

methods for facies modeling. Another compares models that include seismic information with models that use only well data.

The most common theme among the other 10 papers, which all deal with mining, is the inclusion of geological controls as part of the process of doing modeling with geostatistics. Several of these papers also use stochastic simulations. A significant feature of all of these papers, including the reservoir modeling papers, is the focus on the specific applications rather than on the development of geostatistical methodology. All of the papers also have a wealth of visual displays. Because geostatistical modeling practitioners commonly use color as a significant characteristic of any display, the book includes a CD that has the color versions for the displays that all appear in only black and white in the book.

Breakthrough Business Results With MVT[®], by Charles W. HOLLAND and David COCHRAN, Hoboken, NJ: Wiley, 2005, ISBN 0-471-69771-0, xiv + 322 pp., \$29.95.

In case you did not know, MVT[®] stands for multivariable testing and actually is a registered trademark of Qualpro, the first author's consulting business. This book, published for the popular business press, has the subtitle "A Fast, Cost-Free, 'Secret Weapon' for Boosting Sales, Cutting Expenses, and Improving Any Business Process." I first read about MVT in a feature article in the business section of the *Chicago Tribune*. The article noted that MVT had been similarly featured in *Forbes*, *Business Week*, *The Wall Street Journal*, and *The New York Times*. The book, obviously not a statistics book, hypes Qualpro almost as much as it hypes MVT. Still, one has to admire someone who can turn a very conventional methodology (at least to statisticians or any company with its own statistician) into his very own technology and become rich and maybe even famous in the process.

This book relates to statistical methodology as the book by Harry and Schroeder (2000) relates to Six Sigma methodology. It focuses on organization and execution with no attention to the technical details of MVT methodology. The author compares MVT to Six Sigma with the statement that "MVT typically yields more powerful results than any of the other improvement approaches that are popular today (p. 47). He also notes that "Taguchi methods do not work nearly as well as the MVT process" (ibid.). One would think that MVT must be all the methodology that a business needs for improvement, because the book has the pages by Plackett and Burman (1946) as its only reference! Plackett and Burman are the actual godfathers of MVT.

MVT is carried out in a 12-step process. After choosing an objective and validating the measurement system, steps 3 and 4 use control charts, data mining, and other statistical methods to find good ideas to test. The chapter on step 4 contains brief descriptions of several multivariable methods for data analysis. After two steps for brainstorming and choosing what to test, a Plackett-Burman design is run in step 7. The book illustrates designs for 8, 24, and 36 runs and a foldover design for 16 runs. Data are collected in step 8, and computations for factor effects and "quasi-interactions" (not copyrighted) are demonstrated in step 9. There is no mention of confounding. Anyway, one is expected to buy all the Qualpro software for this stuff. A "refining experiment" is run as step 10. These appear to be full factorial experiments, although that concept is not really discussed. The MVT consultant would make that selection for the client. Conclusions are reached as step 11, and the bottom line value is determined as step 12.

Part III, "Breakthrough MVT Successes in the Real World," presents five case studies. Part IV presents the four phases of successful organization-wide improvement. One is then supposed to agree that the author has demonstrated that "MVT is the greatest business improvement methodology ever devised" (Introduction, p. xi). The authors should note that the page numbers for the Plackett and Burman article in the references can be found in the reference list of almost any design of experiments textbook!

REFERENCES

- Harry, M., and Schroeder, R. (2000), *Six Sigma: The Breakthrough Management Strategy Revolutionizing the World's Top Corporations*, New York: Currency/Doubleday.
- Plackett, R., and Burman, J. (1946), "Multifactorial Experiments," *Biometrika*, 33, 303-325.

Introduction to Applied Econometrics, by Kenneth G. STEWART, Belmont, CA: Thomson Brooks/Cole, 2005, ISBN 0-534-36916-2, xxix + 913 pp. + CD, \$116.95.

Unlike some of the econometrics books that I have owned (most recently, Judge et al. 1988), this book does not cover a lot of exotic types of regression analysis, such as two-stage or three-stage least squares. The topical content is more similar to the material in a good modern book on business statistics, such as the recent book by Evans (2002) (reported in Ziegel 2005). But this is not a first-course textbook; students need a good prior course in basic statistics and inference. With the author's intent to "reorient the introduction to econometrics away from the traditional culmination in simultaneous equations and toward time series analysis," (Preface, p. xxiii), this book covers a lot of ground to get to its final 60-page chapter on cointegration and the interaction of economic variables over time. It does not cover a lot of economics. A knowledge of intermediate-level microeconomics and macroeconomics is "minimal essential background" (Preface, p. xxiv). Finally, I may be able to realize some value from my undergraduate minor in economics.

After an introductory chapter on economics data and models and a chapter reviewing inferential statistics, three chapters carry regression analysis through hypothesis testing and forecasting with multiple regression equations. A couple of economics chapters intervene for discussions of different forms for models and the use of regression estimation for production functions. A chapter on diagnostics for multiple regression equations is followed by their application to fitting models for economic growth. A chapter on using dummy variables in regression equations is followed by their application to fitting cost functions. The penultimate regression chapter, which concerns nonlinear regression, is preceded by a chapter on model discovery. This chapter includes data mining as one of its topics. The long block of material on regression modeling, which comprises nearly two-thirds of the book, concludes with a chapter on heteroscedasticity.

There are four chapters on time series analysis. The first of these deals with temporal dependence and nonstationarity. The next chapter, "Fluctuations," presents the ARMA methodology and Box-Jenkins analysis. There is a chapter on trends before the final chapter, "Cointegration," which discusses relationships among variables in time. The CD that comes with the book contains all of the data files formatted for several common software packages, including EViews, an economics software package. College faculty should appreciate the available instructor's CD with PowerPoint files and examination questions. Overall, this a fine modern update to the traditional econometrics textbook.

REFERENCES

- Evans, M. (2002), *Practical Business Forecasting*, Oxford, U.K.: Blackwell Publishers.
- Judge, G., Hill, P., Griffiths, W., Lütkepohl, H. L., and Lee, T. (1988), *Introduction to the Theory and Practice of Econometrics* (2nd ed.), New York: Wiley.
- Ziegel, E. (2005), Editor's Report on *Practical Business Forecasting*, by M. Evans, *Technometrics*, 47, 382.

Discovering Knowledge in Data, by Daniel LAROSE, Hoboken, NJ: Wiley, 2005, ISBN 0-471-66657-2, xv + 222 pp., \$69.95.

Next Generation of Data-Mining Applications, edited by Mehmed M. KANTARDZIC and Jozef ZURADA, Hoboken, NJ: Wiley, 2005, ISBN 0-471-65605-4, xviii + 671 pp., \$89.95.

There have been reports on a succession of books on data mining, most recently for the book by Bozdogan (2004) (reported in Ziegel 2004), and even some reviews, such as for the book by Giudici (2003), reviewed by Sandry (2005). Some of these books were written to be sold at Barnes and Noble (e.g., Rud 2001, reported in Ziegel 2002). Others (e.g., Dasu and Johnson 2003), were written for the enjoyment of computer scientists, which is certainly appropriate because those people developed many of the data mining methods and have definitely popularized the whole process.

The book by Larose is the first data mining book written by a Ph.D. statistician. It is the first in a planned three-volume series for which subsequent