



THE  
AUSTRALIAN  
NATIONAL  
UNIVERSITY



THE UNIVERSITY OF  
WESTERN AUSTRALIA

**CENTRE FOR ECONOMIC POLICY RESEARCH**  
Research School of Social Sciences  
Australian National University

and

**ECONOMIC RESEARCH CENTRE**  
Department of Economics  
University of Western Australia

**Report of the 2002**

**PhD Conference in Economics and Business**

6-8 November 2002

*ANU, Canberra*

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Conference Convenors:  
Conference Coordinator:

Bob Gregory and Bruce Chapman  
Rae Carson

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## CONFERENCE REPORT

The 2002 PhD Conference in Economics and Business was held at the Australian National University, Canberra from 6-8 November. This was the fifteenth in the series of conferences jointly convened by the Economic Research Centre at the University of Western Australia and the Centre for Economic Policy Research at the Australian National University.

The annual conference has become an important forum for students in the process of completing their doctoral degrees. Students from around Australia are invited to submit papers based on their doctoral research and are matched with a discussant who is asked to read the student's paper in advance and prepare a written set of comments. The conference affords students the opportunity to make a formal presentation in a conference environment and to interact with students and staff from other universities to establish a strong contact network for their future careers.

Twenty-eight students from around Australia presented papers, along with one student from the University of Auckland, New Zealand, one from McMaster University, Canada and one from the Massachusetts Institute of Technology, USA.

The papers covered topics such as Moves to a Basic Income-flat Tax System in Australia, The Long Term Impact of Colonial Rule: Evidence From India, Market Imperfection and Total Factor Productivity Growth, Australian CEO Remuneration and Public Hospital Efficiency.

Overall the papers were of a very high standard and the students are to be congratulated for their well-prepared presentations.

Discussants were invited to the Conference from universities around Australia. Staff from the Reserve Bank of Australia and the Productivity Commission also acted as discussants and we thank all the discussants for their participation and effort which contributed so much to the success of the conference. We are also grateful to their institutions for making the time available for discussants to attend the conference.

The conference began with a very enjoyable barbecue on the Wednesday evening and was officially opened the following morning by Professor Bob Gregory from ANU. The invited lecture was presented by Dr Ian Watt, Secretary to the Department of Finance and Administration who spoke on the topic of Commonwealth government budgets. Dr Watt's wealth of experience and understanding of budget processes ensured a consummate and accessible excursion across several major topics, such as the role of the Expenditure Review Committee, changing budgetary priorities, and the role of government debt. Dr Watt also took questions on a range of contemporary issues, such as the sale of Telstra and the economics of hypothecated bond issues. All participants agreed that Dr Watt made an excellent contribution to the economic policy education of both PhD students and staff present.

It is customary for prizes to be awarded at the conclusion of the conference and this year's winner for Best Presentation was Timothy Kam from the University of Melbourne for his paper "Interest rate smoothing and simple policy rules in a forward-looking small open economy". There was a tie for runner-up - shared by James Fogarty from the University of Western Australia and Thai Cau from the University of New South Wales. Best Discussant was awarded to Professor Joshua Gans from the Melbourne Business School and runner-up was Tom Kompas from the ANU. These awards are decided by ballot.

The coordinator, Rae Carson, was presented with a large bunch of flowers at the conclusion of the conference and the assistance of Rita Coles and Drew Treasure who provided support for Power point presentations was also acknowledged. These conferences cannot be the success that they are without the extra-ordinary input of energy, patience and good cheer of the coordinator.

The PhD Conference plays a unique role in economic and business research in Australia. Overall about 400 students have now been involved in the conference series and it has made a major impact on graduate training in Australia and beyond. For details of previous conferences see Ye Qiang and K W Clements "Ten Years of the PhD Conference" *Economic Record*, 75 (19-99): 301-12.

The conference would not be possible without generous financial support from a number of sponsors and this year we welcomed the National Institute of Economics and Business, ANU as a new and significant sponsor. We are grateful to the following institutions for their support:

The Allen Consulting Group

Australia & New Zealand Banking Group Limited

Australian Agricultural & Resource Economics Society, Inc

Australian Bureau of Statistics

Commonwealth Bank of Australia

Economic Society of Australia

ECONTECH

National Institute of Economics and Business

Productivity Commission

Reserve Bank of Australia

The Treasury

The University of Western Australia

## PROGRAM

### WEDNESDAY, 6 NOVEMBER 2002

**6.30-10.00pm** Registrations and Welcome, BBQ  
The Drawing Room, University House, ANU

### THURSDAY, 7 NOVEMBER 2002 – H C Coombs Building

**8.50am** Conference Welcome: Venue: H C Coombs Lecture Theatre

**9.15-10.45am** Session 1: Venue: Session Room A  
Session 2: Venue: Session Room B  
Session 3: Venue: Session Room D

**10.45-11.15am** Morning tea/coffee - H C Coombs Lecture Theatre Foyer

**11.15-12.45am** Session 4: Venue: Session Room A  
Session 5: Venue: Session Room D

**12.45-2.15pm** Lunch: University House

**2.15-3.45pm** Session 6: H C Coombs Lecture Theatre

**3.45-4.15pm** Afternoon tea/coffee - H C Coombs Lecture Theatre Foyer

**4.15-5.45pm** Session 7: Venue: Session Room A  
Session 8: Venue: Session Room C  
Session 9: Venue: Session Room D

**7.00 for 7.30pm** Conference Dinner: Vivaldi Restaurant, ANU

### FRIDAY, 8 NOVEMBER 2002 – H C Coombs Building

**8.45-10.15am** Session 10: Venue: Session Room C  
Session 11: Venue: Session Room D  
Session 12: Venue: Session Room E

