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Statistical Downscaling and Bias Correction for Climate Research Bias Correction for the Maximum Likelihood Estimate of Ability An Introduction to Bartlett Correction and Bias Reduction Bias Correction for Single-subject Information Transfer in Audiological Testing Spatial Bias Correction for Sporadic Meteors Photographed in New Mexico Regime Dependent Bias Correction of Ensemble Output A Time-varying Radiometric Bias Correction for the TRMM Microwave Imager Bias Correction for Welfare Measures in Non-market Valuation Parameter Estimation and Bias Correction for Diffusion Processes and a Nonparametric Approach to Census Population Size Estimation Nonlinear Bias Correction for Numerical Weather Prediction Models Bias Correction for Inequality Measures Bartlett Corrections and Bias Correction for Two Heteroscedastic Regression Models Evaluation of Bias Correction Methods for "worst-case" Selective Non-participation in NAEP Bias Correction Based on Modified Bagging A Bias-correction for Cross-validation Bandwidth Selection when a Kernel Estimate is Based on Dependent Data Local Multiplicative Bias Correction for Asymmetric Kernel Density Estimators Simplifying Bias Correction for Selective Sampling Simulation Based Bias Correction Methods for Complex Problems Bias Correction in a Stable AD(1,1) Model Theoretical Analysis of and Bias Correction for Planar and Cylindrical Polarimetric Phased Array Weather Radar Bias correction for compensating unresolved subsurface structure in unsaturated flow modelling General Approaches to Dynamic Panel Modelling and Bias Correction Bias Correction and Confidence Intervals Following Sequential Tests Bias Correction in Panel Data Models with Individual Specific Parameters Bias Correction in the Balanced Half Sample Method If the Number of Sampled Units in Some Strata is Odd Bias Correction Based on Modified Bagging Bias correction and bootstrapping of error component models for panel data Bias Correction and Higher Order Kernel Functions Combination of Biased Forecasts Bias Correction in the Estimation of Dynamic Panel Models In Corporate Finance Bias Correction and Out-of-sample Forecast Accuracy Scale Selective Bias Correction in a Downscaling of Global Analysis Using a Regional Model Bias Correction of Bounded Location Errors in Binary Data Constrained Adaptive Bias Correction for Satellite Radiance Assimilation in the ECMWF 4D-Var System New Bias Correction Methods for Simulating Precipitation and Runoff in the Weather Research and Forecasting Model Variational Bias Correction in ERA-interim Bias Correction and Downscaling of Climate Model Outputs Required for Impact Assessements of Climate Change in the U.S. Northeast Bias and Bias Correction in Multisite Instrumental Variables Analysis of Heterogeneous Mediator Effects Spatial Bias Correction for Sporadic Meteors Photographed in New Mexico Bias Correction in Lagged-dependent Variable Models

"The McCrosky and Posen data on Super-Schmidt sporadic meteors were studied for spatial bias. This bias is a function of meteor direction and velocity, camera location, and observing intervals. For each meteor, a number useful in correcting for spatial bias was computed. It is a measure of the likelihood of encountering a meteor with the same relative velocity vector during the 30-month span of photographing intervals".--P. [i]. Dynamic panel models play an increasingly important role in numerous areas of corporate finance research, and a variety of (biased) estimation methods have been proposed in the literature. The biases inherent in these estimation methods have a material impact on inferences about corporate behavior, especially when the empirical model is misspecified. We propose a bias-corrected global minimum variance (GMV) combined estimation procedure to mitigate this estimation problem. We choose the capital structure speed of adjustment (SOA) setting to illustrate the proposed method using both simulated and actual empirical corporate finance data. The GMV estimator non-trivially reduces bias and hence meaningfully increases the reliability of inferences based on parameter estimates. This method can be readily applied to many other corporate finance contexts. In correlated random coefficient models, standard OLS and IV estimators do not estimate the average population effect. This problem can be fixed with panel data by estimating a different coefficient for each individual, and then using the sample moment of the individual coefficients to estimate the corresponding population moment of interest. These estimates, however, can be severely biased in short panels due to the incidental parameters problem. The bias arises if some of the regressors are endogenous, or if the moments to estimate are nonlinear functions of the coefficients, e.g., variances of the individual effects. This paper introduces a class of bias-corrected fixed effects estimators for these correlated random coefficient models, which do not impose restrictions on the coefficients heterogeneity. The new estimators are based on moment conditions that can be nonlinear functions in parameters and variables, encompassing both linear and nonlinear random coefficients models and allowing for the presence of endogenous regressors. The corrections are derived from large-T expansions of the finite-sample bias, and reduce the order of this bias from O(T^{-1}) to O(T^{-2}) for model parameters and other quantities of interest, such as moments of the individual-specific coefficients. The asymptotic distribution of the bias-corrected estimators are centered at the true parameter values under asymptotic sequences where n = o(T^{3}). These methods are illustrated through an analysis of earnings equations for young men allowing the effect of the union status to be different for each individual. The results suggest the presence of important heterogeneity in the union premium. This book presents a concise introduction to Bartlett and Bartlett-type corrections of statistical tests and bias correction of point estimators. The underlying idea behind both groups of corrections is to obtain higher accuracy in small samples. While the main focus is on corrections that can be analytically derived, the authors also present alternative strategies for improving estimators and tests based on bootstrap, a data resampling technique and discuss concrete applications to several important statistical models. Unlike random sampling, selective sampling draws units based on the outcome values, such as over-sampling rare events in choice outcomes and extreme activities on continuous and count outcomes. Despite high cost effectiveness for marketing research, such endogenously selected samples must be carefully analyzed to avoid selection bias. We introduce a unified and efficient approach based on semiparametric odds ratio (SOR) models applicable for categorical, continuous and count response data collected using selective sampling. Unlike extant sampling-adjusting methods and Heckman-type selection models, the proposed approach requires neither modeling selection mechanisms nor imposing parametric distributional assumptions on the response variables, eliminating both sources of mis-specification bias. Using this approach, one can quantify and test for the relationships among variables as if samples had been collected via random sampling, simplifying bias correction of endogenously selected samples. We evaluate and illustrate the method using extensive simulation studies and two real data examples: endogenously stratified sampling for linear/nonlinear regressions to identify drivers of the share-of-wallet outcome for cigarettes smokers, and using truncated and on-site samples for count data models of store shopping demand. The evaluation shows that selective sampling followed by applying the SOR approach reduces required sample size by more than 70% compared with random sampling, and that in a wide range of selective sampling scenarios SOR offers novel solutions outperforming extant methods for selective samples with opportunities to make better managerial decisions. Binary regression models for spatial data are commonly used in disciplines such as epidemiology and ecology. Many spatially-referenced binary data sets suffer from location error, which occurs when the recorded location of an observation differs from its true location. When location error occurs, values of the covariates associated with the true spatial locations of the observations cannot be obtained. We show how a change of support (COS) can be applied to regression models for binary data to provide bias-corrected coefficient estimates when the true values of the covariates are unavailable, but the unknown location of the observations are contained within non-overlapping polygons of any geometry. The COS accommodates spatial and non-spatial covariates and preserves the convenient interpretation of methods such as logistic and probit regression. Using a simulation experiment, we compare binary regression models with a COS to naive approaches that ignore location error. We illustrate the flexibility of the COS by modeling individual-level disease risk in a population using a

