

Chapter 1

Introduction

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This volume is dedicated to the remarkable career of Professor Peter Schmidt and the role he has played in mentoring us, his Ph.D. students. Peter's accomplishments are legendary among his students and the profession. Each of the papers in this Festschrift is a research work executed by a former Ph.D. student of Peter, from his days at the University of North Carolina at Chapel Hill to his time at Michigan State University. Most of the papers were presented at *The Conference in Honor of Peter Schmidt*, June 30–July 2, 2011 (<http://economics.rice.edu/Content.aspx?id=686>). The conference was largely attended by his former students and one current student, who traveled from as far as Europe and Asia to honor Peter. This was a conference to celebrate Peter's contribution to our contributions. By "our contributions" we mean the research papers that make up this Festschrift and the countless others by his students represented and not represented in this volume. Peter's students may have their families to thank for much that is positive in their lives. However, if we think about it, our professional lives would not be the same without the lessons and the approaches to decision making that we learned from Peter.

A brief, and by no means exhaustive, list of those lessons and approaches to decision making we have learned from Peter have filled our collective skill set with attributes that have made our professional successes so much more achievable and inevitable. They are the "Five P's" from Peter. The first is *perfection*. As Peter would remind us, there is no theorem or computer program that can be almost correct. The second is a *positive* attitude. The cup is always half full, not half empty, and if not, then one may wish to get a smaller cup. A third is *perseverance*. Showing up to work every day is not a small part of success. A fourth is to *play and play hard*.

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Whether it is on the basketball court, at a professional conference, traveling, etc., in life don't leave anything on the table (or the court). A fifth is that *personal* relationships are crucial in life. No person is an island and one should embrace the possibilities that are opened up by your friendships and collaborations.

We spent our days together at Peter's conference and the months since reminded of these aspects of our personalities and life goals that were enhanced, fostered, and nurtured by the very singular experiences we have had as Peter's students. We recognized in 2011 that it was unlikely we would all be together again to celebrate such a wonderful moment in ours and Peter's lives and pledged then to take full advantage of it. We did then, and we are now in the form of this volume.

Festschrifts often have a topical link, and at first blush the combination of econometric, applied econometric and empirical papers in this volume appear unrelated. However, they are linked in the way that the authors frame and analyze their problems using rigorous econometric techniques, but not for the purpose of showcasing the technical refinements per se. The *applicability* of the techniques are the centerpiece of each paper, with advantages and *disadvantages* of the techniques clearly articulated. Quite frankly, *this* is the remarkable legacy that Peter Schmidt has left to his students and to the profession. We think this volume will be one that graduate students and seasoned scholars alike will find invaluable in their research. We provide a brief overview of the papers below. The names of Peter's students are in boldface.

The contribution of **Guilkey** and Lance is "Estimation of non-random program impact when the program variable and outcome variable are binary indicators." It is the most comprehensive analysis to date of small sample performance of program evaluation models when both outcome and program variables are binary and when the program variable is endogenous. Their focus is the overidentified case, and they consider several estimators that are commonly employed in the literature, including a semiparametric random effects model. Their ambitious Monte Carlo study and application to contraception use in Bangladesh and Tanzania should inform the modelling choices of practitioners, particularly when program assignment is not randomized.

The Almanidis, Qian, and **Sickles** contribution, "Stochastic Frontier Models with Bounded Inefficiency," considers a new parametric specification of the stochastic frontier model where inefficiency is drawn from a double-truncated normal distribution. The new distributional feature achieves two things. First, it places a finite bound on inefficiency in the population. Second, it allows for a richer class of models that includes negatively skewed inefficiency distributions. Both are desirable features of the standard parametric model. They provide simulated evidence and an application to US banking.

In Chap. 4, Hasker, Jiang, and **Sickles** consider the challenges associated with "Estimating Consumer Surplus in eBay Computer Monitor Auctions." Despite the prevalence of studies of eBay auctions, there are very few that consider calculation of consumer surplus, and none that are as comprehensive as this. Using a variety of parametric and non-parametric methodologies, they estimate consumer surplus from eBay auctions of computer monitors and find significant variation in the estimates

obtained. They also introduce a new measure of auction competitiveness that does not require estimation of the underlying distribution of bid values. The new measure requires only a mild assumption on bidder homogeneity.

