



ANNUAL REPORT 2014 CENTRE FOR APPLIED MACROECONOMIC ANALYSIS

Crawford School of Public Policy ANU College of Asia & the Pacific

Message from the Director

2014 was another outstanding year for CAMA. Professor Reneé Fry-McKibbin who became CAMA Director in 2012, moved to a more senior role at ANU. I returned as Director in November 2014 to continue the important plans put in place during Reneé's leadership. All participants in CAMA owe a great debt to the time and effort that Reneé contributed to CAMA. Reneé will continue as a member of the Management Committee and the co-director of two CAMA programs.

CAMA relies on leadership and contributions at many levels. In particular, the Management Committee of Ippei Fujiwara, Creina Day and Timo Henckel supported by the CAMA Administrator, Rossana Bastos Pinto and each of the Program Directors have done a great job in maintaining the goals of CAMA throughout 2014.

During 2014, 78 working papers were published. CAMA Research Associates published outstanding papers in the world's leading economics and finance journals. A total of 88 papers were published in peer reviewed journals in 2014. CAMA Research Associates also actively participated in conference and workshops around the world and had important impact on major policy debates in many countries. CAMA was involved in 22 conferences, workshops and seminars in 2014. The number of CAMA Research Associates rose from 148 in 2013 to 164 in 2014.

CAMA is a network of scholars. The success of CAMA draws directly on the active participation of researchers around the world who believe in excellence in research and public policy and contributing to public goods. I would like to thank everyone in CAMA for their contributions and their support.

Warwick McKibbin

Director, Centre for Applied Macroeconomic Analysis

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Centre for Applied Macroeconomic Analysis – an overview

The Centre for Applied Macroeconomic Analysis (CAMA) is located in Crawford School of Public Policy at The Australian National University. It was established in 2003 to bring together economists working on applied macroeconomic and financial market issues throughout Australia and across the globe. CAMA's objectives are to advance research and post-graduate training in applied macroeconomic and financial issues.

CAMA was founded by Professor Warwick McKibbin who is also the current director. The deputy director is Professor Ippei Fujiwara. Former directors include Professor Renée Fry-McKibbin and Professor Shaun Vahey and deputy directors include Professor Heather Anderson, Professor Mardi Dungey and Professor Renée Fry-McKibbin.



Research programs

The research activities of the centre are built around a series of research programs headed by a program director (or directors). The program director is responsible for organising research in the area of the program. Proposals for new programs are welcome and will be considered by the Executive Committee. Proposals should be directed to the CAMA director. It is envisaged that programs will be active for two years after which they are reviewed.

Behavioural Macroeconomics and Complexity

Behavioural Macroeconomics seeks to refine our understanding of the discipline by accounting for relevant features of human behaviour that are absent in the standard economics framework. Instead of assuming a hyper-rational representative agent, the basis for analysis are empirically well-documented psychological and sociological factors such as cognitive bias, fairness concerns, herding, and social status. Acknowledging the growing econometric and experimental evidence that human behaviour often fails the predictions of the rational expectations, full-information paradigm, this research program provides an umbrella for all research dedicated to melding the insights from behavioural economics and psychology with modern macroeconomics in a sound and rigorous way.

An integral part of this research agenda is the problem of aggregation and the presence of agent heterogeneity, which considers the economy as an adaptive nonlinear network that generates complex, emergent behaviour. Salient features of this approach include dispersed interaction of agents, multiple

levels of organisation and interaction, bounded rationality, continual adaptation of agents' behaviours, actions and strategies, deep, unquantifiable uncertainty and persistent out-of-equilibrium dynamics.

The emphasis is both on theoretical and empirical models:

 Theoretical behavioural models will analyse the positive and normative macroeconomic implications of behavioural phenomena including, for example, prospect theory, hyperbolic discounting, adaptive learning, bounded rationality, habit and status concerns, money illusion, and endowment effects. Models of complexity analyse the properties of emergent behaviour, with a large emphasis on solution and simulation methods, including combinatorial mathematics, statistical

Timo Henckel Research Advisor(s): Prof Dr Cars H Hommes Research associates:

Director(s):

Mikhail Anufriev Willem Buiter Paul De Grauwe Corrado Di Guilmi Joshua Epstein Ross A Hammond Jakob Madsen Ian McDonald **Gordon Menzies** Masao Ogaki Michael Roos Rina Rosenblatt-Wisch Jean-Robert Tyran Justin Wolfers Daniel Zizzo **Doctoral student associates:** Jakub Kielbasa

mechanics and nonlinear computational algorithms. Many of these fall under the heading of agent-based models.

 Empirical models will use behavioural theory and complexity models to improve our statistical understanding and forecasting abilities of the macroeconomy and to analyse policy regimes and institutional features. These models are not only supposed to refine our understanding of individual choice but also help us understand and design better economic institutions and enhance overall welfare analysis.

The program seeks to foster a strong and growing network of researchers enthusiastic about behavioural macroeconomics and complexity. Activities will include workshops and conferences, collaboration with other CAMA research programs, and graduate courses and seminars on this topic.

Climate Change and Energy

Rapid global economic growth, particularly in China and India, has important implications for global energy use as well as causing a rapid rise in greenhouse gas emissions with implications for climate change. This program focuses on the importance of energy use and climate change as well as the associated policy responses on the macro-economy.

This program focuses on:

- methodologies for projecting long term energy use and carbon dioxide emissions
- the relationship between macroeconomic performance and energy use
- the role of relative prices in energy demand and macroeconomic outcomes
- the macroeconomic consequences of alternative energy polices
- the macroeconomic consequences of alternative climate change strategies
- the design and impact of alternative emission permit trading systems.

Collaborative work in this project is linked to the ANU Climate Change Institute and ANU Energy Change Institute.

The Climate Change and Energy program of CAMA is included in the Think Tank Map

Research associates: Philip Bagnoli Barbara Buchner Paul Burke Yiyong Cai R Quentin Grafton

Warwick McKibbin

Director(s):

Karel Janda

Tingsong Jiang Frank Jotzo Kihoon Lee Yingying Lu Bryan Mignone Adele Morris Les Oxley David Pearce Alison Stegman David Stern Peter Wilcoxen **Doctoral student associates:** Anil Kavuri Weifeng (Larry) Liu Barckhordair Sajad

Akshay Shanke

Commodities and the Macroeconomy

The implications of demand for resources by emerging market econo mies and understanding the special features of commodity economies are currently issues for policymakers and investors. Emerging markets in particular are an important driver of the most recent commodity price cycle. This program seeks to understand commodity cycles and their financial market and macroeconomic effects, as well as the interactions between the three from both an emerging and developed country perspective.

The program focuses on:

- understanding trends and cycles in commodity markets
- currency, equity and commodity market linkages
- global business cycle linkages and the role of emerging markets
- oil price shocks and their transmission through the macroeconomy
- food price shocks and their pass through to the macroeconomy and poverty implications
- policy responses to relative price movements
- the macroeconomics of sovereign wealth funds.

Economic Growth and Development

The program focuses on the following key areas:

- Should short-run macroeconomic models for developing countries be different from the received doctrine? Evaluation, critique and extensions of alternative models such as those due to structuralists and to IMF-type policy evaluations. Are there eclectic short-run macroeconomic models better suited for developing countries? Empirical evaluation of the performance of alternative short-run macroeconomic models.
- The political economy of the nexus between fiscal and Russell Toth monetary policy in developing countries. The interaction between a weak banking system, overly controlled central bank, excessive current government spending and poor tax design and administration. Early warning systems on potential crisis. The role of the exchange rate regime.
- The determinants of economic growth and developing countries. Can we identify policies that would enhance growth prospects for developing countries? What

Director(s): Paul Cashin Renée Fry-McKibbin Research associates: Hilde C Bjørnland Yu-chin Chen John McDermott Tatsuyoshi Okimoto Tim Robinson Andrew Stoeckel Samuel Wills Benjamin Wong Doctoral student associates: Jasmine Zheng

Director(s):

Creina Day Raghbendra Jha **Research associates:** Pierre-Richard Agenor Sambit Bhattacharyya Jesus Felipe Ross Guest Ashley Lester Masayuki Morikawa Anurag Sharma Kam Ki Tang Russell Toth evidence relevant to developing countries does the experience of Organisation for Economic Co-operation and Development (OECD) countries in regard to long-term growth and medium-term fluctuation provide?

