

APPROACH TO CLARIFYING THE ESSENCE OF HUMAN CAPITAL CONCEPT***Taptyg Kerimov****Head of the "Social Philosophy"**Doctor of Philosophy, Professor**Ural Federal University named after the First**President of Russia B.N. Yeltsin**Yekaterinburg, 51, Lenin Avenue, Russia****Gulbaram Kulzhanova****Head of the Faculty of Full-time Education of the Kostanay academy of the Internal Affairs Ministry of the Republic of
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Abstract. Ambiguous research vocabulary within human capital concept necessitates a discussion on formation of scientific hypotheses in theory. The purpose of the research was to develop a conceptual approach to clarifying the essence of the category of human capital, taking into account its wording in modern literature and historical background of the concept. With the use of content analysis technologies, “capital”, “human capital”, and “labor potential” concepts were structured. Based on terminological analysis, capital and human capital formation features in public relations were singled out. Distinctive features of the labor potential and human capital concepts were isolated by means of comparative analysis. The human capital concept was formulated taking into account its functional purpose, as well as social and historical grounds of the category formation. The findings can be used to design courses in philosophy, economic theory, political science, sociology, and other humanitarian courses; they can prove useful in the media activities, internal and youth policy departments, as well as other government agencies for shaping public opinion, in studying development trends in human capital as an extremely complex sociocultural phenomenon.

Keywords: human capital concept, human capital, capital, labor potential, labor force, human factor, social relations.

Introduction

The urgency of the problem of human capital formation and development is determined by objective needs at the present stage of global socioeconomic development of society. A major role in development of any country across the world belongs to human being as a bearer of wealth (Faria et al., 2016; Ono & Uchida, 2018). For example, in the United States, the rate of return on investment in secondary education is 10 to 13% and on investment in higher education is 8 to 10%. Human capital is one of the most important forms of investment in developed market relations. The World Bank estimates human capital to exceed 80% of all productive wealth in Japan and 60% in the United States (Psacharopoulos & Patrinos, 2018). In today’s rapidly changing context, human capital determines the dynamics and trends of social development. Ensuring its compliance with social values and imperatives of the time becomes an important task of intentional socio-cultural development of an individual and society (Lonska & Mietule, 2015; Tomoko, 2019; Schuller, 2019). The ability of human innovation capital and of society to provide social space for productive creative activity of people becomes a measure of its viability and resilience (Skytt-Larsen, 2018). To ensure effective human life activity in industrial civilization requires a switch of public consciousness to acquisition of qualitatively new knowledge and skills as well as fulfillment of intellectual human capital (Kianto, Sáenz, & Aramburu, 2017; Kianto et al., 2018; Tamer, Dereli & Sağlam, 2014). Human capital in terms of human intelligence, education, and skills plays a key role in creating a competitive environment. A new global order is emerging, whereby the industrial and innovative development of a country implies high quality workforce parameters (Schwab, 2016). In society, there is a significantly growing interest in formation, accumulation and enrichment of human capital. The major goal of social progress is to ensure that each person fulfills their potential and leads a healthy, creative, and active life (Belousova, 2015). Consequently, improvement of individual qualities becomes a cornerstone and content of the progress of mankind. “It is human rather than plants, equipment and other assets that should be considered as the most valuable resource of post-industrial society” (Kulzhanova, 2018). This dictates treating a person not as a factor but as a powerful socio-psychological resource for improving the production and development of society (Izotov, Sarsenbayeva

& Khamidov, 2011). In this regard, one of the key places in the recent history of economic and social research belongs to a human capital theory whereby human capital is a major category (Na & Ying, 2012; Na, 2012). It should be noted that modern academic literature considers human capital from both a narrow and broad perspective, synonymizes it with many other categories, etc. (Ahsan & Haque, 2017; Mestieri, Schauer & Townsend, 2017; Psacharopoulos & Patrinos, 2018). In the narrow sense, education is a form of such capital. Herein, it is referred to as human because this form becomes a part of an individual, and it is also a capital due to the fact that serves as a source of future satisfaction or future earnings, or both (Ono & Uchida, 2018; Ahsan & Haque, 2017; Mestieri, Schauer & Townsend, 2017). In the wide sense, human capital is formed by an investment or (long-term placement of capital) in a person in the form of expenditures for education and on-the-job training of labor force, for health care, migration and seeking information on prices and incomes (Faria et al., 2016; Psacharopoulos & Patrinos, 2018; Lonska & Mietule, 2015; Kianto, Sáenz & Aramburu, 2017). In the wide sense, human capital represents human potential in all its forms, which can be aimed at creating wealth (Ono & Uchida, 2018; Ahsan & Haque, 2017). In the narrow sense, human capital serves as the quality of functioning labor force, that is, as a measure of its utility, a source of income for a person, an enterprise, a state (Faria et al., 2016). The ambiguity of approaches to formulating the essence of human capital from the theoretical perspective gives rise to endless discussions in the scientific community for its use in the research process, which makes it necessary to clarify its content. When specifying terminology, it is essential to consider that it is an important tool to formulate scientific hypotheses and to validate or disprove them. The conceptual framework of a theory can be considered as a universal system of language definitions. Otherwise, it would form a derivative research circle and, instead of handling applied problems, scientists would repeatedly argue about terminology tools. The purpose of the research was to develop a conceptual approach to clarifying the essence of the human capital category, taking into account its wording in modern literature and the historical background of the concept. The following problems of scientific research were solved as part of the study: terminological analysis of the capital concept was conducted, historical background for its formation was defined, comparative analysis of the essence of the labor potential and human capital concepts was carried out, dominant features of human capital were identified, and its essence within the human capital concept was clarified.

