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## Measurements of innovative community employment potential

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*Measurements of innovative community employment potential*

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Pomiar innowacyjnego rozwoju społecznego potencjału pracy

**Key words:** community employment potential, innovative development, education, education and job characteristics, information society, knowledge economy

**Słowa kluczowe:** społeczny potencjał pracy, rozwój innowacyjny, kształcenie, wykształcenie i kwalifikacje zawodowe, społeczeństwo informacyjne, gospodarka wiedzy

## **Introduction**

The formation of market conditions in Ukraine requires radical changes in approaches to the factors of economic growth of national economics, taking into account the international competition and finance-economic crisis. High potential of scientific-technological and innovative sphere is one of the most significant element of the national security system. The most powerful economics of the world have been formed as a result of technological revolution. The leading countries of the world provide resistance to external factors and sustainable economic development based on cooperation of state, science and business structures, as well as on the advantages of international; scientific-technical cooperation. The important aspect is the formation of efficient systems of the state management in the chain: scientific result – technologies – innovative product of industrial production. Economic opinion suggests that the priority factor of economic growth and innovative development of every region is, first of all, people working in this region with a certain reserve of health, knowledge, social and work experience, competences, skills, characteristic moral and labour values, social ties, traditions, mentality, labour culture, the pe-

cularities of communication and community development. In other words, social and employment potential, the necessity of its constant development, enrichment of modern educational and professional characteristics, skills of innovative principles are meant here.

The review of the national scientific sources shows that leading Ukrainian researchers, such as: I. Berezna, O. Grishnova, A. Kolot, E. Libanova, K. Mihuryńska, V. Novikov, O. Novikova, V. Onikienko, I. Petrova, S. Pyrozkov, U. Sadova, L. Semiv, M. Semykina, A. Chuhno, L. Shaulska [1, 2, 4, 5], note with concern the crisis situation in a state of social and labour potential in Ukraine, disproportion and imbalance of its development in most regions. Scientific understanding of social and labour potential, its interpretation, structure and nature of innovative development remain ambiguous. At the same time, scientists' conclusions in the articles confine to the idea that the construction of knowledge economics requires the understanding of the fact that unused opportunities of economic growth should be searched in the terms of innovative development of social and labour potential in the Ukraine regions; awareness of the need to develop people's knowledge and innovative culture.

The goal of the research is to determine the major tendencies affecting the innovative development of social and labour potential.

To achieve the goal we have to solve the following tasks:

- to assess the place of Ukraine in the world innovative development and to determine the rating of Ukraine according to the components of Global competitive index;
- to determine the place of Ukraine according to education level and human resource quality and rating of Ukraine among some European countries according to "Innovative System" and "Education and Human Resources" indexes;
- to find the conformity dynamics of different professional groups of economically active population to the needs of productive employment that should be considered by the state programs of social and labour potential.

Despite the common conditions and regularities characterized for Ukraine in general (demographic crisis; aggravation of social-economic and ecological problems; unemployment; the financing difficulties of education, science and culture; low income of the most working people, etc.), each region is characterized with a specific combination of factors affecting the quality of social and labour potential, primarily, health; the level of knowledge, social and labour experience, competences, practical skills of population; dominant values; social relations; culture, and etc. [1, 2, 5]. If knowledge has been an important condition recently, nowadays it has been major vital condition to ensure sustainable social-economic development. Such a statement agrees with the conclusions of a growing number of scientists and experts. So, World Bank experts say that "a state's ability to create, to select, to adapt, to transform to

the source of profitability and to use knowledge, is essential for sustainable growth of economics and living standards of population. Knowledge is transformed into the most important factor of economic development” [8]. According to A. M. Kolot knowledge economics in expanded interpretation means economics that creates, spreads and uses knowledge for providing its growth and competitiveness; economics that not only uses knowledge in various forms but produces it in the form of highly technological production, highly qualified services and science production. If knowledge economics is considered from applied practical positions through real mechanisms of its influence on social-economic development, then knowledge economics in organizational, technological and labour aspects is the economics, the basis of which is highly productive competitive employment of highly qualitative innovation-oriented employees; in which information, communication and other modern progressive technologies are implemented; in which highly technological, knowledge-based and competitive products are produced [2].

