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**EMINENT SCIENTIST – ECONOMIST, STATISTICIAN AND  
ECONOMETRICIAN**  
**(In memoriam of Professor Dr. Ec. Scs. Alexander Dimitrov)**

On 3 July, 2008, it is one year since the death of the esteemed Bulgarian scientist Professor, Dr. Ec. Scs. Alexander Dimitrov, a former Director of the Institute of Economics at the Bulgarian Academy of Sciences and Editor-in-Chief of the “Economic Thought” magazine, one of the fellow colleagues who contributed largely to the contemporary development of the economic science in our country. Prof. Alexander Dimitrov was born on 3 August 1935 in Sofia. He had two University degrees – in Statistics from Karl Marx Higher Institute of Economics (University of National and World Economy at present) and in Econometrics from the Institute of Economic Research in Belgrade. He earned the scientific degrees “Doctor of economics” and “Doctor of economic sciences”. He was recognized and well known scientist in the field of Econometrics, Economic growth and International economics both in Bulgarian and abroad. He wrote over 120 publications, of which 11 were published in English in Tokyo, Bucharest, Luxembourg, Moscow and Podgorica. He was an author of a textbook in Econometrics in Bulgaria that has already been published several times.

It is one year since he is not among us but still it is quite difficult to say which of the numerous publications and various scientific and teaching activities of Prof. Alexander Dimitrov is of the greatest importance to the Bulgarian economic science. Here, we will try to summarize the things Prof. Alexander Dimitrov did for the development of the economic science tools and their application in solving particular problems without claiming to cover all the areas of his scientific studies and contribution or to make overall evaluation of his long-standing work.

**Methodological studies**

From our numerous conversations and mutual studies, from all the things he wrote, it could be said that that major research issue that interested him as a scientist was *measurement of economic objects*. His approach to measurement was characterized by that “*the essential thing is neither the tools with which the economic processes are measured nor the science that regulates and develops those tools, but the object that is measured, the way the measurement is done together with the goal set with the particular measurement.*” (R. Ch., N. N.).<sup>1</sup>

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<sup>1</sup> *Dimitrov, Al.* An Introduction to Econometrics. Third Edition. Veliko Tarnovo: Publishing and Printing Company “Sveti Patriarh Tarnovski”, 1999, p. 21. The previous two editions (1995, 1998) were published by “Abagar”. The latest edition was printed by D. A. Tsenov Academy of Economics, Svishtov in 2005.

Prof. Dimitrov's interest in the measurement of economic objects determined his researches in the field of Econometrics as well as the writing down of the first Bulgarian textbook in Econometrics that was also of a monographic nature. His understanding of Econometrics was developed on the basis of analyses and classification of the numerous different definitions in the world literature. As early as in 1973<sup>2</sup> in his paper "Econometrics – Essence and Application", Prof. Alexander Dimitrov described econometrics as an interdisciplinary science combining economic theory with statistics and mathematics; a stage of the statistical studies; an application of mathematical models in econometrics; building of econometric models and introduction of random variables in the economic-mathematical models; relation of econometrics to its origin and to the problems that it solves in the different economies. He summarized his definition of econometrics in the textbook "Introduction to Econometrics" – econometrics is "a combination of economic theory, statistics and mathematics with a view to accomplishing the measuring process of economic objects."<sup>3</sup>

In the studies of Prof. Alexander Dimitrov, there was a special focus on the information problems in application of the econometric approach. Among them, special attention was given to the dimension of economic quantities, an issue that was not sufficiently discussed even in the circles of the direct users of the quantitative analysis and modeling methods. He defined the necessity of dimension control of the economic-mathematical models so that dimension heterogeneity and discrepancy of the economic quantities included in the models may be avoided. That type of control has also the advantage that it limits the number of the factors and hence it indirectly affects the reduction of the multicollinear relations and autocorrelation. All these have a positive impact over the limits of the possible solutions.

The second important information problem submitted by Prof. Alexander Dimitrov was about the sources of errors in economic measurements. They were considered in the way Oskar Morgenstern understood them, namely, that an error meant a source of the imperfection or incompleteness of the description that the statistics encountered and had an immediate impact on the measurement procedures in economics. Special attention is given to the fact that the errors made in the statistical information are influenced also by the particular way of data collection which is determined by the involvement of a great multitude of subjects that are the immediate information source as well as by the procedures for summarizing data used by the relevant authorities.