Literature review

The human capital concept did not arise spontaneously but rather as a natural result of development of the global philosophical and, subsequently, economic thought. According to E.M. Samorodova, the most important prerequisite for research in the scientific field of interest is the premise that a person is both a producer and a consumer of material wealth (Samorodova, 2008). The first attempt to estimate the monetary value of human productive qualities was made by Sir William Petty (1623-1687), the founder of English classical political economy. He notes that the wealth of society depends on the nature of people's activities, distinguishing between useless activities and activities that improve the skills of people and invite them to engage in one or another activity that is of great importance as such (Petty, 2013). Sir William Petty also saw great benefit in public education. He believes that schools and universities should be organized in such a way as not to allow ambitions of privileged parents to flood these institutions with dunces and so that the most capable ones can be selected as students (Petty, 2013).

Unlike Sir William Petty, who included the value of both the able-bodied and dependent population in human capital, Adam Smith (1723-1790) was mainly interested in the working-age population (Smith, 2012). The idea of human capital reflects in the work of Adam Smith *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776) (Smith, 2012). He considered the productive qualities of a worker as the main engine for economic progress. Adam Smith writes that an increase in the productivity of useful labor depends on each worker's dexterity and skills, and then on improving of machinery and tools with which he has worked (Smith, 2012). Adam Smith believed that a fixed capital stock consisted of machinery and other instruments of labor, buildings, land and "of the acquired and useful abilities of all the inhabitants or members of the society." He pointed to the fact that "the acquisition of such talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized, as it were, in his person" (Smith, 2012). The fundamental idea of his research, which is one of the key ideas in the theory of human capital, is that the costs associated with productive investments in humans contribute to productivity growth and are reimbursed together with profits (Smith, 2012). In his work *On the Principles of Political Economy and Taxation*, David Ricardo (1993) (1772-1823) also considers a core set of costs for creating human capital, emphasizing the role of education in forming national wealth: he attributes different levels of economic development of countries to a lack of education in all the layer of society (Ricardo, 2015). He believes that, like all other objects, labor has its natural and market prices. The natural price of labor is that necessary for workers to have means of subsistence and to provide for future generations (that is, the natural price of labor depends on the price of food and the necessaries and accommodation for living required to support a worker and his family) (Ricardo, 2015). He noted that the natural price of labor tends to rise with the progress of society. The market price of labor is a price that is really paid for it due to a natural ratio between supply and demand (labor is expensive when it is rare and cheap when available in abundance) (Ricardo, 2015). Karl Marx (1978) (1818-1883) defined labor power (the ability to work) as "the aggregate of those mental and physical capabilities existing in a human being, which he exercises whenever he produces a use-value of any description." He noted that "the value of labor-power is determined, as in the case of every other commodity, by the labor-time necessary for the production, and consequently also the reproduction, of this special article ... the value of labor-power is the value of the means of subsistence necessary for the maintenance of the

laborer.” He points out that improvement of the productive power of labor is largely determined by the creative mental abilities of an individual, whose development requires free time (Marx, 2013). But, it should be noted that the classics did not use the human capital concept in common terms of economic theory when studying capital.

In the late 19th century and early 20th century, economists J. R. McCulloch, J.-B. Say, J. S. Mill, and N. W. Senior believed that the ability to work acquired by a person should be considered as capital in its “human” form (McCulloch, 2002; Say, 2011; Mill, 2012). Thus, back in 1870, J. R. McCulloch clearly defined human being as capital. In his opinion, instead of understanding capital as part of industrial production not pertinent to human, which could be made applicable to support them and facilitate production, there does not seem to be any valid reasons why human themselves could not be considered to be it and many reasons why they can be considered as a formed part of national wealth (McCulloch, 2002). J.-B. Say made an important contribution to understanding of this issue. He argued that professional skills and abilities acquired through costs lead to an increase in labor productivity and, therefore, can be considered as capital. Assuming that human abilities can accumulate, J.-B. Say referred to them as capital (Say, 2011). John Stuart Mill does not consider a person themselves as wealth. Yet, he believes that their acquired abilities that exist only as a means and are generated by labor fall into this category with good reason. And further: “The skill, and the energy and perseverance, of the artisans of a country, are reckoned part of its wealth, no less than their tools and machinery” (Mill, 2012). The founder of neoclassical direction in economic theory, A. Marshall (1842-1924), in his scientific work *Principles of Economics* (1890) pointed out to the fact that “the motives which induce a man to accumulate personal capital in his son’s education, are similar to those which control his accumulation of material capital” (Marshall, 2017). In the matters of formation and use of human capital, Russian scientists expressed their point of view as well. Among them, M. I. Tugan-Baranovsky (1865-1919) noted a peculiarity of labor force as a commodity, which distinguishes it from all the other goods without exception: “All other goods are external products or means of human economic activity, economic objects. The human labor force is a person themselves, that is, not an economic object but a subject of economy” (Tugan-Baranovsky, 2004). Famous Russian scientist D. I. Mendeleev (1834-1907) wrote: “Education is acquired capital corresponding to time and labor expenditures and accumulation of human wisdom” (Mendeleev, 1995).

Thus, the problem of human capital development is deeply rooted in the history of social and philosophical thought. Scientific research of the classics of world economic thought allowed the theory of human capital to form at the turn of the 1950s and 1960s. Human capital does not only acquire knowledge throughout life but also wears out, both in physical and moral terms. The knowledge of an individual becomes obsolete, that is, the value of human capital changes economically in the course of being. E.M. Samorodova rightly notes that, until the early 1960s, “the problems of labor force formation were in the periphery of scientific economic interest” (Samorodova, 2008).