Most types of employment can and should have innovative character; different labour processes have or may have innovations. Therefore, we cannot agree with a widespread idea that the object of innovative labour is exclusively creation of innovative production of new products, services, and other fundamentally new consumer values. This statement is more true for a higher school where employment has an important uniting property – high saturation with knowledge, information, creation – and corresponds to the definition of “Innovative Work”. Taking into account the aspects mentioned above, we can claim that innovative work in a higher school, at the concrete University, is an employment with a high proportion of knowledge, intellect and creation components which is able to satisfy social needs in qualitative educative services with the highest useful effect.

We analyzed the state of social and labour potential in Ukraine and its regions in terms of transition to innovative model of development and tasks of Ukrainian economics modernization. It was important to determine the direction of component structure changes of social and labour potential; the correspondence of these changes to the strategy of innovative development; the place of Ukraine in the world according to these indexes.

The analysis proves that during a long period Ukraine moves from the development stage controlled by the “cheap raw materials” and “unskilled labour forces” factors to the development stage controlled by efficiency – “market and institution efficiency”, “property protection”, etc. In accordance with the analysis, Ukraine is on the 83<sup>rd</sup> place in the rating of 133 world countries according to availability of new technologies; the rating decreases to the 63<sup>rd</sup> place in 2010–2011 – according to “innovation” rating (Fig. 1). It was caused by the deterioration of innovative capability indexes (the 37<sup>th</sup> place), the quality of research institutes (the 68<sup>th</sup> place), the interrelations of universities with industry in research and development (72<sup>nd</sup> place), state procurement of new technologies and production (112<sup>th</sup> place).

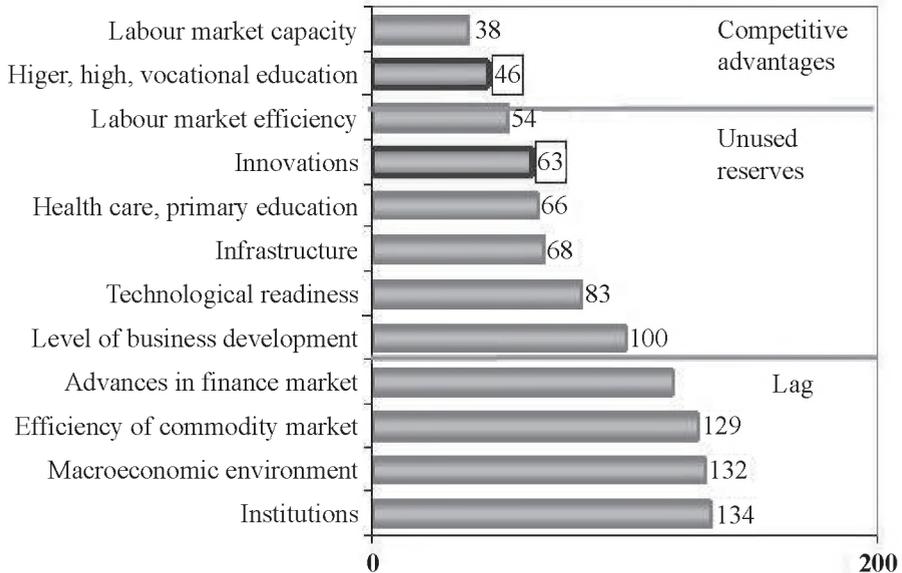


Fig. 1. Ukraine rating according to components of Global competitiveness index (2010–2011) built according to source [7]

During this period Ukraine descended into stage II relatively to other countries of the world according to “innovation” index; into stage 6 – according to “innovative capacity”; into stage 20 – according to “the quality of research institutes”; into stage 17 – according to expenditures on research and development; into stage 23 – according to “interrelations of universities with research and development”; into stage 58 – according to “state procurement of new technologies and production”.

