

Scientific, economic and socio-political magazine

7

2014

*The journal was established in
January 1995
and published twice per quarter*

Ukraine: aspects of labor

Kyiv 2014

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NEURAL NETWORK DEPENDENCE MODEL OF HUMAN DEVELOPMENT IN COUNTRIES ON NON-ECONOMIC FACTORS

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The presence of a strong influence of some non-economic factors, including the religious and mental characteristics and the level of corruption, on human development indicators of world countries is proved using cluster analysis based on neural network technology. The results of classification in general confirm the thesis that Protestant countries, because of their high moral values, have achieved a much higher level of economic development than the Catholic, Orthodox and Muslim countries.

Keywords: spiritual-mental factors, human development, corruption index, cluster analysis, neural network, Kohonen maps.

Problem. Domestic and global economic development experience clearly shows that getting out of the crisis depends not only on traditional material, technical and financial factors, but also a number of so-called non-economic factors of spiritual and mental nature: the degree of corruption, the level of trust in society to economic institutions and also predominant religious denominating in society and directly affects the formation of targeted economic behavior - awareness of chosen goals and ways to achieve them, with moral and ethical constraints of nature, equity of goals to the dominant mentality of goals and values.

This complex of non-economic factors rarely considered in studies of the efficiency of the economic system, but in fact, these factors play a major role in shaping the style of economic life in any society. Economic behavior of economic agents that caused by internal mental factors of economic agents, is expressed in the production of wealth that are the basis of economic prosperity. Some ethical informal constraints affecting economic behavior are based on mental features, based on so-called "non-economic" factors relating to informal norms, rules, traditions and religious outlook. The origins of unofficial barriers are cultural heritage of society. That culture defines how individuals process and use information in decision-making, and thus may affect the specifics of informal constraints. As customs, so the norms of behavior depend on the

cultural layer¹. In turn, religion is a part of the cultural heritage, which is riddled with moral and ethical principles, intertwined with religious dogmas, that is why it has a direct influence on the formation of behavior of economic agents, both incentive and restrictive.

Analysis of recent researches and publications. Despite a general trend to neglect spiritual factors while studying economic systems, some economists still paying due attention to cultural and religious factors and consider them essential to understanding the mechanisms of economic development. The honor to become the first researcher who scientifically substantiated the role of Protestant religious outlook in the formation of capitalist relations belongs to the famous German scientist M.Weber². Many current researchers also have to admit facts of significant impact of religious and cultural factors in economic development, in particular, G. Blasco³ B.Havrylyshyn⁴, D. Lendes, I. Kunio⁵ and many other scientists.

However, it should be noted that most of these studies are based on theoretical and intuitive approach⁶⁻⁹. The thesis of the influence of religion and mental factors on economic development requires not only theoretical but also analytical proof. Because this scientific problem is not completely solved, our study should fill the gap in scientific analytical assessment of the impact of corruption and religious factors on human and economic development. Therefore, the article tasked to clusterise countries in terms of human development, taking into account of religious and spiritual non-economic factors. To perform this task we selected non-hierarchical clustering method based on neural network technology. As a tool implementing the task of classification software Deductor Studio was used.

Theoretical background of the research. The question that still was given no exact answer by economists, politicians, social scientists and anthropologists, is whether the religious environment of a particular society influences the level of its development. Why the United States, Western Europe and some Asian countries achieved high levels of development, while most of Latin America, Africa, and the former Soviet Union countries continue to be in poverty?

Exploring the spiritual aspect of economic development can not be ignored significant contribution of M. Weber and his famous work "Protestant Ethic and the Spirit of Capitalism"¹⁰.

¹Бласко Г. Економічне диво чи економічна загадка? Соціальне ринкове господарство та його застосування – Л.: Світовид, 1992. – 60с.

²Вебер М. Протестантська етика і дух капіталізму. – К.: Основи, 1994. – 261с.

³Бласко Г. Економічне диво чи економічна загадка? Соціальне ринкове господарство та його застосування – Л.: Світовид, 1992. – 60с.

⁴Гаврилишин Б. До ефективних суспільств: Дороговкази в майбутнє: доп. Римському Клубові / Б. Гаврилишин; упоряд. В. Рубцов.— Вид. 3-тє, допов.— К.: Унів. вид-во ПУЛЬСАРИ, 2009.— 248 с.

⁵Культура и экономическое развитие [Електронний ресурс]. – Режим доступу: <http://www.inliberty.ru/library/study/324/>

⁶⁻⁹Іващенко М.В. Вплив релігії на соціально-економічне становище країн світу в сучасних умовах // Бізнес інформ. – №10. – 2012. – С.51-54.

Іващенко М. В. Вплив релігії як суспільної інституції на економічну поведінку / М. В. Іващенко // Економіка: проблеми теорії та практики: зб. наук. статей. – ДНУ, 2008. – Вип.239. – С. 625 – 640.

Гаврилишин Б. До ефективних суспільств: Дороговкази в майбутнє: доп. Римському Клубові / Б. Гаврилишин; упоряд. В. Рубцов.— Вид. 3-тє, допов.— К.: Унів. вид-во ПУЛЬСАРИ, 2009.— 248 с.

Гугніна Т. Світові релігії та етика господарювання / Т. Гугніна// Дніпропетровська державна медична академія, 1999. – 47 с.

¹⁰Вебер М. Протестантська етика і дух капіталізму. – К.: Основи, 1994. – 261с.

He explored interesting patterns in close relationship of spirituality and economic development. Overall M. Weber is considered primarily a sociologist, one of the founders of this scientific field. At the same time we must not forget that he was also an economist, theorist and lifelong head of the department of political economy in Freiburg, Haydelberg and later at the University of Munich¹¹.

Studying social aspects of the Protestant doctrine supporters, scientist found the prevalence proportion of people with higher education in their environment compared to supporters of Catholicism. In particular, M. Weber processed statistical data, which testified to the overwhelming majority of Protestants among the owners of capital, management and skilled workers¹². Education statistics data from Baden, Bavaria, Vyutemberg, Rhine lands and Hungary also showed that number of people of Protestant religion among those who received higher education and vocational education is much more than the number of Catholics and members of other faiths¹³. In the future, this phenomenon has become a catalyst for rapid economic development.

These findings gave M. Weber reason to hypothesize the existence of internal relationship between Christian principles of Protestantism and the corresponding outlook and a phenomenon that known economist W. Sombart has called "spirit of capitalism". M. Weber focuses particularly on this intangible component of the economic system - the phenomenon that after W. Sombart he also calls the spirit of capitalism.

Since M. Weber's studies more than a century had passed. But today found patterns appear in even more distinct form that cannot be avoided by modern scientists. In particular, such an opinion was expressed by D. Lendes: "Max Weber was right. If we can learn a lesson from the history of economic development, it is: almost everything here depends on the culture." Developing the idea of Lendes, Japanese economist Yoshihara Kunio said: "One of the reasons for the successful development of Japan is due to the fact that there was appropriate mentality of its people"¹⁴.

The Japanese gave a lot of weight to such spiritual and mental factors: 1) material considerations, 2) hard work, 3) accumulations for the future, 4) educational level, 5) collectivism.

Recently, an Italian economist G. Tabellini conducted a comparative analysis of economic indicators for the different regions of Europe, using data from «World Values Survey»

¹¹Погорілий О. Макс Вебер і його класична праця / Передмова до праці «Протестантська етика і дух капіталізму». – К.: Основи, 1994. – С. 5, 9.

¹²Вебер М. Протестантська етика і дух капіталізму. – К.: Основи, 1994. – С. 38.

¹³Вебер М. Протестантська етика і дух капіталізму. – К.: Основи, 1994. – С. 40.

¹⁴Культура и экономическое развитие [Электронный ресурс]. – Режим доступа: <http://www.inliberty.ru/library/study/324/>

about confidence, the ability to determine their own destiny and respect for others (those spiritual and mental factors promote economic development), and willingness to obey (which prevents it). That's the conclusion he made: "With these cultural features directly related not only the nature of the economic development of the regions of Europe, but also economic and institutional development of individual countries (based on a broad sample) ... Thus, our analysis results that formal institutions do not play a significant role in relation to culture. On the contrary, among them most likely is the interaction that determines the actual functioning of institutions and affect incentives and behavior of economic and political actors"¹⁵.

The role of religious and mental component in the economic system of each country is so important that any economic reform without regard to religious peculiarities of the nation is doomed to failure, since the existence of any economic institutions is based on, adopted by general population, values system, group of social norms and standards of conduct, guidelines and schemes of outlook. This view is aptly expressed by S. Bulgakov: "... the economic struggle is the centrifugal force and can be maintained only in a society tightly cemented with other social arrangements"¹⁶.

Even former believer in liberalism, which has now realized the benefits of sustainable development, modern American economist D. Sachs said: "Even if the government is seriously trying to modernize the country, cultural environment can become a barrier. Thus, cultural or religious norms can hinder women to play a role in this process, resulting in half the population is deprived of economic and political rights..."¹⁷.

That is why some of the Ukrainian reforms reduced to nothing because of disagreement with the religious mentality of our nation and its spiritual condition.

Input and methodology of study. Overall, we were subjected to analysis of human development indicators more than 70 countries representing the major religions of the world, that is where this or that religion has a dominant influence on the formation of social and economic relations.

To the indicators characterizing the level of development of countries, we have included indicators that UNDP chosen as a basis for calculating the Human Development Index (HDI): GDP per capita, level of education, and probable life expectancy at the current standard of living. Data taken by the 2012 from Human Development Report, 2013¹⁸. In this case, we have to

¹⁵Noland M. Religion, culture, and economics performance. [Електронний ресурс]. – Режим доступу: <http://www.iie.com/publications/wp/03-8.pdf>

¹⁶Івашенко М. В. Вплив релігії як суспільної інституції на економічну поведінку / М. В. Івашенко // Економіка: проблеми теорії та практики: зб. наук. статей. – ДНУ, 2008. – Вип.239. – С. 52.

¹⁷Культура и экономическое развитие [Електронний ресурс]. – Режим доступу: <http://www.inliberty.ru/library/study/324/>

¹⁸The Rise of the South: Human Progress in a Diverse World / Human Development Report 2013. – United Nations Development Programme. [Електронний ресурс]. – Режим доступу: http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf

analyze 71 countries of the first century of countries rating of the highest aggregated indicators of human development.

To this set of parameters we have added data about the index of corruption in these countries by 2013, which published by an international organization against corruption Transparency International¹⁹. Corruption Index - an annual ranking of countries for the prevalence of corruption is concluded by that organization since 1995. Countries are ordered in the ranking in terms of corruption, based on estimates of top managers and analysts on a scale of 0 to 100, higher level of index reflects less corruption.

We introduced that figure into our array of data analyzed, as it reflects the spiritual aspect of human development and will fully solve the problem of the study.

Using these data sets, we used a method of cluster analysis to determine the effect of non-economic factors in human development indicators.

In cluster analysis mainly understood set of methods and procedures used for automatic classification of complex data set. The classification makes it possible to identify a set of similar objects of study, which can significantly simplify the analysis.

The problem of separation of statistically homogeneous groups is viewed as a problem of grouping the initial data. In principle, two types of grouping are distinguished²⁰.

1) typological grouping is a set of primary data partition to a homogeneous group, describing some types (classes) of phenomena, such as in this case, grouping people by religion;

2) structural grouping is a division of qualitatively homogeneous data set into groups that characterize the internal circuit of the population, its structure. In fact, as structure should be understood the distribution of objects in intervals.

In forming groups of objects, there is a problem of similarity or proximity between objects, that is solved with introduction of the concept of distance between objects, and the choice of distance measure significantly affect the results of clustering.

To solve classification problems we can use the following hierarchical methods: Agglomerative Nesting, Divisive Analysis, and non-hierarchical methods, which include iterative (k-means, PAM, CLOPE, LargeItem)²¹ and neural networks.

To implement clustering of the characteristics of human development and uneconomical signs such as corruption level and the dominant religion was chosen the method of self-organizing Kohonen maps based on a single-layer neural network of direct distribution. With this

¹⁹Corruption Perceptions Index 2013 / Transparency International, 2013. – 8pp.

²⁰Кононков А.А. Применение методов кластерного анализа при проведении исследований // Интеллектуальные технологии и системы. Сборник учебно-методических работ и статей аспирантов и студентов. Выпуск 8 / Сост. и ред. Ю.Н.Филипповича. — М.: НОК «CLAIM», 2006. — С. 120-126.

²¹Нейский И. Классификация и сравнение методов кластеризации // Интеллектуальные технологии и системы. Сборник учебно-методических работ и статей аспирантов и студентов. Выпуск 8 / Сост. и ред. Ю.Н.Филипповича. — М.: НОК «CLAIM», 2006. — С. 130-143.

method you can make clustering of multidimensional vectors, intelligence analysis, identifying new phenomena in the economy. It uses a process of self-organization (self-education) of neural network with guaranteed receipt of response achieved after data passing the layers.

Research of the area of input data is carried out in several stages²²: 1. Preparation of data for training. 2. Initialization of card. 3. Training Network.

Kohonen map is a neural network that consists of two layers: input and output.

Training consists of a sequence of correction vectors are presented in the form of artificial neurons. Each t step of input training set is randomly select one of the vectors and then search the vector most similar to it in coefficients of neurons. This selects the winning neuron, which is most similar to the input vector. In this task similarity is the minimum distance between vectors usually calculated in Euclidean space. Thus, if we denote the neuron-winner as C , we get:

$$\|x - w_c\| = \min_i \{\|x - w_i\|\} \quad (1)$$

where x - input vector (input vector);

w_i - vector of coefficients of neurons of i -parameter.

In this case, the index i takes values that reflect indicators of human development in countries, and corruption level, $i = 1$ - GDP per capita, $i = 2$ - level of education; $i = 3$ - life expectancy, $i = 4$ - coefficient of corruption.

Once the formula (1) found neuron-winner, correction neural network weights is carried. This vector describes the winning neuron and those vectors describing its neighbors in the network, moving towards the input vector.

To modify the weighting coefficients formula is used:

$$w_i(t+1) = w_i(t) + h_{ci}(t) \times [x(t) - w(t)] \quad (2)$$

Where t - number of training era, vector $x(t)$ -randomly chosen from the training set at iteration t , the function $h_{ci}(t)$ - the function of neighbourhood of c - and i - neurons.

To train our neural network, we used 600 cycles (eras), resulting calculations gave 5 clusters, in which 71 countries were grouped.

Before using cluster analysis, we calculated the Pearson correlation coefficient to determine the effect of GDP per capita and the index of corruption in general human development index (HDI). As to the first index results were obvious as HDI is calculated on the basis of per capita GDP, so the Pearson coefficient of it we calculated for later comparison. Its value was found expectedly high: 0.675. But the index of corruption (Corruption Perceptions Index - CPI) is in the spiritual and mental plane and has no direct connection with the HDI, but

²² Ibid.

Pearson coefficient was found higher than in the previous case: 0.782. Index of corruption generally reflects the level of spiritual development in the country, summarizes all other non-economic factors, so we can conclude that this result proves the existence of a strong non-economic factors impact on human development in the world.

Thus, to conduct economic analysis, we took three parameters that characterize human development in 71 countries: GDP per capita, education level, and life expectancy at birth (the resulting HDI index we did not consider, as it calculated on the basis of them), and two indicators that reflect the so-called non-economic spiritual and mental factors: the level of corruption and the dominant religion, that religion, practiced by the majority of the population and which has a direct impact on the formation of economic behavior. Thus, the very religion we do not directly take into account in determining clusters to achieve greater objectivity - in this case religion will not affect the association of countries into the cluster, and is used as an information index.

The minimum threshold of recognition errors in the cluster recognition we installed at 0.08, also set init method for map, based on its own vectors, speed of network training at the beginning - 0.2 at the end - 0.005, significance level of clusters to be automatically isolated, set at 0.05%. As a result, 5 clusters were calculated, the statistical characteristics of which can be seen in the table. 1.

Table 1

Statistical characteristics of the examined clusters on indicators of human development and corruption

		Examined clusters					
		1	2	3	4	5	Total
Performance	Statistical Har-cs	27 (38.0%)	19 (26.8%)	12 (16.9%)	11 (15.5%)	2 (2.8%)	
Corruption index CPI	Significance	100.00%	100.00%	57.60%	68.90%	24.90%	100.00%
	Average	40	80.8	52.9	63, 1	61.5	57.3
	Standard deviation	9.6	6.8	8, 2	8.1	9.2	18.5
	The standard error	1.8	1.6	2, 4	2.4	6.5	2 2
GDP per capita (GNI), \$ / person	Significance	100.00%	99.90%	22.50%	43.40%	100.00%	100.00%
	Average	12 151	36 681	22 573	21 008	86179	23 934
	Standard deviation	4715.4	7167 0	6954 0	12107 0	1837.1	16 127 0
	The standard error	907 5	1644.2	2007.4	3650.3	1299 0	1913.9
Estimated life expectancy,	Significance	100.00%	100.00%	93.80%	13.60%	47.90%	100.00%
	Average	74.1	August 1, 0	79.5	77.7	79.1	77, 6

years	Standard deviation	2.2	1.2	2.3	1.7	0.9	3.4
	The standard error	0.4	0.3	0.7	0.5	0.6	0.4
The level of education, years	Significance	71.70%	99.50%	91.50%	99.80%	79.70%	100.00%
	Average	9.8	11.3	11.0	8.6	8.8	10.2
	Standard deviation	1.5	1.0	0.9	1.1	2.1	1.5
	The standard error	0.3	0.2	0.3	0.3	1.5	0.2

Source: Calculated by authors from data of Human Development Report, 2013²³ and CPI 2013²⁴

Immediately it should be emphasized that most fully all parameters took into account only in the first two major clusters. They joined together 65% of the countries (46 countries total), indicators of which we considered. In other words, based on these two clusters, we can see the main trend, and the other clusters will allow to analyze partial exceptions to the general pattern.

Analysis of the results. The largest of the obtained clusters combined 27 poorest countries, which included Ukraine (table. 2).

Table 2

Cluster countries with the lowest HDI in the sample

Ranking of countries according to HDI	Country name	Estimated life expectancy, years	The level of education, years	GDP per capita, \$ / person.	The dominant religion	Level of corruption, s.u.	Distance to the center cluster, s.u.
37	Hungary	74.6	11.7	16 088	Catholicism	54	0.34
41	Lithuania	72.5	10.9	16 858	Catholicism	57	0.31
44	Latvia	73.6	11.5	14 724	Catholicism	53	0.31
45	Argentina	76.1	9.3	15 347	Catholicism	34	0.17
46	Seychelles	73.8	9.4	22 615	Catholicism	54	0.24
47	Croatia	76.8	9.8	15 419	Catholicism	48	0.20
48	Bahrain	75.2	9.4	19154	Islam	48	0.16
50	Belorussia	70.6	11.5	13 385	orthodoxy	29	0.36
52	Montenegro	74.8	10.5	10471	orthodoxy	44	0.12
55	Russia	69.1	11.7	14 461	orthodoxy	28	0.48
56	Romania	74.2	10.4	11 011	orthodoxy	43	0.09
57	Bulgaria	73.6	10.6	11 474	orthodoxy	41	0.13

²³The Rise of the South: Human Progress in a Diverse World / Human Development Report 2013. – United Nations Development Programme. [Электронный ресурс]. – Режим доступа: http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf

²⁴Corruption Perceptions Index 2013 / Transparency International, 2013. – 8pp.

57	Saudi Arabia	74.1	7.8	22 616	Islam	46	0.33
59	Panama	76.3	9.4	13 519	Catholicism	35	0.17
61	Mexico	77.1	8.5	12 947	Catholicism	34	0.29
64	Serbia	74.7	10.2	9533	orthodoxy	42	0.07
70	Albania	77.1	10.4	7822	Islam	31	0.26
71	Venezuela	74.6	7.6	11475	Catholicism	20	0.44
72	Georgia	73.9	12.1	5005	orthodoxy	49	0.31
77	Peru	74.2	8.7	9306	Catholicism	38	0.17
78	Macedonia	75, 0	8.2	9377	orthodoxy	44	0.25
78	Ukraine	68.8	11.3	6428	orthodoxy	25	0.48
81	Bosnia	75.8	8.3	7713	Islam	42	0.25
82	Azerbaijan	70.9	11.2	8153	Islam	28	0.36
85	Brazil	73.8	7.2	10 152	Catholicism	42	0.38
87	Armenia	74.4	10.8	5540	orthodoxy	36	0.18
89	Ecuador	75.8	7.6	7471	Catholicism	35	0.35

Source: Calculated by authors from data of Human Development Report, 2013²⁵ and CPI 2013²⁶

Decisive for the association of these countries in the cluster are all indicators that we considered for cluster analysis. The countries included in this cluster are characterized by the highest level of corruption (average 40), the lowest GDP per capita (average 12.1 thousand dollars), the lowest life expectancy (average 74.1 years) and relatively low education of the population of these countries. And another feature that unites these countries - the dominant religion is Catholicism them and orthodoxy. In several countries, included in this cluster is dominated by the Muslim religion.

