

1. History and Mission

The Centre for Strategic Economic Studies (CSES) was established by the Council of Victoria University in May 1993. One of the six Designated University Centres, the CSES is located at the City Campus of Victoria University, 300 Flinders Street, Melbourne.

Professor Peter J. Sheehan is the Founding Director of the Centre. He is supported by a team of professional staff involved in research and business activities and by graduate students enrolled in both PhD and DBA degree programs.

The mission of the Centre is to:

- address long-term, strategic economic and social issues of international concern and significance;
- consider, in doing so, the role of both general ideas and specific institutions, and the relationship between ideas and institutions;
- develop a specific focus on basic issues relevant to Australia's future, with special reference to the Asian region; and
- develop and train a body of graduate students with the motivation and skills to address these strategic issues in the future.

In fulfilling this mission, the Centre pursues activities in three main areas: research on long-term economic, social and technological issues; commercial activities, including publications, conferences and electronic data services; and postgraduate research training.

2. Research Programs

The Centre's research programs focus on the massive processes of economic, technological and social change taking place in the contemporary world. They seek to develop an understanding of the causes and consequences of these global processes of change, and of the appropriate policy responses in different situations to the challenges arising. The Centre's six main research programs are noted below.

Growth, trade and development

This program concerns the nature and causes of the emerging global knowledge economy and the implications of these trends for individual industries regions and countries. Particular attention is given to the effects of the integration of economies through trade, financial markets and knowledge flows, and to the policy implications – at regional, national and international levels – of this integration.

Governance and regional economies

This program addresses the impact of economic and social change on regional economies, both sub-national and supra-national, and the appropriate policy responses at different levels of government to the new trends. Particular attention is given to

impacts at or below the state or province level, and to the effect of these changes on existing institutions and structures, such as fiscal arrangements between national and regional governments.

Inequality and work

The global changes noted above are bringing about fundamental changes in the nature of work, in the supply of jobs and the skills required, and in the distribution of the rewards from working. This program addresses these issues, exploring their implications for increasing inequality across individuals, families and regions, as well as potential policy responses.

Information technologies and the information industries

This program focuses on the economic and organisational impacts of Information and Communication Technologies (ICTs), including information industry development and policy; the application of ICTs across the economy; consequent structural changes in the economy; emerging business models for information-based businesses; and statistical indicators of information industries and information infrastructure development.

Sustainable development and the environment

This program focuses on the issues involved in achieving a sustainable development path, both nationally and internationally. Particular emphasis has been given to the development of numerical growth models incorporating environmental effects, including climate change, to the impact of technological change and to optimal policy responses.

Technology, innovation and industrial change

Work in this program investigates processes of innovation and technological change in both developed and developing economies. Emphasis is placed on the impact of the information technology revolution and the growth of knowledge intensive industries, but the role of innovation across all industrial and service sectors is also a focus of concern.

Within the broad areas of research focus, the Centre has developed a special emphasis on a number of technologies and/or industries. These include:

- information and communications technologies;
- biotechnology and pharmaceuticals, and
- environmentally sustainable technologies.

The Centre has over a period of years built a small but highly qualified team capable of producing high quality research outputs in applied economics with a focus on better understanding the forces of globalisation, the development of the knowledge economy and their implications for economic, social and political change.

3. Projects summary

The Centre has now been in existence for over a decade and has used this time to build a reputation for producing high quality research outputs in applied economics with a focus on better understanding the forces of globalisation, the development of the knowledge economy and their implications for economic, social and political change. More recently, the emphasis has increasingly moved to research programs assessing the impact of new technologies – biotechnology, information technology and nanotechnology. The Centre is largely self-funded and its resources are constrained by its ability to attract grant and contract research income.

The Pharmaceutical Industry Project, funded by the Merck Company Foundation, the Victorian Government and a range of grants from the industry is an important component of the Centre's external research income. In addition to better understanding the industry, one of the important purposes of the project is to formulate a policy framework, which at once stimulates the development of the biomedical sector and places pharmaceutical pricing in Australia on a more sustainable long term basis. So far over 20 working papers have been produced as part of this program. In March 2004, Prof Peter Sheehan, Bruce Rasmussen and Kim Sweeny attended a conference in Philadelphia to present the results of the project to date.

During the year the Centre commenced work on two projects on generic drugs. One for Medicines Australia, the pharmaceutical industry body, has proved to be instrumental in having the Federal Government substantially revise its proposed policy on the pricing of generics and branded drugs. The other for Pfizer is a more in depth study of the implications for the industry of branded drugs losing their patent protection.

Also of relevance to developments in the pharmaceutical industry, the Centre began work, with funding from an ARC Linkage grant, to study the convergence of the general purpose technologies, information technology, nanotechnology and biotechnology.

Under funding by an ARC Linkage Grant, the Centre continued to work on a three-year program titled Climate Change, Industrial Structure and the Knowledge Economy involving Prof. Sheehan, Dr Islam and Dr Clarke. The Industry Partners include key stakeholders, the Australian Greenhouse Office, the Department of Industry, Tourism and Resources and the Business Council of Australia. A monograph based on the research output from this project is currently in progress. With the strong interest in climate change this will be a timely contribution to the debate.

Another ARC Linkage project on social indicators was completed in 2004, with a report and presentation to about 40 staff of the two industry partners, the Victorian Department of Premier and Cabinet and World Vision

There was ongoing activity in the ICT research program, which included Prof. Houghton's contribution to the OECD Communications Outlook and OECD Information Technology Outlook. Professor Houghton also published a number of

papers based on his report (with Colin Steele of ANU) for DEST on *Changing Research Practices*, which has created considerable domestic and overseas interest. It suggested that the traditional citation based measures of research quality were much less relevant now that so much research was published on the web. Dr Cheng continued his work on microfinance in China. He has also been leading, on behalf of the World Bank, a survey of Chinese migrant workers to study the methods they use to remit income to their families.

During the year the Centre was contracted by seek.com, the leading internet based recruitment firm to construct an employment index from its job listings data. It is envisaged that in time the index will become established as one of the leading indices of economic activity.