An important problem underestimated in the Bulgarian scientific circles but discussed by Prof. Alexander Dimitrov was the one concerning information

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<sup>2</sup> *Dimitrov, A.I.* Econometrics: Essence and Application - In: Economic programming, modeling and forecasting in the developed capitalists countries. Sofia: Nauka i Izkustvo, 1973, p. 9-32.

<sup>3</sup> *Dimitrov, A.I.* Introduction to Econometrics..., 1999, p. 9.

structures for restoring lost information and for data filtering, an issue that mattered in the practical application of econometric modeling.

In his studies, there was a special focus on the spectral analysis. Prof. Alexander Dimitrov took an interest in the issue as early as 1974 when together with N. Videnov published the first article on spectral analysis in Bulgaria on the pages of "Statistika" magazine. He defined the application of this analysis, used to characterize the time series, as a consulting procedure serving to design analytical models and to understand the correlation among the variables in terms of lagging behind in time without "producing" them.<sup>4</sup>

Among the works dedicated to the methodology and methodic for studying economy that also could be pointed as necessary steps towards his development as a statistician and econometrician we may point at his co-works with Georgi Kandilarov "Models and Methods for Characterizing the Development of Economy" (1968)<sup>5</sup>, "Tabular Alignment of Statistical Time Series and Calculation of the Average Exponential and Midterm Rates of Development" (1969), as well as "Methodology and Tables for Calculating Average Rates of Economic Processes" (1984), all published by "Nauka i Izkustvo" publishing house. Prof. Alexander Dimitrov worked on these problems in cooperation with Hristo Vladov and Asen Kovachev of the Institute of Economics at the Bulgarian Academy of Sciences. As a result, a book named "Measurement and Analysis of Multiplier Effects in Economy" was published in 1978.

During the last years, the model for evaluation of the effect of the economic and social resources for countries in transition aroused quite a strong interest in the economic circles.<sup>6</sup>

### Applied studies

Without ceasing to work on the methodological and methodic problems of the measurement of economic objects, Prof. Alexander Dimitrov, as a statistician and econometrician, applied his knowledge in a number of studies of the economic processes in our country. He worked mostly in the spheres of foreign trade, machine-building industry and macroeconomic trajectories. A number of books were published as a result of his studies.

The studies of Prof. Alexander Dimitrov in the field of machine-building industry were published in 1969 by the printing house of the Bulgarian Academy of Sciences.<sup>7</sup>

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<sup>4</sup> *Dimitrov, Al., N. Videnov.* Spectral Analysis - Essence, Calculation Procedures and Possibility of Application in Economy - Statistika, 1974, N 2, p. 36 –55.

<sup>5</sup> *Dimitrov, Al., G. St. Kandilarov.* Models and Methods for Characterizing the Development of Economy. Sofia, 1968, 182 p.

<sup>6</sup> *Dimitrov, Al.* Evaluation of the Effect of Economic and Social Resources for Some Countries in Transition during 2000: Statistical and Economic Model. – Economic Thought, 2003, N 6, p. 3-26.

<sup>7</sup> *Dimitrov, Al.* Modeling the Development of Machine-Building Industry and the Necessary Economic Information. Sofia: BAS, 1969, 160 p.

His activities in the Research Institute for Foreign Trade directed his interest to the problems of foreign trade. He and Georgi Kandilarov published their joint study on the methods and tools for forecasting foreign trade.<sup>8</sup> Prof. Alexander Dimitrov related the contemporary problems of the development of foreign trade to the integrated marketing communications.<sup>9</sup>

Macroeconomic problems in the scientific researches of Professor Alexander Dimitrov were related to his work in various research teams at the Bulgarian Academy of Sciences. His scientific activities resulted in a book named "Bulgaria at the beginning of the 20<sup>th</sup> c.: Macroeconomic Trajectory and Policy" that was published by BolTenInKo Ltd. in 1995. Professor Alexander Dimitrov was an editor and co-author together with Prof. Ivan Stoykov in a team that comprised the following scientists Iskra Beleva, Rumen Dobrinski, Viktor Yotsov, Garabed Minasyan, Vasil Tsanov and Valentin Chavdarov.

Prof. Alexander Dimitrov was also part of the team of the corresponding member Prof. Ivan Angelov, author of the book "The Economy of Bulgaria until 1999" published by Goreks Pres in 1997. In this team we worked together with Ivan Angelov, Tatyana Hubenova –Delisivkova, Ivanka Krayninska, Iskra Beleva, Katya Vladimirova, Vanyo Konsulov, Malinka Koparanova and Viktor Yotsov.