• The macroeconomics of reconstruction after war and other disasters. Anticipating and dealing with the economic consequence of 'hot spots' - mass migration in response to war, environmental disasters and the like.

Finance and the Macroeconomy

Financial market developments impact directly and indirectly on real economy outcomes, particularly in the short term, and developments in the macroeconomy affect financial markets, systems and institutions. This program brings together work on financial interactions with an assessment of the impact of markets and institutions on the economy and implications for policy. It includes assessment of broader trends in the macroeconomy and finance. Areas of investigation include:

- the role of international financial markets in transmitting shocks between economies, including during periods of financial stress
- regional and global financial cooperation and architecture, with a particular focus on East Asia
- Director(s): Mariano Kulish Mardi Dungey Yin Liao Renée Fry-McKibbin Vance Martin Research associates: **Roland Meeks** Stefano D Addona James Morley James Ang Svlwia Nowak Kerim Peren Arin Tatsuyoshi Okimoto Faruk Balli Chiara Oldani Michelle L Barnes Victor Pontines Dirk Baur Ronald A Ratti Hilde C Biørnland Sherrill Shaffer Melisso Boschi Shuping Shi Gerard Caprio **Pierre Siklos Edda Claus Reza Siregar** Adam Clements Peter N Smith Arusha Cooray Nicola Spagnolo Jenny Corbett Hsiao Chink Tang Gordon De Brouwer Lei Ming Chrismin Tang **Emmanuel De Veirman** Susan Thorp Gerald Dwyer Jr Sirimon Treepongkaruna Sandra Eickmeier Simon Van Norden Aditya Goenka Abbas Valadkhani Gerhard Hambusch Tugrul Vehbi Cody Yu-Ling Hsiao Joaquin Vespignani Stan Hurn Ying Xu Jan P A M Jacobs **Doctoral student associates:** Roselyne Joyeux Paul Kitney Ayhan Kose Jasmine Zheng Leo Krippner
- financial markets, institutions and systems, including the integration of financial markets, electronic finance, harmonisation of financial systems and the nexus between finance and economic growth and development
- policy dialogue and the interaction between policy decisions, such as fiscal and monetary policy and structural policies, and financial development, including a focus on East Asia.

Globalisation and Trade

The linkages between countries are influenced by their macroeconomic policies. These policies can be conducted so as to reduce risks and increase the likelihood of good outcomes.

The objective of this program is to undertake research into design of policies in three areas. The first of these is the overall framework of macroeconomic policy, including the extent to which policy can influence exchange rates in a world of a high degree of capital mobility, and the integration

of fiscal and monetary policy in the management of the economy. The second is the extent to which the financial system can be regulated so as to minimise the risk of currency and financial crises, and to lessen the costs of such crises as occur. The third is the way in which the liberalisation of international trade can be managed so as to avoid the growth of preferential discrimination between countries, and the growth of discriminatory trading blocs.

Research in this program will also be conducted into the connection between these areas: the extent to which trade liberalisation strategies demand a change to exchange rate strategies, and the extent to which the need to minimise the risks of financial crises has implications for exchange rate strategies.

Macroeconomic Policy Frameworks

Considerable progress has been made over the past twenty years in developing robust monetary and fiscal policy frameworks. For many countries these have been aimed at maintaining low and stable inflation over the medium term, and public debt sustainability over the medium to long term. Associated implications and areas of importance have been less well developed.

This program will bring together analytical and policy researchers interested in evaluating and advancing work in areas such as:

- the implications of medium term fiscal and monetary policy frameworks for: the volatilities of output, interest rates and exchange rates; short run stabilisation policies; intergenerational balance; financial stability; and external stability
- the role of governance procedures and associated institutional frameworks, in sustaining the credibility of fiscal and monetary policy frameworks, including the

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Toshihiro Okubo
John Romalis
Mark Wright
Doctoral student associates:
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Director(s):

Richard Dennis Ippei Fujiwara **Research associates:** Kosuke Aoki Martin Bodenstein Efrem Castelnuovo Iris Claus William Coleman Rochelle Edge Alfred Guender Viv B Hall David Haugh Yasuo Hirose Jinill Kim relative roles for policy coordination and operational independence, and the role of enforcement rules in fiscal policy frameworks

- macroeconomic policy frameworks for sustainable growth and employment and
- appropriate policy frameworks for common currency regimes.

Macroeconomic Theory

This program brings together various research agendas in the area of theoretical macroeconomics.

The emphasis is on:

- the construction of macroeconomic models that have well-specific decisiontheoretic foundations and equilibrium concepts and/or
- the use of such models to understand observed economic phenomena, analyse policy regimes and other institutional features.

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Director(s):	Philip Liu
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Benoit Julien	Doctoral student associates:
lan King	Paul Kitney
Cagri S Kumru	Christopher Perks
Shuyun May Li	

Research in this area includes equilibrium business cycle theories, growth theory, recursive policy games, recursive contract theory, dynamic public finance, international macroeconomics, expectations modelling and learning, sunspots and multiple equilibria in general equilibrium, search theoretic foundations of labor markets and monetary theory, and dynamic political economics.

The program's activities include:

- the annual Australasian Workshop in Macroeconomic Dynamics (WMD)
- macroeconomics study group
- occasional advanced workshop/courses featuring experts in the relevant field.

Macroeconomics and Longer Run Issues

This program covers a range of topics focusing on longer run issues in macroeconomics such as:

(a) Macroeconomics and Health

The program focuses on macroeconomic approaches to measuring the economic burden of infectious diseases such as SARS, Avian Flu, Influenza, HIV/AIDS etc. It is becoming

Director(s): Warwick McKibbin Research associates: Alison Booth Robin J Brooks Ralph Bryant Bruce Chapman increasingly evident that modern epidemics create global economic shocks that by far exceed direct and indirect costs of treatment. The program will combine Computable General Equilibrium (CGE) and epidemiological modelling to study both short-and-long-run effects of the disease outbreak. Epidemiological models of disease dynamics will take into account an increased likelihood of contact with infected individuals from other areas as a result of trade in goods and services and of an increased factor mobility.

Key focus areas are:

- a choice of an appropriate epidemiological model for a particular type of infectious disease
- incorporation of public health and spatial data into CGE framework
- modelling sectoral impacts from a particular disease
- scenario analysis using probabilistic assumptions about the likely effects of the disease and
- recommendations on optimal response and intervention measures based on model implications.

(b) Macroeconomics and Aging

Demographic change has important impacts on the macroeconomy through changes in labour supply, human wealth accumulation, consumption and saving decisions, asset accumulation, investment demand and adjustment of asset prices. There are also important impacts on fiscal positions and the balance of payments. The objective of this program is to explore the macroeconomic implications of an aging society within a variety of modelling frameworks.

(c) Macroeconomics and the Environment

Environmental change has potentially significant macroeconomic impacts both directly through the links between the environment and economics activity and indirectly through the impact on the macroeconomy of policies aimed at environmental outcomes such as climate change policy. This sub program will explore the links between changes in the environment and macroeconomics outcomes.

Model Uncertainty and Macro-Econometrics

This program focuses on the role of model uncertainty in empirical macroeconomics. This literature treats the 'true' model as an unobservable - an admission that has implications for many areas of macroeconomic analysis and has generated two distinct research subprograms. One represents a renewed interest in model evaluation, comparison, selection and combinations when model

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Prasad Bhattacharya	Francesco Ravazzolo
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Todd E Clark	Kalvinder K Shields
Patrick J Coe	Tara M Sinclair
Graham Elliott	Christopher Smith
Anthony Garratt	Michael Smith
Don Harding	Farshid Vahid
Kevin Lee	John C Williams
James Mitchell	Benjamin Wong
James Morley	

misspecification is explicitly recognised. A second sub-program is based on accounting for model uncertainty explicitly in constructing predictive densities for objects of economic interest, conducting statistical inference and evaluating policies.

Multi-Country Models and Methods

Countries are linked through trade flows and asset markets. The modelling of these interactions has been undertaken in large scale model such as: computable general equilibrium models (for trade); large scale macro-econometric models (aggregated trade and capital

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Jong-Wha Lee	Doctoral student associates:
Philip Liu	Paul Kitney
Gordon Menzies	

flows); and intertemporal general equilibrium models (trade detail and asset flows). There is also an emerging literature of smaller theoretical simulation models particularly of real business cycle and new Keynesian theories which attempt to understand global interdependence better. This program will bring together researchers interested in the linkages between countries and how these linkages impact on our understanding of economic outcomes in small open and large open economies.