The Director Prof. Peter Sheehan continued in his role as Vice Chair (Academic) of the APEC Life Sciences Forum chaired by the Deputy Prime Minister of Thailand. The Forum attracts participation from senior government and industry representatives in the region.

4. CSES Research Outputs and Activities

The research activities of CSES reflect the broad range of such activities, including preparation and publication of books, research articles, reports, and working papers; conference presentations; internal and external seminar presentations; training programs; workshops; and dissertations of postgraduate research students. Details of these activities for 2004 are presented below.

This year was one in which the Centre made significant progress in expanding its research programs to achieve its overall objectives. This is evident in the comprehensive list of research activities provided in the table below.

CSES Research Activities 2004

<p>CSES Research Reports</p>	<p>The CSES produced a series of research reports during 2004. Below is a short summary of each.</p> <p>Early in the year the CSES finalized a report for the Australian Synchrotron Project titled: <i>The Australian Synchrotron Project: An Economic Impact Study</i>. This was a pathbreaking assessment of a large technology project which included returns to innovation as well as an input output analysis impact study.</p> <p>Peter Sheehan, Neelam Majaraj and Peter Davenport produced a report for the Catholic Education Commission of Victoria on <i>The Contribution of Catholic Schools to the Victorian Economy and Community</i>. The research was commissioned in response to the Victorian Treasurer, the Hon. John Brumby's suggestion in mid 2003, that Catholic education demonstrate the contribution it makes to the well-being of the Victorian community and the economy. This was in the context of a discussion about the resourcing needs of Victorian Catholic schools.</p> <p>Kim Sweeny, John Houghton, Nick Pappas and Peter Sheehan finalised a report to DSTC (Distribution Systems Technology Centre, University of Queensland) in July titled <i>The Economic Benefits of the Research Program of the Proposed CRCIKC</i>. The CSES was asked by the proponents of the Cooperative Research Centre for Interconnected Knowledge Communities (CRCIKC) to assist them in preparing estimates of the economic benefits to Australia of the proposed CRC's research program. Some of the information in this report was included in the business case developed as part of the CRC application.</p> <p>John Houghton (CSES) and Lyndal Thorburn (Advance Consulting & Evaluation)</p>
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	<p>produced a report titled <i>The Victorian Electronics Industry Cluster</i>, prepared for the Victorian Department of Industry, Innovation and Regional Development on behalf of the Australian Electrical and Electronic Manufacturers Association (AEEMA). This report is a contribution to a better understanding of the entire electronics value chain – from the design and manufacture of components and inputs to electronics manufacturing, through manufacturing and assembly, wholesale and retail distribution, installation, maintenance and repair of electrical and electronic equipment.</p> <p>John Houghton has also produced 2 reports for the OECD and there are another 2 forthcoming in 2005. See section below on OECD visits and reports.</p> <p>Later in the year Peter Sheehan (CSES) and John Wiseman (ICEPA) finalized a report to Victoria University prepared by the CSES and the Institute for Community Engagement and Policy Alternatives (Victoria University) to inform future investment choices for the western region of Melbourne. Its purpose is to bring together existing data and research on trends and prospects for the region, to provide an analytical starting point for a more integrated and strategic approach to future regional policy development and investment priorities.</p> <p>Lastly, Enjiang Cheng produced two reports listed below, see entry Microfinance projects in the section.</p>
<p>APEC Life Sciences</p>	<p>In 2003, Peter Sheehan was given one of 4 Vice Chairs in the APEC Life Sciences Innovations Forum (LSIF). Chaired by H.E. Suwit Khunkitti, Deputy Prime Minister of Thailand, one of the main objectives of the LSIF Experts Group Meeting is to develop a Life Sciences Matrix of Best Practices. Professor Sheehan travelled to Thailand in February 2004 (12–13) to the Experts Meeting in Khon Kaen, where life sciences experts from the Asia-Pacific Region met as the first step in developing the APEC LSIF Strategic Plan. He travelled to Washington DC on 10–11 June 2004 to attend a meeting of the leaders of the Forum. And on 16–17 September 2004 he presented a paper titled: 'A Framework for Success in the Asia Pacific Region: Implementing the Leaders' Instructions for the Life Sciences Innovation Strategic Plan', at the Second Annual APEC LSIF in Penang, Malaysia.</p>
<p>Invited conference papers</p>	<p>Centre staff presented a series of invited conference papers. The complete list can be seen in the Publications section below. A total of 23 papers were presented of which 8 were overseas. Peter Sheehan was invited keynote speaker for two at them, an ABN AMRO Morgans Generic Drug Conference and the Technology Futures Conference, National Electronics Industry Conference.</p>
<p>Merck Project PPPI Conference USA</p>	<p>On 1–2 March 2004, Peter Sheehan, Bruce Rasmussen and Kim Sweeny travelled to Pennsylvania to present two papers at the Merck Company Foundation Program on Pharmaceutical Policy Issues (PPPI), Policy Conference 2004 as part of the ongoing CSES project on Global Change and Local Regulation in the Pharmaceutical Industry. Financial support for this project is provided by the Victorian Government and the Merck Company Foundation Program on Pharmaceutical Industry Issues. The Merck Program involves an international group of leading centres conducting research into the pharmaceutical industry, which meet biennially to discuss the progress of their research.</p>
<p>ARC Discovery and Linkage Grants</p>	<p>In 2004, the Centre had 3 ARC grants in progress.</p> <p>The first was an ARC Linkage Grant titled General Purpose Technologies, Complementarities and the Convergence of Industries: A Comparative Study of Information Technology, Biotechnology and Nanotechnology, commencing in 2003, with \$150,000 granted over 3 years. Chief Investigators from the CSES are Peter Sheehan, John Houghton and Greg Tegart; and Partner Investigator is David Charles from the Allen Consulting Group. Industry Partners were the Commonwealth Department of Industry, Tourism and Resources, Starpharma, AusBiotech, IBM and the Victorian Department of Innovation, Industry and Regional Development.</p> <p>A second ARC Linkage Grant reached its final year in 2004 titled Climate Change, Industrial Structure and the Knowledge Economy, commencing in 2002, with \$189,000 granted over 3 years. The Chief Investigators from CSES are Peter Sheehan and Sardar Islam; with John Phillimore from Murdoch University as Chief Investigator and Mohan Munasinghe from the United Nations as Partner Investigator.</p> <p>A third ARC Linkage grant also was finalised in 2004 titled S. M. N. Islam, A Universal Approach to Sustainable Development: Economic, Environmental and Social Indicators in Australia and Southeast Asia, commencing in 2003 with \$87,000 granted over 2 years. Chief Investigators were Sardar Islam from CSES and Phillip Lawn from Flinders University.</p>
<p>OECD visit and reports</p>	<p>In 2004, John Houghton visited the Paris-based Organisation for Economic Cooperation and Development (OECD) during September and October, as well as working as an</p>