**10.15-10.45am** Morning tea/coffee - H C Coombs Lecture Theatre Foyer

**10.45-11.30am** Session 13: Venue: Session Room C  
Session 14: Venue: Session Room D  
Session 15: Venue: Session Room E

**11.30-12.45pm** Invited Lecture: Venue: H C Coombs Lecture Theatre

**12.45-2.15pm** Lunch: University House

**2.15-3.45pm** Session 16: Venue: Seminar Room A  
Session 17: Venue: Seminar Room D

**3.45-4.30 pm** Venue: H C Coombs Lecture Theatre Foyer  
Afternoon tea/coffee, voting and presentation of “Awards”

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## SESSIONS

**Session 1:** Thursday, 9.15-10.45am

Chairperson: Glenn Withers, Graduate Program in Public Policy, ANU

(i) **Jonathan Dark**, School of Policy, Faculty of Business & Law, University of Newcastle

*Multi-period dynamic hedging strategies on the All Ordinaries using SPI Futures*

(ii) **James McCulloch**, Department of Finance and Economics, UTS

*Trading strategy and minimum tick size on the Australian Stock Exchange*

Discussants: (i) **Paul Kofman**, Dept of Finance, University of Melbourne

(ii) **Richard Heaney**, School of Finance & Applied Statistics, ANU

**Session 2:** Thursday, 9.15-10.45am

Chairperson: Ben Smith, School of Economics, ANU

(i) **Han Hwee Chong**, School of Economics & Finance, CUT

*Imports and oligopoly behaviour in Australian manufacturing*

(ii) **Thai D H Can**, AGSM, University of New South Wales

*Collusive behaviour of generators in electricity markets: a co-evolutionary analysis*

Discussants: (i) **Rod Tyers**, School of Economics, ANU

(ii) **Stephen King**, Melbourne Business School

**Session 3:** Thursday, 9.15-10.45am

Chairperson: Justine Gibbins - SPEAR, RSSS, ANU

(i) **Robyn Pilcher**, School of Accounting, Charles Sturt University

*Reporting of roads by NSW Local Councils: an institutional theory framework*

(ii) **Rosanna Scutella**, MIAESR, University of Melbourne

*Moves to a basic income-flat tax system in Australia: implications for the distribution of income and supply of labour*

Discussants: (i) **John Taplin**, Dept of Information Management and Marketing,  
University of Western Australia

(ii) **Deborah Cobb Clark**, SPEAR, RSSS, ANU

**Session 4:** Thursday, 11.15-12.45pm  
Chairperson: Cohn Cameron, University of California, Davis and RSSS, ANU  
(i) **Vitaly Pershin**, Department of Economics, UWA  
*Incentive policies and foreign direct investment flows: theory and evidence*  
(ii) **Nagaratnam Sreedharan**, School of Economics and Finance, Curtin University of Technology  
*The extremal expectations hypothesis*  
Discussants: (i) **Maria Racionero**, School of Economics, ANU  
(ii) **Gordon Menzies**, Reserve Bank of Australia

**Session 5:** Thursday, 11.15-12.45pm  
Chairperson: Xiaodong Gong, Economics Program, RSSS, ANU  
(i) **Chia-Hung Sun**, Department of Economics, RSPAS, ANU  
*Market imperfection and total factor productivity growth: new empirical evidence from Taiwan*  
(ii) **Paritosh Chandra Ghosh**, Dept of Economics, University of Sydney  
*A structural analysis with reference to the environmental Kuznets Curve hypothesis*  
Discussants: (i) **Dean Parham**, Productivity Commission  
(ii) **Prem Thapa**, Economics Program, RSSS, ANU

**Session 6:** Thursday, 2.15-3.45pm  
Chairperson: Alison Booth, Economics Program, RSSS, ANU  
(i) **Andrew Clarke**, Department of Economics, McMaster University  
*Organizational Capital and Plant Productivity*  
(ii) **Lakshmi Iyer**, Dept of Economics, Massachusetts Institute of Technology  
*The Long-term Impact of Colonial Rule: Evidence from India*  
Discussants: (i) **Steve Dowrick**, School of Economics, ANU  
(ii) **Bob Gregory**, Economics Program, RSSS, ANU

**Session 7:** Thursday, 4.15-5.45pm  
Chairperson: Warwick McKibbin, Dept of Economics, RSPAS, ANU  
(i) **Tony Cavoli**, School of Economics, University of Adelaide  
*The exchange rate and monetary policy rules in East Asia*  
(ii) **Takaharu Eto**, School of Economics, Faculty of Economics & Commerce, ANU  
*Organisational inertia in the Ministry of Finance and the financial crisis in Japan*  
Discussants: (i) **Prasanna Gai**, Department of Economics, RSPAS, ANU  
(ii) **David Gruen**, Reserve Bank of Australia

**Session 8:** Thursday, 4.15-5.45pm  
Chairperson: Bob Breunig, Economics Program, RSSS  
(i) **Ali Salman Saleh**, Department of Economics, University of Wollongong  
*Modelling the impact of budget deficits on Lebanon's economy*  
(ii) **Tina Kao**, Department of Economics, University of Auckland  
*Asymmetric information and R&D competition*  
Discussants: (i) **Glenn Otto**, School of Economics, UNSW  
(ii) **Joshua Gans**, Melbourne Business School

