Editorial

Special Issue "Celebrated Econometricians: Peter Phillips"

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Peter Phillips has had a tremendous impact on econometric theory and practice. From his early work on continuous-time models and finite-sample theory to more recent work on financial bubbles and panel data, he has changed the way in which our profession approaches data, in particular macroeconomic and financial data. We will not describe in detail Peter's career as some excellent accounts are already available, see for example Hansen and Park (2014). Nevertheless, we feel that it is important to emphasize that one of his longest lasting impacts is through his advising and the mentoring of young scholars. We have been very fortunate to benefit from Peter's generosity ourselves.

It is with great pleasure that we took on the task of assembling a collection of papers in honor of Peter. We are pleased with the response we had. The quality and variety of the papers in this collection reflect well on Peter's insight, breadth, and approach to research. They offer an exciting combination of contributions to econometric methodology and empirical analysis, with an emphasis on time series data in economics and finance.

Nonstationary time series is assuredly the domain in which Peter has made his best-known contributions. Peter's impact in this area has been truly foundational, developing much of the core asymptotic theory used throughout the literature, providing an explanation for spurious regressions, and introducing many practical tools for nonstationary data, such as unit root, stationarity, and cointegration tests, which continue to this day to be employed by countless empirical researchers. In *Unit Roots in Economic and Financial Time Series: A Re-Evaluation at the Decision-Based Significance Levels*, Jae H. Kim and In Choi propose a decision-theoretic criterion to set the significance level of unit root tests. The criterion takes into account the low power properties of these tests, thereby leading to the selection of higher levels than the conventionally chosen ones. The second paper dealing with (possibly) nonstationary data is *Jackknife Bias Reduction in the Presence of a Near-Unit Root* by Marcus J. Chambers and Maria Kyriacou. The authors consider the performance of jackknife estimators of the autoregressive coefficient in a model with a near-unit root and derive weights for an optimal jackknife estimator designed to remove the first-order finite-sample bias. This paper builds on—and brings together—two strands of the literature to which Peter has contributed. Peter's influential 1987 paper in Biometrika (Phillips 1987) employs a near unit root model to generalize asymptotic results for first-order autoregressions while illustrating the role of the near-unity noncentrality parameter in leading to interesting asymptotic representations. Further, the authors note that their work was inspired by Peter's 2005 paper with Jun Yu (Phillips and Yu 2005) on jacknife applications to option pricing.

Peter has also made seminal contributions to the analysis of panel data. His work on double-indexed asymptotics with Roger Moon (Phillips and Moon 1999) provided

a rigorous foundation for the literature. The first paper in this Special Issue, *Panel Data Estimation for Correlated Random Coefficients Models*, by Cheng Hsiao, Qi Li, Zhongwen Liang, and Wei Xie studies the efficiency of the group mean and the generalized least-squares estimator in a correlated random effects model. The authors show that the group mean estimator achieves the Chamberlain (1992) semi-parametric efficiency bound asymptotically. They also show that a generalized least-squares estimator that ignores the correlation between the individual coefficients and the regressors is asymptotically equivalent to the group mean estimator.

The last two papers on econometric methodology in this Special Issue are related to Peter's work on unidentified models and model selection. Peter was early in studying the implications of identification failure on statistical inference (Phillips 1989), making a point which now seems well-understood given the later explosion of interest in weak identification. In *On the Stock–Yogo Tables*, Christopher L. Skeels and Frank Windmeijer contribute to the literature on weak identification by deriving closed-form expressions and higher-order approximations to test for the relevance of instrumental variables using first-stage regression *F* statistics. The paper by Ronald W. Butler and Marc S. Paolella *Autoregressive Lag—Order Selection Using Conditional Saddlepoint Approximations* uses saddlepoint approximations as in Phillips (1978) and Holly and Phillips (1979), among others, in order to analyze—with an explicit desire for parsimony—the problem of lag selection in an autoregressive model.

This Special Issue contains several papers which make contributions to the application of time series methods in economics and finance. Although best known for his foundational impact on econometric methods and theory, Peter has also taken a keen interest in several important applications. These applied interests have spurred Peter to develop new theory and methods, which have in turn proved useful to applied researchers working in these areas.

The paper *Information Flow in Times of Crisis: The Case of the European Banking and Sovereign Sectors* by Mardi Dungey, Stan Hurn, Shuping Shi, and Vladimir Volkov uses causality analysis to detect, from data on credit default swaps, any propagation of financial fragility between banking and public sectors. In *Econometric Fine Art Valuation by Combining Hedonic and Repeat-Sales Information*, John W. Galbraith and Douglas J. Hodgson use model combination techniques from the forecasting literature to combine information from hedonic models and repeated sales in order to forecast future sale prices of paintings out of sample.

In a series of recent papers, Peter and his co-authors have developed an influential new approach to modelling and dating financial bubbles, a topic of substantial interest to policy makers. In *Bayesian Analysis of Bubbles in Asset Prices*, authors Andras Fulop and Jun Yu offer a new model in which the dynamic structure of asset prices—net of fundamental values—follows two regimes, a normal regime and a bubble regime with stochastic switches between the two regimes. A Bayesian estimation technique for the model parameters and states is then developed.

Another recent interest of Peter's is modeling and testing for economic convergence (Phillips and Sul 2007). The fourth paper of this Special Issue, *Estimation of Treatment Effects in Repeated Public Goods Experiments*, Jianning Kong and Donggyu Sul, studies the convergence of experimental outcomes in successive rounds of an experiment.

Conflicts of Interest: The authors declare no conflict of interest.

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