attention to covariate-conditioned average and quantile effects, along with associated counterfactual objects, such as point bands and path bands. The latter are useful for constructing confidence intervals and testing hypotheses. Their method is applied to a study of the impact of crude oil prices on gasoline prices.

Hendry developed the general-to-specific (GETS) procedure for model selection in his book *Econometrics: Alchemy or Science?* (2000). In Chapter 4, Doornik discusses the third implementation of GETS model selection. The algorithm of Hoover and Perez (1999) comprised five main aspects: general-to-restricted model, multiple path search, encompassing test, diagnostic testing, and tiebreaker. Later, Hendry and Krolzig (1999, 2001) extended that algorithm with presearch, multiple-path search, and iteration steps. Autometrics is a new algorithm that follows with improvements in implementation. The multiple-path search is replaced by a tree-search method and implemented entirely within the likelihood framework. To advance the used tree search, autometrics uses pruning, bunching, and chopping. The aim of autometrics is to improve computational efficiency, by, for example, avoiding repeated estimation of the same model, delaying diagnostic testing, and remembering terminals between iterations.

In Chapter 5, Engle reviews forecasting in modeling correlations between asset returns. The goal is to develop time series measures of risks in a highly multivariate framework. According to Engle, the central feature of financial planning is forecasting of correlations. He discusses the dynamic conditional correlation (DCC) model (a simple generalization of Bollerslev's constant conditional correlation model) and general approach estimating correlations. For large systems, the MacGyver method is presented. Engle shows that additional factor structure can increase accuracy and establishes the factor DCC model with the potential to forecast correlations in high-dimensional systems of asset returns.

In Chapter 6, "Pitfalls in Modelling Dependence Structures: Explorations With Copulas," Trivedi and Zimmer study comovements using a bivariate statistical model capable of capturing different types of nonlinear dependence. This contribution proposes a modeling approach for testing hypotheses about general forms of stochastic dependence between variables, for example, asset prices, whose marginal distributions display strong nonnormal features such as skewness and/or leptokurticity. The main focus of this chapter is on using different ways to model conditional dependence of commodity price changes. Three approaches were considered for modeling comovements in commodity prices. They demonstrate how copulas can help determine whether dependence arises from single bivariate distributions or from mixtures of different distributions.

Chapter 7, "Forecasting in Dynamic Factor Models Subject to Structural Instability," develops Hendry's theme of detecting and avoiding forecast breakdowns arising from structural instability. Stock and Watson examine forecasting methods for their reliability in the face of structural breaks. The authors use predominantly forecasts constructed using dynamic factor models. Their empirical investigation focuses on the single-break model, ignoring multiple breaks and continuous parameter evolution.

In Chapter 8, "Internal Consistency of Survey Respondents' Forecasts: Evidence Based on the Survey of Professional Forecasters," Clements addresses the rationality, efficiency, and accuracy of various types of forecasts. A novel aspect is the consideration of rationality in terms of the internal consistency of the different types of forecasts made simultaneously by individual forecasters.

Chapter 9, "Factor-Augmented Error Correction Models," by Banerjee and Marcellino, studies the modeling of large set of variables linked by cointegration relationships. This chapter's main contributions are to bring together cointegration and dynamic factor models and to evaluate the role of incorporating long-run information in modeling within the framework of both simulation exercises and empirical examples. Theoretical results are applied on a two data sets: U.S. interest rates and economic fluctuations in the U.S. economy.

"There are many ways to take the pragmatic approach," notes Granger in Chapter 10, "In Praise of Pragmatics in Econometrics." In his view, the most carefully developed approach is Hendry's model building procedure PcGets. The pragmatic attitude toward model building suggests that alternate models should be kept as viable options for as long as possible, so that a rich set of alternatives should be considered.

In Chapter 11, "On Efficient Simulations in Dynamic Models," Abadir and Paruolo attempt to partially redress the imbalance by improving Monte Carlo studies of autoregressive series. They investigate the effectiveness of a few variance reduction techniques in the context of dynamic data-generating processes.

Chapter 12, "Simple Wald Tests of the Fractional Integration Parameter: An Overview of New Results," by Dolado, Gonzalo, and Mayoral, details long-memory processes, a popular research topic in econometrics in recent years. Process qualities include flexibility and realistic microfoundations.

In Chapter 13, Davidson posses a question: "When is a time series $I(0)$?" He concludes that the hypothesis that a time series is $I(0)$ is an ill-posed problem for statistical investigation. He suggests more suitable hypotheses to test, relating directly to the implications of the distribution of the data for asymptotic inference. He uses an asymptotically pivotal statistic as a yardstick to assess how far such data features as local dependence affect the distribution in a sample of given size.

