mln.soums	Change in production per employee, mln.soums	W_p mln.soums	Change in production per employee, mln.soums
.	Changes in the ratio of workers	.7	$1,7 \times 0,2608 = 0,443$	.7	$1,7 \times 0,2608 = 0,44$
.	A change in the number of days an employee worked in a year	36.68	$(-36,68) \times 0,2608 =$	5.33	$(-5,33) \times 0,2608 =$
.	Changes in the length of the working day	30.6	$(-30,6) \times 0,2608 = -7$	0.83	$(-0,83) \times 0,2608 =$
.	Changes in the average hourly output of workers	58.6	$258,6 \times 0,2608 = 67,4$	5.3	$15,3 \times 0,2608 = 3$
Total:		93.02	$193,02 \times 0,2608 = 50$	.83	$2,83 \times 0,2608 = 0$

The analysis of changes in production per employee in the enterprise allows you to assess the effectiveness of the use of labor resources in the analyzed business entity and identify changes in the factors that affect it.

Conclusion

Based on the results of the factor analysis of changes in labor productivity in an industrial enterprise, it can be concluded that the analysis of factors influencing changes in production will allow for an accurate and reliable scientific analysis using a wide range of calculation methods are classified in this article. According to the analysis, in order to increase labor productivity in industrial enterprises, it serves as a scientific basis for the organization of labor on a scientific basis, taking into account the factors affecting it, and the development of effective management decisions to improve the efficient use of labor.

Increased labor productivity provides favorable prospects for the development of industrial enterprises and social production as a whole, which, in turn, provides opportunities for the economic security of industrial enterprises.

References

1. Address of the President of the Republic of Uzbekistan Sh.M.Mirziyoev to the Oliy Majlis. People's Word newspaper, December 29, 2018, № 271 (7199).
2. Abdurakhmanova, G., Shayusupova, N., Irmatova, A., & Rustamov, D. The role of digital economy in the development the human capital market. *International journal of Psychosocial Rehabilitation*, 2020.
3. Olmasov A., Sharifkhojaev M. "Economic Theory". Textbook. - T.: "Mehnat", 1994. - 66 p.
4. Vaxabov A.V., Ibrohimov A., Ishankulov N. "Financial and Management Analysis". - Textbook. T.: "Sharq", 2005. - 135 p.
5. Abdurahmonov Q.X., Shoyusupova N.T., Bakieva I.A. "Labor Economics". Textbook. - T.: "TDIU", 2011. - 148 p.

6. Li, J. Miao, E., Zhang, J. The legal environment, specialized investments, incomplete contracts, and labor productivity. *China Economic Review*, Volume 66, 2021.
7. Mangin, S. Julien, B. Efficiency in search and matching models: A generalized Hosios condition. *Journal of Economic Theory*. Volume 193, 2021.
8. State Statistics Committee of the Republic of Uzbekistan. Statistical collection "Uzbekistan in numbers". - Tashkent, 2014-2020.
9. Nguyen Thuy Trang, Truong Thao Nhi and Vo Hong Tu. Assessment of the impact of the new rural program on farm household income in HauGiang province. *Can Tho University Journal of Science*, Part D: Science, Politics, Economics and Law, No. 46, 2016. – p. 116-121.
10. Chang, Y., Liu, X.D., and Yang, L. Application of Interpretative Structural Modeling in the Analysis of High-tech Enterprises' Technologic Innovation Capability. *Science Research Management*, 24(2), 2003. – p. 41-48.
11. Mykhailov, A., Mykhailova, L., Kyrychenko, T., Haiyan, Y., Zhiping, H. Innovative approaches in the management of human capital development in the context of rural population's life quality improvement. *International Journal for Quality Research*. Volume 14, Issue 4, 2020. – p. 1291-1302.
12. Rusak N.A. "Theory of economic activity analysis". - Mn.: 2001. - c. 132.
13. Tukhtabaev J.Sh. Econometric Evaluation of Influential Factors to Increasing Labor Efficiency in Textile Enterprises. *Webology*, Volume 18, Special Issue on Information Retrieval and Web Search, 2021.
14. Mykhailova L.I. Human capital: Forming and development in rural areas: Monograph. Center of scientific literature, Kyiv, 2008. - pp. 388.