

Theoretical Aspects of Investing in Human Capital in the Conditions of Formation of the Creative Economy

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Abstract—The article covers the theoretical aspects of investments in human capital in conditions of formation of a creative economy. In particular, it is determined that the key feature of the transition to the postulates of the creative economy is its ability to combine high-quality creative thinking, new innovative ideas with culture and the latest technologies, as well as to create a new type of market relations aimed at improving the quality of life of the population, therefore, the foundation of society's development must create favorable conditions for the development of human capital. This idea is promoted by the Project of the Concept of Humanitarian Development of Ukraine for the period up to 2020, where intellect, education, professional experience, social mobility, creativity and innovation in professional activity and social life are recognized as the main component of national wealth and the main resource of socio-economic development, the key to the high creative potential of society. And the first priority is an investment in creative human capital.

The research has shown that in today's conditions of development of society, human capital is the main factor of the creative economy and economic growth. In this regard, the main directions of investment in human capital were outlined, such as: health care expenditures; living expenses; ensuring affordability of housing; preservation and maintenance of ecological requirements to the habitat; costs of culture and art; expenses on optimization of labor migration; expenses for employee's motivation; education costs; the cost of science. Thus, the direction of investment in human capital will promote the formation of a creative economy, improving the competitiveness of the country and guaranteeing at the same time appropriate rates of socio-economic development.

Keywords— *human capital, investments, creative economy, the payback period of investments, investment period.*

I. INTRODUCTION

With the beginnings of the 21st century, a new post-industrial economy, a creative economy based on human creativity, skills, and talents, as well as its ability to create added value and new jobs through the production and exploitation of intellectual property, has begun to emerge in developed countries. In such conditions, there is a need to form a new paradigm of economic development in society, in which creative human capital becomes the determining factor in production and economic growth. It is no coincidence that at the Davos Forum, the experts emphasized that by 2020, creativity will be among the top three most demanded trends in the labor market [1].

It should be noted that in Ukraine in 2016 in the creative sector, according to various data, about 1 million people worked, that is, approximately 3% of the working population. They contribute to the economy of the country about 105 billion UAH. (or 4.0% of GDP). For comparison, the UK's creative economy generates around 100 billion pounds sterling per year and grows by almost 9% a year, while the US's creative economy produces nearly 1 trillion. dollars [2].

In general, the Ukrainian economy today has a significant innovative and creative potential. In the ranking of the "Global Index of Innovations", Ukraine in 2018 ranked 43rd out of 126 countries and in the Global Index of Creativity rating - 45th out of 139 countries [3].

As human capital today is considered as a factor in the development of the socio-economic potential of countries, a factor in increasing their competitiveness, the formation of a creative economy, as well as modernizing changes in the modern world economy, therefore, the need to study investment areas in human capital is becoming a requirement of the present, determines the timeliness and relevance of this study.

II. THE LATEST FEATURES OF DEVELOPMENT AND EFFICIENCY OF INVESTMENTS INTO THE HUMAN CAPITAL

The study of the problems of development and efficiency of investment in human capital is of interest to researchers since the 1960s and '90s. "Human capital - according to one of the founders of the theory of human capital G. Becker - is available to every able-bodied person stock of knowledge, skills, and motivations" [4]. S. Fischer, R. Dornbusch, R. Schmalenzi believe that: "human capital is a measure of incarnation in man's ability to generate income. Human capital includes innate abilities and talent, as well as education and qualifications" [5]. In this definition, there is a very important addition, namely, the "ability to generate income". Human resources have become crucial for achieving the competitive advantages of modern economies. According to the World Bank, based on the study of the economies of 192 countries, only 16% of economic growth is due to physical capital, 20% - natural, and 64% - human. Thus, human capital for investment is a strategic priority and a key factor in economic growth [6].

One of the central aspects of human capital formation is the provision that innate human capital develops as a result of the conscious investment. According to T. Schultz, human abilities "... are developed by certain types of activities that have attributes of investment" [7]. It includes such activities as school education, training in the workplace, health promotion, etc. In addition, he notes that investing in human capital is a way to overcome the country's poverty. Investments into human capital are any actions that increase the professional qualifications and productive abilities of a person and thus the productivity of his labor. The costs of improving human productivity can be considered as an investment since current expenditures are realized given that they will be repeatedly offset by a significant level of income in the future [8].