Such situation is a direct indicator of shortcomings in the state system for regulating the development of social and labour potential, failure of management system to respond even to established trends, showing the deterioration of the situation. Shift to a lower stage according to scientists and engineers as well as in the patent number obtained in the USA shows the above mentioned situation once more, demonstrating the potential opportunities to positive shifts and the lack of stimulus for activating innovative activity that affects not only Global competitiveness index but also a number of adjacent indexes; one of them is Index of knowledge economics.

The Index of knowledge economics is assessed by the World Bank Institute with generalization of results by various international expert examinations and official statistics from 109 structural and qualitative indexes and is formed from the following indexes: economic and institutional mode for innovations; innovative system; education and professional skills of population; information-communication infrastructure. Ukraine takes the 51<sup>st</sup> place among 146 countries according to this Index (See Table 1 built according to source [7]).

Table 1. Index of knowledge economics in some countries of Europe (2009–2010)

	Index of knowledge economics	Country's place in rating	Country's place according to index components			
			Economic stimulus and institutions	Innovative system	Education and human resource	Information-communication infrastructure
Denmark	9,52	1	2	5	1	9
Sweden	9,51	2	8	2	7	2
Finland	9,37	3	10	3	3	16
Great Britain	9,10	7	12	11	15	6
Germany	8,96	12	14	18	19	5
Estonia	8,42	21	20	36	22	12
Israel	8,01	26	26	9	42	39
Lithuania	7,77	31	31	45	17	29
<b>Poland</b>	<b>7,41</b>	<b>37</b>	<b>37</b>	<b>38</b>	<b>29</b>	<b>42</b>
Romania	6,43	47	45	60	48	54
<b>Ukraine</b>	<b>6,00</b>	<b>51</b>	<b>80</b>	<b>56</b>	<b>26</b>	<b>62</b>
Russia	5,55	60	127	41	38	54
Turkey	5,55	61	44	55	87	75
Kazakhstan	5,05	72	70	92	39	79
Belarus	4,93	73	137	58	30	80

The majority of positions show the unused reserves which should be found and applied using the advantages of “education and human resources” position.

Ukraine is evaluated with the 26<sup>th</sup> position according to “education level and human resource quality” (next to the positions of Estonia, Poland and Belarus); 56<sup>th</sup> position – according to “innovative system” (next to Lithuania, Romania, Turkey, Belarus); 62<sup>nd</sup> position – according to “development of information-communication infrastructure” (next to Romania and Russia); 80<sup>th</sup> position – according to “economic stimulus and institutions” (next to Kazakhstan) out of 146-position rating scale.

Taking into account all that was mentioned above, we may state that further perspectives of progressive social-economic development should be connected with the changes of “education and human resources” index. The increase of population’s education-qualification level and the increase in employees’ innovative activity are meant; it would give new opportunities for competitive growth of goods and services production; it would lead the country to competitive states of the world and would provide deserved welfare for a state.

According to the index of education level for employed and unemployed population, the education level of economically active Ukrainian population aged 15–70 is found to be rather high: 25.8% (every fourth) of this category population has complete higher education (almost every fourth); 20.5% – incomplete higher education (almost every fifth); 44.9% (almost a half) – complete general secondary education. The similar distribution according to education level is for employed and unemployed population.

The monitoring shows increasing share of those who have completed higher education – by 31.5% (almost by one third); who have completed general secondary education – by 73.9% (almost by two thirds) for the last 10 years among economically active population aged 15–70. These facts prove significant changes in population's access to education in terms of getting a certificate irrespective of the quality of obtained education, if only table data are meant.