Open Economy Macroeconomics

The objective of the Open Economy Macroeconomics (OEM) Program is to further the development and testing of optimization-based OEM frameworks. The main focuses of interest of the program are:

- international transmission mechanisms in OEM frameworks
- international relative prices and the international transmission of shocks
- cooperation and monetary and fiscal stabilization policies in OEM frameworks.

CAMA RBA Shadow Board

On the first Tuesday of every month (except in January) the Board of the Reserve Bank of Australia (RBA) meets to decide on a target for the cash rate. This decision is highly significant for the wider economy and is therefore closely monitored by the financial markets.

The CAMA RBA Shadow Board consists of nine voting members and one non-voting chair, all distinguished macroeconomists, who offer their own policy recommendations one day before the official RBA decision.

A novel feature of the CAMA RBA Shadow Board is the requirement that members offer their policy recommendations probabilistically. When a central bank sets the preferred target cash rate, the decision necessarily constitutes a compromise, a careful balancing and weighting of all salient upside and downside risks. The imprecision stems from the uncertainties associated with real-time measurements, latent variables, model type, model parameters and the inherently unpredictable nature of the macroeconomy. Whatever rate the central bank sets, there is a considerable probability that a different rate would be more appropriate.

Nevertheless, most central banks provide little quantifiable information on the uncertainty confronting policymakers. Conventional central bank communication of interest rate setting does not formalise risk considerations and the probability of extreme events. The probability that the interest rate should be substantially different from the 'most preferred' target rate receives little attention. Central banks currently record formally neither the uncertainty experienced by individual board members, nor by the board as a whole.

Director(s):	Viktoria Hnatkovska
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Christoph Thoenissen	Mathias Hoffmann
Research Advisor(s):	Punnoose (Reuben) Jacob
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Yu-chin Chen	Tim Robinson
David Cook	Ozge Senay
Mario Crucini	Alan Sutherland
Qingyuan Du	Takayuki Tsuruga
Christopher Hajzler	

Each member of the CAMA RBA Shadow Board records the uncertainty by giving probabilistic assessments of the appropriate (target) interest rate for each round. The higher the percentage attached to a given interest rate, the more confident the member is that this rate is the appropriate target.

The aim of the CAMA RBA Shadow Board is to:

- foster a lively and informed debate in the community about each interest rate decision and about macroeconomics more generally
- show how individual policymakers can quantify the uncertainty surrounding a preferred target cash rate and how these uncertainties may be aggregated to provide a probabilistic collective view
- generate data on probabilistic monetary policy decision-making that may be used in future research.

It is important to note that this project is not aimed at predicting RBA Board behaviour. In common with shadowing exercises in other countries (e.g. the US Shadow Open Market Committee), this is a normative exercise in stating the most suitable interest rate for current and expected economic conditions, not forecasting what the RBA will actually do.

The CAMA RBA Shadow Board (initially going by the name of PRO-POL) was conceived in August 2011 by Dr Timo Henckel, Professor Shaun Vahey, and Dr Elizabeth Wakerly, all of CAMA. Until June 2013 the logistics were handled by Mr Damien Hughes and Dr Elizabeth Wakerly.

Current members

Paul Bloxham



Paul Bloxham is Chief Economist for HSBC in Australia and New Zealand. Prior to joining HSBC, Paul Bloxham was an economist within the Reserve Bank of Australia's Economic Analysis Department where he headed up the overseas economies and financial conditions sections, as well as working on domestic forecasting and prices. Bloxham has published a number of papers, including on household finances, asset prices and monetary policy. He is also a regular commentator on local and

international business television and a frequent contributor of opinion editorials to Australian newspapers. He holds a Master degree in public financial policy from the London School of Economics.

Mark Crosby



Mark Crosby is Dean of the Global Master of Business Administration (GMBA) and interim Dean of the Global Bachelors of Business Administration (GBBA) effective October 17, 2011, at Melbourne Business School. Dr Crosby has held academic appointments at the University of Toronto, the University of New South Wales, and the University of Melbourne, where he was most recently the Associate Dean (International) at the Melbourne Business School. Dr Crosby has co-authored a widelyused textbook on macroeconomics, and publishes regularly in academic journals,

contributes articles to the media, and has written a number of book chapters. Besides his university activities, Dr Crosby has worked or consulted widely for government and private enterprises including the World Bank, the Hong Kong Institute for Monetary Research, the Monetary Authority of Singapore, the South African Treasury, the Center for Strategic and Policy Studies in Brunei, the Commonwealth Bank of Australia, the Reserve Bank of New Zealand, and BHP Billiton. Most recently he completed a project on South Africa's current account deficit, and a project on diversifying Brunei's economy. He is a frequent guest on ABC TV and writes regularly for Australian newspapers.

Mardi Dungey



Mardi Dungey is Professor of Economics and Finance at the University of Tasmania, a Senior Research Associate at the Centre for Financial Analysis and Policy at the University of Cambridge and Adjunct Professor at the Centre for Applied Macroeconomic Policy at The Australian National University. Mardi moved to the University of Tasmania in October 2008, from a position as the Deputy Director of the Centre for Financial Analysis and Policy at the University of Cambridge where she had been since early

2005. Prior to that, she held academic positions at The Australian National University and La Trobe University. She has also worked at Econtech Consulting Group and the Reserve Bank of Australia, and held visiting positions at the IMF, University of Cambridge, Princeton University, the Federal Reserve Bank of Atlanta and Australian and New Zealand Treasuries. She speaks regularly to international forums on her research and holds a number of competitive grants. Mardi is currently a co-editor of the Economic Record and an Associate Editor of the Journal of Applied Econometrics, the Journal of Asian Economics, and the Journal of Banking and Finance.

Bob Gregory



Professor Gregory has held positions at the University of Melbourne, London School of Economics, The Australian National University, Industries Assistance Commission, Northwestern University, and visiting positions at Harvard University, the University of Chicago and University College London.

He has been closely involved in the analysis and development of Australian economic policy; a member of the Board of Management at the

Australian Institute of Family Studies, principal consultant in a series of government Aged Care Reviews, member of the committee that recommended the introduction of student income contingent loans, member of the Board of the Reserve Bank of Australia and the Australian Sciences and Technology Council. Professor Gregory has been awarded the Order of Australia Medal and has an honorary doctorate from the University of Melbourne.

Timo Henckel



Timo Henckel (non-voting chair) is a Lecturer in the Research School of Economics at ANU College of Business and Economics. He is also director of CAMA's Behavioural Macroeconomics and Complexity research program. He was previously an adjunct lecturer in Crawford School of The Australian National University. He holds a PhD from the London School of Economics where he has also briefly taught. His research interests are in monetary economics, international macroeconomics, and behavioural

macroeconomics.

Guay Lim



Guay Lim is a Professorial Research Fellow at the Melbourne Institute of Applied Economics and Social Research and an Adjunct Professor at the Department of Economics, University of Melbourne. Her research interests are in quantitative macroeconomics and macro-econometrics and her papers have been published in major international journals. She has held visiting research positions at the International Monetary Fund (IMF), European Central Bank (ECB), Reserve Bank of New Zealand (RBNZ), Osaka University, Brown University, Georgetown University and Fordham

University. Guay is also the head of the Macroeconomics Unit at the Melbourne Institute and they publish indicators of activity about the Australian economy on a regular basis.

Warwick McKibbin



Professor Warwick McKibbin has a Chair in Public Policy and is Director of the Centre for Applied Macroeconomic Analysis (CAMA) in Crawford School of Public Policy at The Australian National University (ANU). He is also an ANU Public Policy Fellow; a Fellow of the Australian Academy of Social Sciences; a Distinguished Fellow of the Asia and Pacific Policy Society; a non-resident Senior Fellow at the Brookings Institution in Washington D.C (where he is co-Director of the Climate and Energy

Economics Project) and President of McKibbin Software Group Inc. Professor McKibbin was foundation Director of the ANU Centre for Applied Macroeconomic Analysis and foundation Director of the ANU Research School of Economics. He was also a Professorial Fellow at the Lowy Institute for International Policy for a decade from 2003 where he was involved in its design and development. Professor McKibbin served for a decade on the Board of the Reserve Bank of Australia (the Australian equivalent of the Board of Governors of the US Federal Reserve) until July 2011. He has also served as a member of the Australian Prime Minister's Science, Engineering and Innovation Council, and on the Australian Prime Minister's Taskforce on Uranium Mining Processing and Nuclear Energy in Australia.

