

# Centre for Research in Applied Economics (CRAE)

Centre Director: Professor Gary Madden

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## Part I: Annual Strategic Brief

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# Part 1: Annual Strategic Brief

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## 1 Director's Report

CRAE was established in 2006 as a Curtin University funded research centre. On March 30, 2010 ORD extended CRAE's research funding through to 2012 in recognition of the work CRAE does and "the important area for research within the University". In May 2013, recognising the achievements of the CRAE group and its "substantial contributions to the research performance and reputation of the University", ORD continued CRAE's status as a University Research Centre. ORD's funding was matched by CBS, whilst the School of Economics and Finance (SEF) continues to provide space and administrative support for the Centre.

CRAE's strategic aim is to build Curtin's capacity as a world-leading research institution in the area of applied economics. The Centre supports research into economic and social phenomena that impact on lives in Australia and throughout the world. The Centre's researchers use a variety of theoretical frameworks and methodologies to inform and evaluate their contributions to the development of both business strategies and public policies on economic and social issues.

CRAE performs its role primarily by helping ensure that Curtin has an engaged, high performing research workforce in the field of applied economics. Most of its members are based in the SEF. However, importantly, CRAE broadens its influence through outreach and collaboration across the CBS faculty, Curtin University, and the international economics community. Reflecting its focus on research culture, CRAE works closely with its members to develop their research skills, form networks and teams and achieve high quality research publications, grant income and academic profile. CRAE structures opportunities for new staff – and researchers who conduct their research outside the other centres and groups - to network with other researchers both at Curtin, with leading researchers from the international research community in applied economics, and with potential industry partners.

### *CRAE's performance in 2014*

In 2014, CRAE outputs contributed strongly to the University's research performance. In particular, 51 high-quality scholarly journal articles were published by the CRAE team. This outstanding performance includes: 6 (ABDC) rank A\*, 22 rank A and 20 rank B journal article publications. In regards to most prestigious and competitive ARC grants, the whole university across all disciplines managed to secure 18 grants out of which 2 belongs to CRAE, worth total around \$700,000.

The CRAE teams' extensive network of collaborators allowed (and encouraged) joint publication, project development and grant application with national and international organisations. CRAE team members also were active in HDR student supervision. Additionally, the team welcomed another five HDR candidates in 2014. Thus, the graduate student population is 35 students. The team eagerly encourages their intellectual development on their path to discovery. Importantly, the CRAE team continued to deliver high-impact and relevant industry-orientated research programs. Only through this engagement with industry,

can CRAE continually achieve outstanding results through its engaged, highly-performing team. For instance, in recognition of her continued high-level of performance and achievement through CRAE's industry-engaged research program, Associate Professor Rachel Ong joined the Curtin-BankWest flagship centre, the BCEC in 2014.

Alternative vehicle through which CRAE promoted CBS research included an invited speaker seminar series, an in-house research workshop series (which placed particular emphasis on providing a critical but supporting environment for ECRs to launch their current work), and an independent HDR seminar series. Importantly, CRAE wishes to gratefully acknowledge the critical support provided from several University Office of Research and Development (ORD) sources (e.g., internal funding, fellowships, and scholarship support).

In 2014, CRAE trialled an operational structure that aligned Key Researchers' expertise with research themes. The JEL-based (Journal of Economic Literature) structure is reflected in the CRAE Working Paper series, and Web page. The Themes (Key Researchers) by alphabetical theme order are:

- Economic Development, Technological Change and Growth (Ruhul Salim)
- International Economics (Nick Apergis / Helen Cabalu)
- Financial Economics (Robert Durand)
- Health, Education and Welfare (Mark Harris)
- History of Economic Thought, Methodology and Heterodox Approaches (Harry Bloch / Therese Jefferson)
- Industrial Organisation (Gary Madden)
- Labour and Demographic Economics (Mark Harris)
- Mathematical and Quantitative Methods (Felix Chan)
- Public Economics (Jeffrey Petchey)
- Regional, Real Estate and Transportation Economics (Steven Rowley)

Key Researchers serve as the Centre's initial contact for the dissemination of grant, scholarship and publication information. The CRAE secretariat gratefully acknowledges the various activities and endeavours of the Key Researcher team.

As 2014 closes, the CRAE team wishes to acknowledge the substantial contribution by Professor Nick Apergis. Throughout his tenure, Nick was an active, enthusiastic and productive contributor to the CRAE research program. We wish Nick well in this new stage of his career.

### *The Year Ahead*

In 2015 CRAE continue building Curtin's business research capacity. This goal relies heavily on outwardly-focussed and industry engaged activity. To achieve our goal of becoming a world-leading research institution in applied economics we will continue to rely on our team of Key Researchers and emerging ECRs. Importantly, CRAE will increasingly co-operate and collaborate with our Curtin research partners, BCEC and HURIWA.

## 2 Centre Participants

### 2.1 Research Team

Please see attached Performance Report from SCRIPT Research Groups Module.

### 2.2 Governance Arrangements

CRAE governance comprises the following:

- Director –Professor Gary Madden
- Head of School of Economics and Finance – Professor Helen Cabalu
- Director of Research, Economics and Finance – Professor Mark Harris
- CBS Dean of R&D – Professor Fran Ackerman
- ORD representative

Additional staffing in 2014 included:

- Research Administrator - Pia Meehan
- Administrative Assistant – Pat Madden (part time)

## 3 Partnerships

Please see attached Performance Report from SCRIPT Research Groups Module.