binary data set where the location of the observations are unknown, but contained within administrative units. Our simulation experiment and data illustration corroborate that conventional regression models for binary data which ignore location error are unreliable, but that the COS can be used to eliminate bias while preserving model choice. A comprehensive and practical guide, providing technical background and user context for researchers, graduate students, practitioners and decision makers. This book presents the main approaches and describes their underlying assumptions, skill and limitations. Guidelines for the application of downscaling and the use of downscaled information in practice complete the volume. The McCrosky and Posen data on Super-Schmidt sporadic meteors were studied for spatial bias. This bias is a function of meteor direction and velocity, camera location, and observing intervals. For each meteor, a number useful in correcting for spatial bias was computed. It is a measure of the likelihood of encountering a meteor with the same relative velocity vector during the 30-month span of photographing intervals. This dissertation provides a robust radiometric calibration for the TRMM Microwave Imager to correct systematic brightness temperature errors, which vary dynamically with orbit position (time) and day of the year. The presence of a time-varying bias in TMI is confirmed by inter-calibration with WindSat and SSMI. This time varying bias is manifested as a time of day dependent variation of the relative biases between TMI and both WindSat and SSMI. In this dissertation, we provide convincing evidence that this time-varying Tb bias in TMI is caused by variations in the physical temperature of the emissive TMI reflector antenna. This dissertation provides an empirical correction that largely corrects this time-varying bias. The TMI bias is estimated by comparing the 10.7 GHz V-polarization channel observations with RTM Tb predictions, and the Tb correction is applied as a function of orbit time for every day of the one year period. Furthermore, this dissertation provides a qualitative physical basis for the estimated Tb bias patterns and provides conclusive evidence that the empirical correction applied to TMI Tb measurements (both ocean and land) largely corrects the time-varying TMI calibration. This is accomplished by demonstrating that the local time-of-day dependence (in the uncorrected TMI Tb values) is removed in the corrected TMI Tb's. This dissertation, "Bias Correction Based on Modified Bagging" by Xiuli, Ding, ???, was obtained from The University of Hong Kong (Pokfulam, Hong Kong) and is being sold pursuant to Creative Commons: Attribution 3.0 Hong Kong License. The content of this dissertation has not been altered in any way. We have altered the formatting in order to facilitate the ease of printing and reading of the dissertation. All rights not granted by the above license are retained by the author. DOI: 10.5353/th_b4568756 Subjects: Estimation theory Mathematical statistics - Asymptotic theory Welfare measures in non-market valuation can be biased by nonrandom sampling or nonlinear transformation of estimated parameters. This dissertation consists of two studies focusing on correcting each type of bias. The first study compares the performances of the delta method, jackknife, and bootstrap in correcting nonlinear transformation bias through Monte Carlo simulation. The simulated models include Poisson, logit, probit, and misspecified probit. The results indicate that the delta method and jackknife can correct the bias of welfare measures for the listed models. With distributional misspecification, the delta method outperforms the jackknife. The bootstrap result has more expected bias, but also the smallest mean square error, especially when the sample size is large enough. Furthermore, the delta method was modified by correcting the bias of estimated parameters beforehand, and then adding the first order bias term or replacing parameter estimates with corrected ones. The simulation results show that adding first order bias term can lower the MSE of willingness to pay(WTP) estimates at the cost of increasing their expected bias. The simulation results show that the delta method is also effective to estimate median WTP. The second study address the sampling bias decomposed as one part correlated with covariates and the other part correlated with the result variable. Non-response is common in surveys used in non-market valuation studies which can bias the parameter estimates and mean WTP estimates. One approach to correct this bias is to reweight the sample so that the distribution of the characteristic variables of the sample can match that of the population. Kernel Mean Matching (KMM) is used to produce resampling weights in a non-parametric manner. KMM's performance is tested through Monte Carlo simulations under multiple scenarios and it is shown that KMM can effectively correct mean WTP estimates, especially when the sample size is small and sampling process depends on covariates. The results also reveal KMM's robustness to skewed bid design and model misspecification.

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