James Morley



James Morley is a Professor of Economics at the University of New South Wales. He received his PhD from the University of Washington in 1999. Before moving to Australia in 2010, he was a faculty member at Washington University in St. Louis (1999-2010) and a research fellow at the Federal Reserve Bank of St. Louis (2004-2010). He has also held visiting positions at the Bank of Canada and the Federal Reserve Bank of St Louis and has worked regularly with the forecasting firm Macroeconomic

Advisers. He is the current President of the Society for Nonlinear Dynamics and Econometrics and is a founding member of the Shadow RBA Board. His research focuses on time-series applications in macroeconomics, finance, and international finance. He has written on topics such as trend/cycle decomposition for macroeconomic data, the long-run consequences of recessions, stock market volatility and return predictability, and the adjustment of exchange rates to purchasing power parity. His articles have appeared in top academic journals, including the *Journal of Econometrics*, the *Journal of International Economics*, the *Journal of Monetary Economics*, and the *Review of Economics and Statistics*.

John Romalis



John Romalis studies international economics and macroeconomics. Romalis has published well-known papers on the determinants of international trade, and on the economic effects of tax and trade policy in journals such as the American Economic Review, the Quarterly Journal of Economics, the Review of Economics and Statistics, and the Journal of the European Economic Association. Romalis has three main current lines of research. He studies the trade and welfare implications of tariff reductions

since the Uruguay Round of trade negotiations. A second line of research studies the causes of the collapse of international trade during the recent global recession. Finally, Romalis studies how firms engaged in international competition determine the quality and price of their products.

After completing degrees in economics and in law, Romalis worked negotiating contracts governing swaps and other derivatives for a commercial bank, and then moved to the economics research department in Australia's central bank. After completing his PhD in economics at the Massachusetts Institute of Technology, he joined the University of Chicago Booth faculty in 2001. John Romalis has also served as a Resident Scholar for the International Monetary Fund, has been a Faculty Research Fellow for the National Bureau of Economic Research, and had appointments at Princeton University and The Australian National University. In 2013 John Romalis moved to The University of Sydney where he was appointed the Sir Hermann Black Chair of Economics.

Jeffrey Sheen



Jeffrey Sheen is a Professor of Economics at Macquarie University. He has been on the faculty of the Universities of Manchester, Essex and Sydney, and has had a visiting appointment at the Reserve Bank of Australia. He has published his research in major international journals, and his interests span international economics, macroeconomics, labour and international finance. He obtained his PhD at the London School of Economics.

Past members

Saul Eslake

August 2011-June 2014



Saul Eslake has been Chief Economist at Bank of America Merrill Lynch Australia since December 2011. He was previously a Program Director with the Grattan Institute (a non-aligned think tank affiliated with Melbourne University) and, between 1995 and 2009, Chief Economist at ANZ Bank. He is also a non-executive director of Hydro Tasmania, and a member of the National Housing Supply Council and the Australian Statistics Advisory Council.

Mark Thirlwell

August 2011-September 2013



Mark Thirlwell is Director of International Economy Program and Fellow of G20 Studies Centre. Mark has been tracking global economic trends since he joined the Bank of England's International Divisions in 1990 where he worked as part of the Whitehall Economists Subgroup, coordinating the forecasting of major emerging markets across the Bank, Treasury, the FCO and other stakeholders. Mark subsequently joined J P Morgan as a Vice President in Economic Research with responsibility for Central Europe. Before joining Lowy, he served as Senior Economist at Australia's

Export Finance and Insurance Corporation, working on sovereign risk with a particular focus on East Asia.

Publications

The CAMA working paper series covers a broad range of topics in one of the twelve areas covered by the CAMA research programs.The working papers are available online and through RePec (Research Papers in Economics) and SSRN (Social Science Research Network.



Working papers

Paper no.	Title	Authors	Downloads
78/2014	Understanding the deviations of the Taylor rule: a new methodology with an application to Australia	Hudson KB Vespignani JL	88
77/2014	Noisy information, distance and law of one price dynamics across US cities	Crucini MJ Shintani M Tsuruga T	99
76/2014	Trends and cycles in small open economies: making the case for a general equilibrium approach	Chen K Crucini MJ	108
75/2014	Geographic barriers to commodity price integration: evidence from US cities and Swedish towns, 1732 - 1860	Crucini MJ Smith GW	100
74/2014	Product quality and intra-industry trade	lto T Okubo T	134
73/2014	Exchange rates, expected returns and risk: UIP unbound	Munro A	122
72/2014	Bringing financial stability into monetary policy	Leeper EM Nason JM	181
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69/2014	OPEC and non-OPEC oil production and the global economy	Ratti RA Vespignani JL	217
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66/2014	Real exchange rates and sectoral productivity in the Eurozone	Berka M Devereux MB Engel C	238
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64/2014	Does inflation targeting outperform alternative policies during global downturns?	Fry-McKibbin R Wang C	266
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62/2014	The elephant in the ground: managing oil and sovereign wealth	Bremer TVD Ploeg FVD Wills S	255
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60/2014	Income inequality and macroeconomic instability: a stock-flow consistent approach with heterogeneous agents	Carvalho L Di Guilmi C	298
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56/2014	Reciprocal brokered deposits, bank risk, and recent deposit insurance policy	Li G Shaffer S	412
55/2014	Evaluating forecasts of a vector of variables: a German forecasting competition	Müller-Dröge HC Sinclair TM Stekler HO	413
54/2014	Disaggregating electricity generation technologies in CGE models	Arora V Cai Y	434
53/2014	How monetary policy is made: two Canadian tales	Siklos PL Neuenkirch M	419
52/2014	An estimated DSGE model with a deflation steady state	Hirose Y	423
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38/2014	Extremal dependence and contagion	Fry-McKibbin R Hsiao CYL	558
37/2014	Optimal monetary responses to oil discoveries	Wills S	546
36/2014	Tax competition with heterogeneous firms	Baldwin RE Okubo T	544
35/2014	What drives the German current account? And how does it affect other EU member states?	Kollmann R Ratto M Roeger W Veld J Vogel L	554
34/2014	Cointegrated periodically collapsing bubbles in the exchange rate of 'BRICS' countries	Maldonado WL Tourinho OAF Abreu JABM	578
33/2014	The impact of oil price shocks on U.S. bond market returns	Kang W Ratti RA Yoon KH	625
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30/2014	Asian fragmentation in the global financial crisis	Okubo T Kimura F Teshima N	604
29/2014	Analysing the short run effects of China's economic reform agenda	Tyers R	632
28/2014	Substitutability and the cost of climate mitigation policy	Lu Y Stern D	630
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23/2014	Stochastic model specification search for time-varying parameter VARs	Eisenstat E Chan JCC Strachan RW	663
22/2014	US natural gas exports and their global impacts	Arora V Cai Y	683
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18/2014	Foreign reserve accumulation and the mercantilist motive hypothesis	Carvalho P Fry-McKibbin RA	706
17/2014	Impacts of a capacity advantaged bidder in sequential common value auctions: evidence from the laboratory	Coatney KT Menkhaus DJ Shaffer S	690
16/2014	Indeterminacy and learning: an analysis of monetary policy in the great inflation	Lubik TA Matthes C	699
15/2014	Estimation and solution of models with expectations and structural changes	Kulish M Pagan A	704
14/2014	Not all international monetary shocks are alike for the Japanese economy	Ratti RA Vespignani JL	687
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11/2014	Macroeconomic consequences of terms of trade episodes, past and present	Atkin T Caputo M Robinson T Wang H	751
10/2014	A bounded model of time variation in trend inflation, NAIRU and the Phillips curve	Chan JCC Koop G Potter SM	735
09/2014	Fast computation of the deviance information criterion for latent variable models	Chan JCC Grant AL	755
08/2014	European equity investing through the financial crisis: can risk parity, momentum or trend following help to reduce tail risk?	Clare A Seaton J Smith PN Thomas S	371
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06/2014	Measuring the stance of monetary policy in conventional and unconventional environments	Krippner L	753

05/2014	International effects of China's rise and transition: Neoclassical and Keynesian perspectives	Tyers R	781
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Newsletters

CAMA publishes a newsletter with the contribution of the CAMA members. The newsletter includes among other things new members, projects, awards, publications, interviews, and events. CAMA published four newsletters in 2014. An online copy of the newsletters can be found at the CAMA website (<u>https://cama.crawford.anu.edu.au/cama-publications/newsletter</u>).