What is human capital as a phenomenon? It should be noted that human capital is a very complex and intricate phenomenon. It encompasses such mixed-ordinal phenomena as contribution of education to economic growth, the demand for educational and medical services, the age-specific dynamics of earnings, wage differentials in male and female labor, handing down economic inequality from generation to generation, etc.

Recently, social science circles have often referred to human capital as an indispensable resource for improving the competitive ability both of a state as a whole and in its economy and all the able-bodied citizens. For example, Russian authors have already discussed the importance of this problem in their article where they made it clear that human resources were a limited economic category (Grechko & Goncharenko, 2016).

Being a functional component of innovative production, human capital generalizes knowledge, skills, and practical experience inspired by intellectual activity, serves as a form to achieve human intellectual, moral and culturally oriented capacity and to create new, previously unknown knowledge, providing intellectual rent and various advantages over competitors. Moreover, investment and competent management contributes to successful business operation (Konchakova & Chugunova, 2017).

In the latter half of the 20th century economists, in particular, the Nobel Prize winners, American scientists Theodor Schultz and Gary Becker (Schultz, 1971; Becker, 1993) put the term “human capital” into the scientific and organizational practice. The former began to explore what he referred to as “human capital” in the early 1960s. In 1964, Theodore Schultz published the monograph *Transforming Traditional Agriculture* that identified fundamentally new approaches in economics (Schultz, 1971). This paper and his subsequent works showed that the educational background of population predetermines their ability to use information and technology for economic development. The term “human capital” proper first appeared in the works of this economist who was interested in difficult situation in underdeveloped countries. T. Schultz wrote that improving the well-being of poor people was not contingent on land with its subsoil but rather on knowledge. He called this qualitative aspect of economy “human capital” (Schultz, 1971). Schultz, who won the Nobel Prize in 1979, gave the following definition: “all human resources and abilities are either innate or acquired. Every person is born with a particular set of genes which determines his innate ability ... Attributes of acquired population quality, which are valuable and can be augmented by appropriate investment, will be treated as capital” (Schultz, 1971).

Back in 1960, T. Schultz estimated the cost of labor, including expenditures on a person’s education and time wasted for training. Prior to T. Schultz, nobody considered these expenses in terms of economic development. He pioneered in substantiating human capital as an important economic resource of society. Apart from that, T. Schultz notes that, in addition to education, human capital should include health condition (Schultz, 1971). In addition, he

points out that investment in human beings increases not only their labor productivity but also the economic value of human time.

What another author of the human capital theory, Gary Becker (1993), means by the concept of human capital is the knowledge, skills, and expertise of a person that contribute to the growth of their productive power. In his Nobel lecture in 1992, he notes that human capital consists of acquired skills, knowledge, motivation and energy that human beings are endowed with and that can be used for a certain period of time in order to produce goods or services. He created a model of human capital and published the monograph *Human Capital* (Becker, 1993).

At the same time, it can be stated that “narrowly economic understanding” (A. A. Khamidov) continues to dominate modern theoretical studies of human capital formation, whereby human creative abilities are considered primarily as an essential condition for effective economic returns, while human creative potential is associated with competitive capacity in production of goods and services (Izotov, Sarsenbayeva & Khamidov, 2011). In modern economic theory, it has long been axiom to state that information technology society cannot exist without highly skilled workers who are constantly engaged in self-education and self-improvement of their abilities, and human capital is nothing more than “the accumulated knowledge, skills and expertise that an employee has and that are acquired by him through general and specialized education, vocational training, and work experience.” Therefore, “investing in human capital is the most profitable business” (Izotov, Sarsenbayeva & Khamidov, 2011).

For his part, A. A. Khamidov, referring to the understanding of human capital in philosophical terms, proposes to distinguish two human capital capacities: 1) subjective and 2) social. In the first capacity, human capital is regarded as the entirety of human subjective sufficiency attributes. Therefore, the development and improvement of human capital is the subject’s ontological goal in itself, which implies harmonization with the development and improvement of all the others. In its second capacity, human capital acts as a certainty for an existing society (Izotov, Sarsenbayeva & Khamidov, 2011). Since any society is specifically historical, ego-centered and tends to subordinate the vital activity of its constituent subjects to the objectives of its reproduction and development, not all attributes of the subjective capacity of human capital turn out to be in demand and supported by the existing society (Izotov, Sarsenbayeva & Khamidov, 2011). In what way is it possible to form, develop and improve human capital in the context of such a separation? A. A. Khamidov, like many other modern philosophers, primarily associates this way with massive improvement of the education system and with emergence of a fundamentally updated unified academic educational complex (Izotov, Sarsenbayeva & Khamidov, 2011). According to him, the significance of education sector in human capital formation is related to its ability to exert influence near to total both on a person and on all spheres of society. “After all, it forms all members of society, regardless of their status and position in the social stratification. Every... individual passes through it before taking one or another place in material production, science, politics, etc., including the education system as such. The training and education system should evoke the desire and the will to develop a proper outlook and universal human values in students and mentees. This is the only way an educated and well-bred person becomes a personality who, in metaphorical and metaphysical terms, can be called human capital of mankind” (Izotov, Sarsenbayeva & Khamidov, 2011).