## 4 Research Activities

### 4.1 Research Activity Initiatives

During 2014, the CRAE secretariat continued to provide support to our members with ARC grant applications and a high level of editorial support to the Centre's members, with the aim of enhancing their chances of achieving publication in high-quality journals. Examples include the following:

- Provided support on preparing two ARC grant applications for research in health economics. Both projects were successful and awarded a total of \$691,000. Also provided support in applying for BSEC grant out of which two were successful amounting \$58,000 and \$40,000 respectively.
- Full logistical support (academic and administrative) were provided for the organisation of the 6<sup>th</sup> Finance Markets and Corporate Governance Conference, 2015. It was successfully held in early 2015.
- Provided support with preparations for the 2016 Panel Data Conference.
- Provided support in the organisation of a special seminar with leading international econometrician, Professor William Greene.
- Provided support for the coordination of the 5<sup>th</sup> Australasian Workshop on Econometrics and Health Economics, 2014.
- Provided support to some members with web development for their ARC funded research project website.
- Continued work on a tool for comparing journal rankings in applied economics across a number of international benchmarks.

- Facilitated the website move from the CBS Faculty banner to the Research – Centres and Institutes domain.
- Continued to maintain the CRAE working paper series to further promote the University’s publications and profile in applied economics.

***Research Activity Initiatives Aimed at Promoting HDR Enrolments and Completions***

CRAE members supervised 35 HDR students in 2014. A seminar series was conducted to help build a research culture that attracts high-quality HDR enrolments and to support the quality of the analyses of existing students. The series provided opportunities for students to present – and receive feedback – on their work. It also featured the involvement of leading international experts in the field of applied economics, including Professor William Green, who presented on some analytical difficulties students may face and the remedies.

***Research Activity Initiatives Aimed at Achieving High Impact Research Delivered to Industry.***

In 2014 CRAE pursued several initiatives aimed at increasing the visibility of its members’ research and promoting opportunities for collaborations with industry partners.

- *CRAE Website*

Throughout the year, significant resources were devoted to developing the CRAE Website to promote the Centre’s activities to both the broad public and to its stakeholders. The CRAE website went through a complete architectural re-design and content update. Ongoing seminars, research projects, public forums, publications, working paper production and other Centre activities and news are highlighted on the website, helping to achieve public recognition both for the University and the individual researchers and project teams involved. In 2014, web development continued on ARC project pages to display ongoing achievement from ARC funded projects.

- *Profiles for key researchers*

Throughout the second half of 2013 and first half of 2014, profiles for key researchers were updated. Included in the profile are research interests, career summary, teaching and research interest, grant listings and collaboration partners, as well as auto-populated publication lists.

- *Sedona Update*

With the support of CRAE, all staff in the School of Economics and Finance has successfully entered most of the data into Sedona.

***Research Activity Initiatives Aimed at Enhancing Research Culture***

In 2014 CRAE sponsored a range of activities that were aimed at building an engaged high-performing research workforce in applied economics.

- *SEF-CRAE seminar series*

The seminar series provided an outlet for speakers across CRAE theme areas and attracted the participation of many high-profile speakers (as shown in the tables below). CRAE also hosted informal events for academic visitors, with the aim of building relationships between its members and national and international researchers in applied economics.

#### **Semester 1, 2014**

<b>Date</b>	<b>Speaker (institution)</b>	<b>Title</b>
6 March	Hung Wan Kot HK Baptist University	The Determinants of Increased Short-selling Activity
13 March	Laurent Pauwels University of Sydney	Margin Debt and Portfolio Margin Requirements
20 <sup>th</sup> Mar	Andrev Vasney University of Sydney	A Simple Theoretical Explanation of the Forecast Combination Puzzle
27 March	Professor Chu Zhang HKUST	Abnormal Idiosyncratic Volatility and Expected Returns
3 April	Robert Sparrow ANU	Does electrification affect Fertility? Evidence from Indonesia
10 April	Nick Apergis Curtin University	The Role of FOMC Minutes for U.S. Asset Prices before and after the 2008 Crisis: Evidence from GARCH Volatility Modelling
1 May	Cancelled	
8 May	Tony He UTS	Social Security Disability Insurance Replacement Rates and Beneficiary Work Activity: Estimates from a Regression Kink Design
15 May	Timothy Moore George Washington University	Optimality of Momentum and Reversal
22 May	Choon Wang Monash University	Do Greater School Autonomy and Accountability make a Difference? Evidence from the Random Assignment of Students into Private and Public High Schools in Seoul
29 May	Arpita Chatterjee UNSW	Multi-product Exporters, Variable Mark-ups and Exchange Rate Fluctuations
5 June	Frank Zhang Murdoch	Does the Capital Market Punish Managerial Myopia?

#### **Semester 2, 2014**

<b>Date</b>	<b>Speaker (institution)</b>	<b>Title</b>
8 August	Sarah Brown University of Sheffield	Saving Behavior from Childhood to Early Adulthood: Analysis of British Panel Data
15 August	Chandra Krishnamurti USQ	Accelerated Equity Offers: The Role of Internal and External Certification Mechanisms
22 August	Fulvio Fontini University of Padua	Impact of the Introduction of Nuclear Power on Electricity Prices in a Power Exchange-based Liberalized Market
29 August	Arusha Cooray Wollongong University	Do Remittances act as a Channel through which Exchange Rates affect Poverty?
12 September	Elaine Huston Monash University	Media Pessimism and Stock Returns: A Time-varying Analysis at the Firm Level
19 September	Judy Qui UWA	Survival Analysis of Hedge Funds
24 October	Chuan Yan Hwang NTU Singapore	Elite Education or Elite Connection?
31 October	Xiaohui Zhang Murdoch University	Productivity and Efficiency at Bank Holding Companies in the U.S., 1986 – 2013: Evidence from a Bayesian Stochastic Distance Frontier Model with Time-varying Heterogeneity
14 November	Brenda Gannon Manchester University	Using Linked Data to Estimate the Relationship between Physical Activity and Health

## 4.2 Research Training Initiatives

- *Research training*
  - Five new Higher Degree Research students supervised by CRAE Key Researchers were added in 2014. CRAE contributed to this (and future) outcome through its role in the organisation of the SEF-CRAE HDR seminar series (as described above).
  - The Centre targeted the need for enhance analytical expertise by organising a training workshop conducted by a world leading econometrician William Green.
  - The Centre hosted a special seminar for PhD students and ECRs by William Green.