In 1997, Profesor Alexander Dimitrov together with Rossitsa Chobanova, Pavlinka Ilieva, Tanya Lekova and Radoslavka Kazandzhieva carried out the first data collection on innovation in Bulgaria strictly abiding by the requirements of Eurostat and OECD. The result was an internationally comparable database whose analysis was in the basis of a series of publications at home and abroad. The major one among them was the book "Barriers to Innovation" published by Ciela, a member of Walters Kluwer Group and Economy and Democracy Association.<sup>10</sup>

### **Encyclopedias, magazines, development of economic professionals, public activities**

The transition to a new type of organization of the Bulgarian economy and society required new types of studies aiming to elaborate the economic terminology concerning market economy in Bulgarian. Prof. Alexander Dimitrov initiated and participated as an editor-in-chief, dictionary maker and author of terms

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<sup>8</sup> *Kandilarov G., Al. Dimitrov.* Forecasting Foreign Trade – Methods and Tools. Sofia: Research Institute of Foreign Trade, 1972, 241 p.

<sup>9</sup> *Dimitrov, Al.* The Era of the Integrated Marketing Communications has come. – *Ikonomika*, 2002, N 6-7, p. 40-42.

<sup>10</sup> *Dimitrov, Al., R. Chobanova, P. Ilieva, T. Lekova and R. Kazanadzhieva.* Barriers to Innovation. Sofia: Ciela: Member of the Walters Kluwer Group and Economy and Democracy Association, 1998.

in two major contemporary encyclopedias. He was member of the chief editorial office as well as contributed as author and consultant in the several editions of the encyclopedia "Bulgaria A-Z".<sup>11</sup> Together with Mitko Dimitrov, he was editor-in-chief of the last edition of "Economic Encyclopedia".<sup>12</sup>

Prof. Alexander Dimitrov was well-known also for his longstanding work as editor-in-chief of "Economic Thought" magazine. Under his direction, the magazine raised the quality of the studies it offered and became an issue that was referred to by the Journal of Economic Literature (JEL) of the American Economic Association which contributed to the promotion of the results of the Bulgarian scientist among the large world economic scientific community.

Prof. Alexander Dimitrov also contributed a lot to the Institute of Economics at the Bulgarian Academy of Sciences as its scientific secretary and director, as a member of the Scientific Council and Head of a section and an information department. As a director he initiated a number of novelties in the researching process - improvement of information services and implementation of Internet as a basic tool for communication and scientific researches.

He contributed also a lot to the quality of the programs and training of the doctoral candidates at the Institute of Economics at the Bulgarian Academy of Sciences. He was a favourite lecturer at the seminars in econometrics. His activity as a lecturer at a number of Bulgarian Universities is invaluable. His numerous students, graduation and doctoral candidates took each opportunity to meet their respected lecturer even after they graduated.

As Vice-chairman and a member of the Higher Attestation Commission (VAK) as well as Chairman of the Specialized Scientific Council at VAK, Prof. Alexander Dimitrov devoted a lot of energy to the development of professionals in the field of economics.

As a Chairman of the High Statistical Council at the National Statistical Institute, Prof. Alexander Dimitrov also made an outstanding contribution to the development of the Bulgarian statistics. He founded the Econometric Society in Bulgaria and served as its chairman for many years. He was an active member of the international organization for development of econometrics and its liaison with statistics and mathematics (USA). Prof. Alexander Dimitrov was an active member of the management of "Economic sciences" section, a longstanding member of the Committee for Best Scientific Achievements at the Union of Scientists in Bulgaria, a member of the editorial board of "Nauka" magazine.

Looking back at the legacy Prof. Alexander Dimitrov left us in terms of works, mentality, ethics and decency, is a source of knowledge that helps solving new and complicated problems in the contemporary Bulgarian economic science.

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<sup>11</sup> *Dimitrov, M. and Al. Dimitrov (Executive Editor). BULGARIA A-Z (2002, 2004, 2006). Sofia: Bulgarian Academy of Sciences: Bulgarian Encyclopedia, "Trud", paper and electronic edition.*

<sup>12</sup> *Economic Encyclopedia. Sofia: "Nauka i Izkustvo", 2005. See also Stefanov, Iv. (Editor-in-Chief) Economic Encyclopedia. Sofia: "Nauka i Izkustvo", 1968.*