Interestingly, the common features of these religions are formal attitude to moral and ethical values, and formalism, that they have a distinctive religious form, rather than the moral and spiritual meaning of life.

The formal relationship to the inner spiritual life forms of the same type of economic behavior, lack of moral values promotes corruption, which leads to economic decline. And as a result, low well-being of societies leads to insufficient financing of health care, education, which resulted in the lowest life expectancy and low levels of education.

Recall that we considered only the first hundred countries of human development rating. From our sight endured many poor countries in Africa and Asia, where human development indicators are worse than in Catholic and Orthodox countries.

²⁵The Rise of the South: Human Progress in a Diverse World / Human Development Report 2013. - United Nations Development Programme. [Electronic resource]. - Access: http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf

²⁶Corruption Perceptions Index 2013 / Transparency International, 2013. - 8 pp.

But this does not deny, but only confirms the pattern shown. In these countries dominate many non-Christian national beliefs and Buddhism, Islam, characterized by even more formalism than Catholicism and Orthodoxy.

Now analyze the second largest cluster, which united countries with the highest HDI in the sample. Average GDP per capita in the group of countries is 36.7 thousand dollars. Countries belonging to this cluster are affected by all indicators that we considered (see. Table. 1). The countries that were in this cluster have the highest welfare, the lowest level of corruption (average 80.8), the greatest life expectancy (80.1 years on average) and high educational level of the population (average 11.3 years).

This cluster has another sign that integrates the most advanced countries in the world - a sign of a religious context - the dominant religions there is Protestant, which shapes in society the life outlook and economic behavior (Table. 3). Protestant religion is characterized by the dominance of moral and spiritual values in decision-making and the formation of economic behavior, which provided the basis for rapid economic development. However, in modern Protestant countries can be seen the opposite effect: a high level of welfare is not conducive to a moral ascetic lifestyle, but rather the opposite - leads to abuse, leveling moral values.

Table 3

A cluster of countries with the highest HDI

Ranking of countries according to HDI	Country name	Estimated life expectancy, years	The level of education, years	GDP per capita, \$ / person.	The dominant religion	Index of corruption, s.u.	The center cluster s.u.
1	Norway	81.3	12.6	48 688	Protestant.	86	0.27
2	Australia	82	12	34 340	Protestant.	81	0.13
3	USA	78.7	13.3	43 480	Protestant.	73	0.37
4	Netherlands	80.8	11.6	37 282	Protestant.	83	0.07
5	Germany	80.6	12.2	35 431	Protestant.	78	0.15
6	New Zealand	80.8	12.5	24 358	Protestant.	91	0.28
7	Sweden	81.6	11.7	36 143	Protestant.	89	0.15
9	Switzerland	82.5	11	40 527	Protestant.	85	0.14
10	Japan	83.6	11.6	32 545	Shinto	74	0.20
11	Canada	81.1	12.3	35 369	Protestant.	81	0.16
13	Iceland	81.9	10.4	29 176	Protestant.	78	0.16
15	Denmark	79	11.4	33 518	Protestant.	91	0.21
17	Belgium	80	10.9	33 429	Catholicism	75	0.12
18	Austria	81	10.8	36 438	Catholicism	69	0.17
18	Singapore	81.2	10.1	52 613	Buddhism	86	0.28
20	France	81.7	10.6	30277	Catholicism	71	0.18
21	Finland	80.1	10.3	32510	Protestant.	89	0.20

26	Luxembourg	80.1	10.1	48 285	Catholicism	80	0.23
26	Great Britain	80.3	9.4	32 538	Protestant.	76	0.28

Source: Calculated by authors from data of Human Development Report, 2013²⁷ and CPI 201²⁸

As a result of research and found that spiritual and mental factors may not have an immediate impact on economic development - they have a long-term, strategic nature, which lays the institution basis for future development. Accordingly, moral impoverishment in the future will lead to economic decline.

The third cluster includes unites mostly developed Catholic countries, united by high levels of life expectancy and education and at the same time a high level of corruption (Table. 1). This are countries with a sufficient level of welfare, although significantly less than in Protestant countries. But the figure was not determinant for the association in cluster (only 22.5% impact).

An interesting exception to the general pattern was the 5-th cluster that united only 2 countries: Qatar and Liechtenstein. The determining factor for this association was the level of GDP per capita, which is several times the value of the indicator in most developed countries. The basis of high prosperity in this case were not spiritual and mental factors but conditions specific to geographical location and availability of raw energy resources (Qatar) and banking Lichtenstein, combined with a small population.

The fourth cluster unites 11 countries with the average levels, which could not enter the other clusters on those or other indicators that were significantly different. The main common feature was the low level of education in these countries.

Conclusions and perspectives for further research. As a result of cluster analysis carried out using artificial neural networks technology we were able to confirm the hypothesis of the presence of the strong influence of the so-called non-economic factors such as religious and mental characteristics of each country in the world and the prevalence of corruption on economic development.

The results of classification task in general confirm the thesis formulated by M. Weber in his book "The Protestant Ethic and the Spirit of Capitalism": Protestant countries in terms of welfare achieved more than Catholic. Of course, the average Catholic countries are undermined by the slow development of Latin America, but even if we restrict the study of the situation in democratic capitalist states of the "first world" only (we have a third cluster), Protestant

²⁷The Rise of the South: Human Progress in a Diverse World / Human Development Report 2013. - United Nations Development Programme. [Electronic resource]. - Access: http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf

²⁸Corruption Perceptions Index 2013 / Transparency International, 2013. - 8 pp.

countries significantly ahead Catholic countries on material well-being and freedom from corruption.

In our study, we considered only 71 countries of the first century in human development rating. From our sight endured many poor countries in Africa and Asia, where human development indicators are worse than in Catholic and Orthodox countries. But this does not deny, but only confirms the pattern shown. In these countries dominate many non-Christian national beliefs and Buddhism, Islam, characterized by even more formalism than Catholicism and Orthodoxy.

We have found that spiritual and mental factors may not have an immediate impact on economic development - they have a long-term, strategic nature, which lays the foundation for future development. Therefore, it is necessary to further investigate the temporal aspects of exposure, i.e. determine which time delay there is between significant changes in the religious outlook and impact on reducing corruption and on general indicators of human development.

MODERN SEGMENTATION AND KEY TRENDS OF THE DEVELOPEMENT OF THE WORLD MARKET OF LABOR

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In the article on the basis of the modern system of criteria analyzed the segmentation of the world labor market and formulated the main trends of its development in terms of globalization. On the basis of statistical data has been conducted forms and areas of transformational changes of the labor market in the context of certain tendencies.

Keywords: world market of labor, market segmentation, key tendencies, international labor migration, transformation changes, globalization of social labor relations.

Raising of the problem. Economic globalization at the beginning of XXI century acquires all greater scales and engulfs all spheres of public life: actually the economics, scientific - technical sphere, financial - bank activity, social sphere. The main basic indicators of the globalization of social labor relations are the followings: strengthening of the social orientation of the world economics; democratization of labor relations; internationalization of the requirements of the recreation of labor force; standardization of terms of life and labor of people in different countries; coordination, concordance and rapprochement of social policy of the world powers; liberalization of terms of intergovernmental exchange of the labor resources. Coming from the information of theoretical pre-conditions, an actual task is the realization of scientific segmentation of world market of labor with the selection of its basic structural elements, finding out of terms and factors of transformational changes that take place at this market in the conditions of globalization.

Analysis of researches and publications. Among foreign and domestic scientists there are quite a bit authors, that from the positions of factor analysis probe the conformities of the development of the world market of labor on the globalization stage of civilization advancement, its character and structure complex. The special attention is deserved of such scientists, as A. Atkinson, O. Bilorus, D. Boginya, A. Brandolini, S. Bkhalla, B. Gosling, E. Libanova, S. Sidenko, A. Kolot, O. Grishnova, S. Pirozhkov, V. Novickiy, In. Kolesov, O. Butnik-Siverskiy, G. Osipov, B. Kuzik, Y. Yakovec, J.Bell, B. Milanovich, A. Poruchnik, M.

Ravalyon, G. Fayerbakh, C. Sala-i-Martin, M. Foster, M. Pirson and others. In their works opens up the mechanisms of functioning of global labor-market and trans nationalization of its national subsystems; analyzed the scales of world and regional migratory processes, professional qualification and age-dependent structure of global labor resources; probed the processes of socialization of world economics and social responsibility of business, directions of the integration of Ukraine in the world market of labor; and also various aspects of adjusting of social labor relations at sub national level.

At the same time, there is the need of system analyses of the processes of diversification of world market of labor, formation of its new segments and subsystems, estimation of the level of including of different national contingents of labor force in global production-technological activity, the efficiency of co-operation of different countries in the world market of labor in the conditions of the formation of global model of international division of labor.

The purpose of the article is the system description of essence and structure of the modern world market of labor, its basic segments, and also determination of key trends of its development and transformation changes in the conditions of globalization.

Exposition of basic material. In the structure of the global economic system a main place is occupied by the world market of labor with its compatible scale of criteria in relation to quality of labor resources, the development of new forms of employment, flexibility and high professional and territorial mobility of the combined labor force, sub national regulator mechanisms. As a system of intergovernmental relations concerning the concordance of demand and supply of the labor force, adjusting of its intergovernmental streams, payment of labor and social defense, the world market of labor work at the terms of deepening of globalization processes tests substantial modifications in relation to subject-objective and spatially functional structures, acquiring new high-quality lines and features. It shows up, from one side, in an all greater loss by national labor-markets its reserve and separation, the growth of efficiency of the use of the combined labor force, the enhancement of the exchange of knowledge, information and experience between people, activation of international migratory processes and forming of the global regulator system of international labor migration, and from the second side, – in sharpening of problems and contradictions in a social labor sphere. Its multidimensional display appears in the growth of unemployment, sharpening of social conflicts, deepening of social stratification on national level, deepening of processes of desolitarization of society and strengthening of tendencies of social individualization.

Concerning the structure of global labor-market, although it substantially diversified with the claim of market relations in a world economy, however contains such necessary component, as an international segment of labor force. Its substantial expansion in the last decades is related

to the activation of processes of trans nationalization of national economies which gave a shove development of large-scale international production with the hierarchical division of labor of different groups of workers. The last, living and working in different countries, were integrated in unique transnational production-technological system, and in course of time formed enormous inwardly corporate (internal) labor-market which is characterized by the scale transferring of different categories of workers (foremost leading link) from one country to other. The confirmation of this thesis are the volumes of oversea employment of TNC, that according to the data of UNCTED, are about 80 million persons¹.

The World labour market, as well as commodities, services, capital and finance markets, after all signs have the expressed segmented character also. Today, there a few separate, relatively autonomous, segments were clearly expressed in labour market structure, each of which is characterized by its specific features and the conformities with a law of movement and redistribution of the labour force. The first segment covers labour force which has relatively constant employment, stability of professional skills, high level of qualification and wages, and also sufficiently clear qualification hierarchy. It is generally the privileged professional execution of workers from developed countries, and also the states with the medium level of development, which, regardless of their nationality is the most "inclusive" in the Global labour market. This segment is also presented by a small group of employees engaged in various international organizations (the UN, the specialized agencies of the United Nations, International Monetary Fund, WTO, UNESCO and others), which provide employment exceptionally on the international basis, considering only the level of professional competences. The labour market has a certain tendency to expansion, taking into account the diversification of international relations and exacerbation of Humanity global problems.

The second fairly large segment of the global labour market is the labour force, which comes from areas of the world with a relatively low level of economic development and is the bulk of international migrants. According to the World Bank the total number of international labour migrants is more than 200 million persons in the world. This manifests itself most vividly in the countries of Western Europe, USA and Russia, where low population growth and ageing largely compensated for by immigrants. Net-immigration provides the 56% demographic increase level in developed regions of the world now, in particular in Western European countries - 89%. Today, in countries which are the main recipients of foreign labor force, the share of foreigners is 5-20% of the total population or 10-25% of the economically active population. Among these workers is highlighted numerous detachment of illegal labor force, the

¹World Investment Report 2013: Global Value Chains: Investment and Trade for Development. – UNCTAD, 2013. – P.

main streams which direct now to developed countries, particularly the USA and the countries of the European Union.

Such special part of the global labor market, which connected with the use of highly skilled professionals (scientists, engineers, analysts, and experts in the field of computer science, managers, and so on also), is formed in the world economy under the influence of the information revolution. Thus, along with the traditional market search now there is an intense search for valuable resources, among which the first place belongs to information resources and their carriers - people. Companies which operate in high-tech industries, strenuously "hunt" for intellectual resources, without which it is impossible to survive in hard competitive activity.

The dynamic internationalization of investment and industrial and commercial activities have resulted, that millions of people from the developing countries almost engaged in a competition with employees in developed countries. A leading role in these processes is played by TNCs, which always have the opportunity to move their production to other countries (especially the "new industrial states" - the Republic of Korea, Singapore, Brazil), thereby reducing the price of labor force.

The modern world labor market is characterized primarily by the tendency to rapid changes and high dynamism of development. The key trends of its development in conditions of globalization are the following:

- the transformation of the scales and structure of the world employment;
- the increase in general and structural labour shortages in developed countries;
- the increasing requirements for the quality of the labour force and increasing demand for highly qualified labour force from TNCs;
- a significant gap in the rate of wages growth and labour productivity growth;
- the dynamics of international labor mobility;
- the deepening of polarization of the incomes of employees of different levels.

Estimating the scales and structure of the world of employment, it should be noted that if at the end of 1980th the number of the employed workforce whole world, according to the International labour organization, amounted to almost 1 billion people, then, in 2013 the same index rose to 2,9 billion. In addition to that the global employment-to-population ratio was 60.4 %.

The world's average unemployment rate was 6.0% in 2013 (for comparison: in 2000, 2005 and 2009, this ratio was 6.3%, 6.1% and 6.2 %, respectively), which in absolute terms is 202 million people² (of which about 80 million – are women). If current trends continue until 2018, the total number of persons in the world who are in search of working positions will rise to 215

² Global Employment Trends 2014: Risk of a Jobless recovery? – International Labour Office. – Geneva, 2014. – P. 11.

million³. Among this vast army of unemployed in the world is allocated a segment of those people who for a long time can't find a job and haven't any prospects to engage in production processes in the near future. ILO experts aptly qualify this category of persons as "disappointed workers", their total number is 23 million people, and this index can reach 30 million people until 2018⁴.

As the table 1 data present, the overall unemployment rate slightly increased in 2009-2010 under the impact of the global economic crisis. Countries with developed economy and the states of EC, in which the unemployment rate during 2007-2010 increased from 5.8 to 8.8%, were the region that experienced the strongest impact on employment in the industry. At the same time, the developing countries level of officially registered unemployment is significantly higher: in 2013 in the Middle East it was 10.8 per cent, in Northern Africa countries – 12.1% respectively. And it is without taking into account the hidden unemployment. According to official data, the index of unemployment of Ukraine is more than 8%.

Table 1
Global and regional unemployment trends in 2000-2013 and forecast for 2014-2016, %⁵

Group of countries	2000	2005	2007	2009	2010	2011	2012	2013	2014	2015	2016
World in general	6,3	6,1	5,4	6,2	6,0	5,9	5,8	6,0	6,1	6,1	6,1
Developed countries and EU	6,7	6,9	5,8	8,4	8,8	8,4	8,4	8,6	8,6	8,4	8,2
South Eastern European Countries (non EU members) and CIS	10,7	9,1	8,3	10,1	9,4	8,7	8,1	8,2	8,3	8,2	8,2
East Asian Countries	4,5	4,2	3,8	4,4	4,2	4,3	4,3	4,5	4,7	4,8	4,9
Southeast Asian and Oceania Countries	5,0	6,4	5,5	5,2	4,7	4,4	4,3	4,2	4,3	4,3	4,3
South Asian Countries	4,5	4,7	3,9	4,1	3,9	3,8	3,7	4,0	4,0	4,1	4,1
Latin American and Caribbean Countries	8,6	8,1	7,0	7,8	6,8	6,5	6,4	6,5	6,5	6,5	6,5
Middle East Countries	11,5	11,2	10,3	10,7	11,2	11,1	10,5	10,9	11,0	10,9	10,8
North African Countries	13,2	11,0	9,6	9,1	8,9	10,0	9,9	12,2	12,2	12,1	12,1
Countries in Africa South of Sahara	8,5	7,5	7,4	7,6	7,6	7,6	7,4	7,6	7,6	7,5	7,5

Although agriculture accounts for 32 per cent of total employment globally and 20 per cent in industry, the structure of employment is constantly being upgraded with faster growth of the population employed in the service sector.

Intellectualization of production and development of innovative technologies over the last three decades have made great changes in the structure of world employment. The share of

³ Global Employment Trends 2014: Risk of a Jobless recovery? – International Labour Office. – Geneva, 2014. – P. 11.

⁴ Global Employment Trends 2014: Risk of a Jobless recovery? – International Labour Office. – Geneva, 2014. – P. 17.

⁵ Was made by the following data: Global Employment Trends 2013: Recovering from a second jobs dip. – ILO, 2013. – P. 134. Global Employment Trends 2014: Risk of a Jobless recovery? – International Labour Office. – Geneva, 2014. – P. 19.

highly educated and skilled workforce is increased rapidly. At the same time there is decline in the number of places for workers with low qualifications.

Thus, according to the experts of the OECD, in countries belonging to the organization, 10-15% of total working places were updated annually, with the tendency of growing skilled labor force. Today 50-60 % of all open vacancies are occupied by managers and well educated professionals. There is an increasing demand not only for the production sector, there traditionally high proportion of skilled labor force, but also within the service sector.

In terms of professional employment, in developed countries there is a trend for reduction the share of “blue-collar workers” and the rising share of technology-oriented employees who are well oriented in modern technologies, especially information; as well as increase the per cent of managers. For example, in the USA the segment of skilled labor force has created about 9.6 million jobs in 2003-2012. The number of scientific and engineering positions in the R&D sector (full time) during 1980-2013 increased from 651.1 thousands to 1.4 million people. According to the Bureau of Labor Statistics in 2002-2012 the growth rate in this category of labor force was by 70% higher than the growth rate of total employment in the country⁶.

Furthermore, in recent decades mostly in all developed countries there is a tendency of changing the professional structure of the workforce. Some professions are gone; at the same time were organized thousands of new, never existed previously occupations, related to the creation of new products, new forms of employment, production and management. Special diversity changes mostly affected the service sector with its institutional structure. Now it covers wide range of industries – from transportation, communications, trade, customer services and health care to science, education, financial, information, professional and business services.

Deepening asymmetry in the levels of wages of the employees with different levels of education and qualifications showed the growing importance of skilled labor compared with other categories of workers (an average of 2.3% per year for scientists and 8% for engineers). If in 1975 the gap in employee’s payment with higher and secondary education was 50%, in 2013 - already 90%, and the ratio of the salary of top managerial level and the average wage is now 400: 1.

Global labor market today is characterized by a large number of employees with higher and secondary education in Developed and Emerging countries. For example, in the leading countries the number of high-school graduates is almost equal to the number of university students. The number of employees with higher education is also increasing. Today employee in India has 5 years of education, in China - 6.5 years, in Brazil - 8.5 years, in Germany - 10.1

⁶ [Electronic source]. – URL: <http://www.bls.gov>

years, in Japan - 11.7 years, in Russia - 13.7 years, in the US - 13.8 years, and in Canada - 14.4 years. The role of the professions associated with the collection, analysis, processing, storage and use of information and new knowledge has increased.

Another trend that characterizes the global labor market to globalization phase of economic development, is the increase in general and structural labor shortages in developed countries. Their reasons lie in reducing the population of these countries and strengthening its demographic aging, which is manifested in the growth of the share of the elderly (over 60 years), reducing the number of children and working-age population. Thus, in the EU over the years 1960-2012 it was almost two-fold decline in the birth rate, which is currently unable to provide even simple reproduction of the population. According to authoritative experts expected that by 2050 the population of the EU will be reduced from 13% to 9% of the world average, and Northern Europe - respectively from 5% to 4%.