	<p>external consultant to the OECD during the year. The primary purpose of the visit was to contribute to the 2005 edition of the OECD's flagship <i>Communications Outlook</i> report. This work involved researching and writing chapters on Broadband and Internet Infrastructure, Trade in Communications Equipment, and Employment and Productivity in Communications. While there, John was also able to complete other work for the OECD relating to Digital Delivery in Services and Content Industries, involving the preparation of three reports on digital delivery in Transport and Logistics, Travel and Tourism and Scientific Publishing. Previous work for the OECD has included contributions to the OECD's Information Technology Outlook reports in 2002 and 2004, and reports on Digital Delivery of Business Services in 2004.</p>
Microfinance projects China	<p>Enjiang Cheng worked on several projects on microfinance In China. Firstly he was chief investigator in a project to conduct a 'Study on Domestic Money Transfer for Migrant Workers in China', organized by the CGAP of the World Bank. Secondly he produced two report and International Microfinance Specialist title: 'AusAID Qianjiang Poverty Reduction Project, Mid term Assessment' and 'Jinyuan and Jintai Poverty Reduction Project', a design mission for designing the community fund program in Gansu of China organized by NZAID.</p>
Pfizer lunch	<p>On 30 September 2004, the Centre hosted a lunch on behalf of the Vice Chancellor for Dr. Peter Corr. He is Vice President, Science and Technology, Pfizer Inc (USA) and is global head of Pfizer's research and development programme. Along with other guests from Pfizer, the Centre assembled a cross-section of guests from academia, business and government for Dr. Corr to meet.</p>
ALP National Conference	<p>At the invitation of Senator Kate Lundy (then Shadow Minister for IT and The Arts) John Houghton was guest speaker at the National ALP Conference in Sydney in January 2004, where he led discussion on ICT policy in the ALP Fringe Event 'Tackling the ICT Trade Deficit'.</p>
WIDER Working Paper	<p>Matthew Clarke was asked to write a working paper at the World Institute for Development Economics Research (WIDER) (United Nations University, Helsinki), titled <i>E-development? Development and the New Economy</i> (2004, UNU/WIDER Policy Brief No. 7). WIDER's mission is to undertake multidisciplinary research and policy analysis on structural changes affecting the living conditions of the world's poorest people.</p>
Xining Meeting	<p>The Asian Development Bank (ADB) and China's Ministry of Finance organised the seminars in August 2004 in Xining (Qinghai province) for disseminating knowledge about fiscal policy, fiscal coordination and fiscal management. Senior officials from the Ministry of Finance as well as Provincial Finance Bureaus were invited to attend the seminars. National and international presenters were invited to discuss key issues under pre-assigned topics. Each presentation was followed by a discussion during which questions were raised from the floor. Bhajan Grewal and Peter Sheehan were both among the invited experts. Their participation is valuable for both CSES and Victoria University not only for the recognition accorded to them, but also for facilitating future professional contacts in China and the ADB.</p>
ADB Financial Training	<p>The Centre for Strategic Economic Studies was selected by the Asian Development Bank (ADB) to coordinate a training program for China's Ministry of Finance in February 2004. A group of 20 officials came to Australia from 9 to 27 February for this purpose.</p> <p>As a part of a broader project that is aimed at strengthening China's capacity for fiscal management, the training program was designed to provide a clear understanding of Australia's fiscal management framework – its legal basis, key elements, fiscal rules, forecasting and reporting requirements, key institutional structures, and how the framework relates to international best practice benchmarks. Bhajan Grewal of the CSES, and a former member of staff of the Department of Treasury and Finance, was Team Leader for the overall ADB project. Training sessions were carried out in Melbourne, Sydney, Canberra and Brisbane and involved the State Treasury Departments, Commonwealth Treasury and the Reserve Bank of Australia. Presentations to the group were made by Peter Sheehan (2), Bhajan Grewal (2) and Bruce Rasmussen (1).</p>
Impact of Nanotechnology Report	<p>The Department of Innovation, Industry and Regional Development (DIIRD) of the Victorian Government sought input into the development of the a small-scale technologies strategy to address the issues raised in the CSES report prepared for DIIRD (<i>Small Scale Technologies: Directions for Victoria</i>, 2003). The comments and suggestions, along with outputs generated by industry focus groups, will inform the development of a SST strategy by identifying opportunities that will guide Victoria's future investment in small scale technologies. Responses were required by 7 May 2004. The document was made available at:</p>

