

## 3 DAY SHORT-COURSE ON

# Applied Productivity and Efficiency Analysis

26th - 28th September 2011

CENTRE FOR EFFICIENCY AND PRODUCTIVITY ANALYSIS  
SCHOOL OF ECONOMICS, THE UNIVERSITY OF QUEENSLAND

## About The Presenters



### Chris O'Donnell

is a Professor of Econometrics and Director of the Centre for Efficiency and Productivity Analysis at UQ. He is an Associate Editor of the Journal of Productivity Analysis and a former editor of the Australian Journal of Agricultural and Resource Economics. His CV can be downloaded from [www.uq.edu.au/economics/odonnell-chris](http://www.uq.edu.au/economics/odonnell-chris)



### Bert Balk

was an affiliate of Statistics Netherlands (CBS, Centraal Bureau voor de Statistiek). Since 2001 he has held a special chair established by CBS at Erasmus University, Rotterdam. His 1998 book *Industrial Price, Quantity, and Productivity Indices* (Kluwer) is widely cited. He is an associate editor of the *Journal of Productivity Analysis* and *Statistica Neerlandica*. His CV can be downloaded from [www.rsm.nl/bbalk](http://www.rsm.nl/bbalk)

## About the Course

This is a three-day intensive course on methods for performance measurement for multi-input multi-output firms. Among other things, participants will learn how Data Envelopment Analysis (DEA) and Stochastic Frontier Analysis (SFA) can be used to estimate and draw inferences concerning the components of profitability and productivity change. They will obtain hands-on experience implementing these methods using different software packages and data sets.

The short-course will be followed by a FREE one-day workshop on 29th September 2011 on "Productivity and Efficiency Measurement in Regulated Industries"

## Course Outline

Course instruction will take the form of lectures and tutorial sessions. The tutorial sessions will give participants hands-on experience using different data sets and software packages. The course will cover the following topics/modules:

### • Measures of Productivity Change

This module reviews the economic measurement of output (Y), capital (K), labour (L), energy (E), materials (M) and services (S). Participants learn how the so-called KLEMS-Y model can be used to construct different types of indexes of total factor productivity (TFP) change. Different variants of the KLEMS-Y model are discussed, and different index formulas are assessed based on their ability to satisfy certain axioms and tests from index number theory. Participants obtain hands-on experience computing TFP indexes using different software packages, including TFPIIP, DEAP and DPIN.

### • Measures of Efficiency and Efficiency Change

This module defines various measures of efficiency, including output- and input-oriented technical, scale and mix efficiency. Participants learn how common TFP indexes can be decomposed into measures of technical change and efficiency change. Participants obtain hands-on experience decomposing TFP indexes using the DEAP and DPIN software.

### • Data Envelopment Analysis (DEA)

This module shows how different measures of efficiency and productivity change can be computed using linear programming methods. Among other things, participants learn how to compute the changes in outputs, inputs and costs that would result if an inefficient firm was to operate according to best practice. Participants examine past studies and obtain experience with the DEAP and DPIN software.

### • Stochastic Frontier Analysis (SFA)

This module shows how measures of efficiency and productivity change can be computed using econometric techniques. Participants are introduced to a range of models underpinned by different assumptions concerning the nature of inefficiency (e.g., time-varying or time-invariant). Participants are also introduced to models that can be used with different types of data sets (e.g. cross-section or panel data). Participants examine past studies and obtain hands-on experience in SFA using the FRONTIER software.

### • Applications

This module shows how efficiency and productivity analysis methods can be used to assess firm performance and inform policy making in different types of industries, including regulated industries. Participants examine past studies and obtain experience estimating efficient (or support) prices using the DPIN and FRONTIER software.

## Who Should Attend?

The course is aimed at graduate students, researchers, economists, statisticians and consultants from private and public sector organizations, regulatory authorities, regulated firms, infrastructure industries (e.g., electricity, gas, railways), service industries (e.g., education, health), and industries with branch structures (e.g., banks, credit unions, franchises, retail chains). Participants are expected to have an understanding of microeconomics and econometrics similar to that of an economics graduate of an Australian university.

# Registration

	Earlybird (prior to 01/06/11)	Ordinary
Non students:	\$1000	\$1200
Full-time students:	\$500	\$600

Registration fees are in Australian dollars and include GST. Participants will receive sets of notes and relevant readings.

Registration includes course tuition, notes and morning/afternoon tea. Lunch is not included. Please complete the registration form attached below.

Session numbers are strictly limited so please register early to avoid disappointment.

For further information, contact Chris O'Donnell [c.donnell@economics.uq.edu.au](mailto:c.donnell@economics.uq.edu.au)

## 3-day short-course on Applied Productivity and Efficiency Analysis 26th -28th September 2011 REGISTRATION FORM

**Please make sure all contact details are clearly written to ensure you receive all necessary correspondence.**

### Participant's Details

Title: \_\_\_\_\_ First name: \_\_\_\_\_ Last name: \_\_\_\_\_

Position: \_\_\_\_\_

Section/Unit: \_\_\_\_\_

Organisation: \_\_\_\_\_

Mailing address: \_\_\_\_\_

Email address: \_\_\_\_\_

Contact phone: work: \_\_\_\_\_ mobile: \_\_\_\_\_

**Please tick box if you plan to attend the FREE one-day workshop on 29th September 2011.**

### Payment Details

Registration fee for the 3-day short-course is:

Non Student AUS \$1200 incl GST. (Early bird prior to 1st June 2011: \$1000)

Fulltime Student AUS \$600 incl GST. (Early bird prior to 1st June 2011: \$500)

**Please note, to confirm your registration, payment must be made prior to course commencement.**

Payment may be made by:

**Credit Card**

Please charge \$\_\_\_\_\_ to my Bankcard  MasterCard  Visa

Card Account Number

Expiry Date: \_\_\_\_\_ / \_\_\_\_\_

Name of Card Holder: \_\_\_\_\_

Cardholder's Signature: \_\_\_\_\_

**Cheque or money order**, crossed 'not negotiable' and payable to the School of Economics, The University of Queensland

Please return the completed registration form by  
fax (07) 3365 7299, email [r.tolley@uq.edu.au](mailto:r.tolley@uq.edu.au) or post to  
Rachel Tolley, School of Economics, Level 6, Room 624, Colin Clark Building (39)  
The University of Queensland, St Lucia QLD 4072.