Significant changes occur in the age structure of the population of these countries, today the share of the population aged over 65 years is about 17%, by 2020 it will increase to 20% and in 2050 - up to 25-30% of total a population with a 50% share of persons over 50 years. As a result of these changes the ratio of people over 65 years of working age (15-64 years) in the EU will increase from 1: 3 in 1995 to 1: 2 in 2050. These changes significantly actualize the problem of shortage of manpower for the economy and retention of disabled society already today on pensions in the EU spent 10.5% of GDP in the UK to 19.7% in Italy, and by 2030 these figures could reach respectively 15.5 and 33.3%. In general aging population of the EU will result, according to some estimates, 18% of the average loss per capita GDP by 2040.

Although the unevenness in the distribution of human resources between countries has always existed, but the global population explosion dramatically enhance this asymmetry. It affected mainly developing countries, while most developed countries are in the later stages of the demographic transition and population growth they not only stopped, but has clearly emerged depopulation trend.

As a result - at the beginning of the XXI century there became apparent huge demographic asymmetries between the industrialized world, prone to depopulation, overcrowded and developing countries. It is therefore logical is the fact that today in some developed countries, population growth is provided mainly through its net immigration. A good example of this is in particular the European Union, where over the last decade migration gain stable is about 75% of the total increase in population, and in some years it is significantly higher than the "threshold" value.

Hence reasonably forecast that over the period to 2050 almost all developed countries to maintain the required level of the economically active population will need sufficient scale

compensatory net immigration. In particular, according to UN forecasts that by 2050 the population of the EU to keep the level in 2000, will need to attract foreigners in the annual amount of 949 thousand. People; to keep the same number of economically active population - 1.4 million. and to prevent reduction ratio between economically active and inactive portions thereof - 12.7 million. Foreigners.

Another qualitatively new phenomenon in the era of information economy was attracting highly skilled foreign professionals through outsourcing tools that allow "virtual" labor recruitment in production processes in foreign countries without changing the physical place of residence. Today the scale of the global outsourcing market estimated at 100 billion. Dollars. United States, and according to the company «Forrester Research» in 2013 market outsourcing business processes demonstrate the pace of annual growth of 11.5%, which is the highest compared to other segments of services in information technology. Thus the overall cost companies grew from 11 billion euros in 2006 to almost 19 billion in 2011.

Nowadays services outsourcing showing the most scope in HR management, followed by outsourcing in back-office business processes. Western companies achieve a significant reduction cost by outsourcing, primarily due to reduction of the wage fund, thus enhancing their competitiveness and increasing profits.

Significant lag in growth rates of labor costs and productivity growth is the following trend that particularly clear outlines the main areas of modification the world labor market globalization. This trend was clearly visible in most OECD countries since the second half of the 1990s.

Reduction of labor costs (wages, additional benefits for employees, the cost of improving working conditions, etc.), that constitute a significant element of rising production costs, becomes the central task in intra strategies.

The main reduction levers of this expenditures type are:

- containment of staff salaries growth;
- increasing of the working week duration (average duration in the United States in this period was 41.7 h. and overtime - 4.4 hours.);
- introduction of part-time and flexible forms of employment on terms of immediate contract (according to the OECD, the part of part-time working people, was in Japan and Korea - 23.1% in the UK - 23% in Canada - 18.5% in Germany - 17.8%, France - 14.2%, reaching a maximum of 32.1% in the Netherlands);
- curtailment of a number of social obligations, especially reduction of pension insurance of all employees. At the same time, Western countries often resort to such tool as raising the retirement age for mitigating of the public funding problem (in Italy, for example at the end of

1990s, the age limit of retirement for men increased from 60 to 65 years and for women - from 55 to 60 years in Sweden - from 60 to 62 years, and in France duration seniority for a full pension was increased from 37.5 to 40 years).

Therefore, in conditions of competition growth and desire of employers to reduce labor costs in any way, "peripheral" employment is in increasing demand, possibilities of production transfer expands, and with it of the workplaces to countries with cheaper labor force.

In this case, large corporations of developed countries have advantages because they have a direct or indirect impact on governments of host countries in order to take favorable for themselves decisions on opening production facilities and the conducting of business.

Along with quantitative changes in the dynamics of labor demand there are substantial changes in the level of workforce quality requirements with increased demand for highly skilled labor by Transnational Corporations. The task of improving of quality characteristics of employees is dictated primarily by intellectualization and scientification of production, permanent updating of products range, active spreading of compatibility practice etc.

Developed countries are characterized by intensive process of workplaces reallocation in favor of high skilled labor. According to OECD expert's calculations, in these countries 10-15% of all workplaces are updated annually and sector of skilled labor is growing. Thus, managers and skilled professionals now account for 50-60% of all vacancies opening. Moreover the requirements for workforce are increased not only in material production, where traditionally the portion of skilled workers is higher, but also in services, which gradually loses function of refuge for unskilled, as it was in the mid-1980s.

Great extent it concerns group of highly qualified engineering profile (engineers, designers, researchers, scientists who can assimilate large amounts of information and have the knowledge of information processing techniques, and mid-level skilled workers, whose complex work is the main generator of the social product. For example, recent years in Australia is particularly acute shortage of specialists in the field of information technology, which annually estimated at 27.5 thousand people, in the European Union in 2010 deficit of middle and senior managers reached 14% of workers, engineering and technological professions - 20%, and the tertiary sector workers (including scientific services production) - 13%.

Steady trend of the global labor market in the context of globalization, albeit with a new qualitative characteristic is growing labor mobility with intensification of processes of interstate movement of human resources within the world economy. The States, which cannot implement effective policies in the sphere of external migration are now experiencing growing competition from countries with low wage level. A manifestation of this process is reduction of the number

of jobs on the national labor markets, narrowing of the scope of employment of the local inhabitants, lower average wages in the economy etc.

Increase of the requirements to the quality conditions of labor force and increasing demand for highly skilled labor force by monopoly capital have the effect of deepening of income inequality between employees with various educational and professional qualification levels. Recent researches indicate that during the growth of profitability of major international corporations income inequality between the top-management and ordinary employees of these companies deepened. For example, in the US average wage of a head of a company is 419 times higher than the average worker's. In a solution, in case of tough competition between companies on a global level, a fundamental principle of "fair pay for equal work", which is proclaimed in the Constitution of the International Labour Organisation (ILO) is neglected.

Characterizing modifications of the world labor market under conditions of globalization, we cannot ignore the global labor market problems of child labor, which occurs mostly in countries with low living standards. Today, according to the ILO, there are at least 180 million boys and girls aged from 5 to 14 years in the world, who are to work. Most of them work in dangerous life and health conditions, do not attend school, as a result they don't have primary education and don't have an opportunity to become skilled workers.

Increasing tension in employment sphere encourages leaders of large Western countries to intensify their efforts to coordinate the overall strategy in the international labor market. Leading Western countries have agreed the general outlines of the policy on the international labor market. Cancellation of macroeconomic stimulation of the aggregate demand in order to increase employment, as well as cancellation of the reduction of working time to reduce unemployment rate, became the part of this policy. Instead of this, the task was to reduce labor costs, increase flexibility of the labor market, stimulate the state active policy on it.

Leaders of Western countries associate the tackle of unemployment question with increase of labor market flexibility, which involves empowering entrepreneurs in matters of hiring and firing labor. An entrepreneur, who has the opportunity to fire an extra labor force at any time will hire an additional staff at the first signs of improving of economic conditions with a greater desire.

Conclusions. On the Rubicon of the XXI century world labor market is transforming into global format of its development, main characteristics of which are structural, geographical and professional diversification of the labor market; increase of national labor markets openness; increasing mobility of human resources in planetary scale; requirements standardization for the labor force reproduction on an international basis; democratization of labor relations between employers and transnational labor force; regional and in the future global convergence of living

and working standards of people in different countries; coordination, harmonization and convergence of social policies of the world. Such actions, that would promote stable and open economic relations between states on the international level are necessary to implement accumulated economic potential to achieve high growth of production and employment around the world in a conditions of globalized economy.

CURRENT ISSUES OF YOUTH EMPLOYMENT IN THE LABOUR MARKET UKRAINE

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The features of the competitiveness of graduates and current state of the labor market are developed, the main factors which influencing the on the employers' choice and determine the success in employment and successful transit from education to working life are analyzed.

Key words: labor market, employers, competitiveness, professional competences.

Problem. Young people - a demographic group that holds a special place in the structure of society and plays an important role in political and public life of Ukraine. Young people who just start working life at risk, because the labor market does not always provide favorable conditions for employment and providing them with decent wages and working conditions.

The quality of vocational education is derived from the demand for graduates is therefore essential research and determination of specificity that characterizes the interaction of employers and graduates, the requirements of employers and their relationship with the education system, but rather professional training for specialists of all educational levels, and employers' point of view on the quality of vocational training of graduates.

Analysis of recent researches and publications. Researches in the area of competitiveness of vocational education graduates and problems of provision enterprises with the workforce are described in a number of publications of such scientists as: O. Grishnova, L. Koleshnya, I. Kravchenko, E. Libanova, L. Lisohor, I. Petrova, E. Saveliev, V. Savchenko, M. Semykina, V. Onikiyenko, O. Tsymbal.

The problem of determining the competitiveness of graduates was isolated by Russian scientists: A. Kirzhbaum, T. Savenkova, A. Shavandina.

The purpose of this article is to determine solutions to the problems of youth employment in the domestic labor market on the basis of an analysis of the factors that determine the successful transition of graduates from education to working life.

The main material. Analyzing the specifics of the demand for workers, especially young professionals, we cannot avoid the issue of professional requirements for candidates, that are increasingly transform into acquirement of certain social and professional competences.

For example, the requirements of Russian employers to labour specialists (which may be considered similar to domestic) are significantly limited to special technical skills. When hiring, employer prefers experienced professionals that do not require additional training. Meanwhile, recruiting staff - "white collar", requirements of employers are more diverse. Grouping them on the basis of ownership of "basic competencies" we may define: Higher education - claim of 90% of employers; skills at a level of PC user - 95%, ability to speak at least one foreign language - 50%; professional experience (average - two years) - 50%¹. This list should be supplemented by a sufficiently large set of so-called «hardskills» competencies that are necessary to perform professional duties within the appropriate specialty (example is the set of competencies required to work as a manager in science and technology and in industrial areas that are given in²) and secondly, «softskills» competencies, including analytical skills, ability to set and achieve the objectives, the ability to work in a team and to lead, communication skills, ability to take responsibility, stress tolerance etc³.

The presence of almost similar requirements is typical for Ukrainian labor market, but stagnant economy affected the requirements of employers who are trying to reduce the cost of labor. Thus the results of the review "The labor market in Ukraine 2013"⁴ conducted by Internet portal "RBC-Ukraine" had shown that employers prefer young professionals and employees who are able to work a lot in terms of long working days and ready to take duties on several directions. Accordingly, in all professional fields there is clear tendency to lower requirements for work experience. This is especially true of hotel and restaurant business. In numerical terms, such a "weakening" of requirements caused reducing of requirements for experience of applicants to the relevant vacancies from 3-6 years to 1-3 years.

"Now, in the eyes of employers the most valuable candidates - those that are loyal and very efficient. Demand is for those who are willing to take on duties in several areas simultaneously, perform and overperform" - the experts of staffing portal hh.ua⁵.

Analytical study of Internet portal Rabota.ua "Ukrainians Employment Problems: facts and figures" shows that there are difficulties in youth employment: "Only one of ten young people (under 24 years) admitted that never faced barriers in employment. The problem that most often occurs (in 86% of cases), is the refusal of the employer due to lack of necessary experience of the applicant. Almost half of the cases (49%) beginners are proposed with very

¹Requirements of employers to education system / [Scientific. ed. T.L. Klyachko, G.A. Krasnov] / Academy of the economy of the Russian Federation government. - Moscow: MAKS Press, 2006. - p .31 - 32.

²Mashukova N. D., Orbachevskyy L. S. Pavlov F. B. Experience of professional requirements formation in the system of high education based on requirements of professional standard (<http://www.standart.macedel.ru/standart4.php>).

³Requirements of employers to education system / [Scientific. ed. T. Klyachko, G. A. Krasnov] / Academy of the economy of the Russian Federation government. - Moscow: MAKS Press, 2006. - p .35.

⁴Labor market of Ukraine in 2013: Markets research. RBC-Ukraine // Internet portal RBC-Ukraine [Electronic resource] / Access mode: <http://Marketing.RBC.ua/Publication/26.07.2013/5860>

⁵For whom it's easier to find a job in 2013? / Research Center of International HR portal hh.ua // Internet portal hh.ua [Electronic resource] / Access mode: <http://hh.ua/article/14281>

low wages, and 19% of young respondents reported that profession they received has no demand in today's job market. Denial of employment due to employer inability to provide flexible working hours or part-time was noted by 14% of respondents. Low information level about career opportunities as employment problem was noted by 15% of respondents⁶.

The tendency of employers to hire experienced workers, which is so confused for young professionals, it is confirmed by the results of Russian survey "Requirements of employers to education system"⁷ "Experience, according to the employer, is much more important than actually working abilities of a candidate. Also confirmed the desire of employers to have educated workers. Also confirmed that the level of education and experience should be supported with needed relationships⁸. The ranking results of these priorities given in Table. 1.

Table 1

Requirements of employers to job seekers

Abilities of candidate	Number of employers considered appropriate ability important%
Experience	86.1
Level of Education	80.4
Relationships	72.9
Work abilities (qualification)	61.2
Recommendations	26.5

Source: Requirements of employers to education system / [Scientific. ed. T. Klyachko, G. A. Krasnov] / Academy of the economy of the Russian Federation government. - Moscow: MAKS Press, 2006. - p. 43.

Realizing that work experience is the leading employment requirement (as believe two-thirds of young people who were respondents⁹) students, as the results of the survey show, have to "sacrifice training (in the last year almost completely) in order to acquire some work experience. This is the only way to meet the requirements of the employer, since other possibilities of entering the profession (practice in enterprises, companies, institutions, participation in joint projects and other forms of scientific practice) are not developed at all, or available only on paper¹⁰". So it should be noted that the presence of an appropriate professional education is serving as one of the basic requirements of employers.

The work of L. Malish and O. Vinogradov¹¹ on the results of the survey "The transition from education to work", held in June and October 2007 the World Bank on the basis of assess the level of ownership of basic skills by young people (a written statement of opinion, communication skills, mathematical calculation exercise, computer skills, problem solving

⁶Ukrainians Employment Problems: facts and figures // Internet portal Rabota.ua [Electronic resource] / Access mode: http://rabota.ua/Info/Jobsearcher/post/2013/10/14/rezultaty_issledovaniya_problmy_trudous_trojstva.aspx

⁷Requirements of employers to education system / [Scientific. ed. T. Klyachko, G. A. Krasnov] / Academy of the economy of the Russian Federation government. - Moscow: MAKS Press, 2006. - 128 p.

⁸ Ibid. - P. 43.

⁹ Ibid.

¹⁰ Ibid. - P. 60.

¹¹Malysh, L. O., Vinogradov O. G. Basic Skills of Ukrainian youth: social factors and influence on the position in the labor market // Scientific Notes NaUKMA. - 2011 – Vol. 122: Sociological Science. - P. 32-41.

skills) was generalized the indicator of the skills of young people. According to the authors, the main groups of factors that lead to a level of skills include:

➤ First, a number of characteristics of the individual, such as: physical characteristics (health, level of physical development), the ability to perform a certain type of duties, socio-demographic characteristics (gender, age, education level, etc.);

➤ Second, the characteristics of the social environment of the individual concerning their social origins, family cultural capital, material support of family and family social network sophistication.

➤ Third, factors associated with socio-cultural context, including the level of social development and characteristics of the relationship between the labor market and educational institution.

A sociological study on the success of young people in Ukraine in transit to working life was conducted in 2013 with the participation of Ptoukha Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine, commissioned by the International Labour Organization¹². 9771729 people polled, aged 15-29, of which 51.1% were male and 48.9% - women, youth division by age groups was equal to the demographic structure, according to area of residence 34.3% - inhabitants of regional centers, 36.1% of other towns, 29.7% - of rural areas. Analysis of the results allows to make a number of generalizations. In particular, the pattern found between level of education and employment: "for the young man the probability of being in state of unemployment decreases markedly with higher levels of education and vice versa, probability to be employed increases along with the level of education¹³". Research of the distribution of youth by economic activity status and educational level showed that economically active young people with higher education is more likely to find work than young people without such education (Table. 2). This thesis was confirmed in studies on the problems of social inclusion^{14,15} where particularly noted that the low level of education and unemployment contributes to social exclusion, and they are interrelated, "low levels of education increase the risk of unemployment¹⁶".

¹²Labour market transitions of young women and men in Ukraine. Official site [Electronic resource]. - Access mode: http://www.ilo.org/employment/areas/youth-employment/work-for-youth/publications/national-reports/WCMS_242916/lang-en/index.htm

¹³Ibid - P. 19.

¹⁴Natsional Report of on human development 2011 "Ukraine: Towards sotsial inclusion". - UNDP, UN Development Program in Ukraine. - K - 123 p. - K., UNDP Ukraine, 2011. - 123 p.

¹⁵From transformation - to society for everyone. Locale report on human development / Regional UNDP Bureau for Europe and CIS countries. - Bratislava. - 2011. - 144 p.

¹⁶Just - P. 51.

Table 2

Distribution of youth by level of education and economic activity status, %

	Status by economic activity			Total
	Employed	Unemployed	Inactive	
Primary education	0,0	0,0	0,3	0,1
Secondary education	9,5	25,4	27,2	15,0
Vocational education	27,4	30,7	25,9	27,5
Higher education (including postgraduate)	60,0	39,9	44,1	54,4
Continuing education	1,5	0,9	0,3	1,2
No answer to the question	1,7	3,1	2,2	1,9
Total	100,0	100,0	100,0	100,0

Source: author formed according to Labour market transitions of young women and men in Ukraine. Official site [Electronic resource]. - Access mode : http://www.ilo.org/employment/areas/youth-employment/work-for-youth/publications/national-reports/WCMS_242916/lang--en/index.htm P. 69

Table 3 provides a more detailed distribution of youth by educational level and employment status, including the distribution by selected age groups of young people. Data shows that employment in the age 15-19 have mainly vocational education, with ageing the proportion of employees of this educational and professional level decreases, in the structure of the working youth higher education begins to dominate: with higher education are 58.4% of young people aged 20-24 years and 61.8% - aged 25-29 years.

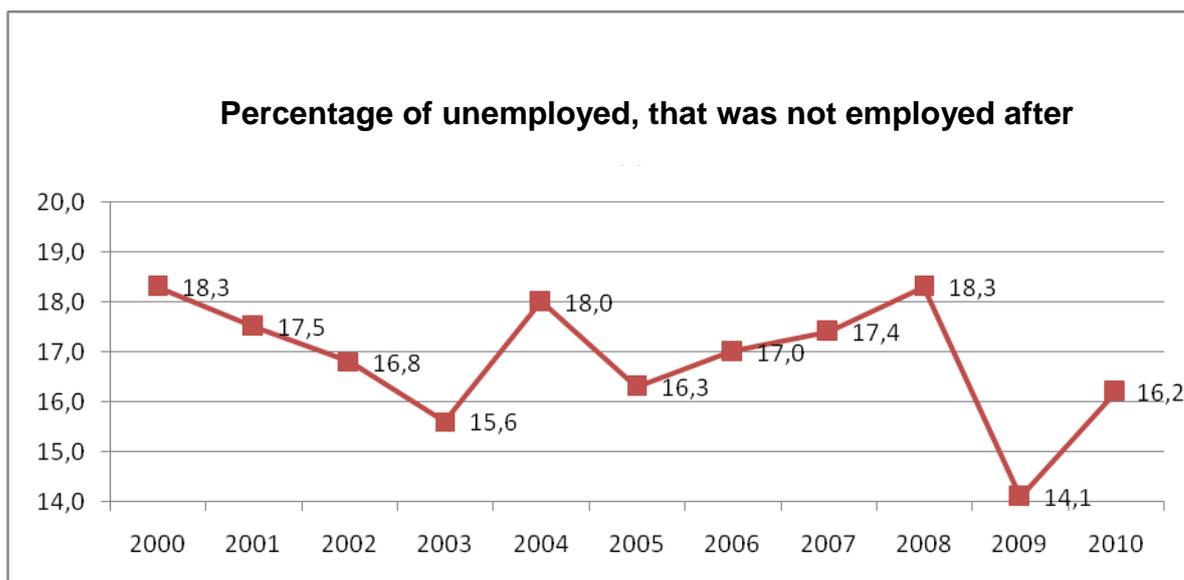
Table 3

Characteristics of the distribution of youth by level of education and the status of economic activity in context of various age groups, %

Age group	Education	Employed	Unemployed	Inactive	In general
15 - 19	Secondary	18.4	67.0	54.6	44.2
	Vocational	49.8	25.7	33.1	37.4
	Higher	31.8	7.4	12.3	18.3
20 - 24	Secondary	10.0	20.5	29.9	15.9
	Vocational	29.0	32,1	30.8	29.8
	Higher	58.4	45.7	37.6	52.0
	Continuing	0.8	0.0	0.0	0.5
25 - 29	Secondary	8.9	21.4	21.3	12.3
	Vocational	25.7	30.4	21.5	25.3
	Higher	61.8	41.1	53.3	58.4
	Continuing	1.9	2.0	0.6	1.6

Source: author formed according to Labour market transitions of young women and men in Ukraine. Official site [Electronic resource]. - Access mode : http://www.ilo.org/employment/areas/youth-employment/work-for-youth/publications/national-reports/WCMS_242916/lang--en/index.htm P. 69

During the search of the first job by chance to trap into a category of socially excluded are much higher. The share of graduates unemployed during 2000-2008 was relatively stable (16-18%), see. Fig. 1. Being new to the labor market, such persons do not have work experience, so the risk increases of prolongation of unemployment for them. The share of this group in the unemployed remains fairly stable and correlated with proportion of graduates in the workforce - about 22%. The majority of this group are men (about 55-60%) and distribution by type of settlement reveals the dominance of urban residents - 70%¹⁷.



