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INVITING YOU TO THE JINDAL GLOBAL BUSINESS SCHOOL RESTRICTED AND SHRINKAGE ESTIMATION IN LINEAR REGRESSION MODELS

PROF. SAURABH RAWAL

LECTURER

O.P. JINDAL GLOBAL UNIVERSITY

Prof. Saurabh Rawal is a Lecturer in the Information Systems and Analytics area at Jindal Global Business School (JGBS) and a PhD Candidate in the Decision Sciences area at the Indian Institute of Management Lucknow. His research interests include statistical learning, predictive modelling, uncertainty quantification, distribution shift, and conformal prediction. His doctoral research focuses on developing reliable predictive methods under changing data distributions, with an emphasis on model uncertainty and robustness. His co-authored paper has been accepted for publication in Communications for Statistical Applications and Methods. He has also presented his research internationally, including a poster presentation at the Bernoulli-IMS 11th World Congress in Probability and Statistics, held at Ruhr University Bochum, Germany, in August 2024. At JGBS, he teaches the Introduction to Spreadsheets course for BBA (Financial Markets) students and is also involved in teaching Prescriptive Analytics in the one-year MBA (Business Analytics) programme through the Coursera platform.

This study considers a multiple linear regression model with exact linear restrictions on the regression coefficients. We extend the existing Double k-class shrinkage estimator to the restricted setting and propose a Restricted Double k-class estimator that simultaneously incorporates shrinkage and prior structural information. The asymptotic normality of the proposed estimator is established. A corresponding goodness-of-fit measure is also considered, and its asymptotic distribution is derived. The performance of the proposed estimator is compared with Ordinary Least Squares, Restricted Least Squares, and the conventional Double k-class estimator through Monte Carlo simulations and an empirical application using the Boston housing data. The results illustrate the potential benefit of combining shrinkage with valid parameter restrictions, particularly in settings affected by multicollinearity, and highlight the role of the bias-variance trade-off in improving estimation performance.

MODERATOR: PROF. AMIT KUMAR CHAUDHARY, LECTURER, JINDAL GLOBAL BUSINESS SCHOOL



WEDNESDAY, 2 SEPTEMBER 2026



**10:00 AM to
11:00 AM IST**

MEETING LINK: <https://zoom.us/j/94904523118?pwd=LbzH0ceIXI1bpFZIYLDtblyePUSLaL.1>

PASSWORD: JGU