	http://www.innovation.vic.gov.au/programs/program.asp?id=309
CSES publication citations	<p>Three papers have been identified citing CSES authors.</p> <p>John Houghton was cited in the UNCTAD report <i>E-commerce and Development Report 2002</i> (2002, United Nations, New York, Chap. 7, 'E-Commerce application to the publishing industry', p. 184).</p> <p>A working paper by Bruce Rasmussen and Kim Sweeny <i>Development Paths for Australian Biopharmaceutical Firms</i> (Pharmaceutical Project Industry Working Paper No. 8) was cited in an OECD Working Paper titled Case Study on Biotech Innovation Systems Norway Volume 1: Biopharmaceuticals, report submitted to the OECD in the series Case Studies in Innovation (DSTI/STP/TIP(2002), prepared by the Centre for Technology, Innovation and Culture, University of Oslo.</p> <p>Lastly the article by John Houghton titled 'Crisis and transition: the economics of scholarly communication (Learned Publishing 14 (3): 167–176, 2001) was cited 2 times in: Greco AN, O'Connor WF, Smith SP, et al. (The price of university press books, 1989–2000, Journal of Scholarly Publishing 35 (1): 4–39, 2003) and Scupola A (The impact of electronic commerce on industry structure: The case of scientific, technical and medical publishing, Journal of Information Science 28 (4): 275–284, 2002).</p> <p>There are also a series of reports and documents citing John Houghton's work and his papers are on some reading lists also. A sample of some of these are:</p> <ul style="list-style-type: none"> • UK House Of Commons Science and Technology Committee Vol 2 http://www.publications.parliament.uk/pa/cm200304/cmselect/cmsctech/399/39902.htm • Canadian Research Strategy http://www.kdstudy.ca/results.html • RSLG 'Follett Report' on UK Higher Ed http://www.rslg.ac.uk/final/final.pdf • ILO via Belgium http://www.bib.ulb.ac.be/cdrom/wer_lawitie/back/haw_end.htm • EMCC European Foundation http://www.emcc.eurofound.eu.int/content/source/tn04004s.html?p1=sector&p2=Consultancy_Business_Services • DCITA http://www.dcita.gov.au/ie/publications/2003/03/ovum_report/product01/productivity • VALA http://www.vala.org.au/vala2004/2004pdfs/28GeMeWi.PDF <p>Reading lists:</p> <ul style="list-style-type: none"> • ALPSP http://www.alpssp.org/http_econ.htm • U Conn http://www.lib.uconn.edu/about/publications/scholcommreadinglist.htm • CARL http://www.carl-abrc.ca/projects/scholarly/scholarly.htm • Johns Hopkins http://openaccess.jhmi.edu/readings.cfm <p>There are also many citations to his OECD reports.</p>
Review of CSES book	<p>Mendoza, R. 2004, 'Book Review: China and the Knowledge Economy', <i>Journal of Asian Economics</i> 15(2): 439–440, (Policy Analyst, UNDP, Office of Development Studies, New York).</p> <p>"This visionary book comes at a particularly critical time in China's history as it seeks to pursue more market-oriented reforms while integrating itself more fully with the global economy. ...[it] takes a snapshot of a diverse landscape of viewpoints, drawing on contributions from some of the key policy makers from China as well as in the Asian region. ... Overall this book is an enlightening read for policymakers directly working with knowledge economy issues... [it] incorporates a broad range of perspectives and the editors must be commended for weaving these together into a coherent and informative whole. The book is also a very interesting model, as similar volumes could be produced for other developing countries seeking to navigate the global knowledge economy."</p>

CSES Total Output 2004 (* DEST approved)**Summary**

Books	3
Chapters in books	3
Forthcoming chapters in books	11
Journal articles refereed	12
Journal articles refereed forthcoming	10
Contract and technical reports	14
External working papers	1
Invited conference presentations	25
Conference publications refereed (also listed in presentations)	3
Conference presentations refereed	8
Conference presentations others	6
External seminars	3
Internal seminars (incl. Financial Modelling Program)	2
Working papers	8
Other outputs	7
Book reviews	3

Books*

1. Clarke, M. and Islam, S. 2004, *Economic Growth and Social Welfare: Operationalising Normative Social Choice Theory*, Series Contribution to Economic Analysis, North Holland, Amsterdam.

Chapters in books

1. Cheng, E. 2004, 'Financing small and micro-enterprises in rural areas', in R. Garnaut and L. Song (eds), *China's Third Economic Transformation*, RoutledgeCurzon, London. *
2. Houghton, J.W. 2004, 'Globalisation of the ICT sector' in *OECD Information Technology Outlook 2004*, OECD, Paris, December.

Journal articles refereed *

1. Cheng, E. Xu, Z. 2004, 'Rate of interest, credit supply and China's rural development', *Savings and Development*, vol. 28, no. 2, pp. 131–156.
2. Chu, B., Cheng, E. and Pian, Y. 2004, 'Appraisal of reform of rural credit cooperatives in Jiangsu Province of China', *Chinese Rural Economy*, no. 5, pp. 40–45.
3. Xu, Z. and Cheng, E. 2004, 'Financial market, rate of interest, and china's rural economic development', *Financial Research*, December.
4. Clarke, M. 2004, 'Widening Development Prescriptions: Policy Implications of an Index of Sustainable Economic Welfare (ISEW) for Thailand', *International Journal for Environment and Sustainable Development* (special edition, invited paper).
5. Grewal, B. and Sheehan, P. 2004, 'Understanding the evolution of constitutional federalism: The case of Australia', *Public Finance and Management*, vol. 4, no. 4.
6. Houghton, J.W., Steele, C. and Henty, M. 2004, 'Research practices and scholarly communication in the digital environment', *Learned Publishing*, vol. 17, no. 3, pp. 231–249.
7. Houghton, J.W., with Steele, C. and Henty, M. 2004, 'Research practices, evaluation and infrastructure in the digital environment', *Australian Academic and Research Libraries*, vol. 35, no. 3, pp. 161–176.
8. Islam, S. 2004, 'Climate change, economic growth and sustainability: Issues, Australian dynamic integrated general equilibrium model and policy options', *International Journal of Environment and Development*, vol. 3, no. 2, pp. 177–192.
9. Islam, S. and Oh, K.B. 2004, 'The emergence of the knowledge economy in the financial markets and its reform implications', *Savings and Development*, vol. 28, no. 1, pp. 21–46
10. Malhotra, P. and Lofgren, H. 2004, 'India's pharmaceutical industry: Hype or high tech take-off?', *Australian Health Review*, vol. 28, no. 2, pp. 182–193.

11. Nicolau, D.E. 2004, 'Challenges and opportunities in nanotechnology policy', *Nanotechnology Law and Business*, vol. 1, no. 4.
12. Tegart, G. 2004, 'Nanotechnology: The technology for the 21st century', *Foresight*, vol. 6, no. 6, pp. 364–370.