## 5 Key Performance Indicators

CRAE's key performance indicators for 2014 were research capacity, research training, productive partnerships and knowledge transfer and esteem.

The Centre's performance against these indicators is summarised below:

### 1. KPI'S, PRIMARY MEASURES AND TARGETS

Curtin's Strategic Initiatives - Research	KPI	Measures	2014 Targets	2014 Actual
<ul style="list-style-type: none"> <li>• <b>Increase quality research outputs and research income</b> <ul style="list-style-type: none"> <li>▶ Invest in focused areas of research strength</li> <li>▶ Increase number of full-time HDR students</li> <li>▶ Increase proportion of publications in high quality research outlets/ journals</li> <li>▶ RPI quality parameters enhanced</li> <li>▶ Implement stage 2 of the Research Resource Allocation Process</li> <li>▶ Lead and participate in a greater number of major projects</li> <li>▶ Increase average grant size</li> <li>▶ Improve large project delivery capability</li> <li>▶ Large National Competitive grant strategy</li> <li>▶ ERA 2015 strategy</li> <li>▶ Invest in research infrastructure</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Research Outputs</li> </ul>	<ul style="list-style-type: none"> <li>• Growth in income %</li> </ul>	20%	
		<ul style="list-style-type: none"> <li>• Total research income (Cat 1-4)</li> </ul>	\$1.04m	\$0.71m
		<ul style="list-style-type: none"> <li>• Number of high quality outputs</li> </ul>	30	28*
		<ul style="list-style-type: none"> <li>• % high quality research outputs (Quality)</li> </ul>	70%	55%*

\*As RPI was not conducted in 2015 round, for publication ABDC journal ranking list has been used to identify quality publication. Only A\* and A's have been considered as high quality.

<b>Curtin's Strategic Initiatives – People &amp; Culture</b>	<b>KPI</b>	<b>Measures</b>	<b>2014 Targets</b>	<b>2014 Actual</b>
<ul style="list-style-type: none"> <li>• <b>Ensure research teams are performing</b> <ul style="list-style-type: none"> <li>○ Manage research performance</li> <li>○ Increase high quality researcher FTE</li> </ul> </li> <li>• <b>Optimise number of research academic FTE relative to output and minimise number of 'low quality' outputs</b> <ul style="list-style-type: none"> <li>▶ Reduce Central support for low quality research areas</li> <li>▶ Performance manage under-performing staff</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Performance</li> </ul>	<ul style="list-style-type: none"> <li>• Research income (Cat 1-4) per research academic FTE</li> </ul>	\$100,000	\$183,701
		<ul style="list-style-type: none"> <li>• Research outputs per research academic FTE</li> </ul>	3.8	15.29

<b>Curtin's Strategic Initiatives – Engagement &amp; Impact</b>	<b>KPI</b>	<b>Measures</b>	<b>2014 Targets</b>	<b>2014 Actual</b>
<ul style="list-style-type: none"> <li>• <b>International Engagement</b></li> </ul>	<ul style="list-style-type: none"> <li>• International Engagement</li> </ul>	<ul style="list-style-type: none"> <li>• Joint publications with National/international groups (average institutions per indexed document)</li> <li>• Number of new international relationships</li> <li>• Percentage of research outputs with</li> </ul>	<p>1</p> <p>1</p> <p>25</p>	<p>Key researchers engaged with a range of national and international groups in 2014. As shown in the Director's report, CRAE's seminar program was largely populated by national and</p>

		<p>international collaborators</p> <ul style="list-style-type: none"> <li>• One major institutional partnership</li> </ul>	1	<p>international speakers; publications occurred with a range of international scholars, such as Professor Bruce Hollingsworth (Lancaster) and Professor Brenda Gannon (Manchester); and research partnerships featured additional international scholars, such as Professors Bob Greene (New York University)</p>
<ul style="list-style-type: none"> <li>• <b>High-Impact research delivered to industry</b> <ul style="list-style-type: none"> <li>▶ Increase partnerships with high potential industry and government departments</li> <li>▶ Increase partnerships with high quality universities</li> <li>▶ Employ a greater number of researchers with high repute with industry</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Industry impact</li> </ul>	<ul style="list-style-type: none"> <li>• Category 3 + Category 4 research income</li> </ul>	\$0.3m	\$67,030.00

<ul style="list-style-type: none"> <li>▶ Leverage teaching reputation to target new grants</li> <li>▶ Increase research applications with international partners</li> <li>▶ Industry collaboration growth for oil, gas, mining, sustainability</li> <li>▶ Prepare for Excellence in Impact Australia (EIA)</li> </ul>				
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**2. 2014 KEY PRIORITIES**

The Centre’s key priorities for 2014 and its performance in relation to these are shown below:

Key Priorities		Measure of Success	Outcome
2014	<ul style="list-style-type: none"> <li>• Maintaining the established new structure</li> </ul>	<ul style="list-style-type: none"> <li>• Structure in place &amp; functioning as measured by participation of members in centre activities</li> </ul>	Centre activities attracted a consistent involvement of CRAE members, as well as participants from other areas of the university and the wider community.

