The Logit Model: An Introduction for Economists, by **J. S. Cramer**. London: Routledge, Chapman & Hall, 1991. 110 pp. $35.00 cloth. ISBN: 0-340-54111-3.

YU XIE
University of Michigan

The Logit Model is a short and focused textbook, an ideal candidate for supplementary reading in an advanced graduate course on discrete data analysis. Sociologists should not be misled by the subtitle of the book, *An Introduction for Economists*, for two reasons. First, the statistical methods discussed by the book go well beyond economics and are useful in sociological research dealing with discrete dependent variables. Second, the book is not at an introductory level for most sociologists.

The book is divided into five chapters. After a brief introduction in chapter 1, the author first presents the binary logit model in chapter 2 and then advances to the multinomial logit model in chapter 3. Chapter 4, "Further Developments of the Model," covers McFadden's conditional logit and nested logit models. The author appropriately delays the discussion on prediction and assessment of model fit to the last chapter.

Throughout the book, I find the author's presentation clear and cogent, typically consisting of four phases: (*a*) introducing the model, (*b*) tracing its historical origin, (*c*) deriving a maximum-likelihood estimation, and (*d*) providing a numerical example in empirical economic research. Although most of the materials covered by the book are available in other econometrics textbooks (e.g., by Maddala and Amemiya), the author deserves praise for communicating to the reader his thoughtful insights through parts (*a*) and (*b*). For example, the author nicely demonstrates the equivalence of the following two justifications of the logit model: the log odds ratio transformation of a binary dependent variable (common in biostatistics) and the threshold transformation of a continuous latent variable (common in econometrics). By discussing the historical roots of the logit model, the author also unambiguously locates the source of stochastic disturbances, something that many students have trouble understanding when moving from the linear regression model to the logit model.

The book should be of considerable help to sociologists wishing to analyze nominal dependent variables with the multinomial logit model. Cramer presents the strengths as well as the underlying assumptions and limitations of the model. In particular, the author does not take the IIA (independence from irrelevant alternatives) property of the multinomial logit model for granted. In his words, "This is a substantive assumption, and in many applications it is clearly inappropriate" (p. 48). In a similar manner, the author explains McFadden's conditional logit model with clarity and keenness that are likely to benefit sociology readers.

Much as I like *The Logit Model*, several weaknesses of the book constrain me from recommending it as a standard textbook in a graduate sociology course. First, the author's empirical examples are of limited interest to sociologists. Second, the book does not integrate well the logit model with other closely related models commonly used in sociology (such as the loglinear model). Third, it omits recent developments of the logit model for longitudinal data (i.e., panel data and event history data). Fourth, the book's discussion of model misspecification and alternative estimation methods (especially under choice-based sampling) is too brief. Fifth, the computer software used (LOGITJD) does not appear to be well-known, at least to the American sociology community.