

A TRIBUTE TO PROFESSOR ARNOLD ZELLNER



Arnold Zellner (1927 – 2010)

Professor Arnold Zellner, an eminent econometrician and father of Bayesian econometrics, passed away on August 11, 2010 at his home in Hyde Park, Chicago.

He was born on January 2, 1927 at Brooklyn, New York. He earned A.B (Physics) at Harvard in 1949 and after three years of military service went to University of California, Berkeley and earned Ph.D. (Economics) in 1957. He was Assistant and Associate Professor of Economics, University of Washington, Seattle during 1955-1960; Associate and Full Professor of Economics, University of Wisconsin, Madison during 1961-1966; and H.G.B Alexander Distinguished Professor of Economics and Statistics, Graduate School of Business, University of Chicago from 1966 till his death. He held visiting faculty positions at University of California, Berkeley; Cowles Commission, Yale University; Stanford University; Harvard University; Econometrics Institute, Rotterdam; and Netherlands School of Economics; and gave lectures in many universities in Asia, Europe, Australia, Africa and South America.

He was Fellow and Member of Council Econometric Society; Distinguished Fellow, American Economic Association, 2002; President, American Statistical Association, 1991; Founder and President (1994-95) International Society for Bayesian Analysis; Honorary Fellow International Institute of Forecasters; Fellow, American Association for the Advancement of Science; Fellow, International Statistical Institute; and Fellow, American Academy of Arts and Sciences.

He is known for the breadth of his contribution to many areas in economics and statistics. He published 22 books and monographs and 262 papers. His research contributions are in micro economics (consumer behaviour, production functions), macroeconomics (consumption function, real balance and demand for money, employment, foreign trade and balanced budget multipliers, macro econometric model), econometrics (simultaneous equations, economic forecasting, distributed lags, errors in the variables, limited dependent variables, autocorrelation, aggregation problem, Bayesian econometrics), Statistics (seasonal adjustment, time series analysis, prediction problems), fishery conservation, mathematical programming and game theory.

His paper "An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias", Journal of the American Statistical Association, 1962, 348-368 is one

of the most cited articles in statistics and econometrics which stimulated research in estimation of simultaneous equations in econometrics, including his well-known paper with H. Theil on Three Stage Least Squares, *Econometrica*, 1962, 54-78.

His book, *An Introduction to Bayesian Inference in Econometrics*, J. Wiley and Sons, Inc., New York, 1971 became a required reading for statistics and econometrics students interested in Bayesian approach to statistical inference and opened a new field of research. He was Founder and Seminar Leader, NBER-NSF Seminar on Bayesian Inference in Econometrics and Statistics that met twice each year in the U.S. and abroad to consider reports of current research on Bayesian analysis and applications many of which were published in a series of volumes, published by North-Holland Publishing Co.

His book, *Economic Aspects of the Pacific Halibut Fishery* (with J.A. Crutchfield), U.S. Department of the Interior, Government Printing Office, 1963 (reprinted by University of Chicago Press in 2003) is a pioneering study in economics of marine resources conservation policy and is a rare piece of integration of conceptual modeling, data presentation and analysis, mathematical programming techniques and policy analysis.

He was Consultant to several institutions interested in policy-oriented research including Battelle Memorial Institute, Columbus, Ohio, on the construction of a regional econometric model to determine the effects of proposed dam construction on regional economic growth; the Federal Reserve-MIT-PENN Econometric Model of the U.S. Economy; St. Louis Federal Reserve Bank Quarterly Model of the U.S. Economy; Committee on Seasonal Adjustment Techniques, Federal Reserve Board, Washington, DC; Actuarial Foundation, CDC Investment Management Corp., New York; National Bureau of Economic Research committees; and American Economic Association's U.S. Census Bureau Advisory Committee.

He played a catalytic role in capacity building in econometric research. He was Associate Editor of *Econometrica*, Founder and Editor of *American Statistical Association Journal of Business and Economic Statistics*, Co-Founder and Co-Editor *Journal of Econometrics* and in the editorial boards of *Journal of Economic Literature*, *Korean Journal of applied Economics* and *Mexican Journal of Economics and Finance*.

He guided 81 Ph.D. scholars. He instituted awards for outstanding Ph.D. theses and publications in econometrics. He maintained close contacts with most of his Ph.D. scholars and helped them in improving their academic prospects. Through H.G.B. Alexander Research Foundation, American Statistical Association, International Society of Bayesian Statisticians, National Bureau of Economic Research and *Journal of Econometrics* he created forums for academic exchange between senior researchers and young scholars in many emerging areas in econometrics and statistics.

He was a passionate and inspiring teacher. He received McKinsey Award for Excellence in Teaching in 1984. I still remember his lectures in macroeconomics and applied econometric courses at University of Wisconsin at Madison during 1964-66. He insisted that graduate students must read the original articles written by great economists. He used to emphasize that a thorough understanding of the relevant theory is required as prior knowledge for specification of econometric model, choice of variables and formulation and testing of hypotheses. He stressed the importance of establishing links between theoretical constructs and empirically observables, choice of appropriate data base for econometric investigation and use of a priori information from economic theory and past empirical studies for fruitful research in applied econometric research.

His edited paper-back book, *Readings in Economic Statistics and Econometrics*, Little, Brown and Company, 1968 was meant for students taking a course in applied econometrics.

Professor Zellner was a Ph.D. guide for 7 Indian students. He contributed the paper "Bayesian Analysis of a Class of Distributed Lag Models" (with C.J. Park) in the *Indian Economic Journal's* first special issue devoted to econometrics, Vol. 13, No. 3, 1965, 432-444. Recently, he contributed a paper "In Memory of Milton Friedman, A Great Economic Scientist and Person", in January 2007 Issue of this Journal. He was instrumental in organizing series of Workshops on Bayesian Analysis in Statistics and Econometrics in India. He gave lectures in many leading academic institutions in India.

We will miss an outstanding teacher, renowned scholar and well wisher.

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