	<ul style="list-style-type: none"> <li>Maintaining webpage and working paper series and CBS extranet (Blog), Yammer.</li> </ul>	<ul style="list-style-type: none"> <li>Up-to-date webpage December 2014</li> </ul>	<p>Throughout the year, significant resources were devoted to developing the CRAE Website to promote the Centre’s activities to both the broad public and to its stakeholders. The CRAE website went through a complete architectural re-design in 2013 and content update throughout 2014. Ongoing seminars, research projects, publications, working paper production and other Centre activities and news are highlighted on the website, blog and Yammer helping to achieve public recognition both for the University and the individual researchers and project teams involved.</p>
	<ul style="list-style-type: none"> <li>Research profiles</li> </ul>	<ul style="list-style-type: none"> <li>Profiles for key researchers by middle of 2014</li> </ul>	<p>Throughout the second half of 2013 and first half of 2014, profiles for key researchers were updated. Included in the profile are research interests, career summary, teaching and research interest, grant listings and collaboration partners, as well as auto-populated publication lists. Profiles continued to be updated on a quarterly basis.</p>
	<ul style="list-style-type: none"> <li>Update Sedona</li> </ul>	<p>Updated by middle of 2015</p>	<p>Upon receiving and updating the profiles of the academics, CRAE administrator obtained access into Sedona and updated most of the staff’s information into it. It is still ongoing.</p>

Helping to achieve the above outcomes, CRAE made the following improvements in research capacity,

- Research capacity*
  - In 2014 four new members joined CRAE (outside of HDR students), adding to the group of applied economics researchers supported by the Centre. On top of that, 5 new HDR students also came on board.
  - In 2014 CRAE continued its role in coordinating the administration and travel arrangements of visitors to the Centre. These visits are supported through the CBS Visiting Fellowship Scheme or ARC projects and make a substantial contribution to the University’s research capacity, creating opportunities for joint publications and grant application.
  - During 2014, CRAE made a substantial contribution to the effective and efficient functioning of the SEF-CRAE seminar series (see above), enhancing the ability of its members to both disseminate their work and benefit from engagement with international and national experts in applied economics.

- In 2014, CRAE facilitated several applications submitted for Nationally Competitive Research Grants.
- With the aim of furthering improving grant opportunities and the achievement of high quality publications, CRAE instituted a workshop series in 2014. This series provides researchers with an opportunity to share early research results and achieve feedback from peers.

#### **CRAE Research Workshops for 2014**

Date	Presenter	Topic
5 March	Mark Harris	A New Formulation for Latent Class Models
12 March	Felix Chan	Still Getting Caught in (Econometrics) Moments
19 March	Gary Madden	The Economic Impact of Broadband Speed versus Penetration
26 March	Harry Bloch	Innovation, Obsolescence and Price Theory
14 May	Gary Madden	The Demand for U.S. Mobile Phone Service Bundles
28 May	Adrian Cheung	Disclosure Quality, the Cost of Capital and Correlated Errors
26 November	Salim Twalib and Matthias Liffers	Research Data Research Management Workshop

- *Productive partnerships*

- In 2014 CRAE's Director and Deputy Director, continued in their roles on the Commonwealth Treasury's Housing Research Panel. The role of the panel is to provide the Commonwealth with high-quality independent expert advice and support in relation to a range of issues and projects relating to housing and urban development.
- The CRAE Director continued her roles on the FaHCSIA Gender Research Panel and the Work and Family Policy Roundtable. The Roundtable is a network of academics from 18 Australian universities and research institutions with expertise on work, care and family policy. It includes a number of leading Australian academics that CRAE members have collaborated with on grant and project applications.
- The Deputy Director of CRAE Continued as a member of the Steering Committee for the Asia Pacific Network for Housing Research (APNHR). The APNHR aims to promote housing research in the Asia-Pacific, comprising membership from Australia, Hong Kong, China, New Zealand, Singapore, Malaysia, Thailand, Taiwan, Japan and South Korea.
- CRAE members pursued a number of research projects with groups external to the Centre, including projects with academics from the University of South Australia, RMIT, and UNSW. Research collaborations with other Centres at Curtin, such as Bankwest and the Centre for Research on Ageing, were also pursued.

- *Knowledge transfer and esteem*

Among many others few examples of our members in knowledge transfer and holding esteemed positions can be:

- Invitation to join the editorial board of the prestigious international journal, *Feminist Economics*, for a 3 year term, starting January 2015.
- Invitation to be discussant at an International Association for Feminist Economics/ Union of Radical Political Economy joint session at the American Economic Association Conference, Boston in January 2015.
- Invitation to join the editorial board of the prestigious international journal, *Journal of Economic Issues*, for a 3 year term, starting January 2015.
- Invitation to be discussant at Association for Evolutionary Economics session at the American Economic Association Conference, Boston, January 2015.
- Being sponsored speaker at the Association for Evolutionary Economics symposium, Sydney, December 2014.
- Being editors and co-editors of many top ranked international journals

- Delivering Harold Peden Memorial Lecture to The Australian Society for the Study of Labour History, Perth in November 6, 2014.
- Invitation to provide evidence to the Senate Standing Committee on Community Affairs Inquiry Into the Extent Of Income Inequality In Australia, Adelaide, Monday November 10, 2014
- Being a Commissioner to the Commonwealth Grants Commission. The Commonwealth Grants Commission is an independent body which is responsible for making recommendations to the Federal Treasurer on the distribution of GST revenue to states and territories, to ensure each has funding to deliver broadly equivalent services in key areas such as health and education.
- Being a Fellow of the Academy of the Social Sciences in Australia and was a member of the ARC Selection Advisory Committee for 2014 Laureate Fellowships.