Emily Blanchardy and William Olneyz works on investment in human capital, which reflects the impact of investment in human capital on economic growth [9]. Wulong Gu and Ambrose Wong, in their work, Estimates of Human Capital in Canada: The Lifetime Income Approach, evaluate human capital through an approach to lifelong income [10]. Matthias Krakel raises the relationship between investing in human capital and stimulating labor [11].

Having considered the above-mentioned works, it can be said that all types of costs that can be evaluated in monetary or other form contribute to a future increase in the productivity and earnings of an employee are considered as investments in human capital. Such investments have features that distinguish them from other types of investments: the period of the able-bodied period of human life; profitability of investing in human capital, historical, cultural features, traditions, and customs; physical and moral depreciation of human capital; investment period; functioning of human capital; economic and social effects.

Problems of the functioning of the creative economy are considered by many scholars of the world. R. Florida introduces the concept of "creative class", which refers to employees of the spheres of employment, associated with the creation of new forms and the production of ideas. According to R. Florida, the creative class includes actors, designers, architects, but also "thinkers", scientists, engineers, and even

the entertainment industry. That is people who in their work constantly have to solve non-standard tasks, analyze the circumstances and risks, and propose new ways of development [12].

In his writings, Xavier Greffe views the movement from a cultural economy to a creative economy and reflects the interaction of creative markets, creative skills and macroeconomic policies that should combine cultural and creative economies to bring mutual benefits [13].

Jason Potts and Stuart Cunningham consider four models of the creative industry and believe that the creative industry is a new analytical definition of the industrial components of the economy [14].

Mark J. Stern, Susan C. Seifert, believes that public policy aimed at developing a creative economy has two serious disadvantages: first, the incorrect perception of culture and creativity as a product of an individual genius rather than collective activity; and, secondly, willingness to tolerate social disposition in exchange for urban livelihoods or competitive advantage [15].

Japanese researchers Emiko Kakiuchi, Kijoosi Takeouchi say that due to socio-economic changes and globalization, lately, much attention has been paid to the value of creativity and creative industries. In their article, they used official statistics to assess the actual volume of creative industries in Japan and believe that most industries are classified as creative [16].

Munir Abbasi, Panayiota Vassilopoulou & Lampros Stergioulas in the article discuss the results of research conducted in the period from 2013 to 2016 concerning the development of technological maps for creative industries. The Roadmap presented in the document is compiled on the basis of information received from the unions of creative experts and experts in the field of information and communication technologies [17].

In the monograph "Creative Sector of Economics: Experience and Developmental Areas" S. A. Davymuka and L. I. Fedulova highlighted theoretical and methodological principles and practical aspects of the creative sector of the economy as a modern format of a knowledge economy. The experience of foreign countries regarding the development of a creative economy has been analyzed, and typical trends in the development of creative industries in Ukraine have been identified, and problems and obstacles in the way of their development at the regional level have been identified [18].

At the same time, despite the large number of works both in the direction of investing in human capital and in the direction of the development of a creative economy, the question of the features of investing in human capital, in the conditions of the formation of a creative economy of Ukraine, has practically not been investigated.

III. DEFINING OF THE INVESTMENT IN HUMAN CAPITAL IN THE CONDITIONS OF THE CREATIVE ECONOMY

Human capital in the conditions of a creative economy has its own peculiarities of functioning. This is due to the fact that the choice of a person of the creative profession imposes a lifestyle impetus. According to R. Florida, creativity depends on the environment that supports it - a wide range of social, cultural and economic incentives. Formation of

creativity is associated with the emergence of new conditions of work, lifestyle, forms of communication and environment, which in turn stimulates creativity. The creative class brings new principles not only to work but also to everyday life. Its representatives profess new values: self-expression, individuality, freedom of choice, mobility, which are becoming more and more close to young people. The representatives of the creative class for R. Florida distinguish mobility, flexibility, self-education, "new" workplace, leisure as work, social involvement and active leisure, interest in street culture [12].