Contract and technical reports

1. Centre for Strategic Economic Studies 2004, *The Australian Synchrotron Project: An Economic Impact Study*, report to Australian Synchrotron Project, Melbourne.
2. Cheng, E. forthcoming, 'UNDP/PBOC Microfinance Policy Studies', report to People's Bank of China (PBOC) and Chinese Government, CSES, Melbourne.
3. Cheng, E. forthcoming, 'A Study on Domestic Money Transfer for Migrant Workers in China,' The CGAP of the World Bank.
4. Cheng, E. 2004, 'AusAID Qianjiang Poverty Reduction Project, Mid Term Assessment, AusAID.
5. Cheng, E. 2004, 'Report on Jinyuan and Jintai Poverty Reduction Project', Gansu of China, Design mission for designing the community fund program, NZAID.
6. Houghton, J. and Thorburn, L. The Victorian Electronics Industry Cluster, report prepared for the Department of Industry, Innovation and Regional Development on Behalf of the Australian Electrical and Electronic Manufacturers Association.
7. Houghton, J.W. 2004, 'Digital delivery of business services', DSTI/ICCP/IE (2003)2/FINAL, Directorate for Science, Technology and Industry, OECD, Paris.
8. Houghton, J.W. forthcoming, 'Digital delivery of content: Scientific publishing', Working Party on the Information Economy, OECD, Paris.
9. Houghton, J.W. forthcoming, 'Digital delivery of services: Transport and Logistics', Working Party on the Information Economy, OECD, Paris.
10. Houghton, J.W. forthcoming, 'Digital delivery of services: Travel and Tourism', Working Party on the Information Economy, OECD, Paris.
11. Sheehan, P., Maharah, N. and Davenport, P. 2004, *The Contribution of Catholic Schools to the Victoria Economy and Community, Final Report to the Catholic Education Commission of Victoria, Melbourne Archdiocese, September.*
12. Sweeny, K., Houghton, J., Pappas, N. and Sheehan, P. 2004, *The Economic Benefits of the Research Program of the Proposed CRCIKC*, report to DSTC (Distribution Systems Technology Centre, University of Queensland), July, CSES, Victoria University, Melbourne.
13. Sheehan, P.J., Rasmussen, B. and Houghton, J.W. 2004, *Australian Synchrotron Project: An Economic Impact Study*, Centre for Strategic Economic Studies for Department of Innovation, Industry and Regional Development, Melbourne, February.
14. Sheehan, P., Welsh, A. and Maharaj, N. 2004, *Melbourne's West: A Region in Transition*, Report to Victoria University, September.

External working papers

1. Clarke, M. 2004, 'E-development? Development and the New Economy', UNU/WIDER Policy Brief No. 7, WIDER, Helsinki.

Conference publications refereed*

1. Islam, S.M.N. 2004, 'Mechanism Design in Corporate Governance in the Management of Small and Medium Sized Enterprises', paper presented at the 3rd International Conference on SMEs in a Global Economy, Kuala Lumpur, 6–7 July (also listed as conference presentation).
 2. Islam, S.M.N. and Aba Bulgul, M. 2004, 'A Corporate Crisis Management Model: Application to Small and Medium Sized Businesses in Australia', paper presented at the 3rd International Conference on SMEs in a Global Economy, Kuala Lumpur, 6–7 July (also listed in conference presentations).
 3. Islam, S.M.N. and Watanapalachaikul, S. 2004, 'Are the Emerging Stock Markets Excessively Volatile? Implications for Management of Small and Medium Sized Firms', in *3rd International Conference on SMEs in a Global Economy*, Kuala Lumpur, 6–7 July.
 4. Houghton, John W., Steele, C. and Margaret Henty, M. 2004 'Changing Research Practices, Research Infrastructure and Evaluation'. In *International Management of Higher Education General Conference: Higher Education in the Knowledge Society*, ed. Organisation for
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Economic Cooperation and Development (OECD), OECD, Paris.

5. Messinis, G. and Sheehan, P. 2004, 'Economic Growth in Australia: Efficiency Wages or Human Capital', in *Proceedings of the Australian Conference of Economists. Economic Society of Australia*, <http://gemini.econ.umd.edu/conferenceACE2004programACE2004.html>

