International Journal of Experimental Research and Review (IJERR)

ISSN: 2455-4855 (Online) ***Original Article***

Received: 1st November, 2018; **Accepted:** 30th November, 2018; **Published:** 30th December, 2018

DOI: https://doi.org/10.52756/ijerr.2018.v17.001

The amount of fair remuneration determined on the basis of the theory of measuring human capital

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Abstract

The aim of the article is to compare the amount of remuneration expected by employees with the salary determined on the basis of the economic constant of potential growth. Using the theory of human capital, we are able to carry out a research consisting in a combination of remuneration resulting from the minimum wage. To achieve this, an econometric model containing three variables is introduced - the experience factor [Q(T)], the component of maintenance costs [K] and the cost element of education [E]. For the sake of clarity, individual measurement models of human capital are presented along with models of fair remuneration. The obtained results prove that the model of human capital presented in the study can be used to determine the level of fair wage.

Keywords: Fair remuneration, human capital model, measurement of human capital.

Introduction

The issue related to human capital is a common and constantly developing subject of numerous analyzes and observations made by many economists and researchers. The development of the human capital theory can be dated mainly at the turn of the 19th and 20th centuries. The manifestation of human capital occurred as a result of a gradual increase in knowledge, productivity and competence of employees, which in turn led to the need for their fair remuneration. The main initiators, thanks to which the theory of human capital found its beginning and could find a larger scale disruption, were American economists - Theodore Schultz and Gary Stanley Becker.

T. Schultz successfully tried to look for interdependencies between the economic growth of countries and factors conditioning him. In the end, he observed that human capital is the leading cause that determines the economic development of the country. He believed that human capital is a sort of combination of elements deciding about the value of society, which can be constantly

improved by acquiring information and knowledge, professional experience,
improving qualifications, proper upbringing, as well as through health care. He believed that human capital should be considered "qualitative attributes acquired by the population and possible to be strengthened by appropriate investments". T. Schultz also accepted that human capital finds its recreation in the skills of inborn people and abilities acquired in subsequent stages of life. Moreover, he was of the opinion that in any chosen society, innate abilities and skills can be highly repetitive and similar, while acquired talents can be varied, and they determine the quality of this society. It is difficult to relate differently to the concept being proclaimed in a different way than to accept and support it, because there are no two identical people. Most often, a person acquires and expands his knowledge in accordance with preferences and interests, studying in these areas or showing the willingness to expand his knowledge by searching for up-to-date information. On this basis, we can conclude that the skills acquired by people are diverse.

Whereas G. Becker was the first scholar thanks to which human capital was widespread. In fact, it is him who is most often given the name of a man who has propagated the theory of human capital. According to his concept, human capital is created by people and their skills, attitudes or experience gained. In addition, he was of the opinion that to incur higher income in the future, it was necessary to incur expenditures in the form of investing in education. In addition, Becker believed that achieving a higher level of productivity is possible thanks to the gradual acquisition of work experience during the work period, which is an ideal component of human capital that can not be purchased for any money, but the only way to acquire this component is overworked seniority .

The next author who continued the analysis of human capital was William J. Hudson, who focused this time on the issue of the growth of human capital, with particular emphasis on its four elements: genetic heritage, education, represented attitudes and professional experience. He emphasized that every human being with human capital is a user of a certain set of factors listed above. This results in the fact that each person is different from others, having a different combination of factors, which are only part of human capital, assigned to him.

From the considerations made so far, we can draw conclusions that human capital from the point of view of the above authors is an inseparable and integral part of a man whose life can be enriched thanks to him. As a result, human capital must have an adequate measurement system as a manufacturing factor. The capital held may be multiplied, increased, improved, but on the other hand also depreciated, when, for example, a man with a higher technical education works as a sports journalist. His human capital is not developed at that time, but unfortunately it is diminished in this situation, because his knowledge is not used in everyday life.

Adam Smith said, with which it is hard to disagree that the level of remuneration should not be determined solely on the basis of the current effort and time spent on work, but also the education and professional experience possessed, i.e., expenditures necessary for the proper and diligent performance of the work. He also noticed that the higher remuneration accompanying an employee with higher qualifications does not have to be detrimental to employers, because a man with such qualifications will then

certainly show greater efficiency than an employee who does not have such high skills, which will compensate to a certain degree.

Materials and methods

The remuneration due to employees should be closely related to their human capital and its amount. The essence of measuring the human capital of employees is a key element of the entire remuneration system in the company. In order to calculate the amount of remuneration employed using the human capital model, one should acquire basic data related to the preparatory period for starting professional activity, in particular information about acquired experience and education, because without this information, it is impossible to calculate the employee's human capital. As it has already been mentioned in the second chapter, human capital is closely related to expenditures incurred to prepare a person for work. These expenditures are the costs of education, subsistence costs and the component of experience revealed at the moment of starting professional activity. When measuring the value of human capital, a model developed by M. Dobija (equation No. 1) was used. Recalling its additive form, it is presented as follows:

$$H(T)=K+E+D(T), \quad (1)$$

where:

$$D(T)=Q(T)*H \quad (2)$$

In turn the experiment component - Q(T) presents itself in the form of a time function, from where:

$$Q(T) = 1 - T^{\frac{\ln(1-w)}{\ln 2}} \quad (3)$$

where:

w - learning indicator,

T - work experience (in years),

T > 1.