In a creative economy, innovation and creative human capital are the determining factors in production and economic development. In turn, the basis of any innovation is the unique, extraordinary ideas and knowledge that are the function of the respective competencies of creative people whose ability to think outside the box and produce new, original ideas is called creativity. Creative human capital - a set of specific values that create new values in the form of original, unique ideas and new knowledge [19]. Thus, the formation and development of this creativity require not only an understanding of the growth of the role and importance of man in the modern economy but also a massive investment in its comprehensive and progressive development.

According to O. Shkurupii, the creative (creative) capabilities of the individual and, in particular, the properties of the manufacturer of scientific knowledge and his cognitive resources (the ability to scientific knowledge) are formed through investment mediation in education, health care, mobility, access to information, etc. From the investments in the listed components of the intellectual capital, the mechanism of expenses that are made to transform the ability of man to create capital distinguishes the indirect nature of such investments. The transformation into a capital of the creative component of intellectual property of an individual is carried out on the basis of investments in the specified components forming the human capital. Creation of intellectual and creative capital, which reflects the formation of creativity as an asset, is through the secondary effect of investing. The mechanism of investment, which is mediated by investments in human capital, is realized, first of all, in the areas of financing of processes for acquiring knowledge through educational channels and information, experience, etc. It is possible, without a doubt, in view of the person's propensity for a particular type of work to purposefully form the intellectual-creative capital of a scientist, engineer, artist, etc., at the expense of investments, but it is unrealistic to directly stimulate the development of creativity through direct monetary investments. The affiliation of funding will still be mediated by the cost of knowledge, expansion of the horizons, aesthetic, cultural development, etc. That is, a positive effect in the form of improving the productivity of the "innovator" - a person of creative work, may only be a consequence of the growth of investment in the human capital of the carrier [20].

In our opinion, the main directions of investment in human capital in the creative economy should be attributed: 1) health care costs (disease prevention, medical care, medical research); 2) expenses for living conditions (improvement of living conditions (living conditions); ensuring affordability of housing; preservation and maintenance of ecological requirements to the habitat;

security and economic freedom; informational service; ecology and environment protection; creation of creative infrastructure); 3) expenses for culture and art (leisure, art, healthy lifestyle); 4) expenses for optimization of migration of labor resources (information on the state of the economy in different spheres and areas, the movement of workers to jobs with better labor productivity and prices for labor); 5) expenses for employee's motivation (satisfaction of human needs); 6) expenses for education (general and special; formal and informal education; training and retraining in the process of production); 7) expenditures on science (fundamental and applied scientific developments).

Consider each type of investment in human capital in detail. Health is the most important area of investment in human capital. Healthcare, by reducing the incidence of diseases, continues to be able to live a person's life, and therefore, the time of human capital.

The dynamics of direct investments and expenditures of the State Budget of Ukraine in health care are presented in tables 1 and 2.

TABLE I. DIRECT INVESTMENT IN HEALTH CARE FOR 2013-2018

Years	Total investments, million USD	Investments in health care, million USD	% of total investment
2013	51 705,5	59,3	0,11
2014	53 704,0	59,9	0,11
2015	38 356,8	50,7	0,13
2016	32 122,5	44,0	0,14
2017	31 230,3	46,2	0,15
2018	32 291,9	38,8	0,12

Source: compiled by authors according to [21]

TABLE II. DIRECT INVESTMENT IN HEALTH CARE FOR 2013-2018 EXPENDITURES OF THE STATE BUDGET OF UKRAINE FOR HEALTH CARE FOR 2013-2018

Years	Total expenditures, million USD	Expenditures in health care, million USD	% of total expenditures
2013	403456,1	12879,3	3,19
2014	430217,8	10580,8	2,45
2015	576911,4	11450,4	1,98
2016	684833,7	12464,6	1,82
2017	839453,0	16729,4	1,99
2018	985851,8	22618,05	2,29

Source: compiled by authors according to [21]

As can be seen from the data in tables 1 and 2, the share of investments in health care in the years 2013-2018 amounted to an average of 11-15%, and the share of the expenditures of the State Budget of Ukraine on health care in 2018 was 2.29%, and compared to 2013, it decreased by 0.9%, which negatively affects the restoration of human capital in general. The low level of investment in health care and inaccessibility for the majority of the population of quality medical care determine the tendencies not only of the quality of human capital but also of the population.

