

CENTRE FOR APPLIED MACROECONOMIC ANALYSIS (CAMA)

The new ANU Centre for Applied Macroeconomic Analysis (CAMA) will bring together economists working on macroeconomic and financial issues across the ANU, throughout Australia and across the Asia Pacific region. Its objectives are to advance teaching, post-graduate training and research into applied macroeconomic and financial issues. The work of the centre will be broad and will encompass all elements pertaining to the analysis of aggregate economic data. Examples of its work would be the construction and implementation of new models of the macro economy, the development of methods whereby one would quantify and use such models, the analysis of particular questions such as the aggregate impact of the aging of the population and the effects of asset prices upon aggregate outcomes. Since there is often a strong interaction between financial developments and macroeconomic outcomes, the Centre will promote a study of such interactions.

The Director of CAMA is Professor Warwick McKibbin and the Deputy Director is Professor Heather Anderson. An advisory board will be made up of nominees from the areas across the ANU who are participating in CAMA and who allocate initial funds for its establishment (RSPAS, APSEG, Faculty of Economics and Commerce, RSSS) as well as some external representatives. It is proposed that the latter will involve the Director of the Centre for Macroeconomics at the University of Melbourne, the head of the Research Department at the Reserve Bank of Australia, the Head of the Macroeconomic Group at Treasury and two other representatives from the wider academic community and the private sector. The operations of the Centre will be supervised by an Executive Committee composed of the Director and Deputy Director and the heads of the Research Programs that will be described below.

The research activities of the Centre will be built around a series of Research Programs headed by a Program Director (or Directors if appropriate). The Program Director will be responsible for organizing research in a particular area that is deemed to be an appropriate one by the Advisory Board. Proposals for new programs will be considered by the Executive Committee and then forwarded to the Advisory Board for formal approval. It is envisaged that Programs would be for three years after which they would be reviewed.

Attached to each program will be a set of Research Associates who would be expected to make contributions to the area of work set out in the Program. Research Associates will be appointed for an initial period of 2 years. At the end of this time the Associate will be reviewed by the Executive Board with a view as to whether to recommend to the Advisory Board that the individual be invited to continue in that role. The Board will take into account the participation and contribution of the associate to CAMA. This might be demonstrated by such activities as contributions to the CAMA working paper series, active participation in CAMA activities, active involvement in postgraduate training in areas of interest to CAMA, active participation in the national debate etc. Non-active associates will generally not be invited to continue.

Academics and graduate students who feel that they can contribute to the initial research programs should indicate their interest to the designated program director, with a brief account of how their proposed research would fit into the program. Attached to this document is a description of some projects that will be instituted, although these should be regarded as a basis for discussion rather than a final set. Any suggestions for extra projects within the programs are welcomed. Although each Program will have its own rules it is likely that each year the research associates will be funded to meet and review the progress that has been made during the year and to discuss possible extensions of the research.

Initially, there will be eight Research Programs. These will be:

- 1. International Finance and Economy**
- 2. Multi-Country models and methods**
- 3. Asset markets and Macroeconomic Developments**
- 4. Macroeconomic Policy Frameworks**
- 5. Macro-econometric models and methods**
- 6. Managing Globalisation**
- 7. Macroeconomics and Economic Growth in Developing Countries**
- 8. Macroeconomics and Longer Run Issues**

LINKAGES

One of the main goals of CAMA is to be a strong regional presence within the network of global scholars who are working on applied macroeconomics. There is no such institution at present and existing networks are heavily focused upon European and US issues.

Locally, CAMA will provide a focus for researchers and students in applied macroeconomics at ANU and aims to facilitate collaboration between them. It is hoped that CAMA can contribute to the design and teaching of the macroeconomic sequence in the PhD in Economics in the Faculties and APSEG as well as quantitative courses that are relevant to macroeconomic and financial analysis.

In the broader Australian context, CAMA will encourage interaction between researchers in applied macroeconomics at other institutions and those at ANU. These institutions will be from the other universities as well as the private and public sectors.

CAMA will aim to contribute to macroeconomic research in universities throughout Australia at two levels. First we will collaborate with existing groups of macroeconomists such as those at Melbourne, UNSW, UQ and QUT (and others we can identify). In these instances it seems possible that the research programs being run by CAMA would be jointly directed by a Fellow of CAMA and someone from another university. As an example it is proposed that the Macro-econometric models and methods program would be jointly directed by Adrian Pagan of CAMA and Don Harding of the Macro-economics Centre at the University of Melbourne. Second, we aim to introduce into the network of scholars those who are at universities where there are few researchers in applied macroeconomics.

