

The Tenth Morris Hansen Lecture Opening Remarks

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It is my pleasure as current president of the Washington Statistical Society to chair the Tenth Annual Lecture to honor the memory of Morris Hansen. This lecture series has been made possible by a grant from Westat where Morris Hansen was senior statistician for 20 years and chairman of the Board of Directors after he retired from his government career as a senior statistician and research manager at the U.S. Census Bureau. At the Census Bureau, Morris Hansen's contributions are legendary; one of the first sampling references encountered by a new employee is often the historical text, *Sample Survey Methods and Theory*, written by Morris Hansen with his long time collaborators, William Madow, and William Hurwitz, that was reprinted in 1993.

Quoting from the biographical memoir written by Joe Waksberg and Edwin Goldfield, "Morris Hansen was the most influential statistician in the evolution of survey methodology in the twentieth century. Early in his career at the Census Bureau he put together and directed a staff of mathematical statisticians and other survey methodologists whose aim was to systematically define the principal problems in the conduct of surveys, carry out research on these problems, and develop the statistical methods necessary to overcome them. This work included the development of sampling theory necessary for the efficient conduct of large-scale national surveys, the establishment of formal quality control methods for surveys, and the derivation of theory and models for analyses of nonsampling errors."

His first opportunity to apply his knowledge of sampling came in the design of the enumerative check census under Calvert Dedrick who was charged with conducting a follow-on effort to a national voluntary census of the unemployed in 1937. This experience became the basis of the later developed Current Population Survey but more importantly provided the first large scale effort in survey sampling that became the basis for later development of both theory and methods under Morris Hansen's guidance.

As Morris advanced the theory of sample surveys he advocated that in most cases inference from sample surveys should be based on the design of the surveys rather than on assumed models of the population. But he remained open to this topic, and recognized conditions under which models were useful. His paper with William Madow and Ben Tepping published in JASA 1983, *An evaluation of model-dependent and probability-sampling inferences in sample surveys*, is the starting point for today's lecture.

Our lecture today will be given by Dr. Graham Kalton, senior statistician and vice president at Westat and research professor in the Joint Program in Survey Methodology at the

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University of Maryland. Dr. Kalton has his PhD in survey statistics from the University of Southampton and BSc and MSc in economics from the London School of Economics and Political Science. Previously Dr. Kalton has had several faculty and research positions at the University of Michigan, the University of Southampton, and the London School of Economics.

Dr. Kalton has provided professional service in many different venues, including president of the Washington Statistical Society, president of the International Association of Survey Statisticians, chair of the ASA Section on Survey Research Methods, chair of the Royal Statistical Society's Social Statistics Section, member of the National Academy of Sciences' Committee on National Statistics (CNSTAT) and member of several of its panels including chair of the CNSTAT panel on Small Area Income and Poverty Estimates - a position I had the pleasure of working with Dr. Kalton as one of the senior Census Bureau liaisons to the panel.

Dr. Kalton has been honored as a Fellow of the American Statistical Association, Fellow of the American Association for the Advancement of Science, and he is an elected member of the International Statistical Institute.

Dr. Kalton's topic is "Models in the Practice of Survey Sampling (Revisited)," discussing both model-assisted and model-dependent inference in survey sampling. The paper considers the role of both types of inference and issues that arise in the application of design-based inference, reviewing the uses of model-dependent methods in surveys including handling missing data, small area estimation, statistical matching, and generalized variance functions. I look forward to Dr. Kalton's presentation on this important topic.

Our first discussant of Dr. Kalton's article and presentation is Dr. Chris Skinner, of the University of Southampton where Dr. Skinner has been since 1980. Dr. Skinner holds a PhD in statistics from the University of Southampton where he studied under Professor Tim Holt, a BSc from Cambridge University and an MSc from the London School of Economics and Political Science. Dr. Skinner is a Fellow of the American Statistical Association and has served as vice president and scientific secretary of the International Association of Survey Statisticians.

Dr. Skinner's interests are in the design and analysis of sample surveys, measurement error, missing data, statistical modeling in the social sciences, and statistical disclosure control. He is a frequent participant at international meetings as a speaker on any of these topics.

Our second discussant is Dr. William Bell. Dr. Bell has spent most of his career at the U.S. Census Bureau as a statistical researcher. His current position is Senior Mathematical Statistician for Small Area Estimation. Dr. Bell has an MS and PhD in statistics from the University of Wisconsin, and a bachelor's degree in actuarial science from Drake University. Dr. Bell is a Fellow of the American Statistical Association, and recipient of two silver medals from the U.S. Department of Commerce as well as the U.S. Census Bureau Award for Innovation for his work on the Small Area Income and Poverty Estimates Team. He has served as Associate Editor of the *Journal of Business and Economic Statistics*, and on several positions of the American Statistical Association's Business and Economic Statistics Section and the Washington Statistical Society.

Dr. Bell's primary interests are time series and small area estimation and modeling. Dr. Bell led the research team at the U.S. Census Bureau addressing small area income and poverty estimates and was a key researcher interacting with the CNSTAT Panel on SAIPE. Dr. Bell has an illustrious research career in the field of time series analysis, and more recently has made considerable contributions to the field of small area estimation. His transition from time series research to small area estimation was relatively natural since much of his research in time series dealt with application of modeling and signal extraction techniques to remove sampling error from time series obtained from repeated surveys, a problem formally similar to small area estimation. This research gave him background for approaching the important problem of small area estimation with time series data.