



The essence of capital in economics

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Abstract

Capital is one of the most important economic categories of modern market economy, related to the economic activity of entities. The concept of "capital" is a very complex, controversial issue, it exists in many meanings and contexts. Has many definitions. Nowadays, we can call everything capital because it is an abstract term. Capital is an essential element of any enterprise. It can be classified in different ways. It is most often grouped into physical, financial and human capital. Human capital is one of the most important factors influencing the development of a company, so it also has a strong impact on the development of national economies. This article presents the definition of human capital by G. Łukasiewicz.

Keywords: Capital; Human Capital; Capital Functions; Capital Classification.

1. Introduction

Capital is a basic category for economics and economic sciences. It has many definitions, the reason for this phenomenon is the development of many theories of capital, which have been created over the years. As one can guess, the multitude of definitions created has caused a lot of disputes, many times these definitions have contradicted each other. C. Bliss made a statement that clearly describes the inconsistencies that have occurred. He claimed that "When economists reach agreement on the theory of capital, they will shortly reach agreement on everything else. Happily, for those who enjoy a diversity of views and beliefs, there is very little danger of this outcome". (Bliss 1975) He created this statement after analysing the compatibility of existing capital concepts. (Dobija & Jędrzejczyk 2011, pp. 104) The following text will familiarise us with the most important concepts of capital, as well as the place it occupies in the company, its classification and historical approach to human capital.

2. Capital in economic theory

The category of capital has its beginning as early as in the ancient times, but it did not exist on its own, it was permanently connected with the notion of profit and percentage. The word "capital" is derived from the Latin word *capitalis*, which is also associated with the Latin word *caput*, which means head. Originally, capital was used in terms that described the amounts of money borrowed, i.e. the principal sum of money, which was the value of the debt without accrued interest. Therefore, when the amount lent was not interest-bearing, this term was not used. As a consequence, we come to the conclusion that the capital is the sum of money that makes it possible to obtain interest. (Dobija 2005a, pp. 12) In ancient times, percentage and return on invested capital were key elements of research, in that era capital was ignored.

Throughout the Middle Ages there are two subperiods describing capital. These subperiods are not uniform as regarding the term capital. The first century of the Christian era includes the first of the subperiods, which we can describe as a time of struggle in canonistic literature with capital. The capital was still considered as a monetary amount borrowed as a percentage. Capital as an independent category begins to function only at the end of the second subperiod. In the second subperiod, its beginning dates back to the 12th century, capital is considered to be a monetary amount borrowed at interest, but with some tendency to turn away from money, towards a relationship between capital and tangible goods. The period begins to identify it with a monetary amount that generates profit on the basis of the market turnover of the enterprises. (Skrzypek 1939, pp. 11-12)

Stanisław Skrzypek believes that in the Middle Ages the first definition of capital appears, whose author is Bernard from Sienna. He stated in the 15th century that the basis for profit may be other forms of using money, not only an interest-bearing loan. Profit can also be obtained from the profitable sum of money used in industry and commerce, but he specified the condition that must be met in order to get profit in this way. This condition was the obligation to bear the risk of the person investing their money. Bernard of Sienna uses the word capital precisely, distinguishing it between loan and invested capital. (Skrzypek 1939, pp.21-22) According to F.A. Fetter's first definition of capital was presented by R. Cotgrave in 1611. Its author described capital as inventory, wealth and value. (Kurek 2010, pp.15)

In modern times, we distinguish technical-economic, transitional and social concepts of capital. The representative of the technical-economic approach was Barbon, he defined capital as an aggregate of land, raw materials, as well as things produced from these raw materials, which will once again be traded. In this approach, the capital is the collection of land, raw materials and things, not the value of the money invested.



The creation of the capital definition by Adam Smith is described as a point that has significantly contributed to the distinction between the interpretation of capital used mainly by a group of buyers and entrepreneurs from the scientific approach to this matter. His authorship is also attributed to creating a foundation for a technical- economic approach to capital, while also analyzing the social form of capital. (Marchewka 2000, pp.106-107)

Smith included capital, labour and land as factors of production. The part of resources that was to create income was capital in accordance with the private-economic concept of capital. The source of income was these resources. The second part of these goods is responsible for meeting the needs of industrialists. So, goods that were the direct consumption of the owners were not capital. Therefore, Smith allocates resources to those that are profitable and to those that are exclusively for consumption. (Kurek 2010, pp. 16)