CAMA will also collaborate closely with the major public agencies concerned with macroeconomic policy in Australia – The Australian Treasury and the Reserve Bank. We propose to make use of the visiting program with both agencies to enable officials with an interest in macroeconomics to spend 3 months visiting CAMA and working with CAMA-affiliated ANU academics. There will also be an opportunity for academic members to spend time visiting the Treasury and Reserve Bank. We will be seeking funding from Treasury and the Reserve Bank for supporting these initiatives.

CAMA will aim to contribute to macroeconomic research and policy analysis through the region by facilitating the creation of a network of scholars at Universities, Central Banks and Treasuries in the region who wish to engage in co-operation. These scholars will likely visit the centre at various times. They can be expected to provide a valuable input into achieving the ultimate goal of a steady stream of funded PhD students from throughout the region whose research will have a focus on macroeconomic issues. CAMA could also provide teaching programs in applied macroeconomics into institutions in the region in order to help raise the level of their technical capacity. There is likely to be interest in this approach through the ADB Institute and other multilateral agencies with representation in the region.

CAMA will link into the large existing macroeconomic groups at the National Bureau of Economic Research (NBER) in the USA; Centre for Economic Policy Research (CEPR) in London and Tokyo Centre for Economics Research (TCER) in Tokyo.

STRATEGY

The first step in establishing CAMA is to get the broad programs in place with the cooperation of each of the major areas in ANU. To that end we propose an iteration of this broad document as the basis for a discussion.

COMMUNICATION

CAMA would have its own website providing linkages to all the constituent parts. It would also provide a portal for finding Research Associates and provide a directory of expertise. The latter will be useful as a common point of entry for outsiders wishing to efficiently gain access to macroeconomists at ANU, in Australia, and in the region.

CAMA will also launch its own working paper series, under the direction of the Program Directors. Papers will be available electronically and we will apply to have them indexed in Repec.

CAMA will also seek to operate a seminar series devoted to macroeconomic issues. In addition to academic participants we could also include visitors and public sector macroeconomists. Currently a macroeconomics workshop based in the School of Economics exists. CAMA would be able to offer administrative support to that series.

PROGRAM OUTLINES

1. International Finance and Economy

DIRECTOR: PROFESSOR GORDON DE BROUWER (ANU)

The Asia Pacific Program in International Finance and Economy researches key issues in international finance and economics in the Asia Pacific region. The Program focuses on four key issues. These include:

- policy dialogue and surveillance of macroeconomies in East Asia;
- regional and global financial cooperation and architecture in East Asia, including an assessment of instruments and institutions for regional cooperation;
- financial markets, institutions and systems in the Asia Pacific, including the integration of financial markets, electronic finance, harmonisation of financial systems, the role of capacity building in finance, and the nexus between finance and economic growth and development;
- macroeconomic analysis, policy and integration in the Asia Pacific, including exchange rate regimes, monetary and fiscal transmission and policy regimes, demographic change, labour markets, trade and investment, and the nexus between security and macroeconomics.

2. Multi-Country Models and Methods

DIRECTOR: PROFESSOR WARWICK MCKIBBIN (ANU)

Countries are linked through trade flows and asset markets. The modeling 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 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.

3. Asset Markets and Macroeconomic Developments

DIRECTOR: DOCTOR MARDI DUNGEY (ANU)

Financial market developments impact directly and indirectly on real economy outcomes, particularly in the short term. Recent examples are evident in the East Asian financial crisis of 1997, the Russian bond default of 1998 and the paydown of Government debt in the US and UK during the late 1990s. This program brings together work on financial

market interactions with an assessment of the impact of markets on the economy as a whole.

This program is seen as being organized into 3 streams initially:

- (a) The link between international financial markets in transmitting shocks between economies. Traditionally trade and labour flows have been seen as major sources of adjustment between economies, however increasingly capital flows have begun to play this role. This project aims to understand the transmission of shocks between capital markets, but with a specific focus on how this relates to real economy outcomes. One important stream is understanding the different impacts which occur during 'normal' times, and during periods of financial stress.
- (b) The operation of the financial markets is important in effectively transmitting policy signals to the real economy. This is particularly the case in monetary policy where the decisions are enacted in the financial markets. Current practice encourages developing markets to emulate the financial systems of developed economies so as to be able to implement monetary policy actions through well-developed government bond markets. However, alternative instruments may also be possible. To this end we need to consider the differing means by which shocks in different asset markets are transmitted to the real economy. This may provide alternative solutions for both developed and developing markets.
- (c) The interaction between policy decisions, such as fiscal policy funding, and financial market development can impact on the real economy by changing the availability of funds and the liquidity of markets. We will pursue a fuller exploration of these linkages, particularly with the aim of forming linkages between financial markets participants and macroeconomic policy makers.