But why, in the context of existing society and appropriate education system, does a person have virtually no opportunity to rise to a higher level of development, to become a personality and, consequently, to make genuine “human capital”? According to Kazakhstan philosopher V.S. Baturin, the fact is that it is not activity but rather economic ontology favoring the prevalence of “domination-subordination” relations and the principles of “subject-object” social self-organization paradigm that remains the priority in developing a strategy for social development, including education (Baturin, 2012). That would mean that society functions in a mode where one, moreover, the smallest in number, part of it, for various reasons whereby the economic factor plays a significant role, acts as a “social subject”. By virtue of this “subject-likeness”, it has always found and even still finds an opportunity, in one form or another, to use its more numerous “object-like” surrounding as a tool or a means when meeting its personal or other kinds of society-determined needs, interests, and goals. Therefore, it is necessary to search for ways and means of forming a “qualitatively different reflexive culture of thinking”, instilling “a different, new culture of organizing all types of communication”, developing strategies to master “a different culture of organizing any kind of activity whatsoever” (Baturin, 2012).

Thus, based on analysis of the existing approaches in etymology of the human capital definition, it should be noted that what many scholars mean by the economic capital concept is a factor formed during production, a fundamental principle of production. Identification of the human capital category with workforce, labor potential, education expenditures and knowledge that is embodied in a person distorts the content of the human capital category and complicates its practical application.

It must be acknowledged that, despite significant achievements of scientific theoreticians, the current development pathway of the vision of human capital as one of the major categories in science requires significant adjustment both in terms of historical features of production process and features of value formation in society and possibilities for the development of human skills.

Methods and materials

To clarify the content of the human capital notion, the method of content analysis was used as a scientific cognition method. This is a method for quantitative study of text data, its principle is to divide text data into structural elements, to detect keywords in documents and determine their usage frequency. This is key method when studying the

essence of concepts, media reports, and answers to sociological survey questions (Graneheim, Lindgren & Lundman, 2017). Content analysis was implemented in the TextAnalyst software product. By means of semantic analysis as a tool for text mining, a semantic network was formed as a set of terms extracted from the analyzed concept (words and phrases) interconnected in terms of content. In the process of semantic analysis, it is assumed that the structure (S) of a set of concept definitions can be represented as follows (Barseghyan, 2014):

$$S = M, F \tag{1}$$

where M is a set of the definitions under study;
F is the “conceptual relationship” ratio.

As a descriptive model of the concept structure, a semantic network is formed in the form of a directed graph:

$$G = (E, V) \tag{2}$$

where E is a set of vertices the set of related concepts corresponds to;
V is a set of directed arcs. Here, the following condition holds:

$$v = (M, F) \in V, M \in E \wedge F \in E \tag{3}$$

Arc V exits the vertex that corresponds to the basic concept a and enters the vertex of a respective concept that combines with the concept a by meaning (often used in conjunction) in the text. Each element of the semantic network of a category is characterized by a numerical estimate – “conceptual relationship”. Connections between pairs of concepts are also characterized by weights that make it possible to compare the relative weight of terms (Barseghyan, 2014).

In a semantic graph, a quantitative indicator next to a concept labels its conceptual weight. Its meaning ranging from 1 to 100 reflects the meaning of the term for the essence of the whole concept. Thus, the maximum value of 100 indicates a key term and determines the concept content. The number on the semantic network arcs describes a link weight between the respective definitions. The great importance of link weights between concepts indicates that the terms are essentially interconnected (Barseghyan, 2014).

Results

A semantic network of defining the capital concept essence from the standpoint of classics of economic, political and philosophical thought is presented in Figure 1 (Petty, 2018; Smith, 2012; Ricardo, 2015; Marx, 2013; McCulloch, 2002; Say, 2011; Mill, 2012; Marshall, 2017; Keynes, 2007; Schumpeter, 2012; Fisher, 2017).

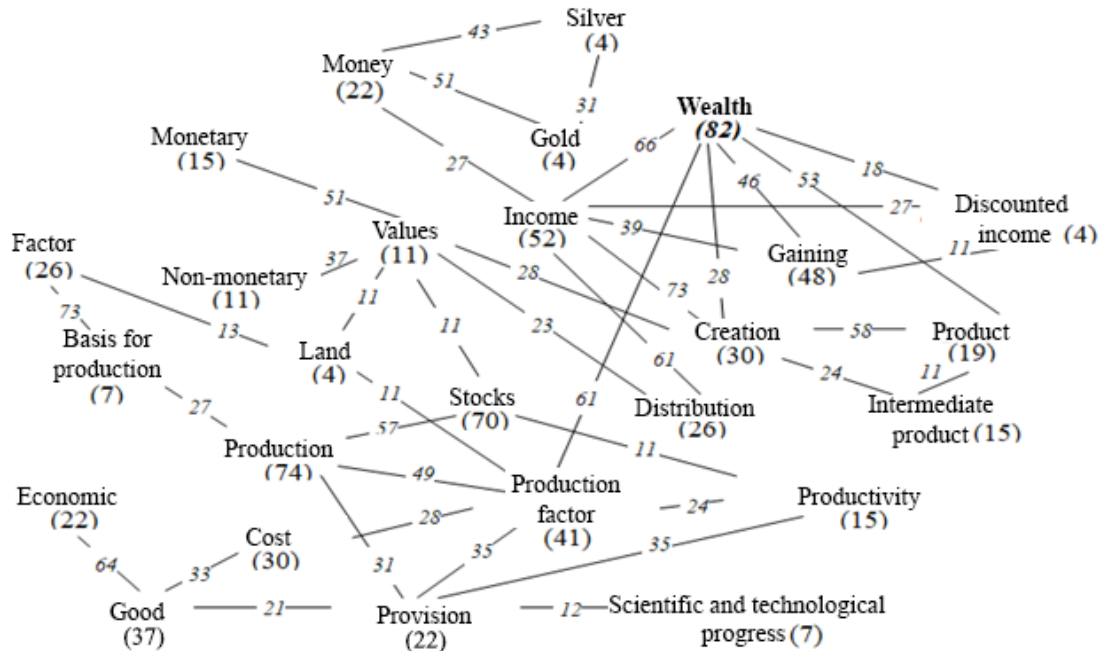


Figure 1. Semantic network of the capital concept essence definition from the classical standpoint