Considering investments in human capital in the creative economy, one needs to focus on the fact that for the effective formation of the creative potential of a person, it is necessary to create the appropriate conditions for its living and leisure, and, accordingly, to direct investment in these areas. For the

development of creative human capital in the leading countries of the world, the concept of "creative city". "Creative City" should have such elements of the city's infrastructure that promote the development of a creative economy. The concept of a "creative city" includes a convenient transport system, thought-out places for rest and rational accommodation of residential and working quarters.

The main task of creative cities in the opinion of the famous British researcher on urban development, C. Landry is "the creation of an innovative environment, because creativity is a prerequisite for innovation" [22].

Investing in developing environments, so-called, creative spaces - is one of the system's long-term tasks of a creative city. Creative spaces are publicly accessible places of the city where people can freely express themselves, share ideas, demonstrate other results of their creativity, and communicate with others not as consumers of goods or company employees, but as a creator, developer, creator of a unique product of their personality. Creative spaces include anti-cafe complexes, coworking, start-up boxes, halls for master classes and events, hacker-space, creative workshops, children's development center, maker room, experimental room, meeting rooms, digital laboratory, start-up bank, etc.

In the absence of creative spaces in cities, the city may lose the most active and talented part of the population, because creative people will always be directed to where they can get the most development and recognition. An important role in creating such creative spaces is played by private entrepreneurs. Considering such creative spaces as educational centers, theme parks, permanent festivals, etc. as investment projects, they themselves have a significantly lower payback than any kind of residential or commercial real estate. However, the creative space generates innovative ideas, which monetization will bring much better results than traditional business [23].

Currently, the concept of Smart City is actively being implemented in Ukraine. About 7-10 cities in Ukraine already have relevant projects and initiatives. The concept of a smart city is a model of the city using digital technologies to solve the city's current problems, its sustainable development and the comfortable life of citizens [24].

Another direction of investment in human capital is the search for economically valuable information. Information is one of the most important resources used by the person in everyday activities. The process of accumulation of human capital in the conditions of a creative economy cannot be effective if society is not able to constantly replenish the updating of information. Currently, investing in the development of digital infrastructures is one of the main areas of investment in this area so that all citizens of Ukraine without the limitations and difficulties of technical, organizational and financial nature (in particular, socially vulnerable groups of the population) can take advantage of digital opportunities to access the necessary information, regardless of their location or residence and were not in the segment of the digital divide. Digitization and multiformity are the main trends in the general labor market today. Thanks to the use of online and other technologies, citizens can more effectively acquire knowledge, skills, and abilities, develop their talents and creativity [24].

The next direction of investment is human security, law and order, and public calm, which are the priority tasks in ensuring the development of human capital of Ukraine. The exacerbation of the crime situation and the anti-terrorist operation in the East of the country require the targeting of investments in the creation of an up-to-date system for preventing emergencies, countering terrorism, "intelligent" security measures for citizens and critical infrastructure of cities and towns.

Investments into the capital of culture for society are primarily socio-cultural and creative, create conditions for the professional training of the employee and promote the development of human creativity. Culture influences the process of reproduction of human capital, affecting primarily its psychological component. The accumulated potential of intra-firm traditions and corporate culture - elements of structural capital - contributes to strengthening the competitiveness of the organization for the future. Culture forms the idea of leisure, that is, about its effective use.

With the development of the creative sphere, curriculum in different countries of the world began to seek ways to assess the contribution it makes to economic and social well-being both in individual regions and society as a whole. It is known that, according to the classics of the economic culture of Trosby and Rubinstein, cultural goods often do not have a monetary assessment, but of course they are intangible value for society. At the same time, since the mid-1990s, an active discussion was held on the system of indicators that determine the contribution of culture to economic development at the level of cities and regions and at the level of states and interstate institutions [25].