Invited conference presentations

1. Cheng, E. 2004, 'Expanding Microfinance Through Rural Credit Cooperatives', International Workshop on Household Credit, organized by China Centre for Economic Research, Peking University and Department of Economics, Virginia University, sponsored by CUNA Mutual Group, Filene Institute and International Financial Corporation, Beijing, China, 7 August.
2. Cheng, E. 2004, 'A Study on the Sustainability of Micro-loans Provided by Rural credit Cooperatives in China', China Rural Financial Reform Conference, organized by the People's Bank of China, sponsored by Ford Foundation, Beijing, 31 July –1 August.
3. Houghton, J. 2004, 'Changing Research Practices, Research Infrastructure and Evaluation', paper presented at the IMHE Conference, OECD, Paris, 13–15 September.
4. Houghton, J.W. with Steele, C. and Henty, M. 2003, 'Changing Research Practices in the Digital Information and Communication Environment' Paper presented to the National Scholarly Communications Forum: Changing Research Practices in the Digital Information and Communication Environment, National Archives, Canberra, June.
5. Houghton, J. 2004, 'Tackling the ICT Trade Deficit', paper presented at the ALP National Conference, National Maritime Museum, Sydney, 30 January.
6. Grewal, B. 2004, 'The Fiscal Policy and Monetary Policy', invited paper presented at the Asian Development Bank and Chinese Ministry of Finance International Seminar on Fiscal Policy and Economic Development, Xining, Qinghai Province, China, 27 August.
7. Mak, C. and Islam S. 2004, 'Moral Philosophy and Health Economics: A New Framework', paper presented at CESifo 2nd Conference on Health and Economic Policy, Munich, 27–28 June.
8. Mak, C. and Islam, S. 2004, 'Quality of Life: Its Role in Cost and Benefit Analysis of Health Programs', paper presented at the 6th Australian Conference on Quality of Life, Deakin University, Melbourne, 25 November.
9. Nicolau, D. and Tegart, G. 2004, 'Convergence of Biotechnology Nanotechnology and Information Technology', invited paper presented at Symposium 'Romania in Information the Information Economy', Bucharest, 8–10 December.
10. Nicolau, D. 2004, 'Innovation and Knowledge Transfer in Emerging Fields', invited paper presented at Symposium 'Romania in Information the Information Economy', Bucharest, 8–10 December.
11. Sheehan, P. 2004, 'Engaging with the Knowledge Economy: Challenges for Developing Countries', invited paper presented to the 5th APEC R&D Leaders' Forum, Christchurch, New Zealand, 10–11 March.
12. Sheehan, P. 2004, 'The Changing World: Some Emerging Trends in the Knowledge Economy', invited presentation to the Victoria University Strategic Retreat, Werribee Park, 15 March.
13. Sheehan, P. 2004, 'Emerging China: Some Implications for Victoria', invited presentation to DIIRD Executive Forum, Melbourne, 6 May.
14. Sheehan, P. 2004, 'Emerging China: Some Implications for Victoria', invited presentation to the Innovation Economy Advisory Board, Melbourne, 24 May.
15. Sheehan, P. 2004, 'The Contribution of Catholic Schools to the Victorian Community and Economy', invited presentation to the Catholic Education Staff Conference, Melbourne, 27 May.
16. Sheehan, P. 2004, 'Australian and the Knowledge Economy: Emerging Developments, Opportunities and Challenges,' invited keynote speaker, paper presented at the Technology Futures Conference, National Electronics Industry Conference, convened by the Electronics Industry Association and AEEMA, Adelaide, 3–4 June.
17. Sheehan, P. 2004, 'Australian Pharmaceutical Policy in a Global Context', paper presented at the 2nd Annual Future of Pharmaceutical Benefits Scheme, Sydney, 24–25 August.
18. Sheehan, P. 2004, 'The Coordination of Fiscal Policy and Monetary Policy: International Experience', invited paper presented at the Asian Development Bank and Chinese Ministry of Finance International Seminar on Fiscal Policy and Economic Development, Xining, Qinghai Province, China, 27 August.

19. Sheehan, P. 2004, 'A Framework for Success in the Asia Pacific Region: Implementing the Leaders' Instructions for the Life Sciences Innovation Strategic Plan', presentation at the Second Annual APEC Life Sciences Innovation Forum, Penang, Malaysia, 16–17 September.
20. Sheehan, P. 2004, 'Accounting for Government Activities in Australia: The State of the Budgets', Neil Walker Lecture 2004, CPA Congress, Melbourne, 12 October.
21. Sheehan, P. 2004, 'Generic Drugs: The Global and Australian Opportunity', invited keynote speaker, ABN AMRO Morgans, Generic Drug Conference, Generic Drugs in a Changing National and International Context, Melbourne Sydney, 19–20 October.
22. Sheehan, P. 2004, 'Asia and the Future of Health Technologies', invited paper presented at the Health Opportunities from Small Technologies Asia-Pacific Microtechnology and Nanotechnology Commercialisation Forum, Melbourne, 9–10 December.
23. Rasmussen, B. 2004, 'Development Strategies for Australian biomedical companies', paper presented at The Australian Pharmaceuticals Summit: Examining Changes in the Pharma Market, Sydney, 24–25 March
24. Rasmussen, B. 2004, 'Sea Change in Big Pharma Provides Alliance Opportunities for Australian Biotechs', invited paper presented at the Conference Pharma/Bio Partnering, Licensing and Investment: Business Development Strategies to Improve your Product Pipeline, Melbourne, 12–13 May.
25. Sweeny, K. 2004, 'FTA Discussion Open Forum', panel participant, presentation at the 2nd Annual Future of Pharmaceutical Benefits Scheme, Sydney, 24–25 August.

Conference presentations referred

1. Clarke, M. and Paech, S. 2004, 'The Measurement of Well-being based on Hierarchical Needs: A Multidimensional Approach Applied to South-East Asia', paper presented at the 28th General Conference of the International Association for Research in Income and Wealth (IARIW), Cork, 22–27 August.
2. Islam, S.M.N. 2004, 'Mechanism Design in Corporate Governance in the Management of Small and Medium Sized Enterprises', paper presented at the 3rd International Conference on SMEs in a Global Economy, Kuala Lumpur, 6–7 July.
3. Islam, S.M.N. and Aba Bulgul, M. 2004, 'A Corporate Crisis Management Model: Application to Small and Medium Sized Businesses in Australia', paper presented at the 3rd International Conference on SMEs in a Global Economy, Kuala Lumpur, 6–7 July.
4. Islam, S.M.N. 2004, 'Are the Emerging Stock Markets Excessively Volatile? Implications for Management of Small and Medium Sized Firms', paper presented at the 3rd International Conference on SMEs in a Global Economy, Kuala Lumpur, 6–7 July.
5. Jennings, A. and Clarke, M. 2004, 'The Development Impact of Remittances to Nicaragua', paper presented at FDC Conference on Remittance, Microfinance, Technology, University of Queensland, Brisbane, 10–11 June.
6. Mak, C. and Islam, S. 2004, 'Estimation and Analysis of Costs and Benefits of PBS: A Social Choice Approach', paper presented at the Australian Health Economics Society (AHES) 26th Australian Conference of Health Economists, Melbourne, 30 September–1 October.
7. Messinis, G. 2004, 'R&D Price Inflation, Real BERD and Innovation: Pharmaceuticals, OECD 1980–2000', paper presented at the Australian Health Economics Society (AHES) 26th Australian Conference of Health Economists, Melbourne, 30 September–1 October.
8. Messinis, G. and Sheehan, P. 2004, 'Economic Growth in Australia: Efficiency Wages or Human Capital?', paper presented at the 33rd Conference of Economists, Economic Society of Australia, Sydney, 27–30 September.
9. Shaw, J. and Clarke, M. (2004), 'Risky Business in Bougainville: Implementing Microfinance in Post-Conflict Environments', paper presented at WIDER/UNU Conference on Making Peace Work, Helsinki, 4–5 June.

