

## Computable General Equilibrium (CGE) Modelling Course Brunei Darussalam

5 – 9 November 2018



Centre for Islamic Banking, Finance and Management (CIBFM) and The Centre of Policy Studies (CoPS) at Victoria University (Melbourne, Australia) will conduct an intensive five-day course introducing participants to Computable General Equilibrium (CGE) modelling, a powerful analytical tool used to understand economic impact for policy analysis. This is a laptop-based course, with all modelling undertaken using GEMPACK software.

The course will be based around the Victoria University Middle East (VUME) model, calibrated to a database for a hypothetical country in the Middle East. VUME has been developed by CoPS for commissioned work in a number of Middle Eastern countries. The hypothetical economy is oil and gas dependent for income, employment and fiscal revenues. The economy's labour market is segmented, with nationals supplying most of the high-wage jobs, and non-nationals supplying most of the low-wage jobs. Large energy subsidies are in place, and industry policy is directed towards diversification away from primary energy production.

### Who Should Attend?

The course should appeal to those:

- interested in learning more about CGE modelling of a single country and how to run simulations and analyse results for understanding impact of policy change;
- wishing to use VUME with GEMPACK as the basis for a model of their own country;
- wishing to obtain initial training as background for more advanced CoPS courses relating to multi-regional models or dynamic models.

### Requirements:

We expect that course participants to have:

- a bachelor or master degree in Economics, or equivalent work experience;
- experience of using a PC running Windows;
- a burning desire to learn how to do CGE modelling.

### Learning Outcomes:

By the end of the course, participants will have acquired thorough knowledge of:

- the theory underlying a single-country CGE model;
- the structure of a CGE model relevant to the characteristics of commodity-exporting economies;
- the representation of applied GE models in the notation used in GEMPACK;
- the data requirements of a typical single-country CGE model;
- checking that the equations and data of a model are implemented correctly;
- formulating economic scenarios for analysis with the model;
- computing simulations for policy analysis;
- interpreting and reporting results.



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### Course Outline:

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#### Monday

8.30am-  
5.00pm

- The basic structure of a CGE model and solution method
  - Introduction to the VUME model
  - Overview of GEMPACK software
  - Computing: Illustrative simulation of the short-run effects of a change in wage structure
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#### Tuesday

8.30am-  
5.00pm

- Production: supply side of the economy
  - Hands-on: Reviewing the database
  - Hands-on: Simulation of the short-run effects of removing energy subsidies
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#### Wednesday

8.30am-  
5.00pm

- Investment and demand side of the economy
  - Hands-on: adding new data, variables, and equations
  - Hands-on: Simulation of the long-run effects of increased diversification through investment in a large start-up project.
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#### Thursday

8.30am-  
5.00pm

- Investment allocation and labour market
  - Useful aggregate, equations and indices to analyse and interpret results
  - Group project - simulations with VUME
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#### Friday

8.30am-  
5.00pm

- Group project - simulations with VUME (continued)
  - Group project - Analysis of results and preparation for presentation
  - Group presentation and course wrap-up
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### Course fee includes the following:

- All course and lab sessions materials;
- Documentation of VUME model and data;
- Instructions for installing and using GEMPACK.
- A USB containing:
  - An Executable-Image version of the latest GEMPACK software which will allow participants to run VUME simulations on any modern Windows PC, and to construct and run their own models of comparable size;
  - PDF files containing the complete GEMPACK documentation;
  - An individual GEMPACK licence for the above software;
  - All computer files needed to run a standard multi-sector version of the VUME model.

## Computable General Equilibrium (CGE) Modelling Course Brunei Darussalam 5 – 9 November 2018

### Professor Philip Adams



Philip is Professor at the Centre of Policy Studies (CoPS), Victoria University, Melbourne. Prior to his current position, Philip was Director and Professor at CoPS, Monash University (2004-2013). He is also past Australian coordinator for the Economic Outlook taskforce of the Pacific Economic Co-operation group. Previous to 2004, he held positions as Senior Research Fellow and then Director of Consulting at CoPS, having previously worked at the Bureau of Agricultural Economics (now the Australian Bureau of Agricultural and Resource Economics) and at the Institute of Applied Economic and Social Research (now the Melbourne Institute). He holds a Masters Degree and a Ph.D., both in economics, from the University

Philip's main area of expertise is the application of large multi-sectoral and multi-regional economic models for policy analysis and forecasting. Since completing his Ph.D., he has been involved in the implementation of several large models of the Australian economy: a short-run macro model; the Australia-wide MONASH model; and the MMRF dynamic model of Australia's eight states and Territories. Philip has also been active in developing models overseas, including in Denmark, South Africa, Taiwan, Uganda and Thailand.