The dynamics of direct investments and expenditures of the State Budget of Ukraine for art, sports, entertainment and recreation for 2013-2018 are presented in Tables 3 and 4.

TABLE III. DIRECT INVESTMENTS IN ART, SPORTS, ENTERTAINMENT AND RECREATION FOR 2013-2018

Years	Total investments, million USD	Investing in art, sports, entertainment and recreation, million USD	% of total investment
2013	51 705,5	138,7	0,26
2014	53 704,0	157,0	0,29
2015	38 356,8	141,0	0,37
2016	32 122,5	112,5	0,35
2017	31 230,3	98,3	0,31
2018	32 291,9	99,8	0,31

Source: compiled by authors according to [21]

TABLE IV. DIRECT INVESTMENT IN HEALTH CARE FOR 2013-2018 EXPENDITURES OF THE STATE BUDGET OF UKRAINE FOR HEALTH CARE FOR 2013-2018

Years	Total expenditures, million USD	Expenditures in art, sports, entertainment and recreation, million USD	% of total expenditures
2013	403456,1	5111,9	1,26
2014	430217,8	4872,4	1,13
2015	576911,4	6619,2	1,14
2016	684833,7	4958,9	0,72
2017	839453,0	7898,1	0,94
2018	985851,8	10107,1	1,03

Source: compiled by authors according to [21]

From tables 3 and 4, it is clear that the percentage of investment in the cultural sphere of the economy is extremely low, which adversely affects the development not only of creative human capital, but also of the economy as a whole. After all, according to L. Harrison, the causes of the backwardness and prosperity of the countries are the cultural differences of society. Some cultural features contribute to modernization, while others, on the contrary, restrain economic development of the country. Thus, in order to form a creative economy, it is necessary to direct investment in culture and art as a means of improving the efficiency of the country's human capital [26].

The next direction of investment in human capital is the cost of ensuring the mobility of the labor force (migration), which is determined by the general economic laws of development, personal considerations of the employee and the structural fluctuations of the economy. It is a process of adapting workers to a changing market situation, as well as structural changes in the economy.

The development of a creative economy largely depends on education. Education as the basis of long-term effective implementation of knowledge, abilities of a person plays one of the key roles in the management of the development of creative capital. The leading function of education in the creative economy is determined by the fact that progress is achieved not by situational mobilization methods but based on personal, group creative resources.

A large amount of investment in education provides the developed countries with a high level of human capital since these investments have provided in the past a proactive development to the countries of Western Europe, North America and China.

The dynamics of direct investments and expenditures of the State Budget of Ukraine in education for 2013-2018 are presented in tables 5 and 6.

TABLE V. DIRECT INVESTMENT IN EDUCATION FOR 2013-2018

Years	Total investments, million USD	Investment in education, million USD	% of total investment
2013	51 705,5	9,1	0,01
2014	53 704,0	12,0	0,02
2015	38 356,8	10,7	0,03
2016	32 122,5	16,0	0,05
2017	31 230,3	21,7	0,07
2018	32 291,9	22,2	0,07

Source: compiled by authors according to [21]

TABLE VI. EXPENDITURES OF THE STATE BUDGET OF UKRAINE FOR EDUCATION FOR 2013-2018

Years	Total expenditures, million USD	Expenditures in education, million USD	% of total expenditures
2013	403456,1	30943,1	7,67
2014	430217,8	28677,9	6,67
2015	576911,4	30185,7	5,23
2016	684833,7	34826,5	5,08
2017	839453,0	41297,3	4,92
2018	985851,8	44 324,3	4,49

Source: compiled by authors according to [21]

As can be seen from the tables, the share of direct investment in education is rather low, while the state budget

expenditures for the period from 2013 to 2018 amounted to 6.3% of GDP on average, which is a rather high indicator compared to other countries, where the average expenditure on education is about 4.7% of GDP [21].

