Marc Nerlove Obituary

10/12/1933 – 7/10/2024

Born in Chicago, Illinois Died Skokie, Illinois

The Econometric Society announces with deep sorrow the passing of Marc Leon Nerlove, President of the Econometric Society in 1981. Throughout his long and distinguished 70-year career, Nerlove exemplified the best in applied economics. He brought empirical and econometric rigor to the study of important economic problems. His work epitomized the integration of economics and data that Ragnar Frisch called for in the inaugural issue of *Econometrica* in 1933. He put "econ" into econometrics and developed new econometric tools in doing so. By example, he showed the value of using economics and econometrics in analyzing economic data.

In early research, he developed dynamic models of producer supply that enabled economists to distinguish and quantify lags due to costs of adjustment and lags arising from expectations of future events. In a series of influential papers, he applied these tools to the dynamics of agricultural supply and created a template that is still used on a wide scale in contemporary studies around the world. In his frameworks, it was possible to identify both short run and long run elasticities of demand and supply in response to changes in product price (Nerlove, 1956; 1958a,b; Nerlove and Addison, 1958). These methods have become standard in econometrics.

Nerlove pioneered the development of modern time series methods including the application of spectral analysis to aggregate economic time series and the development of unobserved components and time series factor models that formalized the Burns-Mitchell decompositions into trend, cycle, and irregular components (1967; 1979). This research stimulated the time series index models of Sargent, Sims, Stock, Watson and others. He developed and applied methods for integrating anticipations data into econometric models (1983).

Nerlove's research on the electricity industry in the early 1960s was the first application of duality theory to estimate production functions. He estimated cost functions and from them

obtained estimates of firm technology. His magisterial book, *Estimation and Identification of Cobb-Douglas Production Functions*, introduced and applied the concept of partial identification in modern econometrics, building on the work of Marschak and Andrews (1944). It is a model for synthesizing economics and statistics to address important economic questions.

Nerlove also pioneered the analysis of panel data in econometrics. His fundamental work with Balestra and his subsequent solo research developed widely used frameworks for analyzing dynamic models for panel data in the presence of individual-specific temporally persistent unobservables. This research arose from a practical problem in analyzing and interpreting estimates of the demand for durable goods (Balestra and Nerlove, 1966). His classic papers on panel data are collected in Nerlove (2002).

He made numerous contributions to economic demography and population policy. Nerlove, with Razin and Sadka (1984a,b, 1986, 1987), did basic research on economic demography and life cycle fertility in dynamic equilibrium settings with overlapping generations and different market arrangements.

He was a fellow of the Econometric Society, a fellow of the American Statistical Association, an elected member of the National Academy of Science and the American Academy of Arts and Sciences, and a recipient of the John Bates Clark Prize in 1969. He was a Distinguished Fellow of the American Economics Association. He held major professorships at Minnesota, Stanford, Yale, Chicago, Northwestern, Penn, and Maryland. He mentored many distinguished economists.

James J. Heckman

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