Other conference presentations

1. Islam, S.M.N. and Aba-Bulgu 2004, 'An Optimisation Model for Financial Crisis Management of SMEs', paper presented at the International Borneo Business Conference (IBBC), Kota Kinabalu, Sabah, Malaysia, 9–11 December.
2. Islam, S.M.N. and Rusydi, M. 2004, 'Emerging Exchange Rate Issues: The Indonesian Agenda', paper presented at the International Business Management Conference, Kuantan, Pahang, Malaysia, 6–7 December.

3. Islam, S.M.N. and Rusydi, M. 2004, 'Market Models For The Determination of The Exchange Rate: Empirical Evidence from Emerging Financial Markets – The Case of Indonesia', paper presented at the International Borneo Business Conference (IBBC), Kota Kinabalu, Sabah, Malaysia 9–11 December.
4. Islam, S.M.N., Watanapalachaikul, S. and Billington, N. 2004, 'A Time Series Analysis and Modelling of the Thai Stock Market', paper presented at the International Business Management Conference, Kuantan, Pahang, Malaysia, 6–7 Nicolau, D. 2004, 'Beyond Technology Push vs. Market Pull: Nanotechnology A Paradigm Shift in Innovation', paper presented at the NSTI Nanotech Conference and Trade Show, Boston, 5–9 March.
5. December.
6. Rasmussen, B. 2004, 'Innovation and Industry Structure In the Biomedical Industry: Some Preliminary Results', paper presented at the Merck Company Foundation Program on Pharmaceutical Policy Issues, Policy Conference 2004, Lafayette Hill, Pennsylvania, 1–2 March.
7. Sweeny, K. 2004, 'Australian Pharmaceutical Pricing in a Global Context: Trends and Issues', paper presented at the Merck Company Foundation Program on Pharmaceutical Policy Issues, Policy Conference 2004, Lafayette Hill, Pennsylvania, 1–2 March.

External seminars and training

1. Cheng, E. 2004, 'Microfinance Programs by Non Financial Institutions in China', China Microfinance Policy Study Seminar, organized by the People's Bank and sponsored by UNDP.
2. Sheehan, P. 2004, 'Emerging China: Some Comments on Issues and Institutions, paper presented at the Qingdao Municipal Government Training Program, La Trobe University, Melbourne, 17 November.
3. Sweeny, K. 2004, invited workshop participant at Better Health Care Through Electronic Information, Global Access Partners (GAP) Forum. Sydney, 15 September.

Internal seminars

1. Cummins, R.A. 2004, 'Is health relevant to quality of life?' seminar paper presented at the CSES, Victoria University, 27 October (School of Psychology, Deakin University).
Financial Modelling Program seminars
2. Aba-Bulgu M. and Islam, M. 2004, 'Corporate Crisis Management: Cash Flow Optimisation Model and Application to SMEs', paper presented at the Financial Modelling Program Seminar Series, Victorian Graduate School of Business, Victoria University, Melbourne, 3 November.

Working papers

1. Rasmussen, B. 2004, 'Alliance Opportunities for Aus Biotech', Pharmaceutical Industry Working Paper No. 23, CSES, Victoria University, Melbourne, April.
2. Rasmussen, B. 2004, 'The Biomedical Sectors in Australia and Canada: Comparative Policy Analysis', Pharmaceutical Industry Working Paper No. 22, CSES, Victoria University, Melbourne, July.
3. Rasmussen, B. 2004, 'An Analysis of The Biomedical Sectors in Australia and Canada in a National Innovation Systems Context', Pharmaceutical Industry Working Paper No. 21, CSES, Victoria University, Melbourne, July.
4. Rasmussen, B. 2004, 'The Biomedical Sectors in Australia and Canada: A Comparative Analysis', Pharmaceutical Industry Working Paper No. 20, CSES, Victoria University, Melbourne, May.
5. Sweeny, K. 2004, 'Review of Findings: Australian Pharmaceutical Pricing in a Global Context', Pharmaceutical Industry Working Paper No. 19, CSES, Victoria University, Melbourne, April.
6. Messinis, G. 2004, 'R&D Price Inflation, Real BERD and Innovation: Pharmaceuticals, OECD 1980–2000', Pharmaceutical Industry Working Paper No. 18, CSES, Victoria University, Melbourne, May.
7. Rasmussen, B. 2004, 'Innovation and Industry Structure in the Biomedical Industry: Some Preliminary Results', Pharmaceutical Industry Working Paper No. 17, CSES, Victoria University, Melbourne, February.
8. Sweeny, K. 2004, 'Australian Pharmaceutical Pricing in a Global Context: Trends and Issues', Pharmaceutical Industry Working Paper No. 16, CSES, Victoria University,

Other outputs

1. Cheng, E. 2004, 'Three problems for deepening the reforms of rural credit cooperatives in China', interview published in the Financial News, Beijing, 12 November, p. 1.
2. Cheng, E. 2004, Chaired the session on the Pilot Reform of Rural Credit Cooperatives in China for China Rural Financial Reform Conference, organized by the People's Bank of China, sponsored by Ford Foundation, Beijing, 31 July –1 August.
3. Clarke, M (2004), 'Book Review of S. Islam Optimal Growth Economics', Journal of Development Studies, vol. 40, no. 5, pp. 179–181.
4. Clarke, M. and Islam, S. (2004), 'Welfare Economics', in T. Forsyth (ed.) Encyclopedia of International Development, Routledge, London and New York.
5. Clarke, M. 2004, 'GDP', 'GNP', 'Underdevelopment vs. LDCs vs. third world' and 'Liberation Theology', in T. Forsyth (ed.) Encyclopedia of International Development, Routledge, London and New York.
6. Islam, S. 2004, Examiner of 2 PhD thesis (RMIT and La Trobe).