At the same time, according to the data of the National Fund for Fundamental Researches of the USA, in the segment of higher education and science, Ukraine has moved from the 32nd to the 41st place in the world for the last 15 years [27]. The loss of Ukraine's position in the preparation of a competitive human capital began to directly affect the country's competitiveness in the world. Thus, according to the global competitiveness index, Ukraine lost its position, moving from 67th in 2006 to 81 in 2018 in a list of 137 countries [1].

In order to create a creative human capital, the leading MBAs in the world successfully implement specialized MBA programs: business creativity (University of the West of Scotland, Paysley, Scotland); Creativity and Contemporary Business Perspectives (Illinois Institute of Technology, Chicago, USA); systemic business creativity (Columbia Business School School of Business, New York, USA); Innovation and Creativity: The Way of Development (Toulouse Business School, Toulouse, France, Creativity and Organizational Management (Globis University, Tokyo, Japan); Sustainable Creative Management (Open University Business School London, Great Britain); strategic marketing in creative industries (Harvard Business School, Boston, USA); Leadership and Change Management (De Paul University), Chicago, USA [28; 29].

Formation of a creative economy requires a radical reform of the education system, which will be able to provide the appropriate level of training specialists. In modern conditions, a specialist must not only possess certain knowledge, skills, and talents but must also be able to generate all of his life. This means that the main feature of a modern specialist should be the constant updating of his own knowledge, skills and talent development; the ability to constantly check their own knowledge and skills and at the same time refuse the ineffective methods of organizing their activities.

One of the targets for the development of the education system is the introduction of a continuous integrated professional education system, critical personnel and research tasks for the development of a creative economy based on the integration of educational, scientific and productive activities.

The next direction is investing in science, technology, and innovation, which are an integral part of the creative economy. According to the Global Innovation Index, our country first hit the top 50 most innovative countries in the world. However, the production of high-tech products in Ukraine, which is based on new knowledge, has been steadily decreasing over the past 15 years. Thus, in 2001, the share of high-tech exports in the total exports of Ukraine was 5.5%, and in 2015 it was about 3.5%, while, for example, for China, this indicator for the same period of time sharply increased - from 18% to 37% [1]

These processes are related to the fact that Ukrainian science exists in conditions of total underfunding. The budget of the country in 2017 provided 0.24% of the country's GDP.

And although in 2018 financing of science in Ukraine increased by more than 30% - from UAH 4.7 billion in 2017 to \$ 6.1 billion. UAH in 2018 [21], however, for comparison, in the US, Sweden, Finland, Israel, this expenditure item is 2-4% of GDP. Throughout the world, the state acts as the main investor of fundamental science - that is, theoretical and experimental studies that have no commercial purpose. At the same time, they are interested in applied developments that can turn into specific market products. Consequently, an objective need is to increase public investment in science and research. In addition, an important direction in directing private investment in this area is the introduction of the so-called Industry 4.0 industry parks, industry technology centers in Ukraine.

Thus, since the key feature of the transition to the postulates of the creative economy is its ability to combine quality creative thinking, new innovative ideas with culture and the latest technologies, as well as to create a new type of market relations aimed at improving the quality of life of the population, therefore, the foundation of society's development must be to create favorable conditions for the development of human capital. This idea is promoted by the Project of the Concept of Humanitarian Development of Ukraine for the period up to 2020, where intellect, education, professional experience, social mobility, creativity and innovation in professional activity and social life are recognized as the main component of national wealth and the main resource of socio-economic development, the key to the high creative potential of society [30]. And the first priority is an investment in creative human capital.

IV. CONCLUSION

Thus, in the article, it was determined that in modern conditions of development of society the main factor of the creative economy and economic growth is human capital. In this regard, the main directions of investment in human capital were identified, such as health care costs; living expenses; ensuring affordability of housing; preservation and maintenance of ecological requirements to the habitat; costs of culture and art; expenses on optimization of labor migration; expenses for employee's motivation; education costs; the cost of science. The growth of investment in the areas considered will contribute to increasing the competitiveness of creative human capital and formation of a creative economy, improving the competitiveness of the country and guaranteeing at the same time appropriate rates of socio-economic development.

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