arguments elegant and to the point, to say the least. I'm looking forward to reading the upcoming volume on generalized linear and exponential dispersion models.

G. U. H. SEEBER
University of Innsbruck

Alternative Methods of Regression.

David BIRKES and Yadolah DODGE. New York: John Wiley, 1993. xi + 228 pp. $49.95.

This book provides an applied introduction to least squares linear regression and five alternative estimation methods for linear regression, namely, least absolute deviations, robust *M*-, nonparametric rank-based, Bayesian, and ridge regression. This book would be useful to students with research interests in the area because it provides easy-to-understand introductions to the various methods. The book is intended for and would be useful to any researcher interested in applying one of the methods. For example, if someone with limited statistical experience came to me with a regression problem for which I thought one of the alternative methods discussed in the book was appropriate, I would recommend the appropriate chapters of the book.

The authors write that "the ideal prerequisites for the book are a course in least squares regression, a course in mathematical statistics, and familiarity with matrix notation," but only familiarity with least squares regression is required. Mathematical statistical terms such as "unbiased," "efficiency," and so on are heuristically defined when they are used, a practice useful for practitioners. Perhaps the authors go a bit overboard in this area; "consistent" is defined twice on the same page (p. 100). On the other hand, the authors do an excellent job describing the various methods at a level understandable to nonstatisticians. Examples of simple linear regression and multiple linear regression are included in each chapter. References to more advanced and more detailed sources are also given. Notes that provide additional information on each section are deferred to the end of each chapter. Although this avoids interrupting the flow of the writing, some readers may find the lack of references on the spot to be annoying.

Each chapter describes an algorithm that could be used to write computer code to calculate the regression estimates being discussed, but code is not provided. References to available software that performs the calculations are given for some methods, excluding ridge and Bayesian regression. For the latter, it is suggested that readers use a matrix-based language to write their own code. For the level at which the book is written, most readers will not be interested in writing their own code. Thus it would have been useful if code or at least more extensive information on available software and how to use it were provided.

A short chapter comparing the methods theoretically and by examples is included, but the comparison sheds little light on the problem of choosing between the alternative estimation methods. Once the alternative method has been chosen (perhaps on the advice of a professional statistician), then this book can provide a good applied introduction to the method.

Arnold J. STROMBERG
University of Kentucky

Private Lives And Public Policies: Confidentiality and Accessibility of Government Services.

George T. DUNCAN, Thomas B. JABINE, and Virginia A. DE WOLF (eds.). Washington, D.C.: National Academy Press, 1993, xiii + 274 pp. $34.95.

This National Academy Panel Report sets out to develop "recommendations that could aid federal agencies in their stewardship of data for policy decisions and research." Specifically,

- "protecting the interests of data subjects through procedures that insure privacy and confidentiality"
- "enhancing public confidence in the integrity of statistical and research data," and
- "facilitating the responsible dissemination of data to users."

Now these are no small tasks, especially given that "the federal statistical system is (so) complex and far-reaching." Nonetheless, the Panel's report does a good job in the breadth of its coverage of these issues. Moreover, it is particularly good at speaking to "those interested in confidentiality and data access issues." Indeed, the authors express the hope that all involved with such issues will become "more aware of the legitimate concerns of the other parties" and that the "report will stimulate discussion of confidentiality and data access issues across levels of government and across geographic boundaries."

Despite these strengths, however, readers should note that the perspective given by the authors, though well-reasoned, is of necessity incomplete. Although there obviously have been clear attempts at balance, we are given the views basically of experts who may weigh privacy rights differently than most other citizens. There are still other areas where the Panel's efforts may need to be augmented; for example, in their narrow treatment of the statistical uses of administrative records, apparent lack of a full appreciation for the existing risks to anonymity in the tabular and microdata currently being released, and entirely too brief discussion of computer and other data security issues.

To be more specific, the rest of these remarks comment on the Panel's report, chapter-by-chapter.

Chapter 1: Principles and Problems. This chapter may be among the book's most successful. It clearly sets forth a whole range of definitions and interconnects exceedingly well some very complex ideas. Official statisticians may be particularly drawn to the section on the principles that should guide statistical agencies.

More development of the distinction between the definitions of "data sharing" and "information flows" would have helped, especially because data sharing always has a privacy cost but the sharing of information may not. The discussion of the need for "functional separation" between statistical and administrative data is well done, as far as it goes. A major unaddressed issue, however, is exactly where and how to draw the line between the two kinds of data so that both administrative efficiency and broader information needs can be met. (In particular, sometimes data should be collected explicitly for dual purposes. For example, industry codes are now assigned several times by different agencies, some for administrative purposes and some for statistical uses, resulting in many inconsistencies and great expense. This clearly is one area where the line may be drawn in the wrong place.)

Chapter 2: The Framework of Study. This chapter is less successful than Chapter 1 and, in the end, not entirely satisfying. It begins well enough, making a closely-argued case for the need for this study. Certainly great changes have occurred in recent years, and more are in the offing. In particular, the book points to several of these changes without always addressing them adequately. I list these below and rate them in terms of the effectiveness with which they are treated:

- Advances in computer and communication technology (just mentioned)
- An expanding role for outside researchers in the use of federal data bases for policy analysis (reasonable but incomplete on the risks of reidentification)
- Expanded use of matching (record linkage) for statistical purposes (reasonable but still incomplete)
- Increases in the variety, number, and influence of organizations that have a stake in confidentiality and data access issues (only a beginning)
- Increasing difficulties in persuading data providers to participate in censuses and surveys (incomplete; see, for example, Gonzalez, Kasprzyk, and Scheuren 1994)
- Initiation of cognitive research aimed at the improvement of informed consent and notification procedures for surveys (reasonable to good)
- New developments in research on statistical disclosure limitation (outstanding).

Unfortunately, further discussion of these points in this chapter is frustratingly brief; the opportunity to delimit the Panel's work is not taken. For example, the report does not really develop three of the foregoing points. In contrast, three of the points are reasonably well addressed in the report's later chapters, and the discussion of the issues of statistical disclosure limitation is outstanding.

The chapter concludes by trying to cover the responsibilities of federal statistical agencies toward the public, data subjects, data users, other statistical agencies, and the "custodians of administrative records." Coverage is quite good on data subjects, but is no more than a sketch elsewhere. Of particular concern, because it is not adequately addressed later, are how statistical agencies share the stewardship role with administrative agencies when administrative records are used statistically. For example, it is quite incomplete to *only* discuss statistical agency responsibilities for confidentiality of administrative data. A separate discussion on statistical organizations within administrative settings (say, those at the U.S. Social Security Administration or the U.S. Internal Revenue Service) would have been a welcome supplement.

Chapter 3: Data Subjects. The general reader may find this the book's best chapter. The ethical and policy issues around notification and informed consent are dealt with quite well. Again, as noted earlier, the Panel has a necessarily limited membership; but because these are individuals of wisdom and experience, their views should be highly valued.