The dynamics analysis affects the professional groups (strata) concerning all economically active population. So, the number of legislators, senior civil servants, executives and top-level managers increased by 11.1% for the period of 2000–2010; it is stipulated by the significant increase of those who got higher education. The number of professionals increased by 7.8% that is stipulated by mentioned situation. The number of trade and service employees increased by 29.2%; the number of persons with the simplest profession or without any profession increased by 35.6%; the number of experts decreased by 23%; the similar situation was with technicians, workers of maintenance, operation and control of technological equipment, qualified workers with tools; which is not connected with the “breakthrough” as to the analyzed situation of education level for economically active population of the country.

According to these data, one qualified agricultural worker is accounted for 8.9 legislators, senior civil servants, executives, top-level managers; 15.3 professionals; 11.8 experts; 2.9 technicians; 10.5 trade and service workers; 21.9 qualified workers with tools; 13.3 workers of maintenance, operation and control of technological equipment; 14.3 representatives of the simplest works, in average. This distribution shows the lack of state regulation of training necessary qualified workers and the spontaneous character of satisfying such demands. The fact demonstrates disproportions in the structure of professional groups concerning not only employed population in general but its gender division and places of residence – urban or rural areas. So, the number of men is higher by 37% in the professional group of legislators, senior civil servants, executives, top-level managers; by 6.5 times higher – among qualified workers with tools; almost by 4 times higher – among workers of maintenance, operation and control of technological equipment. Instead, the number of men is twice lower than that of women among professionals and experts; over 5 times lower – among technicians. The number of agricultural qualified workers in rural areas is by 6.5 times higher than in urban ones; the number of workers with the simplest professions is 5 times higher in rural areas than in urban ones.

## Conclusions

Innovative development of social and labour potential is meant as a continuous process of harmonization of component structure of social and labour potential, the improvement of its quality-quantity features in the direction of knowledge-based development which is implemented due to the governed influence of a state, to inter-related actions of social partners for complete realization of labour rights and freedoms, better satisfaction of population's needs, modernization of economics and society.

There are always groups of factors activating, increasing or decreasing the development of social and labour potential in the conditions of market economics formation. These are the groups of natural, economic, innovative-informative, institutional-legislative, demographic and socio-cultural factors which manifest themselves in different ways in combination of various situations and effects; therefore, regulatory influence of a state, coordinated interaction of different social forces – power, business, trade unions, public organizations – to avoid social risks, social decline, conflicts and to secure peace, harmony, progressive changes in the direction of modernization of economics and society, is urgent.

Innovative development of social and labour potential should be considered along with significant factors of promoting economics and society modernization, with education as the most influential factor. Depreciation of education and high qualification is unacceptable; for it is the fact that affects the formation of general human capital (general knowledge, skills, mental habits acquired by people in the system of formal education) and its professional part (professional knowledge and skills acquired by the employees during their professional activity directly at their jobs). Respectively, highly qualified labour force should be expensive; the work of the most experienced employees should be highly paid. In our opinion, it is underestimation of education role, the importance of correlation between wages and education that is the reason of deteriorating the quality of social and labour potential of the society, decreasing rating indexes of Ukraine, illustrated above on the basis of comparison in the international rating.

Thus, the way to progressive changes in economics according to the experience of leading countries lies in improving education-qualification features of population through providing qualitative human development, understanding of education value, innovative use of accumulated educative and scientific potential, its decent assessment in social and labour sphere of life.

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### **Measurements of innovative community employment potential**

The necessity of innovative community employment potential is substantiated; Ukraine rankings among other countries are presented according to the main indexes of innovative system. The ways of improving the state of social-economic development of the country are determined by improving education and job characteristics of the population and by innovative activity.

### **Pomiar innowacyjnego rozwoju społecznego potencjału pracy**

W niniejszym artykule uzasadniono konieczność innowacyjnego rozwoju społecznego potencjału pracy na Ukrainie oraz przedstawiano ratingi w stosunku do innych krajów w zakresie głównych wskaźników systemu innowacyjnego. Określono także sposoby poprawy stanu rozwoju społeczno-gospodarczego przez podwyższenie poziomu wykształcenia i kwalifikacji zawodowych ludności oraz poprzez działalność innowacyjną.