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Media

CAMA affiliates also contributed to the public debate participating in interviews with prestigious news agencies such as *The Canberra Times*, *ABC news*, *The Business*, *Financial Review* and others. They also have articles published in *Advance* magazine, Crawford School's public policy quarterly.

In 2014 CAMA introduced its new Twitter page @CAMacroAnalysis and a Wikipedia page (<u>http://en.wikipedia.org/wiki/Centre_for_Applied_Macroeconomic_Analysis</u>).

Events

CAMA actively promotes events such as workshops and conferences in Australia and internationally through sponsorship, organisation and advertising. CAMA is a representative on the NBER East Asian Seminar in Economics (EASE) and the OECD based National Economic Research Organizations (NERO) network.

CAMA also hosts the CAMA Macroeconomics Brown Bag Seminars where staff, visitors and PhD students have an opportunity to present their work.

Workshops and conferences

International workshop on scenarios for a fragile world economy Professor Warwick McKibbin, Dr Andy Stoeckel, Professor Reneé McKibbin, Associate Professor Ippei Fujiwara, and others 04 to 05 Mar 2014 Washington DC

This two-day workshop brought together leading scholars on the economics and politics of key regions with an eye to weaving together a consistent view of the likely global economic outlook over the coming decade. It explored regional dimensions of the global economic outlook, linkages between them, and the implications for global economic modelling scenarios.

Conference on judgement and combination in forecasting and policy models Todd Clark, Federal Reserve Bank of Chicago and Centre for Economic Policy Research; Barbara Rossi, Universitat Pompeu Fabra and Centre for Economic Policy Research; Frank Schorfheide University of Pennsylvania and Centre for Economic Policy Research; and plus many more. 20 to 21 Mar 2014 London

Judgement and expert knowledge is widely thought to be important in the successful practice of forecasting. For policymakers, forecasts also embody judgments about the state of the economy, the transmission of shocks and optimal policy responses which necessitate the use of structural models. This conference aimed to bring together policymakers and academics interested in these issues.

The conference was sponsored by CAMA.

CAMA short course on Econometrics methods Professor Vance Martin 07 to 09 April 2014 The Australian National University

This was a three-day course on econometrics based on the recent book *Econometric Modelling with Time Series Specification, Estimation and Testing*, by Martin, Hurn and

Harris. The main emphasis of the course was on applying econometric methods to solve a range of economic and statistical problems. Each day was consisted of four sessions, two theory and two computer sessions. Day one reviewed maximum likelihood methods as well as discussed quasi maximum likelihood. Day two focused on relaxing some of the moment and distributional assumptions underlying maximum likelihood by discussing estimators based on generalized method of moments and nonparametrics. Day three focused primarily on time series methods including stationary time series models such as VARs and SVARs as well as nonstationary time series models including unit root tests, cointegration and error correction modelling. The software used in the computer classes was Matlab. It was assumed that participants had some familiarity with this software, although all relevant computer commands were developed during the course. A full set of lecture notes and exercises were available as well as Matlab computer files.

Workshop of the Australasian Macroeconomics Society (WAMS) 31 July - 1 August 2014 University of Melbourne

The Australasian Macroeconomics Workshop (AMW) and the Workshop on Macroeconomic Dynamics (WMD) have joined forces to become the Workshop of the Australasian Macroeconomics Society (WAMS).

The inaugural workshop, hosted by the Macroeconomics Research Unit, the Economics Department, the Department of Business Administration and the Melbourne Institute at the University of Melbourne, welcomed submissions in all areas of macroeconomics.

The workshop had three principal purposes. First, it was an opportunity for Australasian macroeconomists to share and discuss their results and ideas with each other, to encourage excellence and collaboration in research in macroeconomics in Australasia. Second, by bringing top international researchers here, the workshop aimed to help connect researchers here with top people from around the world in a two-way learning process. Third, by bringing together both theoretical and applied researchers, the workshop aimed to foster synergies between and across all modern scientific approaches to macroeconomics.

The 2014 WAMS workshop was sponsored by CAMA.

CAMA and Tax and Transfer Policy Institute roundtable

19 August The Australian National University

CAMA and the Tax and Transfer Policy Institute held a roundtable/brain storming discussion on the macroeconomic aspects of tax and transfer policy. The Tax and Transfer Policy Institute has recently been established in Crawford School and Miranda Stewart has

taken over the leadership of the Institute. She would like to engage with the macroeconomists in Canberra to help her identify the big macro/fiscal issues which will help to shape the intellectual contribution of the Institute in the area of tax and transfer policy. Representatives from the Treasury also attended.

Seminars

The sectoral reallocation of government purchases as budgetary-neutral stabilisation tool: a model-based analysis 06 Feb 2014 Stefan Hohberger, PhD student, University of Bayreuth.

In this seminar Stefan Hohberger provided an overview of his recent paper, 'The sectoral reallocation of government purchases as budgetary-neutral stabilisation tool: a modelbased analysis'. The paper focus on rules that adjust the composition of government spending on tradable and non-tradable goods in response to domestic or external indicators. The fiscal policy is budgetary-neutral in the sense that the overall level of government expenditure is kept constant. Stefan's paper found that state-dependent changes in the composition of government spending between tradable and non-tradable goods can be a useful instrument to stabilise domestic activity and increase household welfare for economy-wide supply and demand shocks. In contrast to fiscal devaluation, however, the expenditure-shifting rule faces a trade-off between stabilising domestic activity and enhancing household welfare, on the one hand, and reducing excessive fluctuations in external positions, on the other hand.

Guarantees, transparency and the interdependency between sovereign and banking risk

13 Feb 2014 Frank Heinemann, Berlin University of Technology.

In this seminar Frank Heinemann discussed the coordination problem between banks and sovereign's creditors induce a functional interdependence between the likelihood of a government default and banks' liquidity.

The (ir)relevance of alternative savings mechanisms: borrowing constraints and the durable goods co-movement puzzle 20 Mar 2014

Chris Perks, PhD student, Centre for Applied Macroeconomic Analysis, Crawford School of Public Policy, ANU.

In this seminar Chris Perks provided an overview of his recent paper, 'The (Ir)relevance of alternative savings mechanisms: borrowing constraints and the durable goods comovement puzzle'. Chris Perks noticed in his paper that since the seminal work of Barsky, House and Kimball (2003, 2007), a substantial amount of the durable goods literature has centred on the negative co-movement of durable and non-durable consumption in response to unanticipated changes in monetary policy. This negative co-movement is sharply at odds with the empirical evidence. Recent papers have addressed this discrepancy through the introduction of borrowing constraints (Monacelli 2009). However, it has recently been claimed that the inability of certain types of models with borrowing constraints to improve on generic sticky price models in the generation of positive co-movement in the wake of a monetary policy shock is at least partially attributable to equilibrium in the market for savings (Sterk 2010). Chris' paper showed that introducing government debt and foreign debt markets and unconstraining the decisions of household savers does not aid the model in the generation of co-movement. Rather, the model's co-movement properties largely rest on the shadow value of durables as originally proposed by Barsky et al (2007).

Implicit central bank preferences: nominal GDP and the great moderation 03 Apr 2014 Dony Alex, PhD student, Centre for Applied Macroeconomic Analysis, Crawford School, ANU.

In this seminar Dony Alex provided an overview of his recent paper, 'Implicit central bank preferences: nominal GDP and the great moderation'. Dony Alex estimated a forward looking nominal GDP rule for the U.S spanning from 1960-2007 and tried to reconsider the preferences of the Federal Reserve during this period. Most of the studies until now have focused mainly on Taylor rule type monetary policy reaction functions and found inflation to be the major preference variable for the Federal Reserve. Monetary policy via stabilization of inflation expectations has been argued as one of the prominent factors responsible for the Great Moderation in the U.S. Dony Alex's study countered the conventional stronger preference for inflation view for stabilizing expected inflation, and instead showed that the Federal Reserve was implicitly targeting nominal GDP for accomplishing this objective. This claim has been corroborated by estimating different variants of nominal GDP rules and compared with Taylor rules using both ex-post revised data and real time briefing forecasts of FOMC. The results found by Dony Alex countered the conventional view and showed that post Volcker era or during the period of Great Moderation (1984-2007), the Federal Reserve had a stronger implicit preference for nominal GDP as compared to inflation.