**Session 9:** Thursday, 4.15-5.45pm

Chairperson: Tim Hatton, Economics Program, RSSS, ANU

(i) **Richard Culas**, Department of Economics, Faculty of Economics and Business, University of Sydney

*The causes of tropical deforestation and contemporaneous correlation*

(ii) **Anna Straton**, School of Economics, University of Queensland

*Resilience as a guiding principle for understanding and managing social-ecological systems*

Discussants: (i) **Quentin Grafton**, CRES, ANU

(ii) **Richard Damania**, School of Economics, University of Adelaide

**Session 10:** Friday, 8.45-10.15am

Chairperson: Paul Kofman, Department of Finance, University of Melbourne

(i) **James Jae-Myoung Kim**, Australia-Japan Research Centre, ANU

*Corporate value and ownership structure: the case of the Korean PLCs*

(ii) **Rachel Merhebi**, Finance Discipline, University of Sydney

*Australian CEO remuneration: a non-anomaly in the global market*

Discussants: (i) **Peter Swan**, School of Banking and Finance, UNSW

(ii) **Ken Clements**, Department of Economics, UWA

**Session 11:** Friday, 8.45-10.15am

Chairperson: Trevor Breusch, ACSPRI Centre for Social Research, RSSS, ANU

(i) **Felix Chan**, Department of Economics, University of Western Australia

*The econometrics of intellectual properties: structure and asymptotic theory for multivariate asymmetric volatility*

(ii) **Zhian Chen**, School of Banking & Finance, University of New South Wales

*Empirical test of the liquidity asset pricing model on the segmented Chinese equity market*

Discussants: (i) **David Harris**, Dept of Economics, University of Melbourne

(ii) **Robert Faff**, Faculty of Business & Economics, Monash University

**Session 12:** Friday, 8.45-10.15am

Chairperson: John Taplin, University of Western Australia

(i) **Hayden Mathysen**, Dept of Economics, Monash University

*Uncertainty, heuristic bias and contrived focal points in tacit coordination games*

(ii) **Heath Spong**, Research Development Unit, School of Economics and Finance, Royal Melbourne Institute of Technology

*The Normative bias in entrepreneurial theory*

Discussants: (i) **Peter Bardsley**, Dept of Economics, University of Melbourne

(ii) **Jonathan Pincus**, School of Economics, Adelaide University

**Session 13:** Friday, 10.45-11.30am

Chairperson: Graeme Wells, Faculty of Economics & Commerce, ANU

**Luci Ellis**, School of Economics, University of New South Wales

*Changes in the transmission mechanism as an indicator of forward-looking behaviour*  
Discussant: **Mardi Dungey**, Dept of Economics, RSPAS, ANU

**Session 14:** Friday, 10.45-11.30am

Chairperson: Graeme Snooks, Economics Program, RSSS

**Luke Reedman**, School of Policy, University of Newcastle

*An assessment of the propensity for the development of financial fragility in the Australian Economy: 1970-2001*

Discussant: **Mark Crosby**, Dept of Economics, University of Melbourne

**Session 15:** Friday, 10.45-11.30am

Chairperson: Chris Ryan, SPEAR, RSSS, ANU

**Simon Eckerman**, School of Economics, University of New South Wales

*Public hospital efficiency: the advantages of disaggregated analysis*

Discussant: **Colin Cameron**, University of California, Davis and RSSS, ANU

**Invited Lecture:** Friday, 11.30-12.45pm

Chairperson: **Ken Clements**, Dept of Economics, University of Western Australia

Speaker: **Dr Ian Watt**, Secretary, Department of Finance and Administration

*Budgets, Balances and Bureaucrats: Reflections on 18 years of Commonwealth Budgets*

**Session 16:** Friday, 2.15-3.45pm

Chairperson: Steve Dowrick, School of Economics, ANU

(i) **Timothy C Y Kam**, Department of Economics, University of Melbourne

*Interest-rate smoothing and simple policy rules in a forward-looking small open economy*

(ii) **Kris Funston**, Faculty of Economics and Commerce, ANU

*Rate-of-return regulation and a subsidy on capital: an equivalence result*

Discussants: (i) **Geoff Kingston**, School of Economics, UNSW

(ii) **Stephen King**, Melbourne Business School

**Session 17:** Friday, 2.15-3.45pm

Chairperson: Bruce Chapman, CEPR, RSSS, ANU

(i) **James Fogarty**, Department of Economics, UWA

*Why is expert opinion on wine valueless?*

(ii) **Liu Gang**, School of Economics, University of Tasmania

*The technical efficiency of Australian irrigation schemes*

Discussants: (i) **Glyn Wittwer**, Centre of Policy Studies, Monash University

(ii) **Tom Kompas**, National Centre for Development Studies, ANU

## **THE ABSTRACTS**

### **Monetary Policy Rules in East Asia**

Tony Cavoli  
University of Adelaide

This paper uses a simple open-economy macro model to estimate and evaluate monetary policy rules for a selection of East Asian economies. Of particular interest is the role of the exchange rate. Should the rule explicitly capture the exchange rate should it be a function of the usual variables - the inflation gap and output gap? Also, should the exchange rate be considered for use as an instrument of monetary policy - in addition to the short-term interest rate? These are pertinent questions in relation to East Asia, as there still exists a general reluctance on the part of Central Banks, since the crisis, to allow their currency to float more or less without intervention in the FX markets.