A. Smith's successors articulated theories of capital, which can be classified into three groups, the feature connecting these groups was to relate capital only to goods that support production objectives. The first group was represented by J. Conrad, F. Taussing, J.S. Mill, N.T. Caver, G. Schönberg, G. Colson. They expressed the view that production support measures should be understood in a very broad sense. It did not matter whether the funds were natural or consumer goods, or whether they could be used for countless production cycles. The next trend was theories in which the means of production were exclusively the product of production. Measures that were natural products were not classified as capital. Thus, capital can be called production goods and also consumer goods. Such views were represented by: R. Salerno, K. Supino, L. Cossa. The last group contained theories that only included 'productive means of production' to capital. This fraction defined capital in a very limited way, only as tangible means of production, which were understood to be movable labour assets used to produce different goods. Representatives of this faction among others were H. Kamiński and A. Amon. (Skrzypczak 1939, pp.37-43)

Transitional theories were created by combining a technical and economic approach with a newly created socio-economic approach. Capital had a significant impact on socioeconomic life, these two matters were becoming more closely linked. Their authors referred to the social relations of ownership, exchange, and enterprise, while at the same time moving away from combining the science of capital with technical analysis of the production process. (Kurek 2010, pp. 17)

Social theories of capital no longer made any reference to technical and economic thinking about capital. Schmoller, Truchy, Schäffle, J.B. Clark, Sombart, Cornelissen, Say, S. Grabski and I. Fisher has been instrumental in understanding capital as a sum of monetary values. The essence of social capital theories was to separate capital from matter. The capital became an abstract term, it could have a variety of characters, everything could be identified with it. J.B. Clark drew attention to the distinction between genuine capital and tangible capital goods. True capital was defined as a permanent fund of 'productive wealth' or a 'value fund that exists on a permanent basis as opposed to specific capital goods that can be destroyed or consumed'. (Marchewka 2000, pp. 118) Clark highlighted the difference between capital and goods. Capital is indestructible and can survive forever, unlike goods that are characterized by a shoulder of permanence, the possibility of destruction and constant volatility. In this approach, it cannot be determined that capital is created, maturing or decaying. F. Knight also emphasized the permanence and eternity of capital, dissociating it from the capital goods, which are destroyed and are not eternal. (Kurek 2010, pp.18)

Irving Fisher, an American economist, one of the many representatives of the neoclassical school of economics, describes capital as an occurring wealth without any exceptions, he did not mean the value of these resources, but them themselves. He used the term "capitalization," which combines time and percentage terms. According to Fisher, capital should be defined as the present value of the profit stream discounted using a rate of return that is characteristic of the entrepreneur or owner. (Fetter 1997, pp. 46)

Y. Ijiri formulated features describing capital. He defined capital as abstract, unified and aggregated, as opposed to resources that are heterogeneous and concrete.

Capital by M. Dobija is seen as a special form of energy, i.e. the ability to do work. In this aspect, capital, like energy, cannot come from nothing, does not perish and relies on natural diffusion, distinguished by its intrinsic predisposition to natural flow and reduction in time. (Dobija 2005b, pp. 16-17)

3. Capital in enterprise

F. Quesnay, a French economist, presented capital as wealth previously accumulated, whose main purpose is the possibility of undertaking subsequent production. Capital has a key impact on the establishment and functioning of an enterprise, and at the same time on its proper development, its condition and existence. (Borowiecki 1993, pp.10) Capital builds, shapes, creates an enterprise. In real terms, monetary resources, tangible and intangible goods play a decisive role in capital.

Many sources of capital classification in an enterprise can be distinguished. Taking into account the source of capital, i.e. the source of financing of the company, we divide it into equity and foreign capital. Equity capital can be defined as the value of all funds contributed to an enterprise by its owners (shareholders, associates), as well as those generated by the enterprise in the course of its business and subject to the decision making disposition of those with owner status. (Dębski 2005, pp.383) In turn, foreign capital is all liabilities the company has towards its creditors, i.e. contractors, state budget, employees, banks, etc. It is made available to the company for a specific period of time in exchange for a price expressed as an interest rate. Regardless of the company financial situation, the repayment of the obligations is fixed and must be unconditionally paid. (Grzywacz 2008, pp. 23-24)

Another criterion for the distribution of capital in an enterprise is the length of financing time. We distinguish between short-term capital, with a maturity of up to twelve months, and long-term capital, with a maturity of over one year. (Grzywacz 2008, pp. 13)

