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# About Economic Knowledge

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**Abstract:** The present paper aims at defining the concept of "economic knowledge" in logical terms. Firstly, I will explain the general concept of "knowledge" and also present Kant's contribution on the subject. Secondly, I will discuss about the cognitive value of the research methods used by "exact" and "inexact" science from Tiberiu Schatteles' point of view.Furthermore, considering that economic knowledge is a hermeneutical knowledge and not a scientific one, we will identify the sufficiency predicates of "economic knowledge". Finally, I will identify, and discuss about the logical requirements of the economic knowledge

**Keywords:** knowledge; sufficiency predicates; exact-inexact science

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## 1. Introduction

The paper attempts to present some insights about fundamental concepts- knowledge, economic knowledge. To do that, we will start presenting Kant's contribution about general concept of knowledge. Moreover, we will discuss about the cognitive value of the research methods used by "exact" and "inexact" science from Tiberiu Schatteles' point of view. Finally, I will describe the concept of "economic knowledge" from the logical point of view, using sufficiency predicates, and I will identify the logical requirements of the concept of "economic knowledge".



## 2. General Concept of Knowledge

### 2.1. Concept of Knowledge

The attempts of defining the concept of knowledge are numerous. However, all have in common the relationship between information and knowledge, namely, the fact that information, experience and learning are the basis of knowledge.

According to Prof. Univ. Emil Dinga, PhD in "Introduction in Economic Epistemology" (Course Notes), there are three main types of knowledge:

- factual knowledge;
- practical knowledge;
- knowledge by contact.

The main elements of knowledge are:

1. Object;
2. Subject;

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3. Cognitive relationship object-subject;

4. Communication.

Considering these elements, we identify three levels of knowledge:

• the level of observational knowledge, starting from objects, phenomena, different processes, in which the external and individual attributes of the object are highlighted by means of the sense organs;

• the level of empirical knowledge that considers the analysis and description of the class of identical objects. Logical operations such as comparison, synthesis, abstraction, generalization, are used for data processing;

• the level of the theoretical knowledge that aims to elaborate the concepts and to establish the theoretical principles. Here, the subject's creative capacity has an important role.

The academic literature identifies two fundamental types of knowledge that interact:

• Common knowledge (doxa), based on observation and spontaneously performed by people in their daily life, without the use of special methods. This type of knowledge is characterized by a low generalization level and use of the common language to describe knowledge;

• Scientific knowledge (epistemé) that pursues specific purposes and it is carried out based on strict rules and in an organized and systematized manner. It is a type of critical knowledge, has a specific methodology and a conceptual language, a series of forms (scientific observation, scientific experiment, scientific hypothesis and scientific theory), and among its methods can be mentioned: axiomatization, formalization, modeling.



Immanuel Kant, the German philosopher, one of the greatest of the Enlightenment period in Germany, in his Critique of Pure Reason (Kritik der reinen Vernuft, 1781), explores the fundamentals of the process of knowledge. Kant seeks to integrate in a unified conception the two opposing positions of the theory of knowledge in his time, on the one hand, the rationalism of René Descartes, and on the other, of the empiricism of the English philosophers John Locke and David Hume.

Kant argues that the notions of time, space, and causality, which ground the laws governing the relationships between things, are not related to objects in nature but, on the contrary, as pure "a priori" forms, they are foundations for the subject's ability to know, thus being transferred to objective reality. Space, time, and causality are, therefore, forms that function in the process of perception as patterns, to order and structure all sensory impressions.

"The thing itself" (das Ding an sich), that is, as it is in its essence, cannot be known, because the subject only gets the impression of the thing, the "phenomenon", the sensory appearance of "the thing itself", which alone can be perceived, as opposed to what Kant calls "noumen", which is evading the subject's ability to know. This critical research on the terms of perception and knowledge is Kant called "transcendental philosophy", a philosophy that investigates the premises and boundaries of the subject's ability to know.

The Kant's philosophy about knowledge can be summed up by the following quote:

"Two things fill the mind with ever new and increasing admiration and awe, the more often and steadily we reflect upon them: the starry heavens above me and the moral law within me. I do not seek or conjecture either of them as if they were veiled obscurities or extravagances beyond the horizon of my vision; I see them before me and connect them immediately with the consciousness of my existence." (Critique of Practical Reason)

Furthermore, Kant goes beyond both rationalism and empiricism and considers that:

- the data from the experience of the senses must be at the basis of knowledge;
- the data of the senses, however, can not constitute alone, the knowledge; in addition, it is necessary to have forms of the mind or the intellect, which organize this raw data in knowledge.