Estimating fiscal multipliers: news from a non-linear world 10 Apr 2014 Gabriela Nodari, PhD student, University of Verona.

In this seminar Gabriela Nodari provided an overview of her recent paper, 'Estimating fiscal multipliers: news from a non-linear world'. Gabriela estimated non-linear VARs to assess to what extent fiscal spending multipliers are countercyclical in the United States. The author dealt with the issue of non fundamentalness due to fiscal foresight by

appealing to sums of revisions of expectations of fiscal expenditures. This measure of anticipated fiscal shocks is shown to carry valuable information of future evolutions of public spending. Results found by the author and based on generalized impulse responses suggested that fiscal spending multipliers in recessions are greater than one, but not statistically large than in expansions. However, non-linearities arise when focusing on deep recessions vs. strong expansionary periods.

Global public goods and coalition formation under matching mechanisms 24 Apr 2014

Larry Liu, PhD student, Centre for Applied Macroeconomic Analysis, Crawford School, ANU.

In this seminar Larry Liu provided an overview of his recent paper, 'Global public goods and coalition formation under matching mechanisms'. Larry investigated coalition formation under matching mechanisms with multiple players who have the same preference but different incomes. Given income heterogeneity within a certain range, there always exist small matching rates which make all members in the coalition better off. However, players have incentives to take free rides and the matching coalition does not exist. Larry believes that if players value their reputation, they would stay in the coalition when the gain of free riding is lower than the reputation loss. Due to heterogeneity, the matching coalition faces trade-off between matching depth and breadth. Larry concluded that the matching rate can be flexibly set to compromise between cooperation depth and breadth and, more importantly, it may achieve Pareto-improving outcomes while avoiding international side payments.

The environment and economic growth: modelling heterogeneity of ecosystems and technologies *12 Jun 2014*

Akshay Shanker, PhD student, Crawford School, ANU.

This seminar was Akshay's first thesis presentation. His thesis looked at the issue of economic growth on a finite planet. He is interested in finding out how the heterogeneity of technical change relates to the possibility of sustainable growth.

The elephant in the ground: managing oil and sovereign wealth 28 Aug 2014 Dr Samuel Wills, University of Oxford

In this seminar Samuel Wills provided an overview of his recent paper, 'The elephant in the ground: managing oil and sovereign wealth'. Many oil exporters accumulate large sovereign wealth funds, though their portfolio allocation does not take into account below-ground assets, like oil. Similarly, the above-ground portfolio does not affect the decision to extract oil. In this paper, Dr Wills showed that subsoil oil wealth should change a country's

above-ground asset allocation in two ways. First, the holding of all risky assets is leveraged because there is additional wealth outside the fund. Second, more (less) is invested in financial assets that are negatively (positively) correlated with oil to hedge against the riskiness of subsoil exposure. Furthermore, if marginal oil rents move procyclically with the value of the financial assets in the fund, then oil will be extracted faster than predicted by the standard Hotelling rule. This generates a risk premium for being exposed to volatile oil prices. Finally, Dr Wills suggested that any unhedged residual volatility must be managed through additional precautionary saving.

Identification of financial shocks in SVAR with model based sign restrictions 25 Sep 2014

Zulfiqar Hyder, PhD student, Centre for Applied Macroeconomic Analysis, Crawford School, ANU.

In this seminar Zulfiqar Hyder provided an overview of his recent paper, 'Identification of financial shocks in SVAR with model-based sign restrictions'. This paper quantifies the importance of financial shocks in business cycle fluctuations for the US economy using structural VAR models. Financial and non-financial shocks are identified with a minimum set of sign restrictions based on the two competing New Keynesian models: the standard New Keynesian model augmented with a financial accelerator and the New Keynesian model augment with financial intermediaries. Estimation results show that a financial shock, emanating both from entrepreneur's net worth and financial intermediaries net worth, is prominent in explaining fluctuations in real output. As far as the relative importance of these two financial shocks is concerned, the following results stand out. A financial shock related to the demand side is the major driver of short run output fluctuations while financial shocks related to financial intermediaries explains relatively larger share of output fluctuations over longer time horizon. Zulfiqar concluded that a financial shock related with demand side explains relatively larger variations in the interest rate spread over longer time horizon.

Optimal monetary responses to oil discoveries

2 Oct 2014

Dr Samuel Wills, University of Oxford

In this seminar Samuel Wills provided an overview of his recent paper, 'Optimal monetary responses to oil discoveries'. This paper studies how monetary policy should respond to news about an oil discovery, using a workhorse New Keynesian model. Good news about future production can create a recession today under exchange rate pegs and a simple Taylor rule, as seen in practice. This is explained by forward-looking inflation. Recession is avoided by a Taylor rule that accommodates changes in the natural level of output, which closely approximates optimal policy. Samuel Wills concluded that central banks have an

incentive to exploit oil revenues by appreciating the terms of trade, creating 'Dutch disease' and a deflationary bias which is overcome by committing to future policy.

Assessing the economic general equilibrium effects of sea level rise in the Italian regions

23 Oct 2014 Gabriele Standardi, FEEM Italy

In this seminar Gabriele Standardi provided an overview of his recent paper, 'Assessing the economic general equilibrium effects of sea level rise in the Italian regions'. Economic assessment of sea level rise (SLR) through computable general equilibrium (CGE) modelling is a widespread and effective approach to quantify economic dimensions of damages and potentially come out with useful adaptation actions. One main limitation is that traditionally global CGE models are specified at the country level as highest geographical detail. However climate change is very likely to produce uneven patterns also at the sub-national level. The aim of this work was to enrich the current state of the art proposing a methodology combining the top-down approach consisting of a sub-national CGE model and a bottom-up approach (based on DIVA model) to assess the economic general equilibrium effects of SLR in the 20 Italian regions by the end of 21st century. Gabriele's approach considered all the economic interactions among sub-national regions and between them and the rest of Europe and the World. Moreover, the optimal behavior of the economic agents responds to change in prices, which, in turn, signal the productivity loss in the resource induced by the climate change impact (market-driven or autonomous adaptation). Gabriele concluded that, in spite of a longer coastline in regional islands (Sicily and Sardinia), Emilia Romagna and Veneto are the most affected regions in all the IPCC scenarios analyzed. In the flexible model we can observe a reallocation of capital and labor from these regions to the landlocked regions.

How do firms form their expectations? New survey evidence 30 Oct 2014

Saten Kumar, Auckland University of Technology

In this seminar Saten Kumar provided an overview of his recent paper, 'How do firms form their expectations? New survey evidence'. Saten implemented a new survey of firms' macroeconomic beliefs in New Zealand and document a number of novel stylized facts from this survey. Despite nearly 25 years under an inflation targeting regime, there is widespread dispersion in firms' beliefs about both past and future macroeconomic conditions, especially inflation, with average beliefs about recent and past inflation being much higher than those of professional forecasters. Saten concluded that much of the dispersion in beliefs can be explained by firms' incentives to collect and process information, i.e. rational inattention motives. For example, firms which face more competitors or firms which expect to change their prices sooner have systematically better macroeconomic information.

Does nominal GDP pass the forecastability test for being the future monetary policy framework? 13 Nov 2014 Dony Alex, PhD student, Centre for Applied Macroeconomic Analysis, Crawford School, ANU

In this seminar Dony Alex provided an overview of her recent paper, 'Does nominal GDP pass the forecastability test for being the future monetary policy framework?'. This paper tried to compare the forecast performance between the nominal anchors of inflation and nominal GDP targeting regimes for U.S. This task was undertaken by using a series of models from simple autoregressive models to state space models. Dony concluded that inflation has been found quite hard to forecast, but it seemed that nominal GDP is much harder to forecast.

The effects of productivity gains in Asian emerging economies: a global vector autoregressive framework 20 Nov 2014 Taya Dumrongrittikul, Research School of Economics, ANU

In this seminar Taya Dumrongrittikul provided an overview of her recent paper, 'The effects of productivity gains in Asian emerging economies: a global vector autoregressive framework'. Taya investigated international responses of key macroeconomic variables, particularly real exchange rates, to simultaneous shocks to productivity in the traded sector in eight Asian emerging and developing economies including China, India, Indonesia, Thailand, Philippines, Malaysia, Pakistan, and Sri Lanka. She used panel estimation techniques to construct component submodels in a global vector autoregressive (GVAR) model. The GVAR approach can account for interaction among 30 countries and capture many potential international transmission channels. She identified the shocks by using sign restricted impulse responses. Taya found that traded-sector productivity growth in Asian developing countries leads to a real appreciation of the domestic currencies, in line with the Balassa-Samuelson hypothesis. Inflation also increases in many Asian developing countries. After the shocks, nontraded sector productivity in the US and other developed countries increases, suggesting that there is a compositional shift in their production, away from the traded goods toward the nontraded goods. This allows productivity in the nontraded sector to increase. Further, the traded sector productivity shocks in Asia stimulate international trade in most countries.