“Wealth” with conceptual weight of 82% is the key term in defining the capital concept. What is also meant by capital is stocks (70% frequency of mention), income (52%), production factor (41%), good (37%), money (22%), product (19%), values (11%), discounted income (4%), silver (4%), and gold (4%).

A semantic network of defining the capital concept essence from the standpoint of modern authors is shown in Figure 2 (Bjørnskov & Sønderskov, 2013; Escribá-Pérez, Murgui-García & Ruiz-Tamarit, 2018; Lewin & Cachanosky,

2018; Lonska & Mietule, 2015; Missemmer, 2018; Oliver, 2019; Scheffler, Rocco & Averett, 2014; Tomoko, 2019; Bichik, Damoratskkaya & Damoratskkaya, 2009; Borisov, 2010; Blank, 2000; Matyukha, 2007).

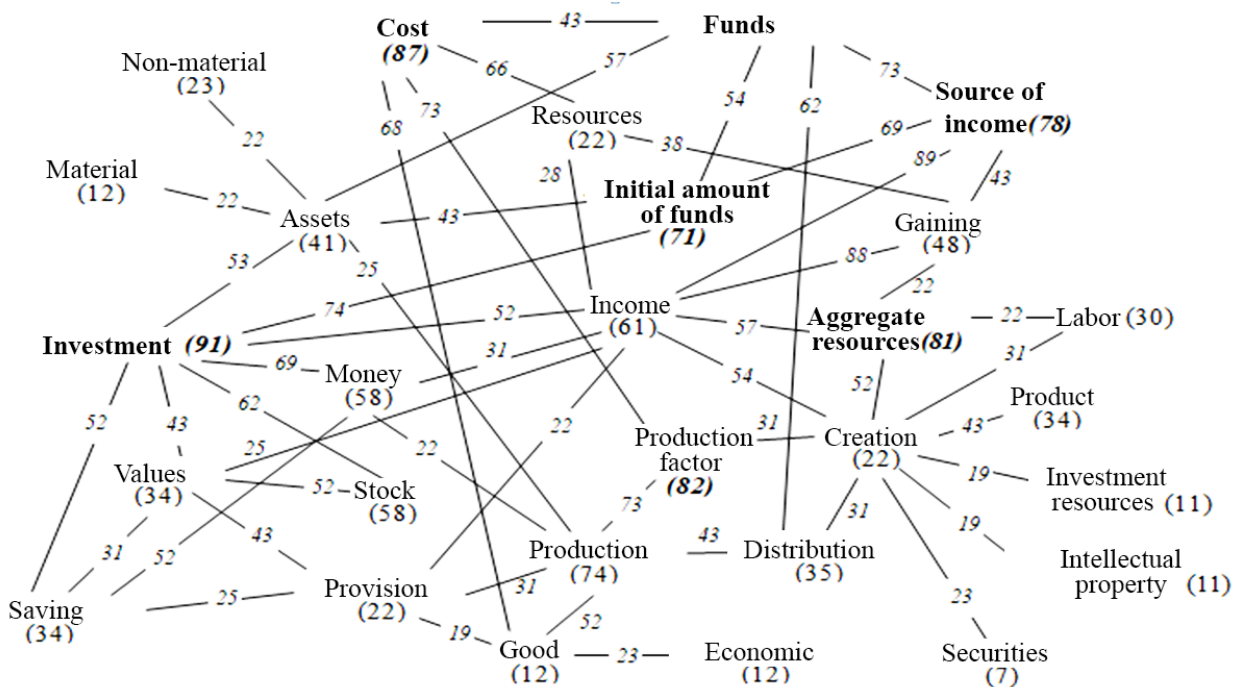


Figure 2. Semantic network of the capital concept essence definition in modern science

The most frequently used terms are: contribution (91% frequency of mention), cost (87%), production factor (82%), aggregate resources (81%), funds (79%), source of income (78%), and initial amount of funds (71 %).

A semantic network of the human capital concept essence is shown in Figure 3 (Ahsan & Haque, 2017; Faria et al., 2016; Kianto et al., 2018; Kianto, Sáenz & Aramburu, 2017; Lonska & Mietule, 2015; Mestieri, Schauer & Townsend, 2017; Na & Ying, 2012; Na, 2012; Ono & Uchida, 2018; Psacharopoulos & Patrinos, 2018; Skytt-Larsen, 2018; Tamer, Dereli & Sağlam, 2014; Grechko & Goncharenko, 2016; Izotov, Sarsenbayeva & Khamidov, 2011).