The main thesis of Kant philosophy regarding knowledge, expressed in the Critique of Pure Reason, is that "... if any of our knowledge begins with experience, it does not mean that it comes from experience". Knowledge is rendered to Kant in the form of logical judgments, namely in the form of categorical statements.

Kant classifies judgments according to the following criteria:

1) After precedence or posterior to experience:

- a priori;

- a posteriori.

2) After the novelty brought about by the subject:

- analytical (or explanatory)-information given by the predicate is necessarily intricate to subject);

- synthetic (or extensive)- information given by the predicate is not necessarily intricate to the subject, but it is taken from experience.

Thus, Kant distinguished between pure concepts (which have only the conceived form of an object in general) and empirical concepts (which presuppose the real presence of the object).

- Beginning with Kant, the main problem of knowledge is no longer that which concerns the reality of knowledge ("if we can know"), but that of its possibility ("how can we know" or, more precisely, "how synthetic a priori judgments are possible ").



- Generally speaking, Kant's answer is as follows: our intellect would not be capable of such cognitive performance if the senses themselves were not pre-formed so that they could offer the empirical "raw material" that fits the intellect itself. In turn, the intellect itself must "correspond" to these forms of sensitive intuition, otherwise the data of the senses cannot be "read";

**2.2. "Exact Sciences" vs "Inexact" Sciences**

Often, the academic literature makes a distinction between so-called "exact" sciences - natural sciences and "inaccurate/inexact" sciences - social sciences (including economics).

This distinction was discussed by Tiberiu Schatteles (1928), a Romanian economist, the first one to publish in Romania studies about econometrics. He was a Senior Associate Member of St. Anthony's College-Oxford University.

In his book, "Economics, Epistemology and Forecasting", Tiberiu Schatteles considers the distinction to be groundless and based on an erroneous conception and imprecise definition of the concept of accuracy.

In his opinion, establishing the real cognitive value of the methods of various sciences, and implicitly of accuracy, solves this problem.

Here are some of his arguments:

- The meaning of "accuracy":

"Exact/precise is any scientific result that is obtained based on rigorous or mathematical logical evidence or on the basis of precise measurements and calculations. It is also called exact the methods that lead to such results and the sciences that use these methods." (Brockhaus-TS lexicon).

Tiberiu Schatelles's line of reasoning is:

- The existence of a contradiction - the same term used for two different things: deductive rigor and precision of measurement; in the economy this is acknowledged and attributed to the social phenomenon;

- The theoretical system of a science must be constructed so that its theorems appear as limits to which the results of the measurements and calculations tend. Therefore, we can no longer speak of exact and inaccurate science. The system of natural sciences is more rigorous, and the theorems satisfy more often and better the limit condition towards which the measurements measure;

- The major difference between exact and inaccurate sciences does not reside in the aspect of accuracy-inaccuracy.

We should observe that the correspondence between theoretical and empirical is a limit that cannot be achieved practically, and which departs precisely because of scientific research:

• Correspondence Theory-Model-Object, whose accuracy is verified in science - must be checked structurally and quantitatively;

If all measurements on a phenomenon (object) would give the same numerical result, it could be qualified as "exact";

The real measure is a statistic of results whose dispersion will decide whether M-O and T-O correspondence exists. Excessive dispersion means a structural disparity M-O and involves either replacing the model with an isomorphic one under certain aspects, or the definitive abandonment of any model with the same structure;



So, the issue of scientific research in terms of accuracy consists in reducing to an acceptable minim the dispersion or finding the dispersion with the utmost accuracy (in fact reducing the inaccuracy):

- Reducing inaccuracy can overturn, beyond a certain limit, the hypothesis-model itself;
- Inaccuracies are considered by Tiberiu Schatteles as "vices of knowledge";
- Inaccuracies can be objective and subjective and are inherent in any discipline;

Subjective inaccuracies-measurement errors due to the imperfect nature of the instrument to be measured.