Source: National report on human Development 2011 "Ukraine: Towards Social engagement ". - UNDP, UNDP program in Ukraine. - K - 123 p. - K., UNDP Ukraine, 2011. - p. 59.

Fig. 1. The unemployment rate because no employment after graduation, in% of the total economically active population.

The National Report on Human Development in Ukraine noted that the system of vocational education has positive effect on the economic development of Ukraine by preparing individuals according the needs of the labor market, continues to perform an important function of inclusion into the social life of vulnerable youth, especially orphans and children deprived of parental care. However, training programs are often not consistent with the needs of potential employers and changes in the labor market. Many vocational schools prepare graduates for further work in areas where employment opportunities are small¹⁸.

As for higher education, the authors of the Report noted that in Ukraine there are no institutional barriers to obtain higher education. This system is continuously developed providing opportunities for acquisition of knowledge to a growing number of young people every next year. Despite the existing notion entry to higher education for rural youth in Ukraine is no less

¹⁷National report on human Development 2011 "Ukraine: Towards Social Inclusion". - UNDP, UNDP program in Ukraine. - K - 123 p. - K., UNDP Ukraine, 2011. - p. 58.

¹⁸Ibid - P. 50.

possible than for the city youth. Villagers may choose future career and educational institution. However, the decline in the quality of secondary education in rural areas reduces the chances of rural youth to be accepted to universities. The main factor of inequality in education is household income. Tuition is the most difficult issue for the majority of the population - funds to pay for education are missing - 62.2% of respondents. In the whole country 6.4% of households felt the lack of funds for obtaining any professional education, with those in large cities the figure was 3.1%, smaller - 3.9%, in rural areas - 7.5%. Thus, with a decrease in the size of settlement reduces availability of professional education. Most vulnerable to the lack of funds for professional education are households from rural areas (43.1%), but their share in the total households is 30.8%. The risk not to get vocational training for villagers is 1.5 times higher than the national average, and for inhabitants of large city - more than twice.

One of the main findings of the research¹⁹ is a statement that in modern context higher education guarantees a high level of social inclusion. However, there are some risks, "mismatch of training programs to labor market needs limits the ability of higher education to increase social inclusion. This leads to large number of frustrated middle-aged professionals who are on the verge of touch on social exclusion due to the obsolescence of their skills²⁰.

Describing youth employment by sectors, it should be noted the predominance of the tertiary sector (service economy), namely 65.3% (among women this activity spreads even more - 80.1%)²¹.

The percentage of employment in agriculture is 5.4% and slightly varies relative to men and women, but of age groups, the largest share of employment in this sector has the youngest age group - "15-19 years" - namely 29.0 % versus 5.1% and 3.7% in the two older age groups. This can be explained by the fact that a large amount of work in agriculture do not imposes high requirements for training of employees, so it can be performed by young people at the very beginning of their working lives.

Among those employed in industry 15.2% of young people men of oldest age groups prevail, as well as in the construction sector (total number of employed is 7.9%). The wholesale and retail trade, repair of motor vehicles, motorcycles and household goods generally employs 18.9% of employed young people and is dominated by female employment, as well as in providing infrastructure, personal services and education. In sector of financial activities, there is almost gender parity.

¹⁹Ibid.

²⁰From transformation - to society for everyone. Locale report on human development / Regional UNDP Bureau for Europe and CIS countries. - Bratislava. - 2011. P. 25.

²¹Labour Market Transitions of Young Women and men in Ukraine. Official site [Electronic Resource]. - Access mode

Table 4

Employed youth by sectors, gender, age and place of residence

	Total	Sex		Age Group			Area of living		
		Women	Men	15 - 19	20 - 24	25 - 29	The regional center	Other cities	Countryside
1	2	3	4	5	6	7	8	9	10
Agriculture, hunting and fishing	5,4	4,2	6,4	26,0	5,1	3,7	0,8	4,2	13,0
Industry	15,2	9,9	19,0	5,9	14,1	16,6	15,1	17,8	11,5
Construction	7,9	1,0	13,0	8,0	7,2	8,3	8,0	8,1	7,4
Wholesale and retail trade, repair of motor vehicles, motorcycles and household goods	18,9	21,5	16,9	15,2	20,7	18,1	20,3	20,6	14,7
Infrastructure Services	13,0	9,8	15,4	11,9	14,2	12,5	13,9	13,2	11,7
Financial and insurance activities	2,9	3,4	2,5	2,9	3,0	2,8	3,5	2,8	2,2
Business activities: Real estate, renting and business activities	7,7	8,2	7,3	5,7	7,8	7,7	11,1	5,7	6,2
Public administration and defense; compulsory social security	4,8	4,2	5,2	1,8	5,7	4,5	3,2	6,0	5,0
Education	8,3	15,6	3,0	3,2	7,5	9,3	8,8	7,2	9,4
Activities in the field of health and social services	5,3	10,3	1,6	7,7	4,6	5,5	5,0	6,1	4,5
Other community, social and personal services	4,2	6,8	2,2	2,9	4,2	4,3	5,4	3,7	3,3
Private households with employees	0,2	0,4	0,1	0,0	0,1	0,3	0,3	0,3	0,0

Source: Labour market transitions of young women and men in Ukraine. Official site [Electronic resource]. – Access mode: http://www.ilo.org/employment/areas/youth-employment/work-for-youth/publications/national-reports/WCMS_242916/lang--en/index.htm

In general, more is 60.0% of young people working in a professions attributable as highly skilled "professionals" (23.7%), "workers in trade and services" (19.5%) and "artisans and similar skilled workers" (17.1%). The percentage of young women working as professionals, higher than that of men (35.9% vs. 14.7%). Young women are also more likely to work as trade and service workers (26.5% vs. 14.3%). Young men more often than women work in professions that do not require to be highly qualified "operators and collectors of plants and machines" (14.1% vs. 2.0%) and "elementary occupations" (9.4% vs. 4.7%). The positions

classified as managerial are characterized by gender parity - percentage of young men and women in these positions are almost equal.

Returning to the characteristics of transit to working life, stress that the proportion of young people who completed transit is 42.6% of the total number of youth, while approx 47.9% male and 32.5% female completed transition. In the older age group (25-29 years) the share of young people who completed the transition is the highest and is 68.6%. The survey showed that for young people who live in cities, it is easier to complete the transition to working life, as well as for those with higher education.

By characteristics of decent employment, most people - 67.8% - are at work, which can be characterized as regular employment, in which young people are happy, but 17.9%, with stable work, are not satisfied with it. The latter figure corresponds with a total share of 14.3% of young people in temporary jobs and the number of self-employed who are satisfied with their situation (11.2% first and 3,1% - second, respectively). Note, that the most satisfied with their position in the labor market are young people employed on a regular basis - 79.1%. However, a fairly high percentage of satisfied is also among the self-employed (74.7%), and among those on temporary jobs (72.6%).

Into the category of young people who are in a state of transit, gets 22.8% of individuals. By gender this group is dominated by women - 54.0%. About 63% of young people of this category live in cities, the rest - in rural areas. A longer transit time of young people living in urban areas is the result of better accessibility of vocational education, and especially higher education, which city residents spend more time on.

According to the methodology of the study, young people in the transition process was divided into four subcategories²²:

- unemployed (part of this subgroup are both so-called "clean" and "relaxed" unemployed)
- temporarily employed and not satisfied with their job;
- self-employed and are dissatisfied with their employment;
- inactive, those not in training, but want to work in the future.

Unemployed young people who are in the process of transit, as the main reason for the lack of job name: the impossibility to find a job after graduation - 42.1%, resignations - 21.6% and dismissal for economic reasons - 12.7% of respondents. When asked about what would give them additional employment opportunities (would be most useful in employment), 14.6% consider it useful to go through employer's apprenticeship or internship, 12.2% - to receive

²² Labour market transitions of young women and men in Ukraine. Official site [Electronic resource]. – Access mode: http://www.ilo.org/employment/areas/youth-employment/work-for-youth/publications/national-reports/WCMS_242916/lang-en/index.htm

vocational training. Evaluating existing level of their own education, the majority of unemployed young people consider it as a whole positive, "as a very useful" it noted 40.0%, and "as somewhat helpful" 32.9%²³.

Similar to the results previously analyzed researches on this issue, and in²⁴ revealed the fact that "despite the relatively high level of education of unemployed young people and positive assessment of the usefulness of knowledge, employers are not interested in youth employment due to lack (or absence) of professional experience". That is the reason considered the main obstacle in finding a good job by 27.4% unemployed youth. Among individual socio-demographic groups of unemployed young people this reason predominates among women (31.3%), men (24.5%), people aged 15 to 19 years (29.9%) and 20 - 24 years (34.6 %), and cities residents (32.7%).

The proportion of self-employed who are in the process of transit increases in the older age groups and for the age group of 25-29 is the maximum - 41.0% of all self-employed, dissatisfied with their employment. This is because with increasing age young population gets some experience and enhances their welfare through increased access to financial resources, and re-estimates self-employment appropriately. By type of settlements in the structure of the self-employed who are dissatisfied with their working conditions, 55.3% living in rural areas and 44.7% - in cities. This ratio is probably due more opportunities of self-employment in rural areas, because there is a shortage of jobs and self-employment is often the main kind of employment for young population.

Subcategory "temporarily employed and not satisfied with their job" is the least numerous group (2.2%) among young people who are in the process of transit, women prevailing there (53.2%), people aged 25 to 29 years (51.7%) and the inhabitants of urban areas (92.3%). Nearly 71.0% of temporarily employed and not satisfied with their job young people want to change their current position; main reasons for this is to try to get rid of a temporary nature's of employment (34.9%), desire to use their skills and abilities better (21.4%), the desire to better working conditions (19.6%) and higher salary level (14,8%). However, only 30.1% of respondents tried to find another job, and 55.8% - were looking for extra work.

In subcategory "economically inactive people" dominate young women - 58.6%, representatives of the age group 15-19 years - 52.3% urban residents - 71.6%. In Ukraine, the structure is dominated by young economically inactive people - 50.9%. This is due to the fact that the bulk of the economically inactive young people are learners. The low percentage of economically inactive population in rural areas is related to an overwhelming concentration of

²³ Ibid.

²⁴ Ibid.

educational institutions in cities. Most of economically inactive young people aged 15 to 29 continues training (75.7%). Completed training and have a graduation document - 22.8% and 1.5% - left training before receiving graduation document.

The structure of the economically inactive population aged 15 to 29 years in levels of formal education in terms of gender and age shows that higher education had already acquired 46.6% of women and 36.5% of men, vocational education (based 11 classes of school) - 17.5% of women and 25.5% of men. Consider that the majority of economically inactive young people continue to learn, we can predict that in the future their educational level would not be lower than that of people who are economically inactive today. More than a third of economically inactive young people aged 15 to 29 years (39.6%) believe that education acquired in the past is very useful for employment, 34.3% - that it is useful to some extent, and 14.6% - undecided. The distribution by sex is almost the same, although young economically inactive men are more satisfying with quality of education comparatively to young economically inactive women – as "very useful" and "somewhat useful" their education is considered by respectively 73.4% and 34.8%. At the same time, young economically inactive women are more likely than men could not determine the answer to this question (almost 17.2% versus 12.8%), which indicates a substantial uncertainty in value of education among young women.

Conclusions. The research of analysis materials and social practices on youth employment allows to determine the main factors that influence the choice of employers and determine success in employment and successful transit from education to working life.

The degree of youth awareness of the importance of education for a successful career employment depends upon residence - young people living in urban areas, are the most motivated to continue learning, realizing the importance of obtaining this competitive advantage. Young people who live in regional centers and small towns are more focused on continuing education (42.7% and 28.3%, respectively) than rural and youth, 44.7% of which are not interested in continuing education.

Yes, of course, the level of acquiring of social and professional competences while learning in educational institution significantly affect employment, but this is not the only factor that determines it. Also important are such "formal signs" as a young person's education level confirmed by the relevant diploma, his professional qualification. Important for successful transit is an area of settlement, where a person lives or availability of convenient transport to the place of employment, work experience, social capital (recommendations, relationships of the individual or family) and the age group to which the individual belongs. Analysis of HR services' work also shows the presence of such factor as acceptable appearance of the applicant, but we believe that in this case it may be ignored, and also the ability to impress at the interview,

although this factor can be attributed to social competencies. Thus a successful transition from education to working life is determined not only by parameters of acquiring educational programs in institutions where the person studied, not only by his personal characteristics, but also to a large extent by society - "rules" that have developed in the labor market, those realities, that young people should adapt to in working life (in particular, the requirement of work experience at a time when a person has only to study).

THE COST OF LABOR AND EMPLOYER COSTS FOR ITS MAINTENANCE

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The author defines the difference between the notions of «labor value» and «employer's labor costs», reveals the condition and tendencies in employer's labor costs and conducts a comparative analysis of that indicator in Ukraine and foreign countries. The article justifies the need of a strict separation of the value of the factor of «labor» from that of «capital» and the advisability to use, in the companies' financial reports, a special indicator of labor costs.

Keywords: labor, labor costs, maintenance costs of labor, human capital, wages, productivity.

Problem. An important factor that affects the process of reproduction of labor, is its actual value, consisting of employer costs for its maintenance. Ukraine has moved to new international accounting and reporting indicators, one of which is the cost of maintaining the labor force. The rapid growth of private enterprises and the private sector in Ukraine led to a growing demand for information on the proportion of profits the employer must invest in staff development of the enterprise, which should be part of it the cost of the labor force in the total costs of production.

This figure is the base for the negotiations between the social partners for a contract of employment, as well as providing a comparative analysis of the actual cost of labor costs in the enterprise with the average value of this indicator in the relevant sector of the national economy or in other sectors. In addition, this figure is used to provide a comparative analysis of labor costs internationally.

In recent years, information on the cost of labor is also used to provide analysis of costs and revenues employers of employees to assess the effectiveness of enterprise policy and identifying characteristics of entities in promoting employees, competitiveness and investment attractiveness of certain regions and economic activities.

Analysis of recent research and publications. The issue of identifying and accounting costs of employers the maintenance of labor are described in studies of Ukrainian^{1,2} and

¹Колот А. Вартість і ціна послуг робочої сили: теоретичні аспекти формування // Україна: аспекти праці. – 1998. – №6. – С. 14–19.

²Мала С. Щодо вартості робочої сили в сільському господарстві // Україна: аспекти праці. – 2013. – № 1. – С. 23–27.

Russian^{3,4} authors. However, the economic literature does not open properly essence of labor costs and their importance as a factor of labor reproduction, maintenance costs of the labor force is not a separated group of expenses. Unresolved is a critical problem of eliminating disparities between the cost of labor (cost of employer on labor maintenance) and cost of labor and his family reproduction.

In economic dictionaries and encyclopedias given the wording of various kinds of costs. But even no mention of the cost of maintaining labor or labor costs^{5,6,7}.

The purpose of the article is to highlight key aspects of current trends of employer costs for maintenance labor force, foundation of necessity of forming the independent group of cost of the labor maintenance, highlighting certain issues of labor costs maintenance.

In none of the articles of the Labor Code of Ukraine and the drafts of Labour Code not even mentioned about cost of labor or labor force, its definitions. The cost of labor determined on the basis of science-based standards of nutrition, clothing, housing, recreation, etc., is out of public recognition. Most people are not satisfied with officially mounted volume of life funds considering it as not enough, and the state considers it as too heavy for the budget.

In a market economy there is the index of employers costs on labor maintenance. For our economy it is a relatively new figure, but also a relatively new concept that requires theoretical understanding.

We agree with those authors who believe costs labor – is a consistent term. They justify this by saying that in its economic nature such costs are the portion of newly created value, which forms vital resources fund necessary for reproduction of labor in specific socio-economic and historical conditions⁸.

Labor costs are costs throughout the human life cycle, ensuring the normal functioning of workers and their families. They include the costs of food, clothing, household and housing, cultural, residential and medical services, education and training, employment and labor migration, the social needs of workers during work and after its completion, including costs to hold children, seniors, disabled, unemployed.

As you know, the main source of compensation for the total cost of reproduction of labor are employers' costs. In addition, for this purpose money is spent from the budgets of different

³ Ревуцкий Л. Цена и стоимость труда // Человек и труд. – 2011. – № 8. – С. 49 – 50.

⁴ Ракоти В. Наемный труд – стоимость, цена, прибавочная стоимость // Человек и труд. – 2013. – №4. – С. 35–43.

⁵ Большая экономическая энциклопедия. – М.: Эксмо, 2008. – С. 239–241.

⁶ Словарь современной экономической теории Макмиллана. Общая редакция Дэвида У. Пирса. Перевод с английского. – М. : Издательский Дом «ИНФРА – М». – 2003. – 608 с. («Библиотека словарей ИНФРА – М»).

⁷ Экономический словарь / Сост., предисл., прилож. А. Ф. Никитина. – М. : Изд-во «ОЛМА – ПРЕСС Образование» – 2006. – 672 с.

⁸ Павлючук Ю. Н., Козлов А. А. Управление формированием и определением стоимости персонала в условиях перехода к рыночным отношениям. – [Электронный ресурс]. Доступный з: <http://mevriz.ru/articles/2001/5/931.html>

levels (national, local), intended for social programs, housing, education, health and so on, and funds of citizens intended for formation and development of abilities to work.

The cost of labor is formed on the market for goods and services by comparing the effectiveness and usefulness of labor to costs of reproduction of labor and is set at a level that coordinates marginal productivity or value of labor services for the employer, with the employer's costs required for the reproduction of labor .

We must distinguish the concept of "labor costs" and "value of costs of the labor maintenance to the employer." According to Karl Marx labor cost is the cost of vital resources necessary to sustain life of its owner. In other words, the cost of labor is reduced to the value of a certain amount of vital funds⁹.

In international practice, according to the resolution adopted by the International Conference of Labor Statistics, the labor cost is defined as the amount of the actual costs of maintaining the employer's workforce. Maintenance costs for the employer's workforce - is only a fraction of the total or complete cost of labor or cost of living.

As labor force, Karl Marx meant mainly workers, their ability to work, i.e. mostly physical labor. Today, the ability to work of teacher, scientist, designer, technologist and representatives of other professions of highly intellectual labor is hardly appropriate to be referred to the labor force. This means that the term "labor" is outdated and used most of habit. In this respect, the more successful term can be considered the term "human capital." It includes capabilities as workers and knowledge workers. Employee as the subject of employment should not be viewed simply as a carrier of labor but a carrier of human capital.

