

An Econometric versus Thermodynamic Approach to Modeling Wage Expectations*

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Abstract

From the second law of thermodynamics, it is known that the capital potential is subject to spontaneous, random dissipation. This is due to the fact that the human body works like a heat engine, so according to the second law of thermodynamics it must lose some energy. Balancing this loss defines the principle of fair remuneration. On this basis, the study hypothesizes the existence of a constant economic quantity, determining the dispersion of capital. Its magnitude is examined using data from the economy of Ukraine. The data is a numerous set of questionnaires containing information about wage expectations of job seekers. The questionnaire survey was conducted in Labour Offices from five different regions in Ukraine. The application of the basic human capital measurement model and the obtained data from the Labour Offices showed that job seekers expect a wage on average at 8% of the value of their human capital. Thus, the size of the economic constant manifested in wage expectations was revealed. The obtained data also allowed, using multiple regression, to develop an econometric model determining the relationship between the number of years of education of the respondents, their professional experience and the wage they expect. This model, as shown by the research results presented in the article, is a good basis for determining the level of fair wages for employees. The comparison of theoretical wages (based on the value of human capital) and those resulting from the econometric model in the last part of the paper leads to the conclusion that the theoretical model is very useful in practice. Unlike the econometric model, which, due to the place of origin of empirical data, can be applied only in the Ukrainian economy, the theoretical model is applicable in any country and for any employed person. This has been confirmed by research in the USA and Poland. This proves the great potential for implementation of the theoretical model of determining fair wages, presented in the article, based on the value of human capital of the employed.

Keywords: thermodynamics, wage expectation, economic constant, human capital.