### **The Econometrics of Intellectual Properties: Structure and Asymptotic Theory for Multivariate Asymmetric Volatility**

Felix Chan  
University of Western Australia

The purpose in registering patents is to protect the intellectual property of the rightful owners. Deterministic and stochastic trends in registered patents can be used to describe a country's technological capabilities and act as a proxy for innovation. This paper presents an econometric analysis of the symmetric and asymmetric volatility of the patent returns, which is based on the number of registered patents for the top six foreign patenting countries in the USA. International rankings based on the number of foreign US patents, patent intensity (or patents per capita), patent share, the rate of assigned patents for commercial exploitation, and average rank scores, are given for the top twelve foreign countries. Monthly time series data from the United States Patent and Trademark Office for January 1975 to December 1998 are used to estimate symmetric and asymmetric models of the time-varying volatility of the patent returns, namely the rate of change of registered patents. A constant correlation multivariate asymmetric ARMA-GARCH

model is presented and its underlying structure is established, including the unique, strictly stationary and ergodic solution of the model, its causal expansion, and the necessary and sufficient conditions for the existence of moments. Alternative sufficient conditions for the consistency and asymptotic normality of the quasi-maximum likelihood estimator are established under non-normality of the conditional (or standardized) shocks. The empirical results provide a diagnostic validation of the regularity conditions underlying the GJR (1,1) model, specifically the log-moment condition for consistency and asymptotic normality of the QMLE, and the computationally more straightforward but stronger second moment condition. Empirical results show that the log-moment and second moment conditions for the QMLE to be consistent and asymptotically normal were satisfied for GARCH and GJR for all countries, except in two of twelve cases. A comparison of the patent returns of the six countries at the multivariate level for both the symmetric GARCH (1, 1) and asymmetric GJR (1, 1) models suggested the presence of asymmetric effects for two countries, namely France and Japan. Multivariate effects were observed across all patent returns for all countries, namely twelve cases in total.

## **Empirical Test of the Liquidity Asset Pricing Model on the Segmented Chinese Equity Market**

Zhian Chen  
University of New South Wales

In China some local firms issue two classes of tradable shares: A-Shares, which are available only to Chinese domestic investors and B-Shares, which are available only to foreign investors. Significant stock price discounts exist for the B-shares relative to the A-shares. This paper analyses the effect of market segmentation on stock prices and returns in the Chinese stock markets. Swan's (2002) liquidity asset pricing model is used to explain the price difference between the two classes of shares. Our results show that the liquidity asset pricing model does provide a better explanation of the equity premium of both A-shares and B-shares when compared with the other explanatory variables. The price difference and the change of price difference between the A- and B-shares also

depend on the liquidity differences between the two markets, and some other explanatory variables, such as firm size, and information content.

## **Imports and Oligopoly Behaviour in Australian Manufacturing**

Han Hwee Chong  
Curtin University of Technology

Oligopoly behaviour by domestic firms faced with foreign competition in a small open economy is examined in the context of a market for differentiated products. This paper concentrates on the responsiveness of import flows to import price in the context of trade with imperfect competition. Firm behaviour is modeled using conjectural variations to identify market power. This paper will be based on two cases of oligopoly theories, namely, Cournot and Bertrand conjectural variations. This leads to the econometric specification of pricing, import and budget share equations consistent with oligopolistic equilibrium. The interrelationship between the budget share equations and the price-cost margin provides consistency to either Cournot or Bertrand conjectural variations. This econometric specification is applied to each of the three digit Australian manufacturing industries using quarterly data covering the period from 1984 to 2000.

## **Organizational Capital and Plant Productivity**

Andrew Clarke  
McMaster University

This paper investigates a model in which organisations, engaged in the process of production, acquire knowledge that raises productivity. The critical feature of this knowledge is the nature of its production - as a joint product with the production of marketable goods and services. This knowledge is treated as an organization specific capital good that is accumulated and stored by the organisation. This organisational capital is produced according to a technology that uses both the existing stock of organisational capital and plant output as productive inputs. This paper develops a

structural model to investigate evidence for the accumulation of organisational capital at the plant level. Estimates of the structural parameters are obtained by directly estimating the first order condition arising from the plant's optimisation problem. Using a lengthy panel of annual observations for a large cross section of Canadian manufacturing establishments, this paper focuses upon the industry level variation in the structural parameters of the model that characterise this accumulation of organisational capital at the plant level. The results indicate considerable variation in the estimates of the structural parameters across broad industry groups.

## **The Causes of Tropical Deforestation and Contemporaneous Correlation**

Richard Culas  
University of Sydney

This paper analyses causes of tropical deforestation in three regions (Latin America, Africa and Asia) covering 52 developing countries over a period from 1991 to 2000. Causes of deforestation are grouped in two levels: direct (first-level) and indirect (second-level) causes. The *direct* causes come from consumption and export demands for forest products as well as from demand for land use such as cropland and pasture. The *indirect* causes are due to population, national income, external debt, government policies, etc. A cross-sectional econometric model, recursive in nature, is estimated in two stages. In the first stage, the direct causes of deforestation are estimated using the indirect causes as the explanatory variables. Zellner's seemingly unrelated regression (SUR) estimation is applied in order to correct for contemporaneous correlation of the equations for direct causes. In the second stage, the SUR estimates of the direct causes are used to regress the deforestation equation. Since the LM test statistics demonstrate the importance of addressing the contemporaneous correlation in the model, the SUR based estimates are then discussed for the effect of different direct and indirect causes on deforestation in three geographic regions. The overall results suggest that the effects of different causes of deforestation vary somewhat across the three regions and that each region needs some specific policy prescription.