Some authors point out that the theory of human capital reflects the reorientation of economic science from the use of labor to creation of a new labor force in context of postindustrial society. Human capital as a factor of production although it is close to the concept of "labor" for an expense, but is not limited to it in structure, size and performance, as the highest measure of labor as the ability to work consists of, besides the simple and complex (ie skilled) labor – also the creative component¹⁰. As economic category it is much more complicated than labor potential or labor force, and not identical to them. Reproduction of human capital as a process means formation, accumulation and improvement of knowledge, skills, development of intellectual abilities of the employee. Reproduction of labor in modern conditions directly less

⁹Маркс К. Капитал. Критика политической экономии. Т. I. Кн. I. Процесс производства капитала. – М.: Политиздат, 1988. – XVIII, С. 181, 183.

¹⁰Одегов Ю. Г. Экономика труда: учебник: в 2 т. – Т. 1 / Ю. Г. Одегов, Г. Г. Руденко, Л. С. Бабынина. – М.: Альфа-Пресс, 2007. – С. 527.

connected with number quantity but with quality of human capital. This is due to new requirements imposed on the workforce due to the intellectualization of modern production.

Human capital - is the presence of personnel of the company (firm) specific manufacturing skills and qualifications, providing revenue income. This innate abilities and talents, accumulated knowledge, skills, experience, education and qualification, physical and mental health, spiritual wealth of workers. Labor in this situation acts as a factor of production, that needs to increase productivity through investment in training and salaries. This long-term economic resource, which reproduction turnover is several times longer than the circulation of capital. Investment in human capital returns as nearly 30% of national income growth¹¹.

Wages are significant share of total spending on maintenance employer costs of labor, and hence fairly significant proportion of its price. In this regard, is unlawful the treatment of many economists only wages for labor. Thus, according to professor of the chair of Economics and Law in St. Petersburg State University – M. Popov, wages is the price of labor. Moreover, professor believes that wages are the monetary expression of labor cost¹².

Russian economist E. Tahyltseva also identifies the value of wages and the price of labor¹³.

Even more categorical is another Russian scientist - D. Ermakov which states that theoretically the amount of cost of goods "labor" should be equal to the value of wages of employee¹⁴.

Wages - a basic, but not the only part of the price of labor services. The concept of the actual cost of labor is much broader than the concept of "wages" and in accordance with the Resolution adopted by the 11th International Conference of Labor Statistics (1966), includes, except the last, the costs of food for staff and other benefits provided in non-cash form; housing maintenance paid by employer; social insurance - mandatory state and voluntary; training; maintenance of social security services, taxes and charges, which are regarded as labor costs, and so on.

Employer costs for the maintenance of labor characterize not the labor costs, but the amount of funds which are spent on specific employee. This personalized account reflects costs of "getting an employee", hiring to work, preparing to take part in the production process, ongoing maintenance costs and so on. So to labor costs should be applied only costs that are

¹¹Большая экономическая энциклопедия. – М.: Эксмо, 2008. – С. 270–271.

¹²Попов М. В. Стоимость рабочей силы – объективно необходимый уровень заработной платы. [Электронный ресурс]. Доступный з: http://www.gpw.ru/ipd/popov_z.html

¹³Тагильцева Е. Оценка уровня систем оплаты труда // Человек и труд. – 2011. – № 9. – С. 50.

¹⁴Ермаков Д. Трактовки заработной платы в различных экономических теориях // Человек и труд. – 2013. – №9. – С. 42.

directly relevant to the person, aimed at increasing its ability to work on raising productivity through vocational training, work motivation and so on.

In accordance with the recommendations of ILO issue of labor costs is advisable to be studied under special sample surveys with time intervals not exceeding five years. We believe that in the intervals between surveys (in Ukraine - one every four years) the structure and dynamics of the costs of labor at enterprises, sectors, regions would be advisable to track in enlarged directions of expenses (mainly - wages plus single social tax). This approach let to annually conduct a comparative analysis of labor costs for the most essential elements.

In theory and in practice are considered the costs of maintaining and operating the equipment, but not the maintenance of labor. For example, in detail illuminated nomenclature of the cost of maintenance and operation of equipment, such as the costs of maintenance and operation of the production and handling equipment, transport and craft; maintenance of vehicles; the cost of repairs of fixed assets; other expenses¹⁵.

There is also nomenclature of general expenses, namely the cost of production management; servicing the manufacturing process; labor protection and others. Thus, this range includes expenditure related to professional training or retraining of workers involved in production activities and the cost of transportation of workers to workplace and back (in the directions, not covered with passenger public transport and others).

Thus, there is detailed description of the costs of maintenance and operation of fixed assets (capital factor) but a clear nomenclature of the maintenance of labor (labor factor) is absent. Separately accounted are labor costs, but it is only part of the cost of the labor force.

Labor does not appear in the current accounting system (movement, development and increased labor costs partially reflected in Personnel department reports but it is not exposed to currency evaluation).

The main feature of matching wage to demands of social responsibility of the employer is sufficiency of wage for expanded reproduction of labor.

According to the calculations of Professor, Doctor of Technical Sciences, Y. Zvyahylskiy, earning of each working member of the families needed for advanced reproduction, as of May 2013 for the conditions of Donetsk should be 1142 UAH or 1088 euros per month¹⁶.

If wages are less than this value, so are less than the cost of labor, the expanded reproduction of workers and their families are not provided. Even if the so-called high-paid workers receive only 20- 30% of the labor force, it is not surprising that the death rate exceeds

¹⁵Цал – Цалко Ю. С. Витрати підприємства: Навч. Посібник. – Київ: ЦУЛ, 2002. – С. 47–49.

¹⁶Звягільський Ю. Л. Рівень заробітної плати – індикатор ефективності програми економічних реформ // Економіка України. – 2013. – №9. – С. 83.

the birth rate in Ukraine, and our population therefore reduced. There cannot be a high-tech production, if the main productive force - the worker, does not have normal conditions for reproduction.

To determine the cost of labor based on the value of means of subsistence necessary for a normal person reproduction of labor power (Marxist) is very difficult, given the uncertainty requirements for different categories of working, and very great complexity of the calculations. In any case, it is the value that is many times higher than average wages, that is not realistic for implementation. You can specify only approximate, estimated amount of the reproduction of labor, including in the regions.

The cost of reproduction of labor power - variable, because the prices of goods and services are growing in Ukraine and worldwide. This requires monitoring the cost of reproduction of labor.

The emphasis should be on the ILO approach to labor costs, i.e. identifying the costs of maintaining the employer's workforce. This is a realistic approach, given the fact that the employer is focused on the labor market, the market for goods and services, taking into account the complexity of work, skills, results of the economic activities of the enterprise, and so on.

The study of the cost of the labor force in foreign countries is based on different frequency, e.g. annual statements of work and in Kazakhstan - 1998 .; from special materials of sample surveys - in Russia since 1995. (these surveys are conducted twice in five years), Belarus - since 1997 (every two years), Ukraine - 1999. (every four years). This is a disadvantage of existing cost accounting system for the maintenance of labor.

Important is identifying the place of Ukraine in the EU on labor costs average per employee. Statistics show that there are significant differences in costs for labor force on average per employee as in Ukraine and the EU and between the EU countries (Table. 1).

Table 1

Labor costs average per employee in Ukraine and in the European Union in 2008, 2009 and 2012 g. (euros)

	Average costs per employee employed full-time in a year			
	2008	2009	2012	2012 to 2008 per cent
Ukraine	...	356	452 *	127.0 **
Bulgaria	4512	5004	5434	120.4
Spain	33 576	35 052	33880	100.9
Latvia	10 764	10 764	10176	94.5
Lithuania	10512	10 392	9825	93.5
Netherlands	51 468	...	55 518	107.9
Romania	...	7320	7189	98.2

Slovenia	22884	23 016	25 345	110.8
Slovakia	...	13 728	14663	106.8
Hungary	14184	12936	12868	90.7
Czech	16 176	15708	16527	102.2

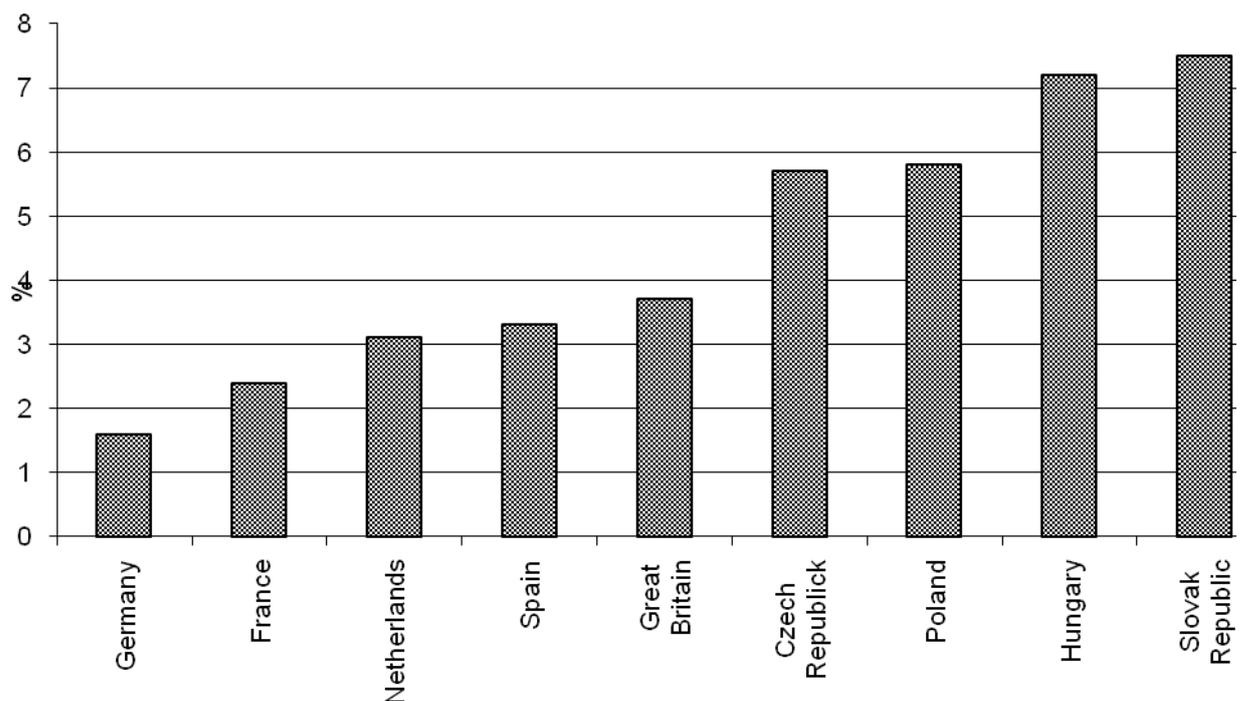
* The estimated figure for 2012 is calculated by the author based on data of State Statistics Service of Ukraine.

** 2012 to 2009

Source: Витрати на робочу силу за 2010 рік / Державна служба статистики України. Відп. за вип. Сеник І. В. – К. : ДП «інформаційно-аналітичне агентство». – 2011. – 75 с. [Електронний ресурс]. Доступний з: <http://www.ukrstat.gov.ua>

The table shows that the "old" EU countries demonstrate trend to increase annual labor costs per employee, and in some "new" countries, by contrast - the tendency to reduce costs. It is noteworthy that such low labor costs as in Ukraine, not found in any EU country.

In all EU countries there is a trend of growth the cost of the labor force (Fig. 1). In particular, according to Eurostat average annual growth of labor costs in 2002- 2011 was: Germany 1.6%, France - 2.4%, the Netherlands 3.1%, Poland 5.8%, Slovakia 7.5%.



Source: according to Eurostat.

Fig. 1. The average annual growth rate of the cost of labor force in the EU countries in 2002- 2011, %

Note that in most of the EU comprehensive survey of labor costs is performed every four years, but at the same time each year are calculated indices of labor costs (Table. 2). According to the table can be seen the uneven character of labor costs change in the EU. In some countries (Spain, Latvia, Lithuania, Hungary) in some years there has been a reduction in the cost of labor. In the EU as a whole there was a decrease in 2011- 2013.

In the structure of labor costs leading role belongs to wages (Table. 3). Data indicate a high proportion of wages in labor costs - in 2011. For example, 68.5% in Ukraine 86.3% in Slovenia.

Table 2

Indices of labor costs in the EU in 2008- 2013
(As a percentage of the previous year)

	2008	2009	2010	2011	2012	2013
European Union (28 countries)	-	2.5	1.7	2.2	1.8	1.5
Bulgaria	25.9	10.6	7.6	7.2	2.9	8.2
Spain	4.7	4.7	0.3	1.9	- 0.2	0.6
Latvia	21.7	- 3.5	- 4.8	4.7	3.8	5.2
Lithuania	18.8	- 4.3	- 4.7	2.6	3.9	6.0
Netherlands	3.7	2.2	1.8	1.8	2.2	2.4
Romania	22.6	10.8	0.8	4.4	6.7	5.4
Slovenia	9.4	3.7	1.1	1.9	- 0.3	- 2.1
Slovak Republic	5.3	4.1	2.7	3.3	2.7	3.5
Hungary	7.3	- 0.9	- 1.8	4.9	4.8	2.0
Czech Republic	6.0	5.4	2.6	3.6	2.7	1.1

Source: [Electronic resource]. Available at:
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lc_lci_r2_a&lang=en

Table 3

The main structural elements of labor costs in Ukraine and countries of the European Union in 2008- 2011

	2008		2009		2010		2011	
	W *	SS **						
Ukraine	68.7	31.3	68.6	31.4	68.6	31.4	68.5	31.5
Bulgaria	81.8	18.2	83.4	16.6	84.3	15.7	84.0	16.0
Spain	73.2	26.8	72.6	27.4	73.0	27.0	72.9	27.1
Latvia	78.9	21.1	78.1	21.9	78.8	21.2	78.8	21.2
Lithuania	71.2	28.8	70.5	29.5	71.1	28.9	71.3	28.7
Netherlands	78.1	21.9	78.1	21.9	77.7	22.3	77.6	22.4
Romania	76.4	23.6	75.6	24.4	76.8	23.2	77.2	22.8
Slovenia	84.9	15.1	85.9	14.1	85.9	14.1	86.3	13.7
Slovak Republic	74.5	25.5	74.4	25.6	74.6	25.4	74.2	25.8
Hungary	-	-	-	-	-	-	74.2	25.8
Czech Republic	73.6	26.4	72.9	27.1	73.0	27.0	72.9	27.1

* W - The proportion of wages and salaries in labor costs, % .

** SC – The proportion of social and other labor costs% .

Source: [Electronic resource]. Available at
<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tps00113&plugin=1>;
<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tps00114&plugin=1>

It is significant that the highest weight of social security and other costs for labor force - in Ukraine (31.5%).

A significant backlog of wages in Ukraine from the European Union can be inferred from diagrams and (Fig. 2).

Data comparison of sample survey of labor costs in Ukraine to information of a similar study in the EU shows the similarity of the cost structure while also significantly lower costs.

The main reason for low wages is low productivity of Ukrainian economy, which is non-competitive and produces few products. According to our calculations based on Ukraine State Statistics, in 2012. GDP per capita (at purchasing power parity method) in Ukraine is less than in Poland and Estonia - 2.8 times, Slovakia - 3.3 times, Czech Republic - 3.7 times, France - 4.7 times, Germany - 5.4 times the USA - in 7.0 times.

In terms of labor productivity Ukraine lags far behind and the EU countries (Fig. 3). The figure shows that labor productivity in Ukraine is less than half the productivity of new EU countries, and approximately one-fifth of the productivity of old EU countries.

One of the major causes of low productivity in the economy of Ukraine is poor technical equipment of employees, confirmed by physical deterioration and obsolescence of material base in all sectors of economy. For the years 2005 -2010 the degree of depreciation of fixed assets of Ukraine's economy increased from 49.0 to 74.9%, including transport and communications - from 48.5 to 94.4%, in engineering – 63.7 to 83.4%. Depreciation of assets that exceeds 50% of their total cost is the case for the most of processing industry^{17,18}.

¹⁷ Статистичний щорічник України за 2012 рік / Державна служба статистики України. За ред. О. Г. Осауленка. Відп. за випуск О. Е. Остапчук. – К., 2013. – С. 49, 91. [Електронний ресурс]. Доступний з: <http://www.ukrstat.gov.ua>; 2012 рік – за даними Держстату України і Статкомітета СНД.

¹⁸ Промисловість України у 2007 – 2010 роках / Державна служба статистики України. За ред. Л. М. Овденко. Відп. за випуск Ї. С. Петренко – К., 2011. – С. 75. [Електронний ресурс]. Доступний з: <http://www.ukrstat.gov.ua>

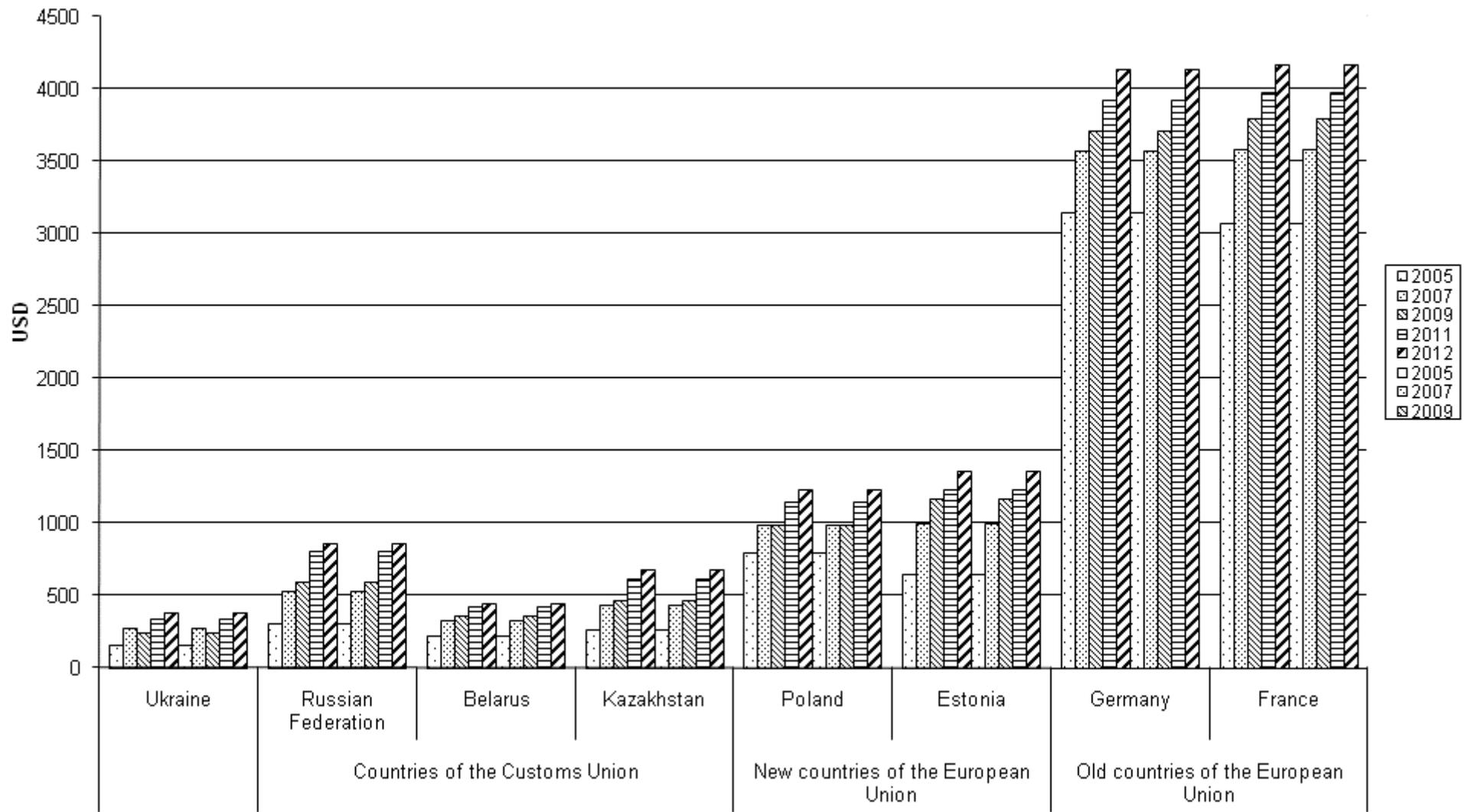


Fig. 2. The average monthly salary in Ukraine, the Customs Union and the European Union in 2005, 2007, 2009, 2011 and 2012.