Fiscal policy in oil-exporting countries: the roles of oil funds and institutional quality 28 Nov 2014

Wee Koh, PhD student, Centre for Applied Macroeconomic Analysis, Crawford School, ANU

In this seminar Wee Chian Koh provided an overview of his recent paper 'Fiscal policy in oil-exporting countries: the roles of oil funds and institutional quality'. This paper examined

the roles of oil funds and institutional quality in reducing fiscal pro-cyclicality and macroeconomic volatility in 42 oil-exporting countries from 1960 to 2012 using panel vector autoregression techniques. The results show that oil funds are effective in reducing fiscal pro-cyclicality in countries with high institutional quality but not necessarily so in those with low institutional quality. Wee Chian Koh concluded that even though macroeconomic volatility in countries with high institutional quality is considerably low, the scope for further volatility reduction through oil funds is limited.

Determinants of systemically important banks: the case of Europe rational expectations versus adaptive learning in a DSGE model 15 Dec 2014 Jacob Kleinow, Freiberg University, Germany

In this seminar Jacob Kleinow provided an overview of his recent paper, 'Determinants of systemically important banks: the case of Europe'. This paper investigated the drivers of systemic risk and contagion among European banks from 2007 to 2012. First, Jacob derived a systemic risk measure from the concepts of MES and CoVaR analysing tail co-movements of daily bank stock returns. He then run panel regressions for the systemic risk measure using idiosyncratic bank characteristics and a set of country and policy control variables. Jacob's results comprised highly significant drivers of systemic risk in the European banking sector with important implications for banking regulation.

Rational expectations versus adaptive learning in a DSGE model 16 Dec 2014

Angelia Grant, PhD student, Centre for Applied Macroeconomic Analysis, Crawford School, ANU

In this seminar, Angelia provided an overview of her recent paper 'Rational expectations versus adaptive learning in a DSGE model'. This paper replaced the assumption of rational expectations with adaptive learning in a widely cited DSGE model and compared the implied expectations generated by the different models with actual and survey data. It also assessed the overall relative fit of the models with the deviance information criterion, which is not commonly used to compare DSGE models. It is found that the assumption of rational expectations performs well. It provided an overall model fit that is comparable to the adaptive learning models, and is comparable in fitting implied expectations to actual consumption and inflation data and expectations from the *Survey of Professional Forecasters*. The adaptive learning models provided a slightly better fit to actual and survey investment data.

Staff and Associates

Director



Professor Warwick McKibbin has a Chair in Public Policy in the ANU Centre for Applied Macroeconomic Analysis (CAMA) in Crawford School of Public Policy at The Australian National University (ANU). He is also an ANU Public Policy Fellow; a Fellow of the Australian Academy of Social Sciences; a Distinguished Fellow of the Asia and Pacific Policy Society; a

non-resident Senior Fellow at the Brookings Institution in Washington D.C (where he is co-Director of the Climate and Energy Economics Project) and President of McKibbin Software Group Inc. Professor McKibbin was foundation Director of the ANU Centre for Applied Macroeconomic Analysis and foundation Director of the ANU Research School of Economics. He was also a Professorial Fellow at the Lowy Institute for International Policy for a decade from 2003 where he was involved in its design and development. Professor McKibbin served for a decade on the Board of the Reserve Bank of Australia (the Australian equivalent of the Board of Governors of the US Federal Reserve) until July 2011. He has also served as a member of the Australian Prime Minister's Science, Engineering and Innovation Council, and on the Australian Prime Minister's Taskforce on Uranium Mining Processing and Nuclear Energy in Australia.

Prof McKibbin received his B.Com (Honours 1) and University Medal from University of NSW (1980) and his AM (1984) and a PhD (1986) from Harvard University. He was awarded the Centenary medal in 2003 'For Service to Australian Society through Economic Policy and Tertiary Education'.

Professor McKibbin is internationally renowned for his contributions to global economic modeling. Professor McKibbin has published more than 200 academic papers as well as being a regular commentator in the popular press. He has authored/ edited five books including *Climate Change Policy after Kyoto: A Blueprint for a Realistic Approach* with Professor Peter Wilcoxen of Syracuse University. He has been a consultant for many international agencies and a range of governments on issues of macroeconomic policy, international trade and finance, greenhouse policy issues, global demographic change and the economic cost of pandemics.

2014 publications

McKibbin WJ, Morris, A, and Wilcoxen PJ (2014), 'A Proposal for Integrating price Mechanisms into International Climate Change Negotiations', *Asia and the Pacific Policy Studies*, Vol 1, no 3, p600-608.

McKibbin W, Stoeckel A, and Lu Y (2014), 'Global Fiscal Adjustment and Trade Rebalancing', *The World Economy*, Vol 37, no 7, pp892-992.

McKibbin WJ, Morris, A, and Wilcoxen PJ (2014), 'Pricing Carbon in the United States: A model-based analysis of power sector only approaches.', *Resource and Energy Economics* vol 36, no 1, pp 130-150. North Holland

Deputy Director



Ippei Fujiwara is Professor of Macroeconomics at Crawford School of Public Policy, associate editor of Japan and the World Economy, research associate at the Globalization and Monetary Policy Institute, Federal Reserve Bank of Dallas, co-director for Australia-Japan Research Centre, and the deputy director at the Centre for Applied

Macroeconomic Analysis (CAMA). He completed his DPhil in economics at the University of Oxford (Nuffield), and a PhD in Applied Economics at Osaka University. Professor Fujiwara worked for the Bank of Japan for 18 years before joining Crawford School of Public Policy where his research has focused on international finance, monetary economics and macroeconomics. His recent publications are in *Journal of Applied Econometrics, Journal of Monetary Economics, Journal of International Money and Finance, Journal of Money Credit and Banking, Journal of Economic Dynamics and Control* and *Macroeconomic Dynamics*.

2014 publications

Purchasing Power Parity and the Taylor Rule, (with Hyeongwoo Kim, Bruce Hansen and Masao Ogaki), *Journal of Applied Econometrics*, accepted

Optimal Monetary Policy with Endogenous Entry and Product Variety, (with Florin Bilbie and Fabio Ghironi), 2014, *Journal of Monetary Economics* 64, 1-20

Indeterminacy and Forecastability, (with Yasuo Hirose), 2014, *Journal of Money, Credit* and Banking 46(1), 243-251

2014 research grants

Australian Research Council (ARC), Discovery Projects (2014-2016): DP140102941 (Chief Investigator), 'Optimal Policy under the Global Liquidity Trap,' AUD 267,350.

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Gordon Menzies	University of Technology, Sydney	Behavioural Macroeconomics and Complexity program
Gordon Menzies	University of Technology, Sydney	Multi-Country Models and Methods program
Bryan Mignone	The Brookings Institution	Climate Change and Energy program
James Mitchell	University of Leicester	Model Uncertainty and Macro-Econometrics
Masayuki Morikawa	METI - Japan	Economic Growth and Development program
James Morley	The University of New South Wales	Model Uncertainty and Macro-Econometrics
James Morley	The University of New South Wales	Finance and the Macroeconomy program
Adele Morris	The Brookings Institution	Climate Change and Energy program
Karen Mumford	The University of York	Macroeconomic Policy Frameworks program
Anella Munro	Reserve Bank of New Zealand	Finance and the Macroeconomy program
Tomoyuki Nakajima	Kyoto University	Macroeconomic Policy Frameworks program
James Nason	NC State University	Model Uncertainty and Macro-Econometrics
Charles Nolan	University of Glasgow	Open Economy Macroeconomics program
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International Monetary Fund	Finance and the Macroeconomy program
Keio University	Behavioural Macroeconomics and Complexity program
The Australian National University	Finance and the Macroeconomy program
The Australian National University	Commodities and the Macroeconomy program
Keio University	Globalisation and Trade program
University of Viterbo La Tuscia	Finance and the Macroeconomy program
University of Manchester	Model Uncertainty and Macro-Econometrics
The University of Waikato	Climate Change and Energy program
The University of York	Open Economy Macroeconomics program
University of Sydney	Model Uncertainty and Macro-Econometrics
University of Illinois	Model Uncertainty and Macro-Econometrics
The Centre for International Economics	Climate Change and Energy program
The South East Asian Central Banks (SEACEN)	Finance and the Macroeconomy program
Bank of England	Model Uncertainty and Macro-Econometrics
University of Western Sydney	Finance and the Macroeconomy program
Norges Bank (Central Bank of Norway)	Model Uncertainty and Macro-Econometrics
University of Melbourne	Open Economy Macroeconomics program
University of Melbourne	Commodities and the Macroeconomy program
University of Melbourne	Model Uncertainty and Macro-Econometrics
University of California at Irvine	Macroeconomic Theory program
The Australian National University	Globalisation and Trade program
Ruhr-University Bochum	Behavioural Macroeconomics and Complexity program
	Keio University Keio University The Australian National University Keio University University of Viterbo La Tuscia University of Manchester University of Manchester The University of York University of Sydney University of Illinois The Centre for International Economics The South East Asian Central Banks (SEACEN) Bank of England University of Western Sydney University of Melbourne University of Melbourne University of Melbourne University of Melbourne The Australian National University of California at Irvine The Australian National University