The next components of the human capital model of M. Dobija, that is the cost of living (K) along with the costs of professional education (E) are defined by the following equations:

$$K = k \cdot 12 \frac{(1+p)^n - 1}{p} \quad (4)$$

$$E = e \cdot 12 \frac{(1+p)^n - 1}{p} \quad (5)$$

where:

k - necessary monthly maintenance costs,

e - necessary monthly costs of professional education,

n - the period of capitalization of maintenance costs and professional education (in years).

Results and discussion

Table 1 presents the calculated values of human capital components from maintenance costs, education costs and experience element for selected three employees, including seniority and education. The table also presents the estimated level of fair remuneration for these employees.

Table 1 presents the values of each of the three components of the human capital model, then estimating the fair monthly pay due to each employee. The amount of maintenance capital obtained is the result of the use of equation (4). To calculate the value of this ratio, maintenance costs were assumed for one person living in a family of 4 in the amount of subsistence minimum, which in 2017 was at the level of PLN 908. Capitalization of maintenance costs was respectively:

- for a marketing specialist - for 22 years,
- for the construction manager - for 24 years,
- for a construction worker - for 20 years.

Table 1. The amount of human capital and estimated fair remuneration for three selected employees.

Sl. No.	Position	Marketing Specialist	Construction Manager	Physical Worker
1.	Age	47 years old	38 years old	30 years old
2.	Seniority	25 years	14 years	10 years
3.	Education level	Higher, bachelor (3 years)	Higher, engineer (5 years)	Basic vocational
4.	Learning indicator - w (range from 0.01 to 0.1)	0,08	0,09	0,06
5.	Capital from maintenance costs – K	604 257 PLN	727 469 PLN	498 622 PLN
6.	Capital from education costs - E	13 635 PLN	29 568 PLN	-
7.	Capital from the experience factor – D(T)	198 376 PLN	228 381 PLN	92 643 PLN
8.	The amount of human capital – H(T)	816 268 PLN	685 418 PLN	591 265 PLN
9.	The level of payment for work (H(T)·p, p=8%)	65 301 PLN	54 833 PLN	47 301 PLN
10.	Gross monthly remuneration*	5 441 PLN	4 569 PLN	3 941 PLN
*level of payment for work / 12 months.				

The stage of capitalization of maintenance costs was determined based on the duration of professional education, i.e., studies, and more specifically until their completion. The marketing specialist and the construction manager have a university degree, but the period of capitalization of costs from education cannot be identical to the different length and amounts to:

• for a marketing specialist - 3 years (due to completion of undergraduate studies),

• for the construction manager - 5 years (due to graduation from master's studies).

From the presented statement, only a physical worker does not have higher education, so the value of his human capital cannot be increased by the capital component from education costs, and capital from maintenance costs is counted in this case only until the start of work, which in this case was taken right after completing basic education at a vocational school at the age of 20. In the case of the first two white-collar workers, the costs of education vary depending on the chosen field of study. In the situation under consideration, they range from PLN 300 to PLN 420 per month. When calculating the amount of human capital from education, the equation (5) was used. The owner of the highest capital in experience is a marketing specialist, because in comparison with other employees, his seniority in the enterprise is the longest. The construction manager is in second place, with almost twice as long work experience from the aforementioned marketing specialist, while the smallest value of the discussed component is attributable to the construction worker. In calculating the

value of capital from experience, initially the equation with the number (3) was used, and then – (2). These costs were capitalized as follows:

- for a marketing specialist - for 25 years,
- for the construction manager - for 14 years,
- for a construction worker - for 10 years.

In addition, for each of the three employees a separate value of the "in" learning index was assigned depending on the specificity of the profession (its range ranges from 0.01 to 0.1). If the professional experience is associated with simple tasks, the indicator assumes a value from the lower part of the given range (e.g., 0.01 - 0.02), but if the tasks performed are complicated, the indicator takes values from the upper part of the range (e.g., 0.08 - 0.1).

While determining the amount of the fair remuneration, the economic constant of potential increase, described in the second chapter in the chapter, was taken into account, which is 8% of the value of human capital in the year. The calculated value is presented on an annual basis, hence it is necessary to divide it for 12 months in order to obtain the desired amount of fair remuneration on a scale of one month.

Table 2. Summary of remuneration for three employees resulting from the measurement of the value of human capital with the remuneration received in reality.

	Gross monthly salary calculated using the human capital model H(T)	**Gross monthly salary actually received by employees**	**The ratio of remuneration actually received to the remuneration resulting from the model of measuring human capital used**
Marketing Specialist	5 441 PLN	4 100 PLN	754 %
Construction Manager	4 569 PLN	4 000 PLN	875%
Physical Worker	3 941 PLN	3 000 PLN	761%

Conclusion

Table 2 compares the remuneration resulting from the measurement of human capital with the real remuneration received for the marketing specialist, construction manager and construction worker. The above statement shows that human capital is not taken into account by the superiors when determining the amount of remuneration, which is below the amount of remuneration which should be paid. The remuneration of these employees is not around the risk premium, i.e., 8%.

The marketing specialist receives a remuneration lower by 24.6% compared to the remuneration that he should receive due to his human capital, the construction manager receives a remuneration of 87.5% of what he should realistically receive due to his experience, years worked in this company and education, while a construction worker with

10 years of experience with basic education receives a 23.9% lower salary than it results from the model used for calculations.

Employees with extensive experience and high education should expect a remuneration very close to that of individual human capital. Such remuneration will then not discourage the expansion of knowledge, competence, increased willingness to act and mutual motivation to work, and the experience already possessed will not be depreciated, i.e., a decrease. Along with the subsequent years of work in a given company, we acquire more and more experience, more efficiently performing your work, which should be reflected in the increase in remuneration.

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