Objective inaccuracies result from the impossibility of measuring the phenomenon investigated because of the object under investigation. The scientific concept to which the measurement refers should be abandoned and replaced by another which may be a limit to which the measurements tend.

The distinction between these two categories of science in terms of accuracy does not refer to anything qualitative and does not mark a real difference between the cognitive value of their research methods.

The major difference lies in the fact that the human factor is the elemental component of the systems that constitute the research objects of the social/economic sciences.

Human's involvement reduces the prediction ability of economic sciences. The ability of the economy to obtain empirical results whose system tends towards a rigorous deductive system is either excluded or reduced.

Human's involvement is manifested in the following ways:

- It introduces into science concepts about things that are self-evident and results from the experience of all subjects, including the researcher's experience who becomes one with the subject of his study. These become indispensable but unfalsifiable. In some cases, they cannot be eliminated, so they remain indispensable, though they are unverifiable

- Science implies the development of a process in which the decisive agent are people. People find those prediction and change their behavior, therefore compromising the prediction

**2.3. Concept of Economic Knowledge**

a. Concept

Economic knowledge is not a scientific knowledge, but a hermeneutic one.

The concept of economic knowledge is a species of scientific knowledge of a more general concept of knowledge.

In the following we will attempt to define the concept of Economic Knowledge using the method of sufficiency predicates.

According to Prof. Univ. Emil Dinga, PhD, the sufficiency predicates are:

- The existence of a cultural subject (i.e., capable of representing in the absence of a reflection);

- The existence of an economic opinion expressed in a formally acquired code (this formality is usually sanctioned by public vote);



- The economical opinion: opinion on an economic object or an economic process, according to the economic definition;

- The inter-subjective acceptability of opinion;

- The acceptance of opinion: is the hermeneutical version of the truth of opinion; involves generating a general (or quasi-general) symmetry of positioning cognitive subjects in relation to the opinion;

- The need of a principle of comprehensive foundation of the opinion.

Comprehensive foundation principle: non-explanatory principle consistent with the intuition of the subject involved in economic knowledge (i.e. faith); the principle is not rational, it does not provide a rational foundation, but an intuitive one. We may observe that out of the three predicates of the sufficiency that define the concept of scientific knowledge one is missing, the non-ambiguity.

Concluding, the economic discipline is part of the human's hermeneutic activity and not of the theoretical one.

Therefore:

The economic discipline produces knowledge, but not a theoretical knowledge. The economic knowledge may be considered as a weak theoretical knowledge.

There is no clear, artimomorphic distinction between cognitive and hermeneutic:

- The interference zone between cognitive and hermeneutic is a filter zone for convenient truth;

- The truth rejection is based on expectations;

- The cognitive provides an objective knowledge (based on truth).

The explanation is that the cognitive offers certainties and the certainties are assimilated through associated semnifications:

- The meanings are derived by verification (including by inter-subjective verification);
- Hermeneutics provides a subjective knowledge (based on faith);
- Hermeneutics provides acceptabilities;
- Acceptabilities are asimilated through associated meanings;
- The meanings are derived through interpretation (understanding).

b. Logical conditions of economic knowledge

We may observe that the main logical conditions of economic knowledge are:

• The indiscernability economic subject-economic object;

i. Causalities may transfer from ecconomic subject to the economic object and viceversa;

ii. Economic subject can be, either concurrently, or successively, an economic;

iii. Economic subject, together with the economic object, makes an ontological package: the "S-O".

• Epistemological reductionism:

i. a small number of behavioral principles (epistemological model) can be associated with the economic subject - based on the principle of sufficient reasoning (Occam's razor);

ii. this is not an ontological reductionism (as in the case of quantum physics, for example), but a gnoseological (epistemological) one;

• Methodological holism

i. the economic subject can be associated with a poly-criterion rationality model. -Unlike the methodological individualism (homo oeconomicus) to which is associated a model of rationalism, one-criterion: individual egoism), e.g.: homo sociologicus, homo culturalis, homo significans.



## 3. Conclusion

The article presents a theoretical base for a better understanding of the concepts of knowledge and economic knowledge based on Kant contribution. Moreover, the paper advocates for avoiding the dichotomy exact-inexact sciences, presenting Schatelles opinions on the subject. Based on sufficiency predicates presented by professor Dinga in his lectures, the paper attempts to define the concept of economic knowledge using logical analysis and sufficiency predicates.

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