# **Multi-period Dynamic Hedging Strategies on the All Ordinaries Using SPI Futures**

Jonathan Dark  
University of Newcastle

Empirical evidence over the last five to ten years has found that financial market volatility exhibits long memory, or near long memory behaviour. The recent availability of high frequency data sets has also resulted in a voluminous literature. Much of the hedging literature however fails to incorporate these developments. This paper intends to implement a multi-period dynamic hedging strategy on the All Ordinaries using SPI futures. It will examine whether the use of these more sophisticated procedures actually provides superior hedging outcomes. In particular the performance of the following models will be compared; i) a bivariate GARCH (1, 1) using daily data; ii) a bivariate GARCH (1, 1) using 5 minute returns and iii) a bivariate FIGARCH(1, d, 1) using 5 minute returns.

# **Public Hospital Efficiency: the Advantages of Disaggregated Analysis**

Simon Eckermann  
University of New South Wales

Public hospitals can be seen as multi-product firms, with largely exogenously determined cost shares by activities (patients presenting for care). Aggregate public hospital economic efficiency measures, such as cost per case-mix-adjusted admission, assume hospitals have control over the mix between activities, while confounding adjustment of patient risk factors and health outcomes. To avoid inappropriate peer identification and benchmarking, efficiency measurement at a lower level allowing for patient outcomes and risk factors is suggested. Economic efficiency for individual hospital activities is identified from Australian costs, admissions and outcomes data, using an activity-analysis approach. Technical and residual allocative efficiency are also calculated.

# **Changes in the Transmission Mechanism as an Indicator of Forward-Looking Behaviour**

Luci Ellis  
University of New South Wales

In this paper, we estimate a simple VAR model for several developed countries, and calculate measures of the transmission mechanism from the results. Instability of this measure with break dates around the times of putative shifts in the monetary-policy regime is taken as evidence of forward-looking behaviour by private-sector agents, that is, that the Lucas Critique is relevant for these economies.

## **Organisational Inertia in the Ministry of Finance and the Financial Crisis in Japan**

Takaharu Eto  
Australian National University

This paper is motivated by the organisational inertia of the Ministry of the Finance (the MOF) in its response to the financial crisis during the 1990s. The adherence to conventional policy was a puzzling feature of the MOF's behaviour in that period when the banking sector problem was escalating to crisis level. The MOF was very reluctant to build up a robust safety net against systemic risk, even though it was well aware of the potential risk of financial crisis. It continued to resort to a traditional case-by-case approach. Consequently, a strong safety net had not been built into the Japanese economy prior to November 1997 when the financial system nearly broke down. Furthermore, it was not the leadership of the MOF, but politicians' strong initiatives that paved a way for the construction of framework to manage the banking sector crisis. This episode reveals how fiercely organisational inertia was working in the MOF.

We model a situation where, as one of its tasks, a hierarchical authority is responsible for overseeing the banking industry. We show that the career concerns of officials in the authority generate an organisational inertia such that a new junior official leaves the decision made by a former junior official unchanged. Consequently, the inertia may result

in deviation from optimal policies. The model also suggests that this kind of inertia is acute in typical Japanese organisations where lifetime employment and inside promotion are prevalent. In our model, “bad money drives out good money” is the dynamic response of an organisation to the entry of self-interested officials. In addition, our analysis provides the career concerns of government officials as a new source of soft budget constraints.

## **Why is Expert Opinion on Wine Valueless?**

James Fogarty  
University of Western Australia

This paper presents an improved hedonic price estimate for wine sold in the Australian retail market. In the model developed, concepts from viticulture and wine tasting theory have been drawn upon to ensure both estimation technique, and variable selection, are theoretically sound. Approaching the estimation question in this manner has provided important new insights into domestic wine pricing. The empirical results presented in this paper suggest: (i) objective characteristics explain price; (ii) subjective measures of wine quality, such as annual wine ratings, do not influence price; and (iii) OLS, not 2SLS, is the most appropriate estimation technique.

## **Rate-of-Return Regulation and a Subsidy on Capital: an Equivalence Result**

Kris Funston  
Australian National University

This paper illustrates that a monopoly subject to rate-of-return (ROR) regulation, employs inputs in the same manner as a monopoly receiving an input subsidy on capital. Using this equivalence result, it is possible to show:

- (i) The paradoxical outcome that a monopoly subject to a lower fair rate employs an input mix consistent with it receiving a higher input subsidy on capital;

- (ii) That for a given level of production and with zero marginal cost of funds, a production subsidy leads to higher levels of welfare than ROR regulation; (iii) How Yang and Fox (1994) are able to derive a welfare-improving property tax for the ROR regulated monopoly; and
- (iii) Why a post-tax cost of capital - rather than a pre-tax cost of capital - combined with accelerated depreciation, has the potential to increase investment in capital.

## **The Technical Efficiency of Australian Irrigation Schemes**

Liu Gang  
University of Tasmania

The technical efficiency of Australian's major irrigation schemes is evaluated by applying a data envelopment analysis (DEA) model and a stochastic frontier analysis (SFA) model to Australian irrigation scheme panel data from 1998 to 2000. Spearman's coefficient is used to indicate the correlation between the two efficiency score rankings which are the outcomes. The results of this study show that averages technical inefficiency score of Australian irrigation schemes as a whole are about 30 percent below the efficient level implying that there is substantial potential for improving the performance of Australian irrigation schemes. The inefficiency of Australia's irrigation schemes is attribute to both managerial and scale inefficiency.

