

Ali Mehrabani

CONTACT INFORMATION

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EDUCATION

Ph.D. in Economics, University of California (UC), Riverside	(Expected) June 2020
M.A. in Economics, UC, Riverside	2016
M.S. in Socio-Economic System Engineering, Sharif University of Technology	2013
B.S. in Mathematics, University of Isfahan	2011

RESEARCH INTERESTS

Econometrics, Applied Econometrics, Big Data, Financial Econometrics

RESEARCH PAPERS

- Efficient Shrinkage Estimation in Heterogeneous Panel Data Models with Application to Returns to Scale for U.S. Banks ([Job Market Paper](#))
- A Modified Stein-Like Estimator in a Simultaneous Equations System with Application to Forecasting Inflation
- Using All Lags or One Lag as Instruments: an Averaging Estimator in Dynamic Panel Data Models (In Progress)

AWARDS AND HONORS

Graduate Student Travel Grant, Graduate Student Association, UC, Riverside	2019–2020
Outstanding Teaching Assistant Award, UC, Riverside	2019
Graduate Student Travel Grant, Department of Economics, UC, Riverside	2019
Dean's Non-Residential Tuition Awards, UC, Riverside	2016–2017
Dean's Distinguished Fellowship, UC, Riverside	2015–Present

WORK EXPERIENCE

Teaching Assistant, UC, Riverside (List of Courses)	2016–Present
Instructor, UC, Riverside (List of Courses and Syllabi)	Summer 2016, 2017, 2018, 2019
Economic Analyst, PART Financial Data Processing Company	2011–2015

COMPUTER SKILLS

Software: R, MATLAB, STATA, EViews, L^AT_EX, Microsoft Office

REFERENCES

Aman Ullah (Chair) Distinguished Professor of Economics UC, Riverside Tel: +1 (951) 827-1591 Email: aman.ullah@ucr.edu	Tae-Hwy Lee Professor of Economics UC, Riverside Tel: +1 (951) 827-1509 Email: tae.lee@ucr.edu	Gloria Gonzalez-Rivera Professor of Economics UC, Riverside Tel: +1 (951) 827-1590 Email: gloria.gonzalez@ucr.edu
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RESEARCH PAPER ABSTRACT

Efficient Shrinkage Estimation in Heterogeneous Panel Data Models with Application to Returns to Scale for U.S. Banks

This paper presents a Stein-like shrinkage method for estimating the slope coefficients in heterogeneous panel data models with cross-section dependence, when the cross-section dimension is fixed while the time dimension is allowed to increase without bounds. The shrinkage estimator is a weighted average of a feasible generalized least-squares (FGLS) estimator and a feasible restricted generalized least-squares estimator. The restricted estimator belongs to a set of restricted parameter space, where the restrictions represent possible model specifications. The shrinkage weight is inversely proportional to a Wald statistic that measures the importance of the restrictions. The asymptotic and higher-order approximations of bias, and mean squared error of the shrinkage estimator are given. It is shown that the shrinkage estimator is robust and uniformly superior in terms of asymptotic risks, relative to both the FGLS and the restricted estimators. Additionally, the shrinkage estimator achieves the lowest possible asymptotic risk in a high-dimensional large sample framework. A major advantage of this shrinkage method is that it is generalized to allow for the limitations of the existing model averaging techniques.

As an empirical illustration, the method is applied to estimate bank cost efficiency based on a cost system for U.S. commercial banks. This methodology has two major advantages over the existing studies: it considers the classification uncertainty about bank cost functions, and allows for general correlation patterns across the errors in the cross-section cost equations. The estimation results indicate that over the sample period, most U.S. banks faced increasing returns to scale, and small banks (with assets less than 100 million dollars) are more cost efficient than the other banks. Consequently, scale economies are a possible reason for bank mergers and that the tendency toward growth in average bank size is likely to continue.

A Modified Stein-Like Estimator in a Simultaneous Equations System with Application to Forecasting Inflation

In this paper, we modify the 2SLS (or LIML) estimator for coefficients of a single-equation in a simultaneous system of equations. The modified estimator is a Stein-like shrinkage estimator, which is a weighted average of the 2SLS (or LIML) and OLS estimators. The shrinkage weight depends on the Wu-Hausman statistic that evaluates the null of exogeneity against the alternative hypothesis of endogeneity. We give the bias, mean squared error, and approximate distribution of our estimator and compare them with those of the 2SLS, OLS, and LIML estimators. We show the dominance of the shrinkage estimator relative to the 2SLS, and LIML estimators based on their weighted mean squared errors and concentrations probability. Further, we consider the many weak instruments, and show that the superiority of our estimator remains valid, when it is a weighted average of the LIML and OLS estimators. We examine the properties of the proposed method numerically by simulations and empirically by forecasting U.S. inflation rates.

Using All Lags or One Lag as Instruments: an Averaging Estimator in Dynamic Panel Data Models

The higher order approximations of first and second moments of the Arellano-Bond-type generalized method of moments (GMM) in panel data models with individual effects and both a lagged dependent variable regressor and explanatory variables are analyzed. Asymptotic expansions indicate that, although GMM estimators gain from higher efficiency as the number of moment conditions increases, the order of magnitude of bias tend to increase. An averaging estimator is introduced that makes an explicit trade-off between efficiency gains from using all moments, and unbiasedness of GMM estimators that use one (a fixed number of) lagged dependent variables as instruments. The uniform superiority of the proposed estimator is shown, and the optimal forecast averaging weight is given. The usefulness of our method is also illustrated by an empirical application to forecasting stock returns.