## 6 Financial Management

CRAE is a visible, productive and performing research centre which makes a relatively small claim on the University's resources. As documented in the table below, the Centre's main funding sources are ORD and CBS. These resources are deployed primarily on research support staff.

Detail	Year 2013 Actual	Year 2014 Projected	Year 2014 Actual	Year 2015 Projected	Year 2015 Actual @ 27 May	Year 2016 Projected
<b>OPERATING BUDGET</b>						
Carry forward (from previous year)	223,191.88	225,211.97	226,172.21	204,6113.97	173,296.32	
<b>Income</b>						
• Division/School	50,000.00	50,000.00		50,000.00		50,000.00
• Central funding	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
• Consultancies/external funding	<u>1,012.50</u>	<u>10,000.00</u>	<u>0.00</u>	<u>30,000.00</u>	<u>_____</u>	<u>_____</u>
• Total Income	101,012.50	110,000.00	50,000	130,000.00	50,000.00	100,000.00
<b>Expenditure</b>						
• Salaries (incl on-costs)*	85,306.89	116,600.00	100,886.00	116,600.00	0.00	0.00
• University charges and Operational costs	7,372.20	8,000.00		8,000.00	0.00	0.00
• Student scholarships	0.00	0.00	0.00	0.00	0.00	5,000.00
• ECR industry engagement grant	0.00	0.00	0.00	0.00	40,000.00	40,000.00
• Research Forum	0.00	0.00	0.00	0.00	0.00	5,000.00
• seminars & symposiums	3,785.83	4,000.00	2024.00	4000.00	865.00	50,000.00
• Equipment	<u>2,527.49</u>	<u>2,000.00</u>	<u>0.00</u>	<u>1,000.00</u>	<u>446.00</u>	<u>0.00</u>
• Total Expenditure	98,992.41	130,600.00	102,910.00	129,600.00	41,311.00	100,000.00
<b>Operating Surplus/(Loss)</b>	<b>2,020.09</b>	<b>(-20,600.00)</b>	<b>(-52,910.00)</b>	<b>400.00</b>	<b>(8,689.00)</b>	<b>0.00</b>

Note: \*CRAE operated with one 0.4 administrator and one research assistant in 2014.

## 7 Strategic Initiatives

The success of the CRAE model, together with budgetary constraints, implies that changes during the coming twelve months will be focused on refining and growing the Centre, rather than on major new initiatives.

- *To enhance the performance of the group across all KPIs, the Centre will:*
  - Continue to support its members as they pursue external funding opportunities.
  - Build the workshop and seminar series with the aim of increasing the University's capacity to achieve high quality research outputs in applied economics.
  - Provide administrative support to members organising conferences or external workshops.
  - Pursue collaborations with other University research centres, such as the BCEC.

- Provide academic support of different types to encourage and increase HDR enrolment
- *To enhance the visibility of the group with internal and external stakeholders*, the Centre will:
  - Continue to develop the CRAE webpage and working paper series (as described above).
  - Continually manage and update the research profiles of CRAE members.
  - Discontinuing public forums.<sup>1</sup>
- *To disseminate research findings*, the Centre will, in addition to the above-mentioned initiatives:
  - Based on the availability of budget, try to regain subscription of SSRN
  - Achieve new working papers
  - Increase use CBS blog and Yammer
- *To attract high quality HDR students, research staff and visiting researchers*, the Centre will:
  - Continue to develop a strong web-based profile of research in applied economics at Curtin.
  - Invest in the research culture of the Centre by hosting events and providing support for especially new researchers, HDR students and visitors.

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<sup>1</sup> One outcome of the Centre's 2012 performance review was agreement that CRAE's involvement in public forums should be reduced, to minimize potential conflicts with BCEC

## 8 Impact

As described in the following table, research conducted by members of the CRAE group has resulted in social, cultural, economic and/or environmental benefit to end users in the wider community.