Atkinson and **Cornwell** have contributed “Inference in two-step panel models with time-invariant regressors: Bootstrap versus analytic estimators.” The authors consider a commonly employed two-step estimator of time-invariant partial effects in a fixed effect model for panel data. They derive the asymptotic covariance matrix of the estimator and perform a comprehensive Monte Carlo study that compares the finite sample behavior of tests based on the analytic results and the bootstrap. Not surprisingly they find that the bootstrap outperforms tests based on the asymptotic distribution in small samples. However, the bootstrap outperforms up to samples as large as 1,000.

Seale, Dahl, Moss and Regmi have contributed “International evidence on cross-price effects of food and other goods.” This paper is a comprehensive empirical study of nine major consumption categories from the 1996 International Comparison Project data across 114 countries. While there are many papers that estimate cross-price elasticities, the scope of this paper is unprecedented.

Lee and Shin’s “Comparison of stochastic frontier ‘effect’ models using Monte Carlo simulation” is a comprehensive simulation study of stochastic frontier models for panel data. The models are differentiated by the way technical inefficiency is specified, both parametrically and semi-parametrically. They find that the semi-parametric fixed effect model is fairly robust to the distribution of technical efficiencies while two parametric models are not. However, the fixed effect estimator produces noisier estimates of the order statistic of ranked efficiency estimates, and this is reflected in rank correlation between estimated and true inefficiency values.

Ahn and Moon consider “Large-N and large-T properties of panel data estimators and the Hausman test.” They study asymptotic properties of the “within” and generalized least-squares estimators for panel data that are complicated by cross-sectional heterogeneity and time trends, showing how estimator convergence rates vary with these complications. In doing so, they also consider the finite and asymptotic properties of the Hausman test, and show how the power varies with T and the covariance structure of the regressors. Their paper is important as “big data” (with both large N and T) become increasingly prevalent.

Shin, Yu and Greenwood-Nimmo consider “Modelling asymmetric cointegration and dynamic multipliers in a nonlinear ARDL framework.” Their paper develops a simple and flexible nonlinear framework capable of modeling asymmetries in long-run and short-run patterns of time-series adjustment. They use a partial sum decomposition approach to model the negative and non-linear relationship between unemployment and output growth (Okun’s Law) in the US, Canada and Japan. Their model uncovers the long- and short-run nonlinearities in the co-integrated series. Their approach is simple but effective, and should prove useful to empiricists into the future.

In “More powerful unit root test with non-normal errors” **Im**, **Lee** and **Tieslau** develop a unit root test statistic for a linearized version of the Residual Augmented Least Squares (RALS) procedure of Im and Schmidt (2008). While the test statistic

does not require GMM estimation, they show that the limiting distribution of their static is almost identical to the distribution of the unit root test based on GMM. As such their test is easier to implement. Simulations suggest that their test has improved power over the Dickey-Fuller test. In a follow-up paper “More powerful LM unit root test with non-normal errors” Meng, **Im**, **Lee** and **Tieslau** develop a Lagrange Multiplier unit root test for the RALS procedure. Their LM test also has improved power over the Dickey-Fuller test.

In “Efficiency Selection Procedures for Capacity Utilization Estimation” **Horrace** and Schnier adapt the Multiple Comparison with the Best procedures of Horrace and Schmidt (2000) to the problem of estimating capacity utilization in US fisheries. The data-driven estimator nests the usual capacity estimator, while accounting for uncertainty over a vessel’s ability (or inability) to achieve efficiency. The methodology will be useful for policy-makers.

Finally, Huang and **Prokhorov** use Edgeworth expansions to develop a finite sample correction to a general version of the popular Newey-West (1987) distance measure test for competing specifications. Their contribution, “Bartlett-type correction of distance metric test” calculates the asymptotic approximation and provides simulated evidence that the distribution of their test static is surprisingly close to the asymptotic distribution at the 95th percentile. They apply their results to U.S. labor market data.

References

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