## **A Structural Analysis with Reference to the Environmental Kuznets Curve Hypothesis**

Paritosh Ghosh  
University of Sydney

There is said to be an inverted U shaped relationship between economic growth and the environment, named environmental Kuznets curve. But why such relationship exists and what are the mechanisms by which economic development improves environment is not well known. Studies are generally based on reduced form single equation model, which could not explain much insight into the underlying causes of relation between them. To

overcome these limitations, this study developed a structural model for analysing economic growth-environment linkages. Using panel data from a cross-section of countries widely dispersed on the economic growth scale, this study found that the scale of economic activities deteriorates environmental quality during the earlier stage of economic growth. Where as, structural changes in the economy and abatement activities offset this effect and improve environmental quality during the later stage. It also found that these effects differ widely across income groups and a global aggregation is a misspecification of the EKC relationship.

## **The Long-term Impact of Colonial Rule: Evidence from India**

Lakshmi Iyer  
Massachusetts Institute of Technology

Are long-term economic outcomes affected by the fact of being ruled by a Colonial pd in the past? I answer this question by comparing areas in India which were under direct control of British administrators with areas which were ruled by Indian rulers and only indirectly controlled by the Colonial power. OLS results indicate that British areas have higher levels of agricultural investment and productivity in the post-independence period, but somewhat lower levels of public goods in rural areas. However, these results are likely to be misleading if British annexation policy were highly selective. To correct for this, I take advantage of the changing policies of the British with regard to taking over native states for direct rule to construct an instrumental variables estimate. I find that the positive results on agricultural productivity are mostly driven by the fact that the British annexed the most productive areas. Further, areas under direct British rule have significantly lower levels of public goods in the post-Independence period. Data from earlier periods indicates that this is mostly due to differences in the Colonial period, and that there is some convergence across British-ruled and native-ruled areas after the end of British rule.

## **Asymmetric Information and R&D Competition**

Tina Kao  
The University of Auckland

This paper analyses R&D competition among firms with incomplete information. In a stochastic R&D game, firms possess private information regarding their R&D progress. They can only observe the rival's R&D investments, but not its actual R&D position. R&D investments thus carry both investment and signalling effects. In this two-period model, there are two possible regimes for the second period game: the complete information regime and the signalling regime. In the signalling regime, in order to credibly convey to the rival its first period research success, the first mover has to over-invest. Both firms have higher profits in the complete information regime. The game is in the signalling regime if the difference between monopoly and duopoly profit is sufficiently large and if the possibility of leapfrogging is high. For some parameter ranges, the choice of the information regime is endogenous.

## **Interest-rate Smoothing and Simple Policy Rules in a Forward-looking Small Open Economy**

Timothy Kam  
University of Melbourne

This paper considers a small-open-economy model with Campbell and Cochrane (1999) household habit formation and non-tradable goods. The model does well in mimicking key Australian macroeconomic data and improves on the basic consumption-smoothing model in terms of matching the persistence of the data. Relative to the benchmark model, experiments on simple monetary policy rules with interest-rate smoothing is conducted. Using a second-order approximation to the household's expected utility function, a welfare measure is derived. It is found that "super-inertial" policy can be welfare improving only when the central bank uses a simple rule that strongly targets contemporaneous inflation and output, and is especially tough on the former.

## **Corporate Value and Ownership Structure: the Case of the Korean PLCs**

James Jae-Myoung Kim  
Australian National University

This paper examines the relationship between ownership structure and corporate performance for the Korean publicly listed companies (PLCs). It has been suggested that there is a significant non-monotonous relation between the level of insider ownership and corporate value for the Korean PLCs. Ignoring the endogeneity issue, insider ownership affects corporate value, but not vice versa. The relationship is tested by piecewise ordinary least squares linear regressions and the two stage least squares linear regressions applied to equations which include variables of insiders ownership, ownership concentration, ownership composition and corporate value, as well as control variables and industrial dummy variables. The findings here in this study raise questions regarding the assumption that ownership structure is endogenously determined, but support the combined theories that corporate value is affected by levels of insider ownership structure.

## **Trading Strategy and Minimum Tick Size on the Australian Stock Exchange**

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The Australian Stock Exchange (ASX) has a fixed minimum price step (tick size) of 1 cent when trading stocks priced 50 cents and above. The minimum percentage step size between buyers and sellers (relative spread size) of a 50 cent stock is 2%. For a \$50 stock the minimum spread is 0.02%. Direct execution costs (brokerage) for the execution of stock on the ASX are estimated to be approximately 0.2%. Therefore, for a 50 cent stock, the cost of executing a market order and crossing the 2% spread is 10 times estimated direct execution costs. Conversely for a \$50 stock the cost of executing a market order and crossing the 0.02% spread is 1/10 estimated direct execution costs.

This range of minimum relative spread costs produces a dramatic polarization in observed trading strategy. Low valued stocks (high relative spread cost) are dominated by limit order trading strategies, with higher valued stocks (low relative spread cost) market order trading strategies predominate.

An analysis of the spread costs paid by market order traders when trading higher valued stocks (low relative spread cost) shows that there is an *equilibrium spread cost* of approximately 0.15% which limit order traders demand as compensation for providing market order traders with liquidity. This implies that for stock markets similar to the ASX (continuous auction electronic markets), there is no liquidity penalty for having small relative minimum tick sizes because limit order traders will always demand the *equilibrium spread cost* to provide liquidity. This may have direct policy implications on the optimal design of continuous auction electronic markets because minimum relative tick sizes greater than the *equilibrium spread cost* distort trading strategy towards limit order strategies whereas for minimum relative tick sizes equal to or less than the *equilibrium spread cost* trading strategies are unchanged.