Description of Research	Description of Impact	Breadth of Impact
<p>“The Gender Gap in Financial Security: What We Know and Don't Know about Australian Households” was published in 2014 in one of the leading economics journal ‘Feminist Economics’ authored by Siobhan, Therese and Rachel. The study investigates the gender wealth gap in Australia by examining differences in the net worth of households headed by single women and men. It demonstrates that the gender wealth gap is concentrated in particular types of assets, and differences in the composition of wealth, especially in high net worth households, are an important feature of the wealth gap in Australia. Using decomposition techniques within a quantile regression framework, the study explores the effects of individual characteristics of single male and female households on their wealth and finds that individual factors play a relatively small role in accounting for the large gender wealth gap at the top of the wealth distribution. Therefore, differences in the composition of men and women’s wealth portfolios contribute to the gender wealth gap, and future research must account for these differences.</p>	<p>This research has informed policy agencies, such as the Workforce Gender Equality Agency (WGEA) with responsibilities for monitoring and reporting on the gender pay gap.</p>	<p>The impact of this research on the gender wealth gap resulted in interviews for a range of media articles on the issue:</p> <ul style="list-style-type: none"> <li>-Drury, B. (2014) “Clearing financial hurdles of the single life” The Age, October 15, 2014 downloaded from <a href="http://www.theage.com.au/action/printArticle?id=62294217">http://www.theage.com.au/action/printArticle?id=62294217</a> accessed 15 October 2014</li> <li>-Evatt Foundation (2014) “Inequality: Latest Research” downloaded from <a href="http://evatt.org.au/news/inequality-latest-research.html">http://evatt.org.au/news/inequality-latest-research.html</a> accessed 1 October 2014.</li> <li>-Wade, M. (2014a) “Lower pay, lower wealth a woman's lot in life” The Age September 24, downloaded from <a href="http://www.theage.com.au/action/printArticle?id=61450845">http://www.theage.com.au/action/printArticle?id=61450845</a> accessed 29 September 2014 (This article was also produced in the Sydney Morning Herald and WA Today through syndication).</li> <li>-Wade, M (2014b) “Men in relationships are super winners” The Age, September 28, 2014 downloaded from <a href="http://www.theage.com.au/comment/men-in-relationships-are-super-winners-20140927-10lpcv.html">http://www.theage.com.au/comment/men-in-relationships-are-super-winners-20140927-10lpcv.html</a> accessed 29 September 2014</li> <li>- Wade, M (2014c) “Rich man, poor woman: the gender wealth gap widens” -Sydney Morning Herald November 09, 2014 downloaded from <a href="http://www.smh.com.au/national/rich-man-poor-woman-the-gender-wealth-gap-widens-20141108-11igay.html">http://www.smh.com.au/national/rich-man-poor-woman-the-gender-wealth-gap-widens-20141108-11igay.html</a> accessed 11 November 2014</li> <li>-Lucia Osborne-Crowley (2014) “Australian men are wealthier than women at every age”, Women’s Agenda, November 11 2014</li> </ul>

<p>Measurement of women’s economic and social well-being. This is on-going research by A/Professor Siobhan Austen. Research monographs on the topic have been published over several years.</p>	<p>The research has informed economic and social policy analysis in a number of Australian jurisdictions</p>	<p>In 2013, Austen was an invited member of the Expert Advisory Group on the NSW government inquiry: "Conceptualisation and Measurement of the Socio-economic Status of Women in New South Wales." In 2013, Austen continued her role on the Australian Bureau of Statistics’ Gender Statistics Advisory Group</p>
<p>The circumstances and experiences of mature age women in the work force; A/Professor Siobhan Austen, A/Professor Therese Jefferson and A/Professor Rachel Ong; The findings of this large research project have highlighted issues relating to wages, physical work demands and recognition. Research outputs include various high-quality journal articles and conference papers.</p>	<p>The research has informed policy relating to gender equity and ageing workforces</p> <p>The research has also attracted strong media attention</p>	<p>In March 2013, the research team was invited to present their research to a Australian Human Rights Commission forum: The Australian Care Economy: A gender perspective</p> <p>In May 2013, an article based on the research (and presented at an Australian Association of Gerontology conference was in the Western Australian Rhianna King; The West Australian, Page 65 (Thu 9 May 2013) “Aged-care staff crisis `looming’ ”.</p>
<p>Measurement and analysis of the Gender Pay Gap conducted by Siobhan Austen. The findings of this ongoing research activity highlight the challenges and risks involved in commonly used measures of the gender pay gap. High quality journal articles and conference papers.</p>	<p>This research has informed policy agencies, such as the Workforce Gender Equality Agency (WGEA) with responsibilities for monitoring and reporting on the pay gap.</p>	<p>In 2013, Siobhan Austen and Therese Jefferson were commissioned by the WGEA to prepare a positioning paper on measuring the gender pay gap.</p> <p>Therese Jefferson was a member of the WGEA Gender Pay Taskforce in 2013.</p>
<p>Index inclusions and exclusions from Dow Jones Corporate Sustainability Index – US evidence Output: Cheung, A. W. 2011. “Do stock investors value corporate sustainability? Evidence from an event study.” Journal of Business Ethics 99: 145-165</p>	<p>Economic/financial impact, i.e., whether US investors value corporate sustainability firm.</p>	<p>Published in Journal of Business Ethics (a highly regarded and influential journal). This paper, since published in 2011, has been cited more than 66 times.</p>
<p>Index inclusions and exclusions from Dow Jones Corporate Sustainability Index – Asian countries evidence.  Output: Cheung, A. W., and E. Roca. 2013. “The Effect on Price, Liquidity and Risk When Stocks are Added to and Deleted from a Sustainability Index: Evidence from the</p>	<p>Economic/Financial impact, i.e., whether Asian investors value corporate sustainability firm</p>	<p>Published in Journal of Asian Economics (ABDC: A journal). This paper, since published in 2013, has been cited more than 3 times.</p>

Asia Pacific Context." Journal of Asian Economics 24: 51-65		
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## 9 Compliance Under The Handbook

CRAE endeavours to transition to best practice following Curtin University's relevant legal obligations and policies and procedures. Each member of CRAE has completed essential staff training as required by the Vice-Chancellor. This training includes the SOL Health and Safety Induction, SOL Equal Opportunity Training, and SOL Information Management Training. CRAE leadership encourages and actively reviews that its members adhere to best practice principles as laid out by the University.

## 10 Research Policy Compliance

CRAE adheres to all procedures and legislation relating to [Research Ethics](#), [Research Safety](#) and [HDR Supervision](#).

## 11 Strategic Brief Finalisation

To finalise the Strategic Brief, please convert the final document to a PDF and attach to the SCRIPT report using the 'Documents' tab. **This must occur before the SCRIPT Annual Report is submitted.**

# Part II: Strategic Plan

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## 1 Vision

CRAE's vision is for world-leading research in the globally significant area of applied economics. This research will address economic and social phenomena that impact on lives in Western Australia, the nation and throughout the world.