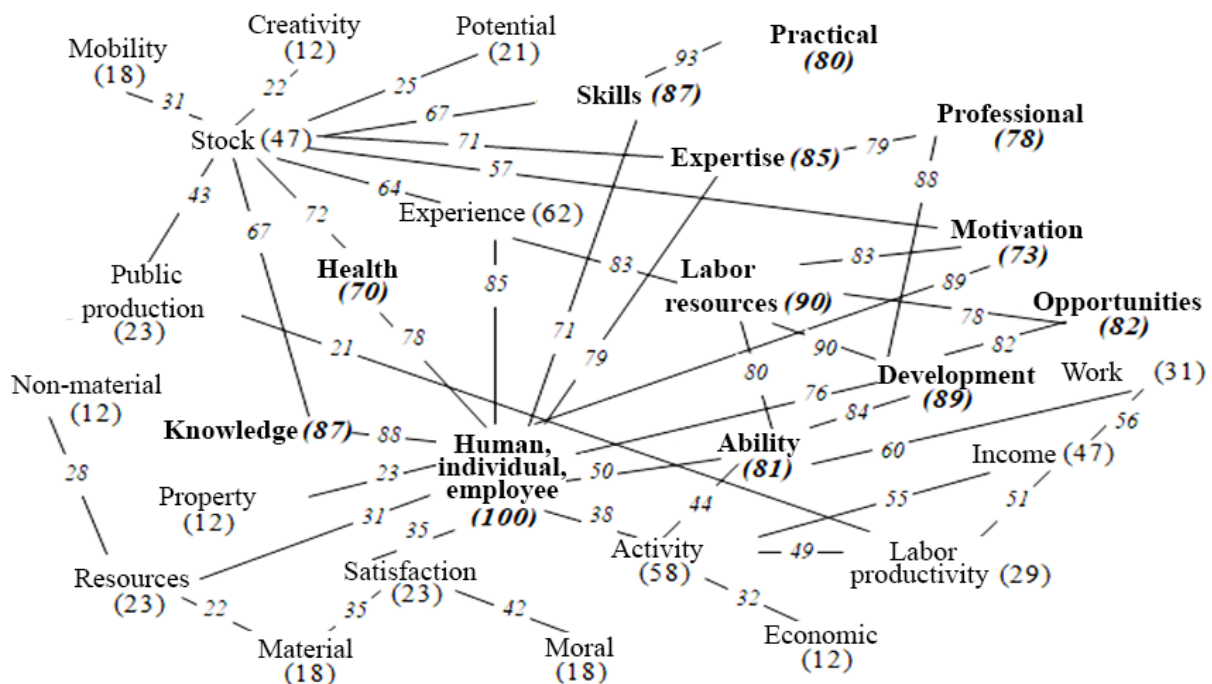


Figure 3. Semantic network of the human capital concept essence definition

The most frequently used terms were human, individual, employee (100% frequency of mention), labor resources (90%), development (89%), knowledge (87%), skills (87%), expertise (85%), opportunities (82%), ability (81%), practical (80%), professional (78%), motivation (73%), and health (70%).

A semantic network of scientific wording of the labor potential category content is presented in Figure 4 (Belousova, 2015; Delogu, Docquier & Machado, 2018; Gilleskie, Han & Norton, 2017; Holcombe, 2015; Mestieri, Schauer & Townsend, 2017; Ono & Uchida, 2018; Psacharopoulos & Patrinos, 2018; Skytt-Larsen, 2018; Tamer, Dereli & Sağlam, 2014; Kutayev, 2008; Matyukha, 2007; Popov, 2009; Stets, 2008).