## **Uncertainty, Heuristic Bias and Contrived Focal Points in Tacit Coordination Games**

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While bounded rationality and heuristically biased behaviour have received close attention in economic research, their implications for inter-player coordination have not been thoroughly explored. Boundedly rational behaviour and heuristically biased reasoning generate, and are a result of, strategic, epistemic and aleatory uncertainties. Such uncertainties precipitate disequilibrium and equilibrium coordination failure. If, however, a third party contrives and disseminates a focal strategy this may reduce those uncertainties and increase the probability of coordinating actions. My thesis uses a boundedly rational variant of the theory of Variable Frames to formally examine player behaviour when a focal strategy is contrived and disseminated by a third party. This paper reports two experiments which were conducted to analyse the effect of uncertainty

and heuristic biases on the ability of players to coordinate actions and to examine the coordinative potential of a contrived and disseminated focal strategy by a third party.

## **Australian CEO remuneration: a Non-anomaly in the Global Market**

Rachel Merhebi  
University of New South Wales

This paper studies the link between Australian CEO remuneration/turnover and corporate performance. Prior Australian literature in this area has failed to detect any significant link, contrary to the international literature. This literature is founded in agency theory, and is based on the expectation that managers require their remuneration to be linked with corporate performance to align their interests with those of shareholders. As the market for corporate control is now global, with some Australian corporations being led by imported managers, we expect that any such links should also exist within the Australian context. Using models in line with those of the international literature, we find evidence to support this prediction.

## **Incentive Policies and Foreign Direct Investment Flows: Theory and Evidence**

Vitaly Pershin  
University of Western Australia

Many countries now offer substantial incentives to attract FDI, and many companies demand such payments. This paper provides a model that establishes how much of a country's benefits should be paid as incentives to attract FDI; and exactly how much a company should require to induce it to invest. The company's locational choice and the incentive package that the company receives are determined by the relative costs of factors of production and government's benefits from the FDI. A regression using instrumental variables is suggested to estimate the impact of incentives, which are considered an endogenous rather than exogenous variable.

## **Reporting of Roads by NSW Local Councils: an Institutional. Theory Framework**

Robyn Pilcher  
Charles Sturt University

With the introduction of AAS 27 Financial Reporting by Local Governments, local councils were required to change dramatically their reporting of infrastructure assets, including road networks. This document examines the recording, maintenance and depreciation of roads within a sample of NSW local councils. Inconsistencies highlighted suggest that whether councils report an operating surplus or an operating loss (due to the inclusion of a depreciation expense), influenced their willingness to comply with current reporting requirements. Also evident was the ability of perceptions of different stakeholders to influence accountants when reporting on infrastructure assets and resulting performance indicators. Behavioural aspects associated with management choice using institutional theory as the framework is introduced as one avenue being explored to try and determine to whom preparers believe they are accountable when making reporting decisions and how this influences their choice of accounting for infrastructure assets, and in particular road networks.

## **An Assessment of the Propensity for the Development of Financial Fragility in the Australian Economy: 1970-2001**

Luke Reedman  
University of Newcastle

Central banks in both developing and developed countries are increasingly concerned with the maintenance of financial stability. This concern reflects the substantial macroeconomic losses observed following periods of systemic financial instability. The financial instability hypothesis developed by Minsky (1977a, 1986) posits a cyclical mechanism, whereby episodes of systemic instability are preceded by increasing financial fragility (heightened vulnerability) amplified by successful macroeconomic performance. In the Australian context, previous episodes of systemic financial instability seem to

conform to this pattern. This paper develops preliminary econometric models to test this proposition for the period 1970-2001.

## **Modelling the Impact of Budget Deficits on Lebanon's Economy**

Ali Saleh  
University of Wollongong

A major two aims of this thesis is, first to examine the impact of the accumulation of budget deficits and debt on the economic performance of the Lebanese economy over the period of 1970-2000 (before, during, and after the civil war); second to develop a dynamic macroeconomic model for Lebanon which can be used to examine the macroeconomic effects arising from budget deficits and the funding of it (e.g. monetary accommodation or bond financing), and to analyze as well exogenous shocks arising from increased government expenditure and its impact on macroeconomic variables such as output, prices, interest rates, amongst others.

The model developed in this study combines the contributions of models such as DB model (Dornbusch model) and PBM (Portfolio Balance Model), and also of Harvie and Kearney (1996). It is worth noting that the DB and PBM models have a number of deficiencies, especially the neglect of the supply side of the economy; they also do not focus on the way of funding the budget deficit and the compo of government expenditure. However, many amendments have made to these existing models in order to make them applicable to the case of Lebanon, in order to analyse the macroeconomic consequences of arising from the current Lebanese deficits crisis. The model developed focuses upon the main aspects of the current Lebanese crisis, which is the public sector deficit. First, the model developed distinguishes between two types of expenditure, capital expenditure and current expenditure. Second, the model developed incorporates the way of funding the deficit whether via bond financing (pure fiscal policy), via money accommodation (pure monetary policy) or a mixture of the two. Third, it incorporates exogenous shocks

arising from an increase in the budget deficit such as increase in government expenditure and the impact of this on macroeconomic variables.

Furthermore, the model developed will be empirically estimated by using the Microfit 4 package and an appropriate Lebanese data wherever possible. The coefficient parameters will then be used to conduct a simulation analysis to examine the impact of the macroeconomic effects arising from the budget deficit and the way of funding it, and to analyse as well an exogenous shocks arising from the increase in the budget deficit such as an increase in government expenditure and the impact of that on macroeconomic variables (such as output, prices, interest rates, among others).