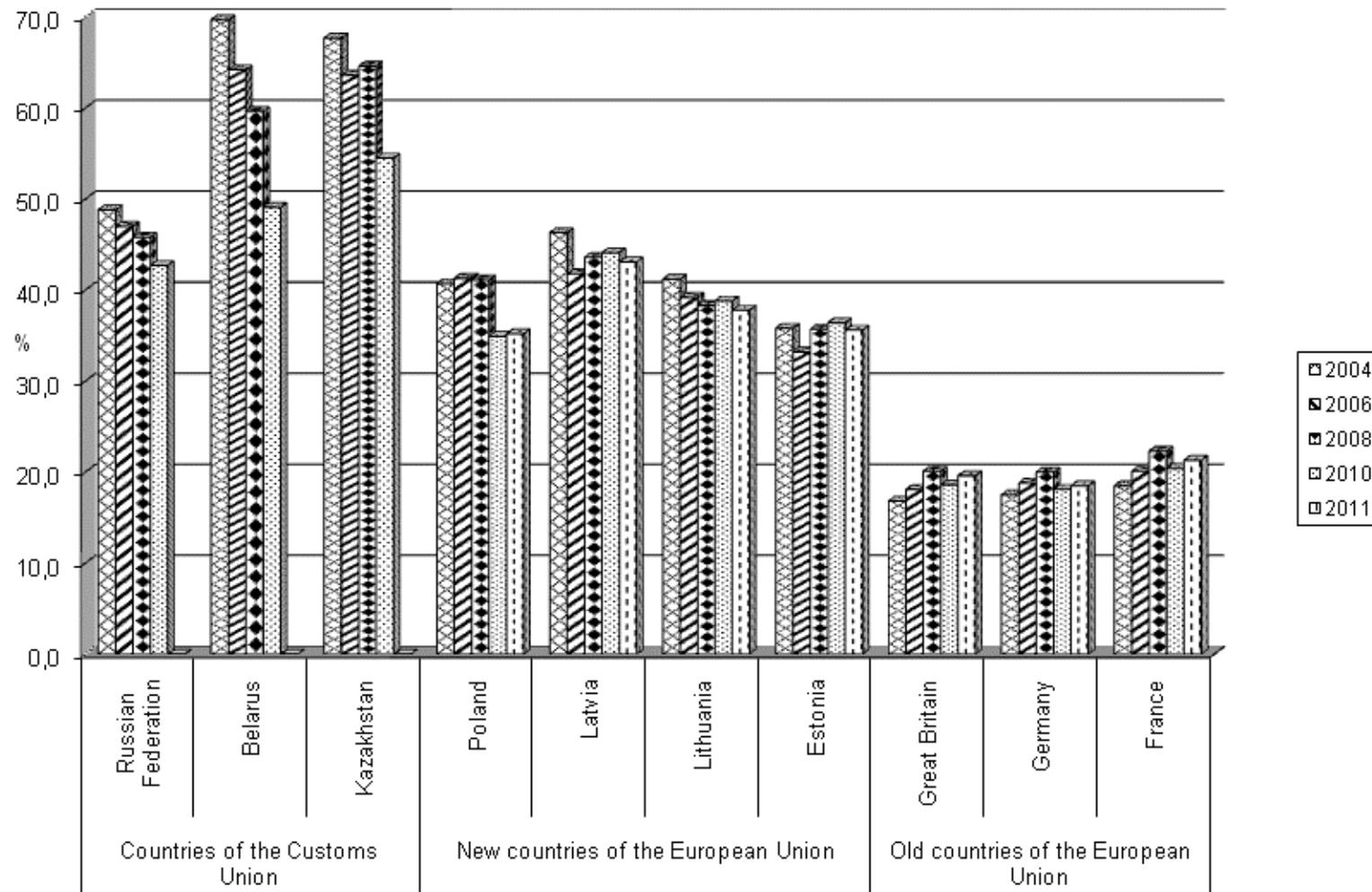


Fig. 3. Productivity in Ukraine as a percentage of the labor productivity in foreign countries in 2004 - 2011

Conclusions. Studies of the formation of labor costs allowed to make the following main conclusions:

1. The cost of labor understood differently by each side of employment contract. In determining the cost of labor employees take into account their needs and peculiarities way of life and the needs of family, the employer is guided by the interests of production and personal interests. On this basis the employee and employer in the labor market determine the price of labor.

2. In its economic nature of the employer's costs on the maintenance of labor is that part of the newly created value, which forms the foundation of vital resources needed for the expanded reproduction of labor in specific socio-economic and historical conditions.

3. Salary is important but not the only source of the expanded reproduction of labor. Therefore, the interpretation of labor costs as wages is wrong. However, in modern conditions wages are the main structural element of the approximate refund of the product "labor services" and, in spite of the importance of other benefits, the main form of existence of labor services price.

4. The cost of the factor "work" should be clearly separated from the cost of the factor "capital" and therefore it is advisable to create in reports of enterprises (firms) the independent group of labor force maintenance costs.

5. Determined the trend of increasing employer costs of labor force maintenance in Ukraine, the Customs Union and the European Union. Changes in these costs corresponding to the rate of growth of nominal wages, since it is the lion's share of labor costs.

6. Different frequency of surveys of employer costs for labor force maintenance in different countries does not allow for a comparative analysis of these costs in the dynamics. This raises the need for annual inspection of labor costs with a gradual transition from consolidated (partial) method for determining costs (mainly salaries plus social security contributions) to complete method. This approach makes it possible to keep systematic records and comparative analysis of labor costs in different countries.

7. In the case of a radical increase in labor costs the state plays a decisive role. Activation of state mechanism in steps of economic reform, modernization, regular wage increases will cause economic entities in the legal field to update the material and technical base and implement innovative upgrading.

Prospects for further research is to deepen the theoretical and methodological principles of formation of cost and price of workforce services, developing methodological bases for calculating the cost of expanded reproduction of labor, and in determining the ways and mechanisms to overcome cheap labor.

FEATURES AND STAGES OF POST-INDUSTRIAL TRANSFORMATION OF DISTRIBUTION RELATIONSHIPS

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The driving forces, contradictions, and trends in the transformation of distribution, related to the process of becoming a post-industrial society are structured in the article. The public requirements for distributional institutions, are defined, and there are proposed to consider the measure of their compliance like a basis for assessing of their adaptation to the new hierarchy of factors of production. Author suggests the criteria for identifying the stages of distributional relations' transformation in respect of which it is advisable to use different priorities, principles and tasks of state regulation of distribution relations.

Key-words: distribution relationships, hierarchy of factors of production, limiting resource, resource allocation, revenue sharing.

Problem and foundation of topicality of the research. The system of distribution relationships in modern developed countries is in the process of qualitative transformation. This is evidenced by a radical change in the social structure of the population and its distribution in the functional division of labor and dynamic update of institutions regulating distribution relationships.

Sectoral allocation of resources is increasingly subject to the action of specific mechanisms of financial redistribution and less – to cost relations of the commodity markets and those – are less based on "socially necessary" resources spending to create wealth.

Functional-factor distribution also dynamically moves away from the traditional industrial age differences and forms of their solution: an essential component of the income of employees becomes the revenue from participation in innovation, risk, compensation for exceeding the individual productivity of the industry average, from contributions to physical capital of the company, other income, receipt of which used to be a specific feature of the owners of capital and entrepreneurs. They acquire their social status almost regardless of whether personal savings (financial or physical capital) and the actual availability of the assets cease to be independently significant factor in the distribution of income generated by production.

As a result, methods of conscious impact on the functioning of distributive institutions tested under industrial stage of social development, are ineffective at the present stage. Thus, the unprecedented mobility of capital, supported with information technology and formation of a

global environment of its movement significantly limits the ability of state redistribution through taxation of income from capital. A complex system of representative bodies of employees which has developed in industrial societies, has lost a real social base due to the formation of post-industrial technological base of production and radical differentiation of qualification levels, earnings levels, ways of life and economic interests of now rather notional than real community - "employees."

Accordingly, the selection of the main technological and socio-economic determinants of distribution relationship transformation, stages that vary in features of these processes, important for economic policy is an important task of modern economic theory, the solution of which will deepen the understanding of the possible consequences of the use of traditional instruments of state distribution policy in the new conditions and let to propose principles of transformation of priorities and levers of influence on the distribution relationships in context of post-industrial society.

Analysis of publications and determination of unsolved problems. Distribution relationships of modern economic systems form during complex transformation that is reflected in many economics terms, such as development of "post-industrial economy and society", "information society", "service economy", "post economic society" and so on.

The complex of economics areas, exploring the formation of a new society, focusing on different aspects may be aggregated into so called "theory of post-industrial economy." In particular, V. Inozemtsev considers as the focal point of this new economy - the quality update of motivation system, property relations and destruction of commodity-money relations; M. Castells focuses on informatization of economic activity, the formation of network structures of economic coordination; D. Bell - on new quality of processing and information transmission technologies, changes of technological and production economic structure^{1,2,3}. F. Fukuyama, P. Drucker focus on a qualitatively new principles of interaction of economic activity subjects and mechanisms of coordination of their economic interests, adequate to the new structure of needs, motives and stimulants of the new society^{4,5}. G. Becker and T. Schultz - on acquiring features by labor resource that previously were considered as characteristic only of capital, respectively to changes in patterns of behavior of owners of this resource and the modern labor market balancing models^{6,7}.

¹Иноземцев В. Л. Расколота цивилизация: Наличествующие предпосылки и возможные последствия постэкономической революции. — М.: Academia : Наука, 1999. — 703 с.

²М. Кастельс. Информационная эпоха: экономика, общество и культура. — М.: ГУ ВШЭ, 2000 — 608с.

³Д. Белл. Грядущее постиндустриальное общество. Опыт социального прогнозирования. — М.: Academia, 1999; 949с.

⁴Фукуяма Ф. Доверие: Социальные добродетели и путь к процветанию / Новая постиндустриальная волна на западе: Антология Москва «Academia» 1999 С. 59 – 82.

⁵Drucker P. Post-Capitalist Society. N.Y., 1993. P. 232.

⁶Беккер Г. Воздействие на заработки инвестиций в человеческий капитал (глава из книги Гэри Беккера «Человеческий капитал» — Электронный ресурс. Режим доступа: <http://www.libertarium.ru/69974>

Domestic scientists who studied the transformation of distribution relations during formation of post-industrial society, focused mostly on specific problems of entry of post-socialist countries to the stage of economic development, when determining factor in the competitiveness of domestic production on global markets is the availability of human resources and conditions established in the community for the realization of human potential. In particular, in the studies of D. Lukyanenko, A. Kolot and others highlighted the causes and consequences of aggravation of global (international) inequality of income distribution and patterns in division relationship of countries at different stages of technology and social development⁸ Studies of A. Grishnova – are devoted to the role of human capital reproduction sphere in formation of a new system of distribution relations, problems of application of the theory of human capital to form education development policy in the post-socialist countries⁹.

Important researches were also conducted in the field of transformation of value basis of industry and factor income distribution. Issues of renewal of nature of value of commodity products under the dominance of information resources as basis of value described in studies of A. Chukhno¹⁰, patterns of socialization, including distribution relationships as a form of adaptation of developed economies to the requirements of the new hierarchy of production factors - in studies of U. Zaitsev and Z. Galushka^{11,12}, the role of institutional transformation of property relations, power and control in the formation of a new system of economic (and in particular, distribution) relationships - in studies of V. Yakubenko¹³.

Studies of U. Zaitsev and D. Verba are devoted to the problems of loss of public control over setting the amount of factor reward in during growth of information (intellectual) component of production costs and redistribution of functions to comply with the required level of resource utilization efficiency by participants of distributive relations¹⁴.

At the same time, very controversial is the issue of definition of certain stages in transformation of distribution relationships, setting of "fixation points", signs, the presence or absence of which would let to identify level of development of distribution relationships and to

⁷Shultz T. Investment in Human Capital. N.Y., London, 1971. p. 454.

⁸Глобальна економіка XXI століття: людський вимір [Текст] : монографія / [Д. Г. Лук'яненко, А. М. Поручник, А. М. Колот, Я. М. Столярчук, А. В. Кудинова, Є. Г. Панченко] ; за заг. ред. Д. Г. Лук'яненка, А. М. Поручника ; М-во освіти і науки України, ДВНЗ "Київський нац. екон. ун-т ім. В. Гетьмана". - К. : КНЕУ, 2008. - 421 с.

⁹Гришнова О. А. Людський капітал: формування в системі освіти і професійної підготовки. – К.: Т-во "Знання", КОО, 2001. – 254с.

¹⁰Чухно, Анатолій Андрійович Твори [Текст] : у 3 т. / А. А. Чухно ; Нац. акад. наук України, Київський нац. ун-т ім. Тараса Шевченка, Науково-дослідний фінансовий ін-т. - К. : НДФІ. Т. 2 : Інформаційна постіндустріальна економіка: теорія і практика. - 2006. - 512 с.

¹¹Зайцев Ю.К. Соціалізація економіки України та системна трансформація суспільства / Київський національний економічний ун-т. — К. : КНЕУ, 2002. — 188с.

¹²Галушка З.І. Об'єктивні основи соціалізації сучасної економіки: європейський досвід та проблеми в Україні / З.І. Галушка // Науковий вісник Чернівецького університету. – Серія Економіка. – 2006. – Вип. 281. – С.3–6.

¹³Якубенко В.Д. Базисні інститути у трансформаційній економіці: Монографія. – К.: КНЕУ, 2004. – 252с.

¹⁴Зайцев Ю., Верба Д. Проблеми дослідження системи мотивації найманої праці в умовах становлення постіндустріального суспільства//Україна: аспекти праці. – 2010. – №8. – С.13-19.

forecast future trends and patterns of further changes¹⁵. In fact, the definition of features for differentiation of stages in the process of post-industrial transformation, indicators that reflect the level of renewal of nature of distributive relations, contributes to clarification of theoretical pattern of formation of post-industrial distribution relations, but remained largely unexplored by domestic scientists.

We believe that setting a number of features to distinguish "industrial" and "post-industrial" distributive relations will not have a meaningful application or methodological value, even with thorough theoretical justification - transformation process stretched enough in time and its forms have enough varieties to minimize the possibility of empirical confirmation or refutation of any evaluative measure of "post-industrial" of a distribution relations system. However, we believe that it is possible and appropriate, to clarify trends, direction of changes in distribution relations, expressing features of post-industrial society regarding distribution of resources and income.

The objective of the article. The objective of this publication is to clarify the theoretical substantiation of the trends, processes (with indicators suitable for empirical testing), which can meaningfully evaluate progressiveness of a distribution relations system, its compliance with those organizational, technical and social-economic determinants that set by the general logic of the formation of post-industrial society.

This does not mean the author's desire to define the boundaries limit values comparable with actual achievements of a country to define whether "industrial" or "post-industrial" is the nature of its distribution relations system. However, we will try to clarify the general laws of transformation of distribution relations, offer features and criteria to assess the extent of compliance of distribution institutions, those are formed in a particular national economic system, with the requirements of technological and socio-economic determinants of the formation of post-industrial society.

The main material. Evolution of distribution relationships is directly connected with the changes taking place in the hierarchy of factors of production. Subordination of nature, of the objective function of distribution relations to service distribution interests of the owners of critical (limiting) resource can be traced throughout the history of industrial society. After a capital receives the role of limiting factor of production (limited supply of this resource defines the maximum achievable level of production and welfare) distribution relationships adapted to the need to limit the revenue of work resource owners to a minimum, and all surplus revenues

¹⁵Галабурда М.К. Методология анализа институциональных трансформаций.– Проблемы современной экономики и институциональная теория / под ред. В.В. Дементьева, Р.М. Нуреева. – Донецьк: ДонНТУ, 2009.

over the minimum required to renew utilized amount of the work resource direct to the expanded reproduction of capital. Growing importance of human resource (the limited stock of human capital determines the achievable level of welfare for society), distribution relations dynamically adapt to increased share of revenues serving to renew human potential of society. One could say that there is a correlation between the ability of distributive relations provide resource support for the expanded reproduction of human capital and success of the national economy.

However, the formation of post-industrial society is connected, in our opinion, with subsequent changes in the hierarchy of inputs, respectively, with the formation of new requirements for distribution relations and institutions.

Now a highly skilled human resource factor is global competitive advantage only if it is not limited number of selected people, but the general population. Only in this way is possible the transition from quantitative to qualitative changes and formation of a specific environment in which individual human capital multiplied due to the emergence of a synergistic effect. Where professionalism and motivation to dynamic increase of level of competence is not a "single product", but a mass product, where a competitive environment of interpersonal interaction in the professional sphere, where capital formed in education increases during continuous interaction between science and business practice - where forming a new modern centers of global competitiveness, arise drivers of economic growth, which form prerequisites for development. Not the ability to train some highly skilled professionals but reproduction of scientific schools, engineering traditions, standards of professional excellence in the areas of economic governance, regulatory support of economic activity, identifies leaders and outsiders of economic processes.

To some extent, mentioned above arguments is the result of the ideas contained in the works of a number of domestic and foreign economists. So as immaterial and intangible when considering at the level of an individual business economy benefit as a trust, called by Judah F. Fukuyama¹⁶ - a key resource of developed countries and crucial to the economic performance feature of human interaction processes. The importance of social capital (which also exists as a stock that is formed and implemented only in the interaction does not appear in the characteristics of individual economic actors, but reveals itself as a feature of their interaction) to determine economic outcomes insist Coles and supporters of his theory^{17, 18}. The importance of social responsibility and solidarity to form a society's ability to withstand the global financial

¹⁶Фукуяма Ф. Доверие: Социальные добродетели и путь к процветанию / Новая постиндустриальная волна на западе: Антология Москва «Academia» 1999 С. 59 – 82.

¹⁷James S. Coleman, «Social Capital in the Creation of Human Capital», American Journal of Sociology supplement 94 (1988): P. 95-120.

¹⁸Якубенко В.Д., Почева Н.О. Тріада соціального капіталу / Політичні, правові та фінансово-економічні пріоритети розвитку економіки України: стратегія і перспективи. Зб. матеріалів III Міжнародної науково-практичної конференції.- Умань: ВПУ «Візаві». - 2013. с. 64-68.

disturbance and maintain good economic development in a growing integration into the global flow of resources was repeatedly marked by domestic researchers¹⁹.

Actually the logic of our reasoning can be displayed in this algorithm. The first starting point: the objective function, the main purpose of distribution relationships, being the basis harmonize conflicting interests of participants - to provide necessary resources for expanded reproduction key (limiting at some stage of the economic system of production capacity) resource, that promote concentration in hand of its owners all the excess of national income over the minimum necessary to renew. The second starting point: in context of postindustrial society role of key limiting resource is played by goods, the stock of which is formed personal and highly differentiated efforts of economic actors; and consumption (retrieval of utility in the form of increased resource efficiency in national economic environment) is collectively (beneficiaries are all members of social groups and the general society equally, regardless of the extent of personal contribution to the enhancement of the stock). These two papers implies the following provisions: a sign of progressive, greater compliance of distributive relations with the requirements of post-industrial society is increase of the ability of distribution institutions to encourage and provide resources for expanded reproduction of economic actors and that actively involved in the multiplication of social stock of intangible goods, usefulness of which is shown in improvement of the efficiency of utilization of resource potential of society. In particular, confidence, social responsibility, positive aspects of social capital, those features of human society, that type of interaction within this community that can reduce the equilibrium size of transaction costs.

Thus, the criteria of progressiveness of distribution relations can be divided into two groups.

The first group - reflects the extent of distribution task performing - that is, their ability to meet the challenges of providing resources to their most efficient cells, the most valuable to the public use, and distribute the proceeds in accordance with market assessment of the importance of public function performed by members of social production.

The second group - describes the ways in which these problems are solved and stability, consistency, ability to reproduce the social conditions in which the current level of efficiency and distributive justice can rise over a long period of time.

Accordingly, the first group of progressivity criteria can be revealed through such tasks of performing distribution system of post-industrial society.

¹⁹ Лукьяненко Д. Глобальное экономическое развитие: тенденции асимметрии, регулирование / Лукьяненко Д., Колесов В., Колот А., Столярчук Я. и др.: монография. Под научной редакцией профессоров Д. Лукьяненко, А. Поручника, В. Колесова. Киев 2013.

First, the formation of distribution institutions able to provide guidance of:

➤ total surplus of income over normal (minimum volume for reproduction of utilized resource potential) amount of reward to owners of physical capital in favor of the owners of human capital. This focus of distribution relations should provide the owners of such leading resource with consumption and lifestyles required for acquiring the qualities of the human capital of the society, transforming it into a leading factor in the global competitiveness of the national economy;

➤ resources in reproduction of human potential of society that will provide sufficient capacity and its compliance with the current stage of economic development to efficiently transform dedicated investment in human capital in market demanded characteristics of the economically active population.