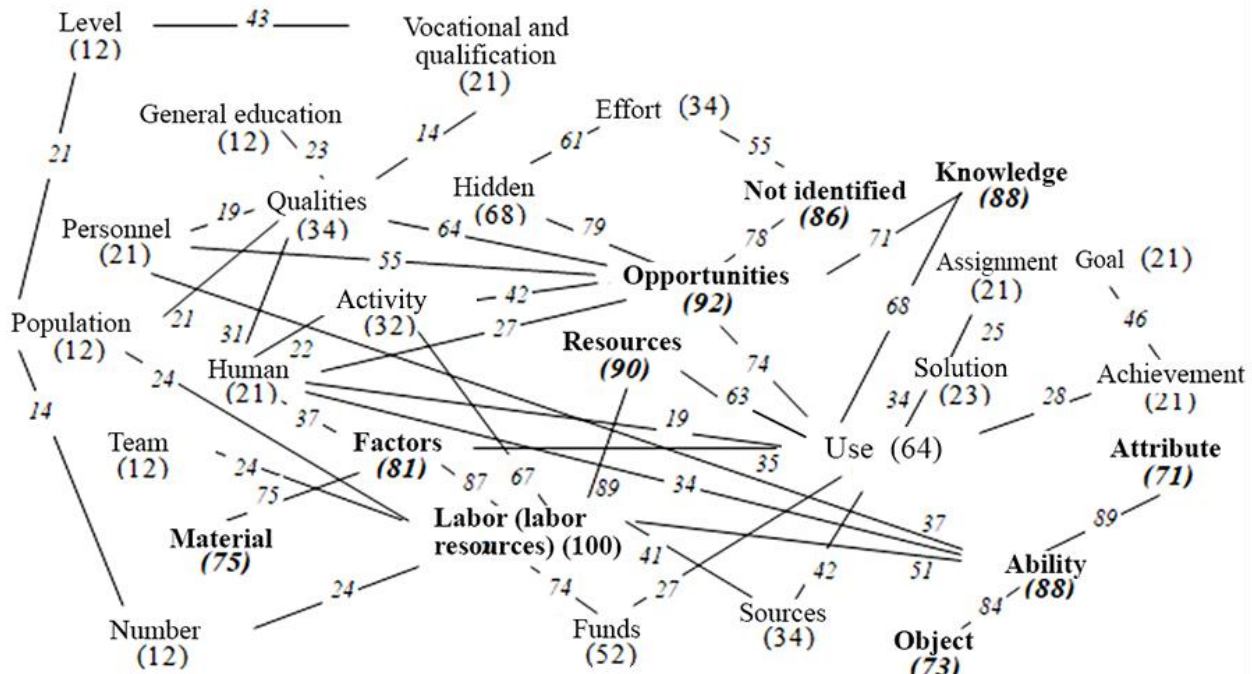


Figure 4. Semantic network of the labor potential concept essence definition

The most frequently used terms were labor (labor resources) (100% frequency of mention), opportunities (92%), resources (90%), ability (88%), knowledge (88%), not identified (86%), factors (81%), material (75%), object (73%), and attribute (71%).

Discussion

Based on historical analysis and content analysis, it was indicated that in spite of a diversity of scientific opinions in economics, the capital concept can be summarized as some wealth in a material form, created by respective work, used in further production of goods and services, and bringing a return to its owner (Figure 1). Yet, it is worth noting that, referring to the specified approaches of the classics, one cannot agree with the view that capital is wealth (82% frequency of mention in the analyzed sources, which is maximum (Figure 1)). Both in the past and in the current context of economic development, wealth is a certain value in the possession of either a particular economic entity or the public (Estrada-Mejia, de Vries & Zeelenberg, 2016; Yum, 2018; Elinder, Erixson & Waldenström, 2018). In other words, it is a certain amount of consumer value, a mass of goods that is formed, consumed, and accumulated (Estrada-Mejia, de Vries & Zeelenberg, 2016; Elinder, Erixson & Waldenström, 2018), whereas the key feature of capital is the process of its circulation for profit, that is, its self-expanding value (Marx, 2013). Physiocrats, classics, Marxists, neo-classics, and Keynesians studied capital and, while criticizing each other’s views, tried to establish its essence and nature in general, but it was only institutionalists who paid attention to social factors directly affecting the formation of capital. The scientific schools listed above contributed to the emergence of a number of approaches that presently lay a theoretical foundation for expanding the scope of the capital concept content. In other words, capital was regarded as a basic and systemically important category in science and economic practice at all levels of the economic system. However, since an enterprise (an economic entity) was the primary economic element, the category of capital, first of all, was indicative of its functioning characteristics in the course of social reproduction. This condition of understanding the essence of capital explains why scientists in the 19th – the first half of the 20th century did not consider and did not use such the human capital concept. The capital concept originated during the fledging years of original accumulation of capital based on coercive and mass labor. Consequently, it is possible to acknowledge the fact that certain conditions are required for formation and functioning of one or another form of capital. In order for knowledge to function as capital, it is necessary to ensure respective political, social, economic, and cultural conditions in society (which also applies to other forms of capital). However, in this case, the necessary conditions must be reproduced much earlier to lay the groundwork for development of certain forms of capital. Only in the modern context has it become possible to move from primitive to progressive knowledge and to prioritize professional competence. It was the result of long-term

training and constant investment in education that marked the emergence of a fundamentally different form of capital – human capital. Using the definition of human capital has become the foundation for the realization that human abilities as an inherent personal property of each individual takes the form of capital as a result of continued development of social relations in the process of using human abilities in certain market economic conditions. Continuity of scientific and technological progress has become a factor in irreversibility of such transformations and sustainability of their development, in added complexity of technological operations, in introduction of the latest technical developments in industrial practice, etc. In the days of Marx, transformation of the relationship between capital and wage labor, which was conditioned by the machine production development, was in its infancy, thereby making it impossible to interpret problems of formation and use of human productive abilities in terms of the economic doctrine of capital. Therefore, scientific theoreticians in the 19th century were intrinsically not ready to recognize the specificity of the knowledge category, to give it an exhaustive description from the standpoint of investment in education and in the development of professional competence of labor resources within the industrial type of society.

The general definition of the essence of capital category given by modern academic economists extends beyond the framework of social reproduction functioning and allows one to develop their own concepts of understanding this category and capital structure. The study of the capital definition essence suggests that modern definitions are too ambiguous and reduced to understanding of capital as cost, source of income, funds, initial amount of funds, aggregate resources, production factor, wealth, etc. (Figure 2). In other words, modern scientists increasingly see capital as a special economic resource. This approach is based on comparing the utility of goods over time (87% citation frequency as “cost” and 71% as “initial amount of funds”). But as part of content analysis of the essence of capital, one can also emphasize formulating it as an investment, ensuring a certain income for its owner in the future (91% as “investment”, 78% as “source of income”). This concept laid the groundwork for the emergence of the human capital theory. In the course of post-industrial society formation, the scientific and technological progress became a source of surplus value, compared where to the only source recognized by K. Marx – labor force as immediate manufacturers – was becoming less and less prioritized (Marx, 2013). And while capital and labor were major structural components of industrial society, information and knowledge became the foundation of the postindustrial type of society (Hoey, 2015). It is human capital that is considered as constitutive economic relation in modern post-industrial society (Kulzhanova, 2018). The issues of workforce qualification levels, of the cost of vocational training and its impact on the product price became fundamental. Under such conditions, it is not the problems of labor quantity that dominate but the problems of its quality, to ensure which requires substantial investment in education and professional development regardless of the gender or age of able-bodied population.