Economists often address such issues as examining the efficacy of alternative economic policies, assessing the lasting effects of European Union membership on transition economies, forecasting the future values of key economic variables (e.g., the rate of inflation), or discriminating between alternative economic theories. In Chapter 14, "Model Identification and Nonunique Structure," Hendry, Lu, and Mizon analyze the role of identification in model development and discrimination.

A wide range of empirical macro models for the Euro zone are based on aggregated Euro zone data. The four main aggregation methods for summing the level data or the growth rates using either fixed or variable weights are the focus of Chapter 15, "Does It Matter How to Measure Aggregates? The Case of Monetary Transmission Mechanisms in the Euro Area," by Beyer and Juselius. Their comparison of aggregates calculated with fixed and flexible weights methods shows that differences between the methods are not large for the aggregates in absolute value but nevertheless are highly persistent. In their opinion, the choice of aggregation method might affect the cointegration properties in empirical models.

In Chapter 16, Bårdsen and Nymoen reconsider the dynamics of the U.S. natural rate, one of the most successful concepts in the history of macroeconomics. The authors discuss methodological and substantive issues relating to the empirical assessment of the U.S. natural rate, starting by noting that the methodology underlying the consensus view is based on a highly restrictive model of wages, prices, and the rate of unemployment.

Last, but not least, Chapter 17, "Constructive Data Mining: Modelling Argentine Broad Money Demand," by Ericsson and Kamin, focuses on model design and cointegration analysis. Cointegration between money, inflation, the interest rate, and exchange rate depreciation depends on the inclusion of a ratchet variable that captures irreversible effects of inflation.

Hendry's contributions to econometrics have a broad dimensions, spanning analysis of money demand, error correction models and cointegration, exogeneity, model development and design, econometric software, economic policy, consumer expenditures, Monte Carlo methodology, the history of econometrics, and the theory of economic forecasting.

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**Statistical Tolerance Regions: Theory, Applications, and Computation**, by K. KRISHNAMOORTHY and T. MATHEW, Hoboken, NJ: John Wiley & Sons, 2009, ISBN 978-0470380260, 461 pp., $115.00.

Statistical tolerance intervals quantify at least a certain proportion of the population with a given confidence level. More specifically, a $100 \times P\%/100 \times (1-\alpha)\%$ tolerance interval provides limits within which at least a certain proportion ($P$) of the population falls with a given level of confidence $(1-\alpha)$. Statistical tolerance intervals have a rich history in the literature and are commonly used by practitioners. Yet until recently, the monograph by Guttman (1970) was the only text devoted to the topic. Hahn and Meeker (1991) presented a detailed exposition of statistical intervals with numerous illustrative examples, but most of their discussions regarding tolerance intervals point to the relevant references. The need for a contemporary and comprehensive treatment of this topic is what makes *Statistical Tolerance Regions* a welcome addition to the statistics literature.

This book comprises 12 chapters. Chapter 1 sets the preliminaries for constructing tolerance intervals. This includes a discussion of generalized pivotal quantities (GPQs) and generalized test variables, both of which are the basis for much of the theory developed later in the text. Relevant technical results that reappear throughout the text are provided.

Chapter 2 provides details on tolerance intervals for the univariate normal setting. Besides covering the well-established results of one-sided normal tolerance limits and two-sided normal tolerance intervals, the chapter also considers some more specific settings regarding the difference between two normal random variables. Simultaneous tolerance limits and simultaneous tolerance intervals are covered as well.

Chapter 3 covers the univariate linear regression setting, including a discussion of one-sided and two-sided tolerance intervals. The corresponding simultaneous settings are presented as well. The chapter concludes with an extension of how two-sided simultaneous tolerance intervals can be inverted to provide a conservative solution to the calibration problem.

The authors then turn their attention to one-sided tolerance limits and two-sided tolerance intervals for the one-way random-effects model. They treat balanced and unbalanced data in Chapters 4 and 5, respectively. The authors' previous work on these intervals is presented, but their discussion is balanced with a credible examination of other available approaches.

In Chapter 6 the authors discuss tolerance limits and tolerance intervals for some general mixed models. More specifically, only the balanced setting under the normality assumption is presented, because derivation of the tolerance intervals under more restrictive settings is not tractable. This chapter also reinforces the broad applicability of tolerance intervals by discussing their role in bioequivalence testing.

