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THERMODYNAMICS AS A BASIS OF PHYSICAL ECONOMICS

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ABSTRACT

In the economic sciences, the duality principle applies, according to which economic objects are perceived as material assets and the abstract capital embedded in them. There is, therefore, a strong analogy with the natural sciences, where the matter-energy paradigm applies. The solution of this cognitive problem in terms of the category of capital opened the way to economic theories in the sciences formula.

The basis of science is the correct definition of basic concepts, identification of axioms and laws functioning within a given scientific discipline. In economic sciences for many years there has been a considerable dissonance regarding such basic issues, which often makes it impossible to conduct scientific discourse between researchers and create a coherent theory. The famous economist Ch. Bliss in 1975 wrote: "When economists reach agreement on the theory of capital they will shortly reach agreement on everything". This extremely important statement leads to the identification of a key concept in the economic sciences. This is where thermodynamics comes to the rescue, making it possible to find the correct definition of capital as an analogy to energy in physics. Just as in the physical sciences energy does not arise from nothing, so capital does not arise from nothing and should be understood as the potential ability to perform work. From this basis one can derive further nodal definitions of concepts such as money, monetary unit, economic value, or more technical ones, such as depreciation.

The set of fundamental principles, which include the principles of thermodynamics, determine the scientific framework of theories describing reality. Fundamental principles are often associated with constants that reveal what theories cannot explain. Together with the principles of thermodynamics, the discovered economic constant 0.08/year opens the way to the formulation of physical economic theory as a natural science.

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