Rina Rosenblatt-Wisch	Swiss National Bank	Behavioural Macroeconomics and Complexity program
Ozge Senay	University of St Andrews	Open Economy Macroeconomics program
Facundo Sepulveda	Universidad Santiago de Chile	Macroeconomic Theory program
Sherrill Shaffer	University of Wyoming	Finance and the Macroeconomy program
Anurag Sharma	Monash University	Economic Growth and Development program
Jeffrey Sheen	Macquarie University	Macroeconomic Policy Frameworks program
Shuping Shi	Macquarie University	Finance and the Macroeconomy program
Kalvinder K Shields	University of Melbourne	Model Uncertainty and Macro-Econometrics
Pierre Siklos	Wilfrid Laurier University	Finance and the Macroeconomy program
Tara M Sinclair	The George Washington University	Model Uncertainty and Macro-Econometrics
Reza Siregar	South East Asian Central Banks (SEACEN)	Finance and the Macroeconomy program
Michael Smith	University of Melbourne	Model Uncertainty and Macro-Econometrics
Peter N Smith	The University of York	Finance and the Macroeconomy program
Christopher Smith	Reserve Bank of New Zealand	Model Uncertainty and Macro-Econometrics
Nicola Spagnolo	Brunel University	Finance and the Macroeconomy program
John Stachursk	The Australian National University	Macroeconomic Theory program
Gabriele Standardi	Fondazione Eni Enrico Mattei	Multi-Country Models and Methods program
Alison Stegman	The Australian National University	Climate Change and Energy program
David Stern	The Australian National University	Climate Change and Energy program
Andrew Stoeckel	The Centre for International Economics	Commodities and the Macroeconomy program
Alan Sutherland	University of St Andrews	Open Economy Macroeconomics program
Kang Yong Tan	Franklin Templeton Investments	Multi-Country Models and Methods program

Satoshi Tanaka	University of Queensland	Macroeconomic Theory program
Kam Ki Tang	University of Queensland	Economic Growth and Development program
Hsiao Chink Tang	Asian Development Bank	Finance and the Macroeconomy program
Lei Ming Chrismin Tang	University of Melbourne	Finance and the Macroeconomy program
Yuki Teranishi	Keio University	Macroeconomic Policy Frameworks program
Susan Thorp	University of Technology, Sydney	Finance and the Macroeconomy program
Russell Toth	The University of Sydney	Economic Growth and Development program
Chung Tran	The Australian National University	Macroeconomic Theory program
Sirimon Treepongkaruna	The University of Western Australia	Finance and the Macroeconomy program
Takayuki Tsuruga	Kyoto University	Open Economy Macroeconomics program
Rod Tyers	The University of Western Australia	Multi-Country Models and Methods program
Jean-Robert Tyran	University of Copenhagen	Behavioural Macroeconomics and Complexity program
Kozo Ueda	Waseda University	Macroeconomic Policy Frameworks program
Lawrence Uren	University of Melbourne	Macroeconomic Theory program
Farshid Vahid	Monash University	Model Uncertainty and Macro-Econometrics
Abbas Valadkhani	Swinburne University of Technology	Finance and the Macroeconomy program
Simon Van Norden	HEC Montreal	Finance and the Macroeconomy program
Tugrul Vehbi	New Zealand Treasury	Finance and the Macroeconomy program
Joaquin Vespignani	University of Tasmania	Finance and the Macroeconomy program
Yuichiro Waki	The University of Queensland	Macroeconomic Theory program
Kenneth F Wallis	University of Warwick	Multi-Country Models and Methods program
Sumila Wanaguru	Central Bank of Sri Lanka	Finance and the Macroeconomy program

Mark Weder	University of Adelaide	Macroeconomic Theory program
Peter Wilcoxen	Syracuse University	Multi-Country Models and Methods program
Peter Wilcoxen	Syracuse University	Climate Change and Energy program
John C Williams	Federal Reserve Bank of San Franciso	Macroeconomic Theory program
John C Williams	Federal Reserve Bank of San Franciso	Model Uncertainty and Macro-Econometrics
Samuel Wills	University of Oxford	Commodities and the Macroeconomy program
Justin Wolfers	University of Michigan	Behavioural Macroeconomics and Complexity program
Benjamin Wong	Reserve Bank of New Zealand	Commodities and the Macroeconomy program
Benjamin Wong	Reserve Bank of New Zealand	Model Uncertainty and Macro-Econometrics
Jacob Wong	University of Adelaide	Macroeconomic Theory program
Wing Thye Woo	University of California Davis	Multi-Country Models and Methods program
Mark Wright	University of California, Los Angeles	Globalisation and Trade program
Ying Xu	The Australian National University	Finance and the Macroeconomy program
Daniel Zizzo	University of East Anglia	Behavioural Macroeconomics and Complexity program

Visitors

- Era Dabla-Norris
 International Monetary Fund
 10 November 2014
- Saten Kumar Auckland University of Technology 30 October 2014
- Gabriele Standardi
 Fondazione Eni Enrico Mattei
 1 October 31 December 2014

- David Vines
 University of Oxford
 3 September 5 October 2014
- Yu-Ling (Cody) Hsiao
 University of New South Wales
 1 September 11 September
- Samuel Wills
 University of Oxford
 25 August 10 October 2014
- Gabriela Nodari
 University of Verona
 10 April 2014
- Yu-Ling (Cody) Hsiao
 University of New South Wales
 1 April- 10 April 2014
- Vance Martin
 University of Melbourne
 7 April 9 April 2014
- Morten Bach
 Bank for International Settlements, Switzerland
 25 February 26 February
- Frank Heinemann
 Technische Universitat Berlin
 12 February 14 February 2014
- Stefan Hohberger University of Bayreuth
 20 January - 28 February 2014

Funding

The table below summarizes our funding for 2014.

Income	
Student fees	0.00
Other income	-150.00
Internal sales	0.00
Internal allocations	1,246.26
Operating grant	97,500.00
Investment income	0.00
Total Income	98,596.26
Expenses	
Salaries and related costs	76,619.05
Equipment - capital	0.00
Equipment - non-capital	0.00
Scholars expenses	25,408.35
Utilities and Maintenance	0.00
Travel field & survey expenses	15,521.89
Expendable research materials	0.00
Contributions	0.00
Consultancies	7,805.00
Consumables	902.65
Depn & Amort	0.00
Internal purchases	0.00
Other expenses	10,917.17
Contingency	0.00
Total Expenditure	137,174.11
Current year operating result	-38,577.85
Transfer inflow/outflow	7,376.99
Net current year operating result	-31,200.86
Prior year cash result	354,587.85
Net operating position	323,386.99

CAMA by numbers

In 2014 CAMA:

published 78 working papers

attracted 16 new affiliates

hosted 22 events, including 17 seminars

received **11** visitors, including visitors of **8** international institutions

was followed by **72** Twitter users and made **123** tweets since its start in August 2014

was a team of 164 research associates

Contact

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Director: Warwick McKibbin Ph: 61 2 6125 0301 E: Warwick.McKibbin@anu.edu.au

Administrator: Rossana Bastos Pinto Ph: 61 2 6125 8108 E: Rossana.bastos@anu.edu.au