Philip has around 60 refereed publications covering topics such as: the prospects for industries, states and regions; the economic effects of import tariffs; the contribution of international tourism; the benefits and costs of major export projects; and the impacts of greenhouse-response policies for Australian regions. His articles have been published in a wide range of journals, including: the Journal of Policy Modelling, the International Journal of Forecasting, the Pacific Economic Review, the World Economy, Applied Economics, Economic Letters, Economic Studies Quarterly, the Asia-Pacific Economic Review and the Economic Record. With Brian Parmenter he is the co-author of a chapter on Environmental modelling in the Handbook on CGE modelling (published in 2013 by Elsevier B.V).

Other than administrative responsibilities, Philip's primary responsibility at CoPS is contract research. His research clearly engages with important "real world" issues, and demonstrates impact through relevance and excellence. Indicators of the impactfulness of Philips' research are the number of organisations that provide repeat funding and the considerable income that his research projects bring to the University. He has worked for a wide range of clients, including overseas institutions (e.g., the Danish Institute of Food Economics, the South African Department of Agriculture, the Carnegie Foundation and the Ugandan Ministry of Finance), Australian government departments (e.g., the Federal Treasury, the Department of Climate Change and Energy Efficiency (DCCEE), the Productivity Commission and most state government Treasuries), and private institutions (e.g., Insight Economics, the Allen Consulting group, CRA International, BHP Billiton, Ernst and Young, KPMG and PricewaterhouseCoopers).

### Dr. Nhi Tran



Dr. Nhi Tran is a Senior Research Fellow at the Centre of Policy Studies, Victoria University. Dr Tran's expertise and research interest focus on policy analysis using computable general equilibrium (CGE) models. Some of her work include: the construction of dynamic CGE models with extensive fiscal detail for the Vietnamese Ministry of Finance, the Malaysian Ministry of Finance and the Italian Ministry of Economy and Finance; the construction of labour market forecasting models for Vietnam and Oman; and the construction of a multiregional dynamic model of Australia with migration details. Recently she participated in a project to model the GST in a dynamic regional CGE model for Australia. The models were used to analyse a wide range of economic policies, including tax reform, fiscal stimulus package, trade liberalisation, climate change adaptation, rice land designation policy, labour market forecasts and immigration policies. In the health economics field, in 2014-2015 she participated in a project to model the

impacts of a hypothetical. In the health economics field, in 2014-2015 she participated in a project to model the impacts of a hypothetical Ebola outbreak in several Asian-Pacific countries. She is an active member of the GTAP community, contributing the Vietnamese, Singapore and Malaysian databases to the GTAP 9.0 database.



## Computable General Equilibrium (GCE) Modelling Course Brunei Darussalam

5 – 9 November 2018

### YES! Please register:

1	Name	
	Position	
	Department	
	Email	
	Telephone	
2	Name	
	Position	
	Department	
	Email	
	Telephone	
3	Name	
	Position	
	Department	
	Email	
	Telephone	

### Approved by:

Signature	
Name	
Position	
Department	
Email	
Telephone	

### Programme Fees: B\$4,000 (Not SBS Claimable)

Please email your completed form to  
[registration@cibfmbrunei.com](mailto:registration@cibfmbrunei.com)  
by 5 October 2018

### IMPORTANT

Participants need to bring their own laptops and install GEMPACK before the course.

Your fee includes workshop material(s) as listed in page 2, refreshments and certificate.

### Cancellation Policy

CIBFM operates a strict **NO CANCELLATION POLICY** upon receipt of registration from organisations. However, you may send in replacements to the programme.

### Changes to Programmes

Changes in programme date, time, fees and trainers may occur due to unforeseen circumstances. However, we will ensure that every effort will be made to inform participants of the change. We reserve the right to cancel the programme due to unforeseen circumstances.