## **Moves to a Basic Income-Flat Tax System in Australia: Implications for the Distribution of Income and Supply of Labour**

Rosanna Scutella  
University of Melbourne

It is generally recognised that the current Australian tax and transfer system is flawed in that it creates ‘poverty traps’ for certain disadvantaged groups in the population. Alongside demand side issues reducing employment opportunities among the low skilled, on the supply side, these poverty traps have largely resulted from an era of increased targeting of social security benefits in the 1980s. Issues such as these have led to a renewed debate about the benefits of universal benefits relative to means-tested benefits. This paper discusses the benefits of moving to a system where benefits are universal such as in a Guaranteed Minimum Income (GMI) system. The effects of such a system on work incentives are examined with estimates of the likely labour supply responses of a GMI generated using a behavioural microsimulation model of the Australian tax and transfer system. Distributional effects are also examined.

# **The Normative Bias in Entrepreneurial Theory**

Heath Spong

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This paper focuses on the methodological distinction between positive and normative analysis as it applies to economic theories of the entrepreneurial process. It will identify the thoroughgoing normative bias in entrepreneurial theories, particularly the two most well-known (ie. Schumpeter, Kirzner). While Baumol's more recent contribution recognises the potential for productive and unproductive results, he restricts his analysis of entrepreneurship to activity that does not break with the accepted rules and conventions of society. This paper highlights the difficulties imposed by this normative position, made most apparent when considering the role of many rules in socio-economic activity—examined in detail by Hayek, Buchanan, North and others.

One view of the entrepreneurial process is provided by Jakee and Spong. Their non-teleological perspective suggests that analysis of entrepreneurial behaviour should not be premised on any assumed outcome, nor should it exclude activity that contravenes the accepted rules of society. We conclude our discussion by providing a short case study which demonstrates the value in lifting such normative restrictions from our analysis of entrepreneurial behaviour.

## **The Extremal Expectations Hypothesis**

Nagaratnam Sreedharan

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The 'rational expectations hypothesis (REH)' assumes that investors' subjective probability measures coincide with their objective probability measures and new relevant information is absorbed into these objective distribution functions instantaneously. A related idea is the efficient market hypothesis which states that the prices of securities as observed reflect all information publicly available. The observed randomness of asset returns re-affirms this line of argument.

This paper is based on the rational expectations hypothesis but ‘allows the objective probability measures to be transformed by subjective expectations. Investors remain rational but they revise their original expectations prior to trading based on their buy-sell positions i.e. they attempt to maximize their expected utility by adopting positional and extreme-valued subjective probabilities based on their prior objective functions. We propose the ‘extremal expectations hypothesis (EEH)’ using extreme value theory to support our findings.

## **Resilience as a Guiding Principle for Understanding and Managing Social-Ecological Systems**

Anna Straton  
University of Queensland

The concept of resilience refers to the ability of a system, here called a social- ecological system, to experience pressure without losing its ability to perform essential functions, including that of reproducing itself. It thus invokes the notion of whole system sustainability, and attention moves to thresholds and capacities rather than optimals, as is the focus of most traditional resource economics. This paper explores the potential of the resilience concept for the analysis and understanding of complex social-ecological systems, using a case study of the Bunaken National Park in Indonesian as illustration, and asks how environmental valuation and evaluation might inform this approach.

## **Market Imperfection and Total Factor Productivity Growth: New Empirical Evidence from Taiwan**

Chia-Hung Sun  
Australian National University

Recent empirical studies on total factor productivity (TFP) growth in the East Asian economies have shown that the economic miracles of these countries can be sufficiently explained by factor accumulation, i.e., labour and capital. The implication of these findings is that such spectacular performance would not be sustainable in the long run due to little progress in TFP.

Following the methodology by Jorgenson, Gollop and Fraumeni (1987), and Young (1995), this study first explores why the shares of factor inputs have not been measured correctly and finds that the earlier findings are not reliable due to the miscalculation of factor shares which have produced low estimated TFP growth in the East Asian countries. Second, three approaches are proposed to empirically illustrate the impact of capital and labour shares on the estimates of TFP growth. It is suggested that TFP growth in the East Asian economies will be understated if net indirect taxes and imperfect competition profit are ignored. Finally, this study not only details TFP growth rates of nine major sectors and the economy in Taiwan but also demonstrates the implication of allowing for net indirect taxes and imperfect competitions in calculating the shares of capital and labour.

Hence, the inaccurate measurement of capital and labour shares is responsible for the biased results of previous studies. Taking the net indirect taxes and imperfect competition profits into account, the result of this paper indicates that Taiwan's economy has enjoyed an average annual TFP growth rate of 3.9% over the period 1980—99.

## **Collusive Behaviour of Generators in Electricity Markets: a Co-evolutionary Analysis**

Thai Cau  
University of New South Wales

Over the last decade, electricity markets have been introduced in many countries including Australia and New Zealand. In addition to characteristics found in many other markets, the electricity market has its own features since electricity is a special commodity subject to numerous engineering constraints. The electricity market can be seen as a dynamic process in which market participants interact repeatedly. Trading agents with profit-maximising strategies are thus able to reach an implicit collusion to profitably increase spot market prices. In this paper, we use a co evolutionary approach to model and analyse this collusive behaviour. Simulation results have shown that in this

special competitive environment, participants can learn to improve their trading profit via tacit collusion.

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