According to the terminological analysis of the essence of capital carried out by modern science, capital is presented as a derived factor of the production process from land and labor (the frequency of mention is 82%) (Missemer, 2018; Lewin & Cachanosky, 2018; Oliver, 2019; Escribá-Pérez, Murgui-García & Ruiz-Tamarit, 2018). In other words, a combination of natural resources and human labor in the labor process creates a value acting as capital. Consequently, capital as an economic phenomenon arises at a certain stage of social relations, while human capital arises while ensuring certain conditions at a given stage of social relations, which makes it reasonable to say that the human capital concept, also as an economic phenomenon, has derived from capital. Such an approach demolishes the view of some scientists about derivation of capital from human capital due to the perspective that capital as such is formed by knowledge, skills, and expertise of a person (Bjørnskov & Sønderskov, 2013; Scheffler, Rocco & Averett, 2014; Lonska & Mietule, 2015; Tomoko, 2019).

As shown by the research, the ambiguous wording of the human capital category is underpinned by categorical relationships between forms of capital. Human capital implies expertise, knowledge, professional skills, practical experience, motivation, health and other references (development (89%), knowledge (87%), skills (87%), expertise (85%), experience (82%), ability (81%), practical (80%), professional (78%), motivation (73%), and health (70%) (Figure 3). At the same time, the fact of its earning capacity as an attribute of capital is cancelled out, which gives an impetus to progressive socioeconomic transformations. The category of human capital indicates the nature and pattern of social product distribution among population groups (Bjørnskov, & Sønderskov, 2013; Calcagnini & Perugini, 2018), the status and social role of certain social classes (Koziol, 2017; Scheffler, Rocco & Averett, 2014), and a potential for raising the living standards of employees (Baten et al., 2010; Hayek et al., 2016; Gilleskie, Han & Norton, 2017; Atalay, 2015). While within the framework of the labor potential perspective, knowledge and professional skills are deemed as an opportunity to achieve certain economic goals, through the lens of human capital as an economic phenomenon they are deemed within the framework of ability to generate income for the owner of this knowledge. “Knowledge” as “knowledge” and “knowledge” as “capital” have different meanings. It is not generating knowledge and its utility that seems to be the key aspect of the human capital perspective but effective application of the existing knowledge and its development. The essence of human development concept, with the paradigm of human capital being its theoretical core, is that people’s well-being is estimated by their ability to lead a decent life rather than by the level of personal income, which is considered as a condition that expands people’s opportunities in areas such as health, education, economic and social activities (Gilleskie, Han & Norton, 2017). The following issues are regarded as the most pressing challenges: living a long and healthy life, acquiring knowledge and having access to the resources necessary for a decent standard of living. All these problems are associated with the issues of employment, rise of personal incomes and solving the poverty problem. In this way, human development leads to creation of such economic,

social, political and ecological environment that would contribute to the growth of human potential and its fulfillment in the form of human capital in all major areas of human and social life.

The research has shown that many authors in modern literature incline to unambiguous content of the categories of human capital and labor potential (Delogu, Docquier & Machado, 2018; Holcombe, 2015). There is also similarity by category in citing the concepts of knowledge, opportunities, and ability (Figure 4). But, based on the essence of the general definition of potential, it can be argued that the content of the labor potential category is to reflect the value of the existing combined mental capacity of an able-bodied person in determining priorities when solving tasks under certain external conditions and circumstances. In other words, in the framework of the human capital theory, labor potential becomes a set of configuration of skills, knowledge, and professional competencies that ensure potential ability to make a profit.

Thus, based on the historical, economic and social foundations for the human capital concept development and the result of content analysis of the capital, labor potential and human capital concepts, what is referred to as the category of human capital should be understood as an asset formed in the process of investing in knowledge generation and modification of the productive abilities of an individual in the course of labor activity, which ensures a certain income to participants in the investment and production processes. The use of earning capacity as one of the major essential characteristics of human capital confirms that fact that in those countries where knowledge and productive abilities of an individual function in the form of capital, citizens generally have higher living standards. The salaries they receive do not only cover their costs related to the need to reproduce labor force but also contain some surplus that improves their material situation, upgrades the quality of leisure, etc. Yet, those countries where, for a number of reasons, knowledge has not taken on characteristics of capital have low living standards for the vast majority of employees and their families. At the same time, the situation where in the same society a part of working-age population is characterized as owners of labor capital and the other part is devoid of this asset is typical. It solely depends on the ratio of respective population groups; some way or another, no society can do without simple (manual) – including unskilled – labor. These considerations will lay the groundwork for further scientific research of the authors, following on from the results of this study.

Conclusions

As part of the study, the following conclusions were made.

1. The concept of capital is prior to the human capital category as it is formed at certain stages of social relations, while human capital is only formed given certain conditions at these stages of public relations.
2. The ambiguity of wording of the human capital category is determined by categorical relations between forms of capital in science and the fact that earning capacity as a characteristic of capital and human capital in particular and as a basis for socioeconomic transformation and development is cancelled out in interpretations of the notion. In addition, the use of human potential by scholars as a synonym for the category of labor potential does not reflect the key feature of the category – effective use of the existing knowledge and its development in social relations.
3. Taking into account the identified key features of the capital, labor potential and human capital categories, the study clarified the content of the essence of human capital as an asset formed in the process of investing in knowledge generation and modification of the productive abilities of an individual in the course of labor activity, which ensures a certain income for participants in the investment and production processes. This approach, in contrast to the existing formulations, to the fullest extent possible reflects the characteristics of capital, the ability to apply knowledge and conditions for its use. This lays theoretical foundations for improvement of the theoretical base and research vocabulary of the human capital concept.

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