The second group of criteria (describing ways to address the first two objectives, the nature of those instruments, incentives and motives that are used to perform tasks on allocation efficiency and distributive justice) described through the following objectives of formation of distributive relations system of post-industrial society like:

➤ formation of new distribution mechanisms that cannot be considered as results of progress of market mechanisms of economic coordination, neither the state, nor the result of a certain symbiosis. They represent qualitatively new forms of self-organization and collective valuation of personal consumption of goods and resources based on the principles of social solidarity, not on matching private costs and benefits.

Accordingly, in the post-industrial transformation of distributive relations in leading countries are two stages for public requirements for mechanisms of accumulation of resources to renew a key development resource.

The first stage is characterized by the acquisition of resources such as human and social capital the leading role, limiting the level of social welfare resources, but resource support of their reproduction at this stage is mainly the scope of market mechanisms based on matching individual investment and individual gains (increase in income or other valuable benefits for investors) as a result of investment.

The second stage is characterized by the formation of critical need - establishing new institutions, mechanisms and incentives for stockpiling key resources of postindustrial economy: those that are not based on a desire to maximize personal gain, but reflect desire to participate in the formation and expansion of the stock of goods for collective use.

The process of the second stage cannot be painless for society, because it involves the replacement by new institutions for basic distribution relations mechanisms of resource allocation and income distribution: the mechanisms of differentiation profitability and

income. The only alternative to this market mechanisms until recently remained extremely cumbersome and inefficient bureaucracy, incentives and motives of which are for a long time lost to "unsurpassed in its simplicity and power" (Schumpeter) commercial motives and incentives.

However, a significant specificity of assets such as human and social capital is that resource allocation mechanisms for their reproduction based on a comparison of individual costs and benefits, significantly limit the abilities of society. This is associated with long-known phenomenon of positive externalities of private investment in augmenting human and social capital, and with a specific phenomenon, the spread of which is associated with post-industrial transformation leading economies: the rate of accumulation of human and even more - social capital, depends on the supply of goods that require private investment, but provide only the collective fruition of their savings.

For example, the efficiency level of private investment in education largely depends on the ability of developed scientific schools and traditions of informal regulation of relations between students and tutors, between educational institutions and business organizations. It is mainly the quality of such informal institutions determine the effectiveness of teaching, and therefore the ability of social services not just consume investment in human capital, and convert them into competitive advantages of human resources of the national economy. However, efforts and resources allocated to improve these characteristics provide social benefits to all subjects of national economy, regardless of their participation in the financing of such improvements. This causes social need of new distribution mechanism based not on investor personal gain relation with his personal expenses and to realize necessity to participate in the formation of stocks of goods that form the necessary conditions to improve the socio-economic efficiency of investment in human capital and bring benefit equally to all economic operators.

Similarly, the efficiency of resource allocation mechanisms in relation to other areas of reproduction of human capital (such as health services, social mechanisms of protection from the risk of loss of income or critical growth of need for financial means, etc.) is provided, in modern terms, by functioning of institutions benefit from which are divided among all members of the national economy, regardless of their participation in the cost of forming such institutions.

Thus, one and the same amount of investment in human capital will give different output, different socio-economic impact in countries with different stocks of social capital, where there are a variety of institutions and processes regulating relations in the field of human capital reproduction. In turn, the establishment of such institutions also imposes costs and investments and their implementation can be based on the basic distribution mechanisms of the of industrial

economy, provides for private investment differentiated, but collective, independent of private investment volumes fruition of such investments.

Actually validity of such benefits (benefits of collective use) and the need to preserve the diversity of institutions regulating access to and distribution of load on their maintenance are the object of the research of Nobelist in economics E.Ostr²⁰.

Growing importance to determine the level of social welfare benefits, the benefits of which use distributed regardless of the volume of individual investment pattern defines the transition to the second stage of post-industrial transformation relations division, where investments in key resources (human capital) are carried out mainly by mechanisms not matching private costs and benefits, and limits participation in the formation of reserve resources for collective use.

Accordingly, the main features of the two phases of post-industrial transformation of distribution relations may be expressed as follows (Table 1).

Table 1

Similarities and differences between the two phases of post-industrial transformation of distribution relations in developed countries

General features (technological determinants of distribution transformation relations)	Differences	
	leading mechanisms of resource allocation between sectors reproduction of material and personal resources of production	
dominance relations of distribution are subject to personal resources (human capital) in the hierarchy of factors of production, ensure dominance in the distribution of income - interest owners of most of scarce resources, and in the allocation of resources – needs of areas of reproduction of the most scarce resources (human capital)	1 Stage of transformation	2 Stage of transformation
	market mechanisms of differentiation of return on investment in alternative directions for their use based on a comparison of personal benefits and costs of the investor	mechanisms of participation in shaping the collective use of benefits for which the extent of investor benefits do not depend on the volume of its investments - all members of the economic system benefit equally, and the size of individual contributions are governed by non-market norms - mostly informal institutions maintain load distribution of the benefits of collective use in functional condition
	Leading investment objects	
	specific human capital and social capital, suitable for operation within the organization	versatile enough human capital and social capital, suitable for operation throughout society.

²⁰Капелюшников Р. И. Множественность институциональных миров: нобелевская премия по экономике-2009: Препринт WP3/2010/02 (Часть 1). – М.: Издательский дом Государственного университета – Высшей школы экономики. – 52 с.

Accordingly, the second stage of distribution relations in postindustrial society where is determined by that not just competent and well-motivated individual becomes scarce resource - but social environment in which high levels of human knowledge, professional competence and mobility is the leading form of existence is certainly rooted embedded in social institutions reproduction feature of the resource potential of the economy. The basis of this environment are the forms of interaction among the economic relations subjects, institutions, forming fruitful competitive atmosphere in each professional field and every economic sector. In the language of the theory of intellectual capital - growth opportunities are limited by lack of structural social capital - those rules, forms, traditions and procedures of interaction that provide a synergistic effect of the combination of personal competence as part of the intellectual capital of the organization and society. We emphasize that the term "structural capital" is, in our opinion, is not the best to describe this elusive and difficult-to-estimate resource that identifies opportunities for growth and development in the modern world. Much better the complexity of the sources and preconditions of economic success in modern terms reflects the term "social capital" that is still easy to determine from lying against foot - through negative effects of lack of it. In particular, high transaction costs due to the need to protect against opportunistic behavior (due to tendency of economic agreements participants to violate their terms in case of possibility to avoid punishment for it or when the value of the benefits of the breach is more than the negative value of the contract provided for punishment) - a classic example of additional losses due to lack of social capital. The high cost of controlling the activities of subordinates - direct sign of a lack of social capital at the organization level, the high costs of law enforcement – is the same sign of lack of social capital at the community level.

Conclusions

1. Notwithstanding any conditional discharge - which boundaries between the stages of social development, we propose to define the following criteria for conformity assessment of distribution relations system to requirements of becoming a post-industrial society.

First, the ability to provide priority areas of reproduction of human potential of society in the process of resource allocation in an environment where crucial for the efficiency of the system have assets, the formation of which requires private spending, but the benefits of savings which are distributed regardless of the amount of personal contributions to their formation. In particular, investment in formation of versatile human capital in a scientific and educational environment for creating competitive advantages for human capital, in the institutionalization of trust and social responsibility among subjects in business and social services for its transformation from the tax burden to the source of pulse for economic development.

Second, the ability to provide rapid dissemination of knowledge and productive use of resources, providing social acquitted compromise between the needs and reimbursement efforts related to the formation of an array of commercially important information and the needs of society in the most complete (and therefore free of price control) using the production potential, giving knowledge and other products of information sector.

Third, the ability to reconcile the needs of the expansion of investment in human capital with requirements of rational regulation and limitation of consumption depending on the social (market) value assessment of personal contribution to enhancement of public welfare, requires minimization of the impact which distorts financial redistribution mechanisms and bureaucratic decision-making structures.

The defining feature of progressive, greater compliance of distributive relations with the requirements of formation of post-industrial society, we believe to consider the ability of distribution institutions to encourage and provide resources for expanded reproduction of economic actors and that actively involved in the multiplication of social stock of intangible goods, the usefulness of which is shown in improve the efficiency of resource potential of society. In particular, confidence, social responsibility, positive aspects of social capital, those features of human society, that type of interaction within this community that can reduce the equilibrium size of transaction costs.

METHODS OF MEASURING SOCIAL FACTORS AND RESERVES OF PRODUCTIVITY GROWTH IN THE ENTERPRISE

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The technique of measurement of social factors and reserves of increase of labor productivity at the enterprise is offered in article. Four groups of the social factors influencing level of individual labor productivity are defined: individually - psychological characteristics of the personnel, vocational abilities, organizational abilities, attitude to work. The offered technique will be useful for developing strategy of social development of the enterprise, plans and programs of development of the enterprise, containing provisions on improvement of the social sphere at the enterprise.

Key words: *productivity, social factors, reserves, enterprise.*

Problem. Growth of productivity is an important prerequisite for the development of National economy, overcoming the crisis in social and labor sphere, economic and social development. In modern conditions the social factors become critical, creating conditions to improve performance, competitiveness of domestic enterprises, as they must be thoroughly analyzed and separately considered as elements of the system of factors and reserves of productivity growth.

Analysis of research and publications. Research of problems associated with the assessment of the level of productivity in enterprises and determination of reserves to improve it, represented in studies of foreign and domestic scientists: B. Genkin, V. Gluh, A. Grishnova, G. Emerson, I. Zhurylo, T. Zayats, S. Kalinin, G. Kolosov, A. Kolot, G. Kulikov, N. Lukyanchenko, A. Pasyeka, A. Revenko, L. Romaniuk, D. Sink, F. Taylor, R. Yakovlev and others. However, the issue of measuring social factors and reserves of productivity growth in researches is not described in complex and require further consideration.

Analysis of existing approaches to problem solving of assessment of social factors and identification of reserves of productivity growth confirms lack of development in specific areas. The studies of this issue have many shortcomings, in particular, the existing approaches are not complex, no agreed methodology and no single set of indicators that characterize the social group of factors. In addition, existing methods do not fully account for the effect of individual and group social factors, scientists have not managed to get clear causation link

between the degree of influence of social factors and the volume of reserves of productivity growth.

The purpose of the study is to develop methods of measuring social factors and reserves of productivity growth in the enterprise.

The main material. Specifics of the problem of assessing social factors and reserves of productivity growth is that any expression of these factors through mathematical algorithms, or indices and is quite conventional, as quantitative estimations do not exhaust all the characteristics of the role of social factors in productivity.

Therefore, we proposed a technique of measuring social factors and reserves of productivity growth, that lets to determine the integral productivity rate, to compare actual productivity levels in the enterprise with it to make quantitative assessment of reserves that may be used if optimal level of social factors is achieved.

Stages of the proposed techniques include:

1. Creation of measurement system of importance of social factors of productivity growth to determine the weighting coefficients of influence of each factor on the level of productivity (Table. 1). The "+" mark means significant influence of certain factor on specific result.

Table 1

Measurement system of importance of social factors of productivity growth

Number	Social factors of productivity growth	Saving physical labor expences	Saving work time due to rational use	Saving work time due to decrease of idle periods	Growth of revenue due to improvement of quality of production	Excess of planned production norms	Amount of new propositions	The level of importance of the factor
1. Individual social factors								
1	Qualification level	+	+	+	+			4 (0.06)
2	Education	+	+		+		+	4 (0.06)
3	Professional knowledge, abilities, skills	+	+	+			+	4 (0.06)
4	Competence	+	+		+			3 (0.04)
5	Responsibility			+		+		2 (0.03)
6	Mental abilities	+	+		+	+	+	5 (0.07)
7	Professional fitness	+	+					2 (0.03)
8	Adaptability	+		+				2 (0.03)
9	Innovation	+	+		+	+	+	5 (0.07)
10	Professional mobility		+	+				2 (0.03)
11	Morality			+				1 (0.01)
12	Discipline		+	+				2 (0.03)
13	Motivation	+	+		+	+		4 (0.06)
14	Motives	+	+	+	+	+	+	6 (0.08)

15	Creativity	+	+		+	+	+	5 (0.07)
2. Group social factors								
1	Labour activity		+	+	+	+		4 (0.06)
2	Creative Initiative	+	+	+	+	+	+	6 (0.08)
3	Socio-psychological climate	+	+	+		+		4 (0.0 6)
4	The system of value orientations				+	+	+	3 (0.04)
5	Interpersonal relations and communications	+	+	+	+			4 (0.06)

Note. Developed by the author.

Under the proposed measurement system, the effect of each of the social factors is estimated by saving labor, which provided by the rational use of working time, its economy by reducing downtime, providing revenue and increase output quotas for the period.

The highest levels of growth of labor productivity are achieved with a maximum aggregate of all factors. Neglect or reducing levels of these factors cause losses in the implementation of measures to ensure productivity growth in the enterprise.

Individual and group social factors of productivity growth tightly linked and can act not only as a condition, but also as a result of implementation of reserves of productivity growth.

2. Assessment of level of each social factor. Values of indicators of social component of productivity we propose to evaluate with 10 - point scale, and aggregation of all grades to carry out with the method of arithmetic average value for each social factor. The closer the average value to 10 points, the stronger the effect of the factor. Approximate assessment scale of the impact of social factors on the increase of labor productivity of the enterprise:

- (0, 3] - bad (very low influence of social factor);
- (3, 5] - satisfactory (low influence of social factor);
- (5, 8] - good (average influence of social factor);
- (8, 10] - very good (high influence of social factor).

In our case expert assessment is not only effective, but also the only possible method to obtain the necessary information about the level of influence of social factors on productivity.

In addition, the subject of an assessment may be the staff valued. Then it is about self-assessment or internal assessment of the performance of staff. Information about internal assessment i.e. self-assessment of labor efforts we may obtain from motivational and evaluative monitoring. The combination of internal and external assessments of social factors on productivity makes it possible to realize more fully the informative, stimulating and directing functions of the evaluation.

At this stage we have included such social factors of productivity growth into assessment: the level of qualification, education, professional knowledge, abilities, skills, competence, responsibility, mental abilities, professional fitness, adaptability, innovation, professional mobility, morality, discipline, motivation, motives, and group (team) labor activity, creativity, social and psychological climate in the team, system of values and interpersonal relationships and communication in the team.

You should specifically emphasize that while evaluation of professionally-qualification factors it is necessary to pay attention to their compliance with such a criteria: education level (higher, basic and higher secondary, vocational); basic specialty and its compliance with the requirements for qualification (also education), i.e. employees who have no corresponded education, in assessing get fewer points; period of work in the enterprise has the greater influence the longer it is, the level of professionalism is characterized based on specific tasks, performed by an employee or group of employees, and on the quality and result.

3. Calculation of the integral productivity level is made by the formula:

$$P_i = P_{ws} / (\sum_{i=1}^n S_i \times C_i) \quad (1)$$

where P_i - integrated productivity;

P_{ws} - productivity without the influence of social factors;

S_i - scoring of i - social factor;

C_i - empirical coefficient of weight of i - social factor that increases its importance for the result.

4. Identification of reserves of productivity growth due to social factors is made by the formula:

$$R_{ps} = P_i - P_a, \quad (2)$$

where R_{ps} - reserve of productivity growth due to social factors;

P_i - the integrated productivity;

P_a - actual productivity.

Schematic display of the methods of measurement of reserves of productivity growth due to social factors is presented in Fig. 1.

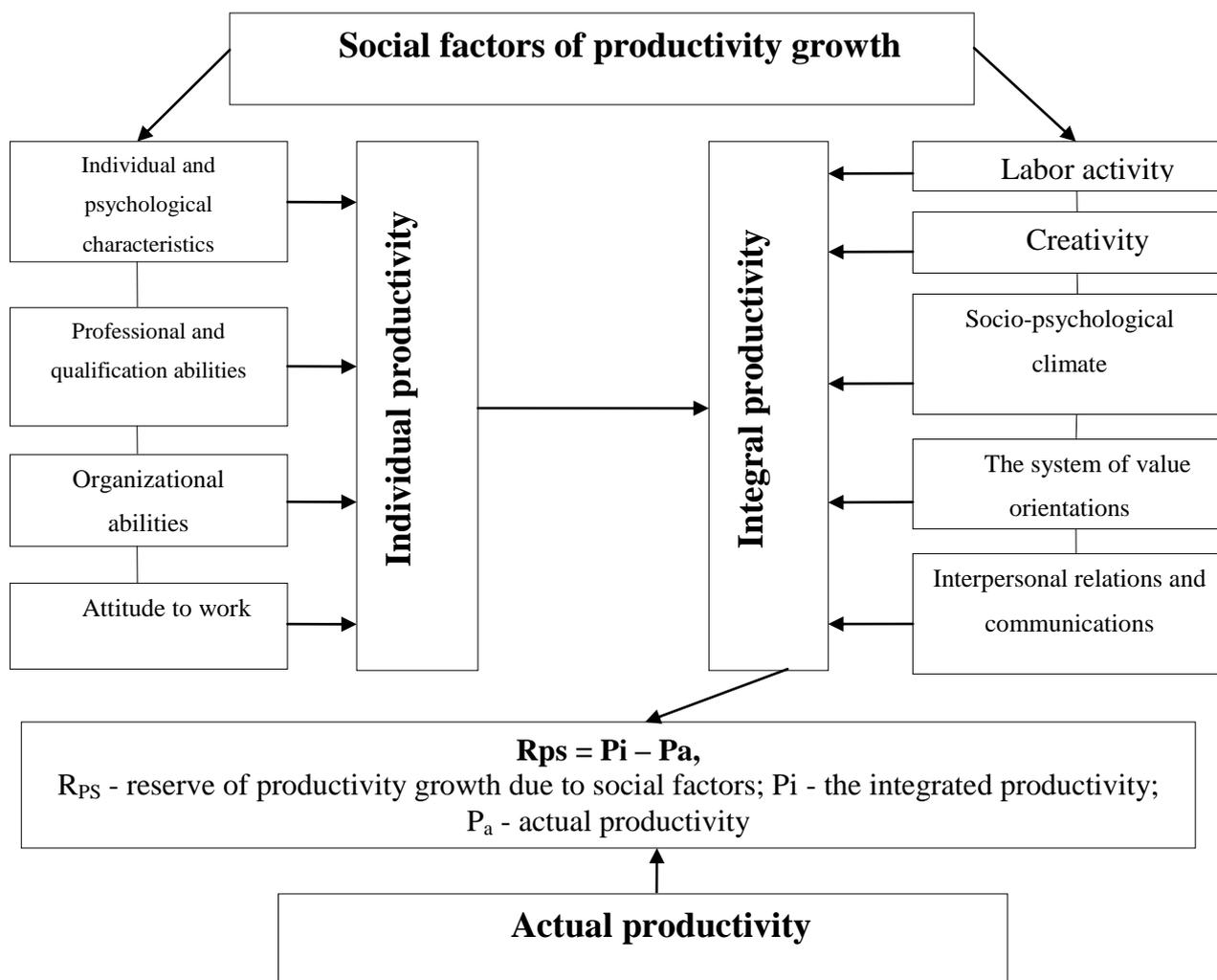


Fig. 1. Schematic display of the methods of measurement of reserves of productivity growth due to social factors

Thus, in order to increase productivity in the enterprise, the foundation of directions of improving productivity and efficiency of management decisions at different levels of management proposed methods include system of indicators to measure the impact of social determinants on productivity, according to which factors differentiated by their groups, and their impact is presented as a synthesis or integral index.

In order to get optimal schematic of the proposed methodology all the social factors that affect the level of individual productivity were united in four groups: individual and psychological characteristics of workers; Professional and qualification abilities; attitude to work.

Thus, the proposed system for measuring social factors and reserves of productivity growth include the optimal composition of indicators by which it is possible to objectively measure, in quantitative and qualitative ways, the impact of social factors on labor productivity,

and establish dynamic and interdependence of general and partial trends in the development of social factors to the results with performance of the company. As a result of the application of the proposed methodological tools of assessment of the impact of social factors on productivity growth it is possible, on the basis of the determination of amount of reserves of productivity, to identify actual and potential possibilities of further development of the company, which, in turn, if developed an appropriate set of measures, would promote to improve competitive position of the enterprise.