We also classify capital because of financing. We separate the primary capital, responsible for financing the newly established business entity and the capital enabling the current functioning of the enterprise. Last, but not least, the capital contributing to the development of the enterprise is the capital that contributes to the growth of the enterprise, is intended to increase the volume of activity, broaden the boundaries of the entity and support the execution of new investments. (Skowronek-Mielczarek 2003, pp. 20)

We can also isolate the criterion that presents the form of capital occurrence. In this category capital is divided into physical, financial and human capital. Tangible capital, also called production capital or production assets, is divided into fixed and working capital. The capital in this category are: machines, stocks of raw materials, buildings, everything that, together with other production factors, participates in the production process. Financial (cash) capital is any financial means held by an enterprise, usually in the form of cash or securities. Human capital is a special kind of capital, one of the most important components of the production process, both as the term "capital" has many interpretations in the literature. This capital includes knowledge, skills, work experience, the ability of a person to learn constantly and to spread their knowledge continuously. In the enterprise, human capital is embodied in human resources. (Kozioł 2010, pp. 74)

Capital in an enterprise fulfils certain functions, which are described in depth by numerous authors, the division of capital functions is very diverse. For example, one of them is the division into creative, strategic, financial, working, cost, development, guarantee and revenue functions. (Woźniak-Sobczak 2005, pp. 20-39) The task of the creative function is to run the business so that it is successful. The strategic

function is responsible for aggregating all forces with the resources available to beat the competitors. The result of creating the balance sheet is a financial function. The purpose of the working function is to combine usability values with rational and effective possibilities of their use. The cost function is a determinant of the scope, system and technique of capital performance of all functions held. The revenue function represents the enterprise's aspiration. The scope and efficiency of all capital functions are decisive and determine the profitability and productivity of capital.

The functions of capital may also be presented under the following headings: founding, guarantee, equalisation, financial, representation and measurement. (Waśniewski 1993, pp. 287) The founding function focuses on the need to invest capital in order to be able to start a business. The perception of equity as a hypothetical source of loss coverage is a guarantee function. The equalisation function allows for compensation of an emerging current loss, creating conditions that allow for the payment of dividends in a continuous manner. The financial function characterises equity as the basis for financing the company's assets. The representative function outlines the condition of the company. The equity measurement function forms the basis for calculating dividends.

4. Human capital in economic thought

The presentation of human capital history in economic thought is a complicated and very complex subject, many scholars consider it even impossible, the reason being the lack of a complex thought sequence associated with this notion in the past. Currently available literature on the subject presents the beginnings of the human capital, which were presented by various economists in the form of thoughts related to the role and place of man in existing economic systems. Over the years, these thoughts have evolved and have been identified as the basis for creating a new research area. In economics, people were interested, and in particular the role they play in production. The form of this interest was more or less related to thoughts about the place of the human being, who has to manage his income, time and himself in the economic reality. When deciding on other economic issues, economists consider the treatment of the individual and his or her skills, but this is a side issue.

By analyzing the works of economic theorists in the context of the human capital theory, it is possible to distinguish two approaches to the perception of human existence in the category of capital. The first approach is characterized by the analogy between capital and the entity, these are the views presented by William Petty. He was followed by other scholars, among others: William Nassau Senior, Johann Heinrich von Thünen, John Ramsey McCulloch, Leon Walras, and Vilfredo Pareto, recognizing the theory that people create a certain specific capital, they also undertook a task aimed at indicating the value of this unique capital.

The second concept is related to Adam Smith, who claimed that knowledge, skills and health possessed by a human being take some form of capital, but man as an independent factor cannot be treated as capital. They understood in a similar way, among others, F. List, J.S. Mill and in a sense J.B. Say, over the years, joined them T.W. Schultz and G.S. Becker. (Łukasiewicz 2009, pp. 13)

G. Becker was the first scientist to introduce the concept of human capital to modern science in a permanent way. He claimed that investing in education in the future would result in increased revenues. This guarantees a competitive labour market, which obliges employers to adequately pay better educated workers, ensuring higher productivity. G. Becker believed that experience gained while working, as well as investment in education, are the basis for increased productivity. He considered professional experience to be a special element of human capital, not requiring financial outlays.

