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EDITORIAL

Innovations in Economics Education: An Introduction to *Economic and Econometric Tools for Teaching and Learning*

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Since the 2007/2008 international financial crisis, there has been much debate over the nature of university Economics teaching, with input from academics, practitioners such as the UK Government Economic Service (see, e.g. Ramsden, 2012) and students.[1] This has led to changes in programme and module design, including the call for greater Economic History content in undergraduate Economics programmes, and alternative first year undergraduate Economics modules, encompassing simultaneously Microeconomic and Macroeconomic principles, elements of Economic History and the development of economic thought.[2] There has also been much discussion of the skill sets required of professional economists and the extent to which these are obtained as part of an Economics degree, Doyle (2012). These advances and debates on syllabus and delivery are certainly to be encouraged, and mark a departure from previous evaluations of Economics such as Towse and Blaug (1990) and Lawson (1990) which focused upon the market for Economics and backgrounds of Economics students. Yet, there are other reasons for optimism in university Economics provision, and this collection of papers highlights some of the other crucial recent advances in Economics and Econometrics teaching and assessment. All of the papers are written by established, prominent authors with a reputation for teaching excellence, many of whom have won plaudits for their advances in the teaching of Economics.

The papers in this volume are organised into four areas: innovations in the use of technology to support teaching and learning; the use of games and experiments in the classroom; greater encouragement given to the application of economics concepts and theories; and advances in the teaching of quantitative and econometric material. The intention is to provide readers with ideas that they can incorporate into their own teaching, module and programme design rather than necessarily provide detailed evaluations of "tried and tested" methods. The principal objective of this collection of papers is to inspire and encourage further innovation.

In recent years, a variety of new technologies have been more commonly adopted in teaching, and more specifically in Economics university teaching, such as technology associated with the flipping of classrooms (Roach, 2014); lecture capture (Elliott & Neal, 2016); clickers/Personal Response Systems (Elliott, 2003). Nevertheless, as yet there has been little academic discussion of the use of electronic trading rooms in Economics teaching, despite an increasing number of universities in the UK investing in creating these spaces. Hence, the first paper in this volume by ***Sharma*** offers a welcome addition to the literature, explaining alternative uses of electronic trading rooms, as well as the advantages to students. The subsequent papers by ***Hu***, ***Middleditch*** and ***Moindrot*** consider technological advances in the form of the effective uses of clickers (***Hu***) and increasingly mobile telephones (***Middleditch*** and ***Moindrot***) in large Economics class environments. The final paper in the opening section is that of ***Watson and Parker*** which provides an alternative perspective on the use of technology in Economics education. After synthesising the literature on the use of technology and blended learning in Economics education (see, *inter alia*, Cosgrove & Olitsky, 2015; Means, Toyama, Murphy, & Baki, 2013), it is argued by ***Watson and Parker*** that the vital issue when considering their adoption is the underlying purpose for their use. Further to this, it is argued that the development of

a pluralist approach to Economics education provides such a required purpose. Drawing upon both qualitative and quantitative evidence from an Intermediate Microeconomics module, the positive outcomes resulting from the adoption of this approach are presented.

One of the most exciting developments in recent years in Economics has been the rise of Behavioural Economics and Finance (see Thaler, 2015 for a detailed description of the development of Behavioural Economics). Reflecting this, there is growing use of games and experiments in the Economics classroom, to illustrate Economics concepts and also such that students can consider whether they themselves act as selfish, profit maximising individuals in line with the assumptions made in neoclassical but not behavioural economic theories. In his paper, ***Guest*** reflects on his own use of games in university Economics teaching, detailing a public goods game that can be used. Many of the games and experiments that are commonly used relate to Microeconomics concepts and theories, so the paper by ***Hoffer*** is a welcome addition to the literature, instead describing a game that can be used in Macroeconomics modules.

The soul-searching that has surrounded the teaching of Economics in universities in the past decade has led many to emphasise the importance of confronting economic theories with experimental evidence and empirical data (Lo, 2012). As highlighted above, this is increasingly done when students are asked to participate in games and experiments in the classroom. In addition, students should be encouraged to consider the real-world relevance of Economics material encountered. Hence, in this volume, ***Volpe*** highlights the advantages of case teaching in Economics, while ***Elliott and Balasubramanyam*** describe methods of formative and summative assessment that compel students to apply their Economics knowledge. When Economics students are often primarily assessed using tests and examinations this is important, as Walstad (2001, p. 292) highlights:

> ... assessment needs to be viewed as multi-dimensional. Many forms of assessment – for testing and grading, as feedback to the instructor and for self-assessment by students – can and should be used by economic instructors in their courses to improve student learning.

The final collection of papers considers quantitative issues. While ***O'Neill*** offers advice on the teaching of Index Numbers, a subject that is often overlooked or taken for granted in Economics education, the papers by ***Hendry and Mizon*** and ***Cook*** consider the teaching of Econometrics, with the final article by ***Morley*** discussing the delivery and assessment of Empirical Finance. While there is increasing discussion of methods of teaching quantitative Economics subjects, for example using flipped classrooms, the paper by ***Hendry and Mizon*** instead focuses on the subject content of Econometrics modules, and how this is organised. Their paper encourages Econometrics module leaders to move away from what has become a standard approach to the structure of Econometrics modules and the teaching of Econometrics topics, highlighting not only an alternative structure for these modules, but indicating how students' use of Econometrics software can be effectively incorporated into the teaching. ***Cook*** provides a complementary discussion of Econometrics education, considering an alternative, more practical approach to that commonly adopted for the delivery and assessment of core topics in Econometrics. It is argued that for Econometrics teaching to reflect fully the practical nature of the discipline, advances in computational technology and data access have to be incorporated in delivery and assessment to provide modules where learning-by-doing and assessment-by-doing are emphasised. To illustrate the impact of such an approach, experiences resulting from the introduction of a final-year Applied Econometrics module adopting this approach are presented. The final paper by ***Morley*** provides a discussion of the development and delivery of an Empirical Finance module structured to achieve a number of interlinked objectives. In response to identified employability demands, the module incorporates and develops project-based learning and presentational skills, while at the same time previously taken quantitative modules are drawn upon to develop enhanced empirical skills.

While there has been much criticism of "the dismal science" and more specifically the teaching of Economics and Econometrics in universities in recent years, it is hoped that this collection of papers highlights that we should be optimistic that academics are responding to the criticisms, reacting to a changing environment and continuing to be innovative.

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Notes

1. See e.g. The University of Manchester Post-Crash Economics Society. http://www.post-crasheconomics.com/.
2. For example, the CORE project. http://www.core-econ.org/.

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