Conclusions. Thus, the proposed methodology can be used in the development of social development strategy for the enterprise, plans and programs of development of the company, which include provisions for the improvement in social sphere in areas such as improving training, retraining and advanced qualification of staff, directing staff to further study; development of creative abilities of staff, raising the educational level of employees; development of self-management in labor group; creation of favorable social and psychological climate in the team; improvement of employees' discipline; improvement of motivation methods, including intangible motives and incentives to work; improving working conditions and formation of safe working environment; improving the system of evaluation of employees, that acts as motivation for improvement of performance of staff.

DIRECTIONS OF IMPROVEMENT OF ORGANIZATIONAL AND ECONOMIC MECHANISM OF STATE REGULATION OF PROFESSIONAL LABOUR MARKET

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The article describes the mechanism of regulation of employment in the form of aggregates of interrelated socio-economic blocs: forecasting, promotion and management of the course of employment. Designated a national strategy to ensure the effective use of labor, which covers a considerable amount of components. Dedicated function of the state, which is provided by the organizational-economic mechanism of state regulation of professional labor market. Identified a number of problems whose solution requires a mandatory state intervention.

Key-words: employment regulation, employment regulation mechanism, organizational and economic mechanism of state regulation, professional labor market.

Problem. An important condition for overcoming the negative trends in employment resulting from the economic crisis, is continuous improvement of socio-economic mechanisms of employment, effective implementation in the practice of administrative and economic bodies, as well as the implementation of strategic objectives to ensure effective reproduction and usage of employment potential.

Analysis of recent researches and publications. Significant transformational shifts in the national economy caused the activation of research on development of labor market. To this issue are devoted researches of Ukrainian scientists: I. Bondar, I. Hnybidenko, A. Hryshnova, V. Datsyuk, A. Mantsurov, A. Rudchenko, M. Dolishniy, T. Zayats, A. Kolot, V. Kutsenko, E. Libanova, O. Makarova, V. Onikiyenko, V. Petyukh, V. Pokryschuk, V. Savchenko, A. Ponomareva and others.

The objective of the article is the development of basic directions of improving the organizational and economic mechanism of state regulation of professional labor market.

The main material. The "Program to promote employment and stimulate job creation for the period until 2017", remarks, that measures and solutions to solve problems of employment involves consolidation of all social dialogue partners at increasing economic activity of

population, promotion of its productive employment and strengthening social protection against unemployment¹.

Market and state regulation is the only economic and legal, organizational and economic mechanism that continuously adapts over time and space. Renowned economist P. Samuelson, exploring the role of government in the functioning of the market economy, rightly pointed out that both sides - the market and the state – are significant. To manage economy in the absence of any of these sides - like trying to clap with one hand².

Employment regulation mechanism schematically represented as three interrelated aggregated socio-economic blocks: forecasting, regulation and management of employment. Thus it is necessary to provide scientifically-based forecasting for various aspects of professional labor market; creation of modern information data base that requires a balance methods and application of international experience in the operation of regional socio-economic monitoring systems. Thus, the information data base provides an opportunity to identify trends in the reproduction of labor, determine the level of employment, the number of unemployed and the real demand for jobs³.

Second block of organizational and economic mechanism of state regulation of professional labor market (PLP) - should include measures to regulate labor supply and approach it to the structure of demand for occupations and measures to expand demand for labor.

The third block of the mechanism aims to develop and implementation of effective programs to promote employment at national, regional and local levels (Fig. 1).

¹Resolution "On approval of the Program to promote employment and stimulate job creation for the period until 2017." of 15 October 2012. # 1008. // <http://zakon4.rada.gov.ua/laws/show>

²Economics. Paul Samuelson. Tutorial. In reduced translation from English. - Sevastopol, "Ahtyar" 1995. – 384 p.

³Boginya D.P., Grishnova O.A. Basis of Labor Economy: Studies. guidances. - 3rd ed., stereotypes. – K. : Znannya-Press, 2002. – 313p.

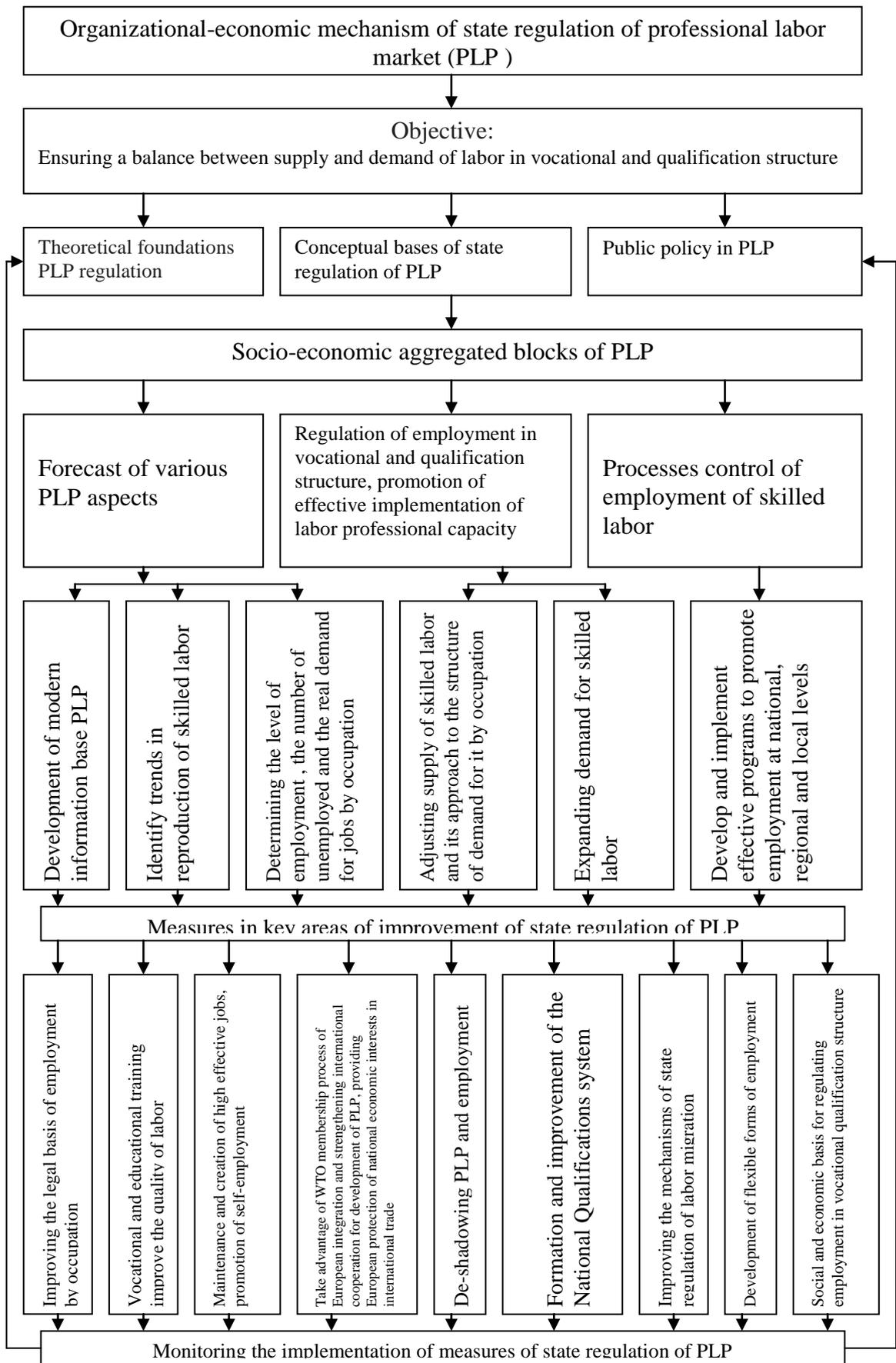


Fig. 1. Organizational-economic mechanism of state regulation of professional labor market (PLP)

Source: the authors

Therefore, the government strategy to ensure effective use of labor covers a large number of components, main are to improve living standards and employment, namely:

- creation of effective jobs in public and private sectors;
- policies to encourage and support employment;
- ensure expanded reproduction of skilled labor force guaranteeing basic social indicators and standards at a level not less than the living wage;
- restoration of reproductive and stimulating functions of wages; improvement of distribution relations and optimization of social costs;
- reduction of differentiation in terms of life;
- implementation of strategy to fight poverty.

The main tasks of state regulation of the labor market is the maximum reduction of unemployment and maintain a balance between supply and demand of labor. However, it should be noted that state regulation of the labor market should not lead to an inefficient operation of businesses. The state should promote job creation, which using resources of the Compulsory social unemployment insurance Fund of Ukraine⁴.

Development and implementation of state strategy of effective use of labor is an important prerequisite for socio-economic development of Ukraine. At this stage, the most important issue is the reform of employment to align employment system to world standards. The main principles of the reform is to improve public policy on the professional labor market in context of economic and social development. It should be taken into account the impact on employment of such basic factors as the processes of globalization and integration of Ukraine into the world economic system, and the negative effects of the global financial crisis, which led to jobs reduction and rising unemployment.

An important function of the state is to ensure, through organizational and economic mechanism of state regulation of the labor market, interconsistency of administrative and economic instruments, using all the capabilities of the public sector in solving problems to ensure a balance between supply and demand of labor. Also effective functioning of the institutional framework of professional labor market - employment services, training and retraining centers, data banks on available vacancies, system of social protection of employees. The focus of their activities varies depending on the economical situation. This includes hiring system, the nature of employment mediation, social support for unemployed. Transformation of employment regulation functions synchronized with the pace of

⁴Fedorenko V. The labor market in Ukraine and economic trends in the global economic crisis // Economy and State. - 2009, - #1, - P.4-5.

privatization and denationalization, structural changes in the economic sector in the region, the dynamics of the market economy, efficiency investing their own savings, improve of the mechanism of local government, local government cooperation with trade unions and employers in relation to impact on the wages and stimulate demand for labor.

Prerequisite for the effective functioning of professional labor markets is a single and an effective system of labor exchanges; large-scale system of vocational guidance, vocational training, advanced training and retraining; the presence at local executive bodies of the necessary financial and material resources sufficient for effective operation of the system of employment, public works, promotion of employment; social support of citizens, including the unemployed and family members who are dependent on them, and so on.

Adjusting the demand for professional labor market needs analysis of the factors influencing it. Increased demand can be achieved by stimulating the creation of new permanent or temporary jobs, development of non-standard forms of employment, investments in the creation and renovation of jobs. The rise in demand has also contributed with: introduction of preferential taxation and credit to those sectors and regions in which it is advisable to increase the number of jobs; application of direct payments to companies for each worker hired, refund of the costs associated with finding, training and hiring employees.

Ukraine's transition to an innovative model of development requires transformation of employment, intellectual capital formation, increase the proportion of highly qualified professionals, capable of generating and effective use of scientific and technological innovations. To this end, the implementation of measures for improvement of training and retraining of specialists; the use of new learning technologies; innovative projects aimed at reducing the imbalance between supply and demand of labor; promote professional qualifications and standards of professional education. This will improve the quality and competitiveness of the labor force.

The main market regulators implement an effective employment based on the formation, distribution, redistribution and use of human resources. Professional, the labor market consists of the labor market in professions and specialties, market of skilled and unskilled workers, the market of top and middle qualified specialists, the market for workers of different sex and age groups, market of mass trades workers (fig. 2).

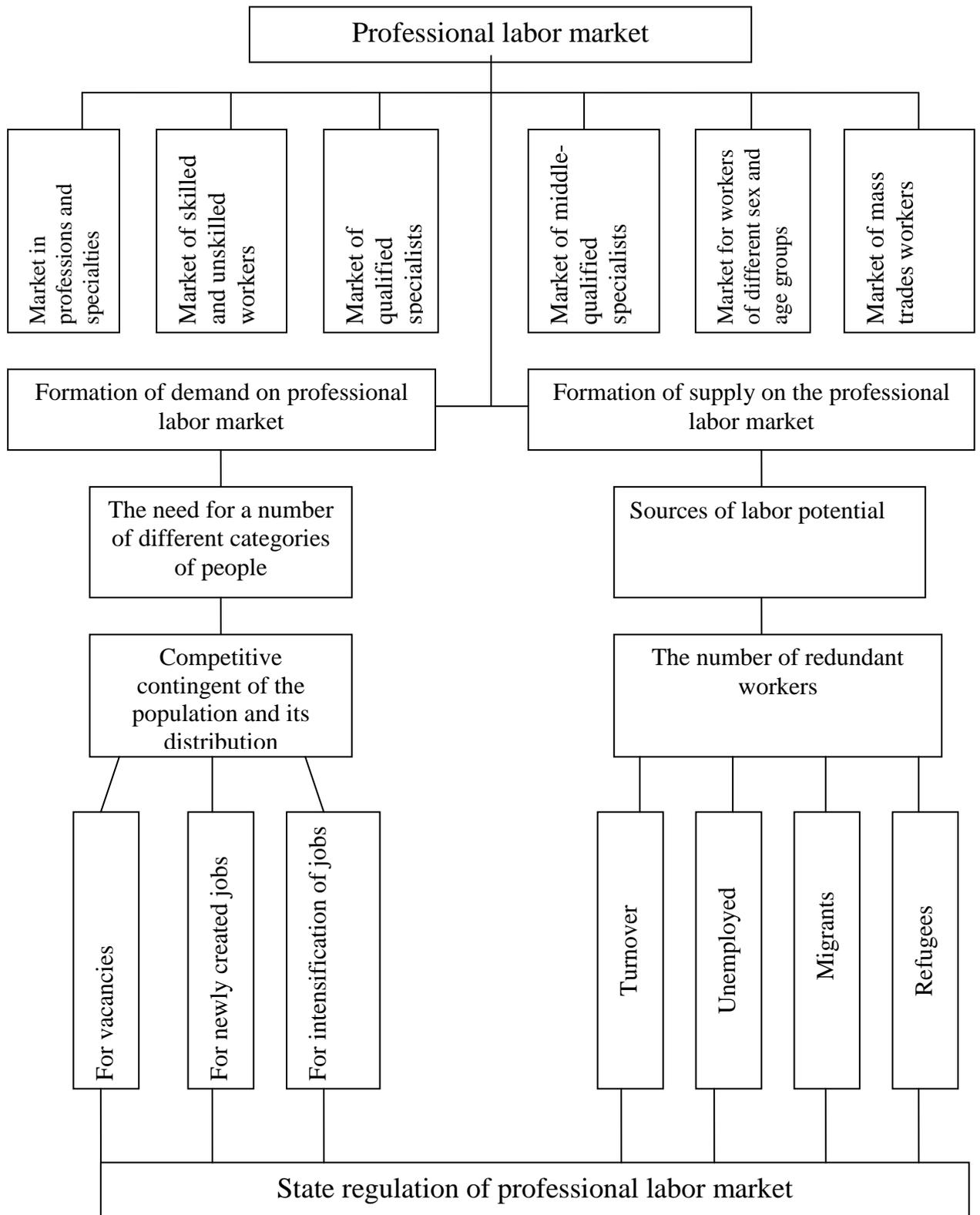


Fig. 2. Approximate scheme of formation of professional labor market

Source: the authors.

State regulation of employment on the basis of market regulators associated with professional labor markets, their formation in different regions have specific characteristics.

The state contributes effective employment, in particular through the development and implementation of state and regional employment programs. Consideration of a professional labor market specifics allows us to predict the main areas to use legislative, legal, scientific, economic and organizational instruments.

The spread of new technologies opens up possibilities for expansion of independent and flexible employment. One of the most relevant innovations in this area is to work at a distance using the latest technology - Telework. Experience in other countries shows that the spread of teleemployment in society solves number of socio-economic, environmental and other problems. Ukraine must recognize teleemployment as full of social and economic life. To do this must be set the appropriate mechanism of regulation, including legislative support; motivate employers to create conditions for teleemployment that would provide financial, tax incentives; informing the employed population and unemployed about the opportunities and benefits of teleworking; coordination system to coordinate teleemployment at employment centers, trade unions, employment agencies; introducing a technical tool for the dissemination of teleworking in Ukraine.

Reforms on professional labor markets base on the main provisions of Program of economic reforms in 2010- 2011, aimed at restoring economic growth, modernization of Ukraine's economy, and thus more jobs, welfare Ukrainian citizens, maintenance and development of labor potential of country. Priorities in employment identified in Main areas of government policy on employment 2010 -2014. The goal of public policy of employment is to prevent deterioration in employment as a result of the financial crisis, increased economic activity, promotion of its employment and strengthening social protection against unemployment by state regulation of the labor market. To achieve this, priorities identified in the field of employment, including, in particular:

- minimizing the impact of financial crisis on the state professional labor markets;
- improving the work, in particular by encouraging job creation of appropriate conditions and decent wages, promotion of entrepreneurship and self-employment;
- providing the economy with qualified personnel;
- improve the quality and competitiveness of labor.

On the professional job market there are a number of problems for which government intervention is necessary, including:

- creating conditions for youth employment;
- increase motivation to legal employment, de-shadowing relations in the labor market;
- regulation of labor migration of the population;

- return of unemployed to active employment and assurance of their social protection;
- solving problems of employment of persons with disabilities and so on.

Development strategy to achieve these objectives should take into account the need to solve the key problems that exist at the professional labor markets, namely:

- insufficient level of reforming labor sector, leading to inefficient employment and concentration of labor in unprofitable enterprises; large scale underutilization of working time of employees, low productivity and insufficient level of payment;
- not high compared with developed countries proportion of high-tech and knowledge-intensive sectors workers; no relationship between labor input and income, and so on
- loss of skills of qualified and skilled labor as a result of closure and restructuring of large industrial enterprises, their loss; migration of experts to the field of unregulated employment, shadow economy, migration abroad;
- problems in ensuring adequate quality characteristics of jobs, lack of commissioning new jobs for skilled workers, increasing the amount and the unemployment rate, lowers productivity and international competitiveness;
- mismatch between demand and supply of labor of certain professions;
- lack of investment in production to address issues to get to modern jobs for unemployed; lack of state support for entrepreneurship and small business;
- deficiencies during reforming system of vocational training and education
- inadequate size, structure and forms of training and retraining with requirements of modern professional labor market for certain aspects of demand the professions; underdevelopment of training, re-training; weak interest of employers in the professional development of staff;
- difficult situation on the employment of some socio-demographic groups (youth, women, the disabled, ex-militaries and others.);
- maintaining of selective approach in dealing release and employment by gender, age, health status, deficiencies in compliance with labor legislation on health and safety regime for certain groups of workers;
- the differentiation of professional regional labor markets, the presence of depressive regions with particularly tense situation in the professional job market, much higher than the average unemployment rate and limited access to internal migration, indicating the shortcomings of the state system of regulation of these aspects of employment and unemployment;
- global problem of professional labor markets is their performance in context of Ukraine's accession to the World Trade Organization, including the problem of competitiveness

of the national labor and foreigners employment in Ukraine from position to determine their place in society of the country.

Developments in employment may be associated with certain risks, including:

- possible slowdown in production;
- fiscal instability;
- rejection of necessary laws and regulations governing employment;
- lack of investment to create new jobs;
- saving sufficiently high level of shadow employment;
- low occupational mobility of workers vacated;
- slow pace of growth in labor costs and because of that the lack of appropriate incentives for productive work;
- unbalanced amounts of training and labor demand in the labor market;
- unintended consequences of reform of property relations in the countryside and so on.

Conclusions. Thus, main directions were developed of improvement of organizational and economic mechanism of state regulation of professional labor market, including forecasting, promotion and management of employment, adjustment in labor supply and its approach to the structure of demand for, development and implementation of effective employment promotion programs at national, regional and local levels.

It is proved that the government strategy is essential to ensure effective use of labor, which will encompass a significant amount of components. Dedicated function of the state, that using organizational and economic mechanism of state regulation of professional labor market ensures consistency of administrative and economic instruments, using all opportunities of public sector and the effective functioning of the institutional framework of professional labor market. Were defined a number of significant issues which require government intervention.

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Certificate of Incorporation KB № 4270, issued by Derzhcominformpolicy, 5-th of June, 2000.
Index – 74541

Approved for publication with resolution of the Academic Council of Research Institute of Labor and Employment of population of The Ministry of Social Policy and NAS of Ukraine, protocol, № 10 of October, 14, 2014.

The material published are reflecting the views of the respective authors, that may not necessarily reflect the views of the Publishing board.

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Signed for printing: 27.10.2014.
Format 60 x 84 ¹/₈
Offset printing
Conventional printed sheets: 6,07

Printed at printing house of “VIPOL”.
Address: JSK “VIPOL”
03151, 60 Volynska st., Kyiv
Oder № 14-868
Circulation – 710 copies.