## 2 Mission

CRAE's mission is to increase the Curtin University's research capacity in applied economics. CRAE will promote and support research in applied economics that occurs *outside and/or across* other centres associated with economic research. CRAE will act as a conduit between its individual members and these other centres, identifying and supporting opportunities for collaborations and cross-centre initiatives. CRAE will also act independently to secure research funding, achieve productive partnerships with external stakeholders and raise the profile of economic research at Curtin.

## 3 Goals, Outcomes and Strategies

CRAE's goal is to achieve a collaborative and supportive culture of research in applied economics at Curtin. Associated with this are some specific objectives for the funding period:

- Provide comprehensive support for key researchers in applied economic and involve them in decision-making, problem-solving, and activities aimed at increasing the quality and quantity of research in the field of applied economics.
- Improve public and industry awareness of Curtin as an area of research excellence in applied economics.
- Enhance the capacity of researchers in applied economics to form teams on well-defined topics with a view to applying for government and industry funding.
- Attract a leading researcher in applied economics to Curtin.

The Centre's strategies for achieving these goals and objectives include:

- Developing CRAE's structure so that it features a set of theme areas and, aligned with each of these, key researchers. The theme areas align with the major Journal of Economic Literature (JEL) codes and with the research expertise of our members. Increasingly the Centre will define specific areas of research expertise in applied economics and focus the use of the Centre's limited resources on these areas.
- Continual quality improvement of the Centre's webpage and working paper series.
- A program of public forums and seminars featuring, where possible, international experts in applied economics
- A program of research workshops targeted at topics and groups with good potential for government and industry funding.
- Continual efforts at identifying potential recruits to Curtin.

#### 4 KPI's, Primary Measures and Targets

Curtin's Strategic Initiatives - Research	KPI	Measures	2015	2016	2017
<ul style="list-style-type: none"> <li>• <b>Increase quality research outputs &amp; research income</b> <ul style="list-style-type: none"> <li>▶ Invest in focused areas of research strength</li> <li>▶ Increase number of full-time HDR students</li> <li>▶ Increase proportion of publications in high quality research outlets/ journals</li> <li>▶ Implement stage 2 of the Research Resource Allocation Process</li> <li>▶ Lead and participate more major projects</li> <li>▶ Increase average grant size</li> <li>▶ Improve large project delivery capability</li> <li>▶ Large National Competitive grant strategy</li> <li>▶ ERA 2015 strategy</li> <li>▶ Invest in research infrastructure</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Research Outputs</li> </ul>	<ul style="list-style-type: none"> <li>• Growth in income %</li> </ul>	10%	10%	10%
		<ul style="list-style-type: none"> <li>• Total research income (Cat 1-4)</li> </ul>	\$1.1m	\$1.3m	\$1.4m
		<ul style="list-style-type: none"> <li>• Number of high quality outputs</li> </ul>	35	40	45
		<ul style="list-style-type: none"> <li>• % high quality research outputs (Quality)</li> </ul>	75%	80%	85%

Curtin's Strategic Initiatives – People & Culture	KPI	Measures	2015	2016	2017
<ul style="list-style-type: none"> <li>• <b>Ensure research teams are performing</b> <ul style="list-style-type: none"> <li>○ Manage research performance</li> <li>○ Increase high quality researcher FTE</li> </ul> </li> <li>• <b>Optimise research academic FTE relative to output and minimise 'low quality' output</b> <ul style="list-style-type: none"> <li>▶ Reduce Central support for low quality research areas</li> <li>▶ Performance manage under-performing staff</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Performance</li> </ul>	<ul style="list-style-type: none"> <li>• Research income (Cat 1-4) per research academic FTE</li> </ul>	\$110,000	\$125,000	\$130,000
		<ul style="list-style-type: none"> <li>• Research outputs per research academic FTE</li> </ul>	4.5	5.0	5.5



Curtin's Strategic Initiatives – Engagement & Impact	KPI	Measures	2015	2016	2017
<ul style="list-style-type: none"> <li>• <b>International Engagement</b></li> </ul>	<ul style="list-style-type: none"> <li>• International Engagement</li> </ul>	<ul style="list-style-type: none"> <li>• Joint publications with National/international groups (average institutions per indexed document)</li> <li>• Number of new international relationships</li> <li>• Percentage of research outputs with international collaborators</li> <li>• One major institutional partnership</li> </ul>	<p>1</p> <p>1</p> <p>25</p> <p>1</p>	<p>1</p> <p>1</p> <p>30</p> <p>1</p>	<p>1</p> <p>1</p> <p>35</p> <p>1</p>
<ul style="list-style-type: none"> <li>• <b>High-Impact research delivered to industry</b> <ul style="list-style-type: none"> <li>▶ Increase partnerships with high potential industry and government departments</li> <li>▶ Increase partnerships with high quality universities</li> <li>▶ Employ a greater number of researchers with high repute with industry</li> <li>▶ Leverage teaching reputation to target grants</li> <li>▶ Increase research applications with international partners</li> <li>▶ Industry collaboration growth for oil, gas, mining, sustainability</li> <li>▶ Prepare for Excellence in Impact Australia</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Industry impact</li> </ul>	<ul style="list-style-type: none"> <li>• Category 3 + Category 4 research income</li> </ul>	<p>\$0.3m</p>	<p>\$0.4m</p>	<p>\$0.5m</p>