4. Macroeconomic Policy Frameworks

DIRECTOR: PROFESSOR VIV HALL (VICTORIA UNIVERSITY OF WELLINGTON)

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 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.

5. Macro-econometric Models and Methods

DIRECTORS: PROFESSOR ADRIAN PAGAN (ANU) AND DOCTOR DON HARDING (UNIVERSITY OF MELBOURNE)

Models of the macro economy range from those which have a strong emphasis upon understanding the mechanisms that might be at work, and so tend to be towards the theoretical end of the spectrum, to those which are better regarded as purely statistical models that attempt to provide a close match to the data. Where the emphasis is placed by an investigator often depends upon the use to which they will be put.

The objective of the program is to pursue research into the design of macro-econometric models, to develop techniques to assist in this process, to evaluate the finished product and to examine their role in forecasting and the analysis of economic processes. As the latter will depend upon the purpose of the analysis certain themes will become more important from time to time. For the past few years the theme pursued by the Directors has been on the design and evaluation of models for business cycle analysis and it is envisaged that they will continue to work in this area.

Therefore we see the proposed activity within this program as being organized initially into a minimum of four projects:

- (a) The link between theoretical and statistical models. Many quantitative theoretical models, such as MSG3, have strong theoretical foundations but are weaker on dynamic adjustment processes. Nevertheless they provide a valuable framework for analyzing macroeconomic issues, particularly in economies in which there is sparse data. The central problem is how one can utilize the insights of these models to produce a hybrid model that has a good fit to what data exists. There are now a range of suggested methods for doing this and the project will explore the relative utility of these. It is hoped that one may be able to use the insights gained to assist in the modeling of countries that have limited amounts of quarterly data.
- (b) Business cycles. In recent years the majority of the work done on business cycles, as distinct from a study of economic fluctuations, has been concerned with single

equation statistical models of output rather than the system that generated this “final equation”. In this project the emphasis will be upon “complete” systems. A question that might be examined from such a perspective is how monetary policy rules change the nature of the business and inflation cycles. Mostly analyses of such effects has concentrated upon how the variances of inflation and the output gap change but these indices are only partial indicators of how the business and inflation cycles might have been changed. As part of the investigation it will be important to examine the nature of the implied business cycles from existing linear and non-linear VARs.

- (c) Macro-economic models are often used to aid the forecasting process. Increasingly there is a tendency to formulate macro-economic models with a substantial “forward-looking” component. Whilst this may be useful for an understanding of economic interactions it is less clear how useful it is when producing forecasts. Related to this question is the argument that it is shifts in mean growth rates which are critical to forecast performance. It is proposed to investigate these issues. As part of this investigation Bayesian VAR methods are often advocated as ways of improving on forecasts but it is unclear if they can deal satisfactorily with these issues. Another item of interest will be the forecasting of binary outcomes such as expansions and contractions and crises.
- (d) VAR’s are now the workhorse of much macro economic analysis and so there is a need to investigate many issues relating to them such as non-linearities, latent factors, and how to integrate policy actions into them in a useful way. There are also technical difficulties caused by weak instruments when utilizing “theoretical” restrictions and we will pursue an analysis of these, paying attention to alternative methods for identification, such as sign restrictions.

6. Managing Globalisation

DIRECTOR: PROFESSOR DAVID VINES (OXFORD UNIVERSITY/ ANU)

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 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 minimize 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 liberalization 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 liberalization 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.

7. Macroeconomics and Economic Growth in Developing Countries

DIRECTOR: PROFESSOR RAGHBENDRA JHA (ANU)

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 these 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 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 evidence relevant to developing countries does the experience of 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 consequences of 'hot spots' – mass migration in response to war, environmental disasters and the like.

8. Macroeconomics and Longer Run Issues

DIRECTORS: DR ALEXANDRA SIDORENKO (ANU) and PROFESSOR WARWICK McKIBBIN (ANU)

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 increasingly evident that modern epidemics create global economic shocks that by far exceed direct and indirect costs of treatment. The program will combine General Equilibrium 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 General Equilibrium 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 macro economy 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 modeling 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 macro economy 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.