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THE MULTISECTORIAL ECONOMIC ANALYSIS

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A few decades ago, W. Leontieff had elaborated the input-output analysis method which was wide-spread among scientific researchers world over. Under a name or another, the method has been applied and is still used in many countries, in keeping with the concrete conditions existing from a case to another. In our country, it has been known as the balance of inter-branch connections. By starting from the systemic approach of the national economic phenomena and processes, the authors arrive at the natural conclusion for the subsystems into which the big system of social production is subdivided to be called "sectors".

In the first chapter of the study, after a brief approach of the fundamental characteristics of the economic systems, the social production multisectorial system and the parameters of the production national system are defined, on which occasion the connections of the social production system and the guiding lines of its economic-mathematical modelling are presented very suggestively.

The analysis of the structure of the national economy forms the object of the second chapter. One methodically proceeds first to the definition of the components of the input-output model, of the structure of the model, the structure and characteristics of the fundamental matrices of the input-output models, the hierarchization of inter-branch connections, the analysis and synthesis of the input-output balances. Special mention should be made of the conception and organization of the balance system of interbranch connections at three decision-making levels, outlining the lines for the utilization of the input-output model in the economic analysis and calculus.

The authors devote the third chapter to ensuring the data base for the dynamic analysis, beginning first with the methods of forecasting the elements representing the flow matrix and the technological matrix A, the basic parameters in the multisectorial analysis.

In the fourth chapter, a general presentation is made of the dynamic input-output models. As is only natural, special attention should be granted to the time variable in these models and to the concepts, categories and notions involved. In this framework, the problem of delay, speeding up and multiplication in the dynamic input-output models is tackled.

In the fifth chapter, the authors dwell on several models which are presented gradually, from simple to complex (the "dynamic-feedback" model, F. N. Klotzvog's semidynamic input-output model, O. Lange's dynamic input-output model, the delay dynamic model, the dynamic model by taking foreign trade into account, etc.).

Although it has been proved that the Leontieff type dynamic models may provide a Leontieff trajectory, free and unhindered of the system's evolution, as the authors of the book say, in order to turn to account all its values, it should be integrated into optimization models. This is, in fact, the object of the six chapter of the work, entitled "Optimizing methods on the basis of multisectorial models". Essentially, the trajectory which answers best the desired evolution of the system and permits the describing of the characteristics associated with this trajectory is sought, through the dynamic analysis, on the range of the admissible trajectories.

In conclusion of the sixth chapter, some methods for decomposing the big models are presented.

The last chapter of this valuable book deals with the elaboration of the production program. By starting from the correct idea that the gnoseological value of the models is annihilated unless a relationship is previously achieved through the data between the real system and the model, unless the isomorphism between the model and reality implies the content of data, the problem of ensuring the data base is put above all. The calculus of the production program on the basis of the "dynamic feed-back" model, the analysis of the production growth rate and the systemic approach in the working out of the production program are presented afterwards.

A high scientific conduct, a clear and accessible language, a logical concatanation of the problems approached, a constructive analysis constantly made at the parameters of our conditions, a brilliant application of the latest computing and analysis methods — are only some of the remarkable values of this welcome work, a fruit of long efforts made by professors and scientific researchers L. Tövissi and E. Tigănescu. Through the problems tackled, through the solutions and discussions presented, this book is undoubtedly a valuable help both to statisticians and economists in general, to the teaching staff and students in the economic education, to scientific researchers and maybe, in the first place, to those in charge of the management of the big systems in our economic field.

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