Chapter 7 covers tolerance limits and tolerance intervals for several nonnormal distributions, including the lognormal, gamma, two-parameter exponential, and Weibull distributions. Generalized confidence limits for survival probabilities are presented as well. Much of the work reported in this chapter uses the GPQ approach.

Chapter 8 covers nonparametric tolerance intervals, which are determined by certain order statistics for given $\alpha$ and $P$. Confidence intervals for population quantiles, sample size calculations, and nonparametric multivariate tolerance regions are covered as well.

Chapters 9 and 10 cover multivariate extensions of the normal and linear regression settings, respectively. Both chapters present approximation methods for finding the tolerance factors for the tolerance regions, as well as methods based on Monte Carlo simulation. Chapter 10 also covers the case of multivariate calibration.

Chapter 11 treats the Bayesian setting with a few specific applications. For the univariate normal distribution, tolerance intervals under the noninformative prior and the conjugate prior are discussed. Algorithms for Bayesian tolerance limits in the one-way random-effects model with balanced data are presented as well.

Chapter 12 covers miscellaneous topics on tolerance intervals, including the closely related $\beta$-expectation tolerance intervals, tolerance intervals for the ratio of normal random variables, sample size determination problems, and tolerance intervals based on censored samples. Some of these sections contain sufficient material to warrant their own chapters. For instance, the section on binomial and Poisson tolerance intervals could have contributed to a chapter devoted to tolerance intervals for discrete distributions. Such a chapter also could have covered negative binomial tolerance limits and discussed the theory of uniformly most accurate upper tolerance limits for discrete distributions having monotone likelihood ratios (see Zacks 1970). Regardless, the authors have done an excellent job covering the topics in this final chapter and providing an even broader treatment of tolerance intervals.

Each chapter also includes various real-life examples that greatly elucidate the concepts presented. The authors provide all of the data sets used in their examples and exercises in an appendix. Another appendix provides tabulated values of tolerance factors for various settings.

In summary, *Statistical Tolerance Regions* is a must have for anyone working with tolerance intervals. This text has combined all of the material and methodologies that I have tirelessly tracked down for my own research. The authors have provided a terrific blend of theoretical material and real-life applications to satisfy both the purist and the practitioner. This book will undoubtedly become an oft-cited reference in future work concerning tolerance intervals.

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# Editor Reports on New Editions, Proceedings, Collections, and Other Books

**The Handbook of Research Synthesis and Meta-Analysis (2nd ed.)**, edited by Harris COOPER, Larry V. HEDGES, and Jeffrey C. VALENTINE, New York, NY: Russel Sage Foundation, 2009, ISBN 978-0-87154-163-5, 632 pp., $69.95.

This edition is an expanded version of the first edition *The Handbook of Research Synthesis* with an expanded title and with an additional editor. A review of the first edition appeared in *Technometrics* in 1995 (Ziegel 1995). Like the first edition, the second edition focuses on every phase of the research synthesis process, from problem formulation to report writing. Perhaps it is most applicable to medical research and has applications in other areas. There some new topics added in this edition, however, the volume's skeleton and intensions remain unchanged. The current edition thoroughly revises the chapters in an effort to keep it updated. Compared with first edition, new topics include missing data, dependent effect sizes, and using research synthesis to develop theories. It includes a new chapter on research synthesis in policy and decisions and on computation of effect sizes from clustered data, respectively.

The volume contains twenty-nine chapters (forty authors) drawn from at least five distinct disciplines. All the chapters were peer reviewed. The contents of the volume are divided in eleven parts given as follows:

Part I. Introduction
Part II. Formulating a Problem
Part III. Searching the Literature
Part IV. Coding the Literature
Part V. Statistically Describing Study Outcomes
Part VI. Statistically Combining Effect Sizes
Part VII. Special Statistical Issues and Problems
Part VIII. Data Interpretation
Part IX. Tying Research Synthesis to Substantive Issues
Part X. Reporting the Results
Part XI. Summary.

Three data sets are provided in the Appendix. A nice feature of this book is that it provides a glossary for the frequently used terms in this book, making it user friendly. In summary, this is a useful volume and remains to be comprehensive on the topic. As in the first edition, this new edition is printed densely and in double columns. My general critique on meta analysis and related topics emerges from the fact that these methods do not provide insight to readers/researchers about the performance of the estimation methods when the assumptions regarding the homogeneity of parameters may not hold. For example, combining estimates of effect size (Chapter 14)—a combined estimate of effect size will be superior to individuals only (in terms of mean squared error) when all the effect size parameters are nearly equal. For further discussion we refer to the following papers listed in the references, among others.