

Tribute to Sergey Aivazian

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This tribute reviews the main collaborations carried out between the Department of Econometrics of the University of Geneva (DE-UNIGE) and the Central Economics and Mathematics Institute (CEMI) of the Russian Academy of Sciences (RAS) and the Moscow School of Economics (MSE) of the Lomonosov Moscow State University (MSU), of which Prof. Sergey Aivazian was one of the initiators.

These collaborations in the field of econometrics and statistics began in the 1960s on the initiative of Prof. Luigi Solari, founder of DE-UNIGE, and Academician Nicolai P. Fedorenko, first Director of CEMI. It was during this period of collaboration, abruptly interrupted by the untimely death of Prof. Solari in November 1977, that Sergey Aivazian made himself known to the DE-UNIGE during a European Colloquium on the *Economic Analysis of Private and Collective Consumption* organized in Geneva in December 1974 by Prof. Solari within the framework of the ASEPELT of which he had assumed the presidency in 1971. ASEPELT is the French acronym for *The European Scientific Association for Medium and Long Term Forecasting* (now *European Scientific Association of Applied Economics*) founded after the Second World War by econometricians such as Ragnar Frisch, Jan Tinbergen, Richard Stone, concerned about providing the European continent with a place of exchange and dissemination of applied economics work carried out by researchers from Eastern and Western Europe. At the occasion of this conference, the most significant contributions of which were published in a volume of ASEPELT Series edited by Solari and Du Pasquier (1976), Aivazian (1976) presented an original paper devoted to the probabilistic-statistical methodology developed at CEMI to model the distributional mechanisms at work in centrally-planned economies. As the author pointed out, contrary to the statistical descriptions of the distribution laws obtained by searching, among a family of theoretically admissible functional forms, the analytical form achieving the best fit to the available empirical data, he suggested a modelling approach suitable to provide a plausible explanation of the “real” mechanism generating the observed data. To paraphrase Newton, it was a matter of specifying a model that helps understanding the “why” of things, not just the “how”. And, to illustrate this approach, he was citing a paper of his PhD supervisor, the celebrated Kolmogorov, in which the author, by making some natural assumptions concerning the physical nature of matter crushing, gives a theoretical explanation to the log-normal form of the distribution law for the size of the resulting particles.

This first step of collaboration was revived in the 1990s as part of the Swiss National Science Foundation SCOPES (Scientific Cooperation between Eastern Europe and Switzerland) program. For the periods 1996/1998 and 2000/2003, the DE-UNIGE, jointly with the Laboratory of Applied Economics and the University Centre for the Study of Energy Problems of UNIGE, received grants from this program to develop a trilateral Swiss-Russian-Belarus Human Scientific Network (CHRUSBEL.net) fostering the Eastern-Western collaboration on the methodological and empirical issues of the study of Quality of Life (QoL) with a team of the RAS and of the Department of Mathematical Modelling & Data Analysis of the Belarusian State University, headed by Prof. Aivazian, who had been promoted meanwhile Deputy Director of CEMI and Head of CEMI’s Department of Econometrics and Applied Statistics. This collaboration resulted in setting up a website (CHRUSBEL.net) intended to provide knowledge and data bases for interdisciplinary studies devoted to QoL. The organization and the content of this website, implemented and

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Fig. 1. Professor Aivazian with a group of colleagues having participated to a joint seminar on the “Multivariate Statistical Analysis and the Stochastic Modeling of Real Processes” held in Moscow, April 2007.

tested at the Department of Mathematical Modelling in Ecology and Medicine of the Dorodnicyn Computing Centre of RAS, were presented by the team of researchers involved into the project within Prof. Aivazian’s International School-Seminar on *Multivariate Statistical Analysis and Econometrics*, held in June 2004 in Tsahkador (Armenia). The methodological and empirical information of this partnership resulted in numerous scientific papers presented at international conferences and published in peer-reviewed journals. Among other, this partnership allowed broadening the spectrum of applications of econometric and statistical methods developed within the partner institutions by tackling a multidisciplinary approach of social science. This issue had gained momentum since the adoption by the Lisbon European Council 2000 of the strategic goal stating that Europe should become the “most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion”.

To revitalize this collaboration on new themes of common interest, following the death of one of the key Russian partners of the CHRUSBEL.net project, Prof. Vsevolod Shakin, a three-day joint Russian-Swiss seminar on *Multivariate Statistical Analysis and Stochastic Modelling of Real Processes* was organized by Prof. Aivazian in Moscow, in April 2007, at the premises of CEMI and MSE. This seminar, whose papers presented were published in a special issue of the *Journal of Applied Econometrics* (*Prikladnaya Econometrica* No. 4(8), 2007), of which Prof. Aivazian was the creator and the editor in chief, made it possible to highlight a convergence of research interests in several fields of theoretical and applied econometrics and statistics, calling for the development of the institutional collaboration between DE-UNIGE and CEMI/MSE according to some new main lines. In particular, the promotion of mobility between the two institutions, of short duration for teachers, and of medium duration for advanced students and doctoral and postdoctoral researchers.

Such mobility could be implemented thanks to the launch in 2007 by the Swiss Government of a bilateral Science and Technology Cooperation Program where UNIGE was designated, by the State Secretariat for Education and Research, as the Leading House for the implementation of this cooperation program with Russia. The funding provided by this program financed a long term visit at the DE-UNIGE of a CEMI researcher working on the application to Russian data of a methodology of analysis of time series data matrices by optimal compromise matrices developed within the DE-UNIGE. In a second time, a more ambitious mobility event could be set-up at the DE-UNIGE, namely a two weeks Summer School on *Numerical Methods and Optimization in Finance* (SSNMOF) based on a textbook carried out at the DE-UNIGE by Gilli et al. (2011) in the frame of the European Marie Curie Research and Training Network COMISEF (Computational Optimization in Statistics, Econometrics and Finance). The SSNMOF aimed

at providing a Master course of 30 hours of lectures and 30 hours of hands-on sessions devoted to computational methods for financial engineering, for the graduate students of the MSE, where Prof. Aivazian headed the Department of Econometrics and Mathematical Methods in Economics. This Summer School was successfully conducted during the triennial period 2011–2013, but was interrupted because no more funding for Exchange/Mobility projects were available within the Science and Technology Cooperation Program with Russia for the years 2013–2016.

The death of Prof. Aivazian deprives the international community of econometricians and statisticians of a highly valuable scientist and his colleagues in the DE-UNIGE of a loyal and generous friend.

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