## 5 Key Priorities 2015-2017

	Key Priorities	Measure of Success	Responsible Officer
2014	<ul style="list-style-type: none"> <li>• Strong research culture around theme areas</li> <li>• Public forums</li> <li>• Active web presence</li> <li>• Partnerships with international researchers and research groups</li> <li>• Attract new key researchers to Curtin</li> </ul>	<ul style="list-style-type: none"> <li>• Active workshop series leading to new grant applications and papers</li> <li>• Attendance/participation of industry and government stakeholder; media coverage</li> <li>• Webpage updates include media comments on a bi-monthly basis</li> <li>• Visiting fellowships, joint publications, joint grant applications</li> <li>• Appointment of leading researcher in applied economics</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Director, research coordinator and key researchers</li> </ul>
2015	<ul style="list-style-type: none"> <li>• Strong research culture around theme areas</li> <li>• Public forums</li> <li>• Active web presence</li> <li>• Partnerships with international researchers and research groups</li> </ul>	<ul style="list-style-type: none"> <li>• Active workshop series leading to new grant applications and papers</li> <li>• Attendance/participation of industry and government stakeholder; media coverage</li> <li>• Webpage updates include media comments on a bi-monthly basis</li> <li>• Visiting fellowships, joint publications, joint grant applications</li> </ul>	<ul style="list-style-type: none"> <li>• Director, research coordinator and key researchers</li> </ul>

2016	<ul style="list-style-type: none"> <li>• Strong research culture around theme areas</li> <li>• Public forums</li> <li>• Active web presence</li> <li>• Partnerships with international researchers and research groups</li> </ul>	<ul style="list-style-type: none"> <li>• Active workshop series leading to new grant applications and papers</li> <li>• Attendance/participation of industry and government stakeholder; media coverage</li> <li>• Webpage updates include media comments on a bi-monthly basis</li> <li>• Visiting fellowships, joint publications, joint grant applications</li> </ul>	<ul style="list-style-type: none"> <li>• Director, research coordinator and key researchers</li> </ul>
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Area Strategic Risk		Description
1	<b>Research Performance</b>	Failure to be recognised as a strong centre for research in applied economics with the associated benefits of attracting high performing staff and students, funding and reputation.
2	<b>Brand Reputation</b>	Failure to build brand reputation limiting access to opportunities.
3	<b>Insufficient Funds and Surplus</b>	Insufficient funds and surplus to invest in strategic and operational initiatives over the short to long term.

## 6 Research Plan

CRAE's theme areas and key researchers in 2014 are as follows:

- *History of Economic Thought, Methodology and Heterodox Approaches* (Harry Bloch and Therese Jefferson)
- *Mathematical and Quantitative Methods* (Felix Chan)
- *International Economics* (Helen Cabalu and Nick Apergis)
- *Financial Economics* (Robert Durand)
- *Public Economics* (Jeffrey Petchey)
- *Health, Education and Welfare* (Mark Harris)
- *Labour and Demographic Economics* (Siobhan Austen and Mike Dockery)
- *Industrial Organisation* (Gary Madden)
- *Economic Development, Technological Change and Growth* (Ruhul Salim)
- *Regional, Real Estate and Transportation Economics* (Steven Rowley)

Each of the key researchers either has government or industry funding or is planning new applications in the coming years. The Centre will disseminate relevant information on grant, scholarship and publishing opportunities to its members and collaborate with them to achieve publications, competitive grants, public forums and partnerships with international scholars in their field. The secretariat will also work with these researchers, in the first instance at least, to maximize the collection, recording and dissemination of relevant publication and other data relevant to each theme area. This will ensure that the potential impacts of the researchers' work are maximised.

### 3. STRATEGIC INITIATIVES

*To enhance the performance of the group across all KPIs, the Centre will:*

- Introduce Early Career Researcher Industry Engagement (ECRIE) Grant.
- Organize Research forum where both academics and HDR students will participate.
- Continue to support its members as they pursue external funding opportunities.
- Build the workshop and seminar series with the aim of increasing the University's capacity to achieve high quality research outputs in applied economics.
- Provide administrative support to members organising conferences or external workshops.
- Pursue collaborations with other University research centres, such as the BCEC.

*To enhance the visibility of the group with internal and external stakeholders, the Centre will:*

- Organize Research forum where both academics and HDR students will participate.
- Continue to develop the CRAE webpage and working paper series (as described above).
- Continually manage and update the research profiles of CRAE members.
- Conduct public forums, where appropriate.<sup>2</sup>

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<sup>2</sup> One outcome of the Centre's 2013 performance review was agreement that CRAE's involvement in public forums should be reduced, to minimize potential conflicts with BCEC

*To disseminate research findings*, the Centre will, in addition to the above-mentioned initiatives:

- Re-subscribe SSRN
- Achieve new working paper series

*To attract high quality HDR students, research staff and visiting researchers*, the Centre will:

- Continue to develop a Web-based profile of research in applied economics at Curtin
- Invest in the research culture of the Centre by hosting events and providing support for especially new researchers, HDR students and visitors

## **7 Financial Plan**

A financial plan for the forthcoming period is contained in the Annual Strategic Brief.

## **8 Governance Arrangements**

CRAE governance will continue to comprise:

- Director – Gary Madden
- Head of School, Economics and Finance – Helen Cabalu
- Director of Research, Economics and Finance – Mark Harris
- CBS Dean of R&D – Fran Ackerman
- ORD representative

The role of Helen Cabalu, Mark Harris and Fran Ackerman, and the ORD representative will continue to be to review, on an annual basis, the performance of the Centre and to work with the Director to set the strategic direction of the Centre.