T. Shultz also had a significant influence on the perception of human capital today, he was of the opinion that human capital is a factor in the economic development of the state, defining it as the sum of elements determining the quality of society. Learning, access to information, professional and life experience, as well as proper upbringing and health care all contribute to the quality of society. T. Shultz said that human capital manifests itself in the acquired and innate abilities and skills of people. The emerging differences in the quality of society between countries are the result of disproportion of possessed and acquired skills. (Kozioł 2010, pp. 74-75)

Some authors facing the task of defining human capital refer to human life, refer to the capital embodied in people, distinguish man and his role, including his accumulated skills, health and knowledge, or consider only skills and knowledge as capital. International organizations that measure and balance the accumulation of human capital on an international scale present it as 'the personified skills, competences, knowledge that are relevant to economic activity'. (Human Capital Investment... 1998, pp. 9)

In many cases human capital is discussed in a similar way to physical capital. The essential characteristics of human capital that distinguish it from physical capital are its qualitative nature and its lack of transferability. Human capital is an inseparable element of a human being and at the same time an employee, it is not the property of an enterprise, it is only used by the employee. It is also the only economic factor with the ability to independently influence the presented value, which can change the said value as well as the value of the company's other capital. Other features that distinguish these capitals can also be mentioned, e.g.: possibilities of sale, financing, property rights, accumulation and receipt of income. (Wieczorek-Szymańska 2010, pp. 167)

Grzegorz Łukasiewicz defined human capital as a resource of knowledge, skills, abilities, qualifications, attitudes, motivation and health, of a certain value, being a source of future earnings or satisfaction, and being a renewable and constantly growing human potential. (Łukasiewicz 2009, pp. 20)

Human capital defined in such a way emphasizes its two dimensions: market and personal. The market dimension includes resources that a person intends to use in his profession or already does. These resources are: knowledge, abilities, attitude, skills, qualifications, health. They have a key impact on the job search process, the possibility of obtaining a higher salary or the prospects of getting promoted. The personal dimension of human capital also applies to the previously mentioned resources, but unlike the market dimension, in this dimension they are of little importance during one's professional career and are used by people in their personal lives. It is everyone's right to develop their interests, to attend various courses, while having the feeling that the skills and knowledge acquired in this way do not have a direct impact on productivity gains during their work. The presented dimensions generally consist of human capital, complementing each other. (Łukasiewicz 2009, pp. 20-21)

5. Modern approach to capital growth theory

In one of his works J. Renkas indicates (2016a, pp. 284-301) that the precursor of the revival of the correct perception of the capital nature is M. Dobija, who, presenting the model of capital growth in economics, took into account the fundamental principles of reality. This is the principle of preserving capital and the principle of its spontaneous and random dispersion, which is connected with the second principle of thermodynamics. In light of this, the model of capital growth is as follows (Dobija M. 2005, pp. 23):

$$K_{t,p,s,m} = K_0 \times e^{(p-s+m)t}$$

(1)

where, K_0 - initial capital, p - economic constant of potential growth, s - rate of natural, spontaneous dispersion of capital, m - rate of capital growth due to work performed.

The interpretation of the forces that influence the formation of capital is as follows:

e^{pt} - factor that determines the natural potential for capital growth (Renkas 2013, pp. 29-42., 2016b pp. 466-480); economic constant $p = 0.08$ [1/year];

e^{-st} - a factor that determines the rate of spontaneous dispersion of capital (second principle of thermodynamics); a thermodynamic time arrow.

e^{mt} - capital inflow through work, which weakens the influence of the thermodynamic time arrow; t - calendar time.

A characteristic feature of the above formula is the existence of initial capital K_0 , which is an expression of the fundamental principle that capital does not arise from nothing. Only the capital already held can increase through work processes or change due to dispersion. This formula also includes the interactions defined by the second principle of thermodynamics (-s) and preventing scattering of capital by work (m). These influences manifest themselves widely. Renovation of the road restores its initial capital, i.e. the ability to work (Renkas 2017a, pp. 26-32). In addition, it is worth noting that the principles of thermodynamics have become inalienable in determining fair remuneration for work (Renkas 2016a, pp. 284-301, 2017b, pp. 300-315).

6. Conclusion

The concept of capital has a long history. The presented outline of this matter is only a residual element of the subject, however, it shows how the perception of capital has changed over the years, how it has evolved. There are also evident divergences in the interpretation of the concept of "capital", resulting in differences in other important issues that arise from the theory of capital. The considerations presented above also indicate the importance of investing in the growth of human capital, which is one of the most important factors influencing the development process of the modern economy. The processes of creating and investing in human capital are conditioned by education and science. They are the most important factors determining the growth of knowledge and the creation of a competitive economy. State health policy is also a factor that cannot be ignored.

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