Book reviews of CSES publications

1. Mendoza, R. (Policy Analyst, UNDP, Office of Development Studies, New York) 2004, 'Book Review: China and the Knowledge Economy', Journal of Asian Economics, vol. 15, no. 2, pp. 439–440.

'This visionary book comes at a particularly critical time in China's history as it seeks to pursue more market-oriented reforms while integrating itself more fully with the global economy. ...[it] takes a snapshot of a diverse landscape of viewpoints, drawing on contributions from some of the key policy makers from China as well as in the Asian region. ... Overall this book is an enlightening read for policymakers directly working with knowledge economy issues... [it] incorporates a broad range of perspectives and the editors must be commended for weaving these together into a coherent and informative whole. The book is also a very interesting model, as similar volumes could be produced for other developing countries seeking to navigate the global knowledge economy.'
 2. Erik Baark (Hong Kong University of Science and Technology) 2004, 'Book review of China's Future in the Knowledge Economy', Asian-Pacific Economic Literature, vol. 18, no. 1, p. 62

'...this volume provides an excellent overview of the key challenges for China and a range of valuable scholarly analysis of economic trends and policy issues.'
 3. Journal of Economic Literature, vol. 42, no. 1, March 2004, 'Book Review of S. Islam and K.B. Oh's book Applied Financial Economics in E-commerce (Elsevier 2003).
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5. Staff and Students

The Centre has over a period of years built a small but highly qualified team capable of producing high quality research outputs in applied economics with a focus on better understanding the forces of globalisation, the development of the knowledge economy and their implications for economic, social and political change.

CSES Staff 2004

Prof. Peter J. Sheehan	Director
Mr Bruce Rasmussen	Deputy Director
Prof. John Houghton	Professorial Fellow
Prof. Bhajan Grewal	Professorial Fellow (part-time)
Prof. Sardar M.N. Islam	Director, Sustainable Development and the Environment Project
Prof. Greg Tegart	Visiting Professor
Mr Kim Sweeny	Principal Projects Officer
Dr Enjiang Cheng	Senior Research Fellow
Dr George Messinis	Research Fellow
Dr Matthew Clark	Research Fellow
Dr Dana Nicolau	Research Fellow (part-time)
Dr Fiona Sun	Research Fellow (part-time)
Ms Alison Welsh	Research Analyst
Mrs Margarita Kumnick	Research Information Coordinator
Mrs Gordana Volkanovska	Administrative Officer

As well as supervising PhD students enrolled directly with Centre, CSES staff are also involved as supervisors of the thesis component of a number of DBA students enrolled with the Faculty. In some instances CSES also supervises PhD students enrolled outside the Centre.

CSES PhD students 2004

<i>Student</i>	<i>Thesis Title</i>	<i>Supervisor</i>	<i>Year commenced</i>
Sudath Arumapperuma	The Role of Information Technology in Disseminating Innovations in Agribusiness: A Comparative Study of Australia and Sri Lanka	Peter Sheehan	2003
Alex Esposto	The Impact of Technology on Earnings Inequality in Australia	Peter Sheehan	1998
Baliira Kalyebara	Using Expected Value of Perfect Information (EVPI) to Improve Capital Budgeting Decision Making	Sardar Islam	2004
Tri Lam	Vietnam, 1986–2005: 20 Years Since The Economic Transition From Plan to Market, the Gains and the Losses In the Absence of Political Reforms.	Peter Sheehan	2003
Prabodh Malhotra	Pharmaceutical Industry and Public Health in Developing Countries: A Comparison Study of India and China	Bhajan Grewal	2002
Valerie McGown	The Effectiveness of Quality Control Systems in Australia and Japan: A Comparative Analysis	Peter Sheehan	1996
Sonia Mussawir	Material Wealth and the Prisoner's Dilemma: An Approach to Sustainability	Peter Sheehan	2004
Quynh Anh Pham	Industrialisation in Vietnam: An Analysis of Manufacturing Competitiveness and Policy Options	Peter Sheehan	2004
Kashif Rashid	Option Pricing and Corporate Governance for the Emerging Financial Markets	Sardar Islam	2004
Bruce Rasmussen	Development Paths of Australian Biomedical Companies	Peter Sheehan	2003

Kim Sweeny	Competition in Australian Pharmaceutical Markets and the Returns to Innovation	Peter Sheehan	2003
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CSES DBA Students 2004 (enrolled with FBL)

<i>Student</i>	<i>Title of Thesis</i>	<i>Supervisor</i>	<i>Year started</i>
Arun Anton	Project Appraisal Methods	Sardar Islam	1995
Sami Choi	Energy and Economic Growth: A Dynamic General Equilibrium Analysis	Sardar Islam	1994
Socrates Karagiannidis	Mergers And Acquisitions in Australia: Reasons and Timing	Peter Sheehan	1999
Christina Mak	Cost-Benefit Analysis Related to Pharmacoconomics	Sardar Islam	1996
Shahram Sajjadi-Emami	Capital Budgeting	Sardar Islam	1998
Sergio Villegas	Optimal Level of Government Aged Care Expenditure in Australia: Application of Cost Benefit Analysis	Sardar Islam	1996
Mohammad Rusydi	The Determination of the Efficient Exchange Rate: Mathematical Models and Applications to Indonesia	Sardar Islam	2003

6. External Collaborators

Australian Greenhouse Office
 Australian National University (Professor Bob Gregory)
 Bristol Myers Squibb
 Business Council of Australia
 Department of Industry, Tourism and Resources
 Department of Innovation, Industry and Regional Development, Victoria
 Department of Premier and Cabinet, Victoria
 Eli Lilly (Australia)
 Ford Foundation
 IBM Life Sciences
 Medicines Australia
 Merck Company Foundation
 Merck, Sharp and Dohme (Australia)
 Nanjing Agricultural University
 OECD (Dr Graham Vickery and others)
 Otemon Gakuin University (Japan)
 Pfizer
 Russell Sage Foundation
 StarPharma
 Tsinghua University (China)
 University of Melbourne (Professor Jeff Borland)
 World Bank
 World Vision