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1. Centre for Applied Economic Research (CAER) – key facts

1.1 Presiding faculty

UNSW Business School

1.2 Schools, centres, faculties and other organizations with which CAER interacts

CAER has significant linkages with the academia, industry and government. The following table summarizes the schools, centres, faculties and other organizations with which CAER interacted during 2018. The nature of the interactions is also indicated. Further descriptions of the interactions are provided in the sections to follow of this report.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Nature of interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Within UNSW</strong></td>
<td></td>
</tr>
<tr>
<td>School of Economics, UNSW Business School</td>
<td>On-going engagement: CAER’s management, majority of CAER members, and part of the Steering Committee members are academics at the school; Collaboration and coordination of teaching and research supervision activities; Provision of in kind facilities.</td>
</tr>
<tr>
<td>School of Banking and Finance, UNSW Business School</td>
<td>On-going engagement with the Real Estate Initiative; Part of CAER members and the Steering Committee members are academics at the school; Collaboration and coordination of teaching activities.</td>
</tr>
<tr>
<td>UNSW Law</td>
<td>On-going engagement with the Law and Economics Initiative; Part of CAER members are located at the school; Coordination of research supervision activities.</td>
</tr>
<tr>
<td><strong>Outside UNSW</strong></td>
<td></td>
</tr>
<tr>
<td>Department of Communications and the Arts</td>
<td>On-going engagement with the Economic Measurement Initiative.</td>
</tr>
<tr>
<td>OECD</td>
<td>On-going engagement with the Economic Measurement Initiative.</td>
</tr>
<tr>
<td>The Australian National University and the University of Melbourne</td>
<td>Collaboration with the Economic Measurement Initiative on an Australian Research Council Discovery Project Grant.</td>
</tr>
<tr>
<td>School of Economics, the University of Queensland</td>
<td>On-going engagement with the Economic Measurement Initiative and the Real Estate Initiative.</td>
</tr>
<tr>
<td>The Australian Treasury</td>
<td>On-going engagement with the Economic Measurement Initiative and the Real Estate Initiative.</td>
</tr>
<tr>
<td>Department of Industry Innovation and Science</td>
<td>On-going engagement with the Economic Measurement Initiative.</td>
</tr>
<tr>
<td>Entity</td>
<td>Nature of interaction</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Statistics Netherlands</td>
<td>On-going engagement with the Economic Measurement Initiative.</td>
</tr>
<tr>
<td>RF Capital</td>
<td>On-going engagement with the Real Estate Initiative; Industry partner on joint Australian Research Council Linkage Grant.</td>
</tr>
<tr>
<td>CorVal Partners Limited</td>
<td>Industry partner on joint Australian Research Council Linkage Grant with the Real Estate Initiative.</td>
</tr>
<tr>
<td>Jones Lang LaSalle (JLL)</td>
<td>On-going engagement with the Real Estate Initiative.</td>
</tr>
<tr>
<td>The Urban Taskforce Australia</td>
<td>On-going engagement with the Real Estate Initiative.</td>
</tr>
<tr>
<td>Property Council of Australia</td>
<td>On-going engagement with the Real Estate Initiative.</td>
</tr>
<tr>
<td>Reserve Bank of Australia</td>
<td>On-going engagement with the Real Estate Initiative.</td>
</tr>
<tr>
<td>Herbert Smith Freehills law firm (Sydney)</td>
<td>On-going engagement with the Law and Economics Initiative; Key donor of the Law and Economics Initiative.</td>
</tr>
</tbody>
</table>

### 1.3 Governance and management of CAER

**Director**
Professor Kevin Fox, School of Economics, UNSW

**Deputy Director**
Professor Richard Holden, School of Economics, UNSW (from June 2018)

**Steering Committee**
Professor Elizabeth Carson (Associate Dean Research) – Chair
Professor Kevin Fox (Director, CAER)
Professor Jerry Parwada (Head, School of Banking and Finance)
Mr Tim Harcourt (J.W. Nevile Fellow in Economics)
Ms Maree Magafas (School Manager, School of Taxation and Business Law)

### 1.4 CAER's research initiatives and their members in 2018

CAER’s research activities are carried out through its research initiatives where each initiative focuses on a specialised research area. The following is a list of CAER’s research initiatives and their members during 2018. The research agenda of each initiative is described in section 2 of this report.

**Economic Measurement Initiative 2018**
Professor Kevin Fox - School of Economics, UNSW
Professor Erwin Diewert - School of Economics, UNSW and Vancouver School of Economics, the University of British Columbia
Associate Professor Glenn Otto - School of Economics, UNSW

**Herbert Smith Freehills Initiative on Law and Economics 2018**
Professor Richard Holden, Initiative Director - School of Economics, UNSW
Professor Rosalind Dixon, Initiative Deputy Director - UNSW Law
Real Estate Initiative 2018

Research team

Professor Kevin Fox - School of Economics, UNSW
Professor Erwin Diewert - School of Economics, UNSW and Vancouver School of Economics, the
University of British Columbia
Associate Professor Glenn Otto - School of Economics, UNSW
Dr Nigel Stapledon - Real Estate Research Fellow, CAER

1.5 CAER's administrative staff in 2018

Kala Miranda continued to be employed as a full-time administrator of CAER in 2018. She was
hired to assist CAER’s Director in the administration of the Centre and in coordinating the research
activities of CAER’s initiatives. Her position was funded by CAER.

Carmit Schwartz re-joined CAER as a part-time Senior Research Officer, commencing in mid-July
2018. Carmit was hired to provide research assistance to CAER’s Director as well as help
manage relationships between ABS, Department of Industry, Innovation and Science and the
ATO, in one of the emerging research projects around Business Longitudinal Analytical Data
Environment (BLADE).

Administrative support was also provided by the UNSW Business School, mainly consisting of HR,
IT, finance and marketing support.
1.6 CAER’s mission and history

**History**

Founded in 1976, CAER is one of the oldest centres in the University and the first centre to be established in the former Faculty of Commerce and Economics (now the UNSW Business School). CAER’s primary emphasis is on applied economic research relevant to policy issues. For more than thirty years a significant body of such research has been carried out and the results published in academic journals, books and the Centre's own publications. CAER’s work is valued by its internal and external stakeholders and its years of built up impact have contributed to its brand name achieving a high level of external recognition. CAER is proud of its contribution to UNSW and the broader community. It remains relevant, having changed with times, and continues to attract top class international visitors, research funding and research collaborations.
2. CAER’s performance in relation to its identified objectives

The following is a summary of CAER’s performance in relation to its identified objectives during 2018. A detailed description of CAER’s operations in 2018 is provided in the following sections of this report.

- Carry out, encourage and enhance applied economic research with an interdisciplinary and multidisciplinary focus that addresses current policy issues both within Australia and globally.

In 2018 CAER’s research activities were carried out and advanced through the following research initiatives:

**Economic Measurement Initiative**

The appropriate measurement of economic variables is of high importance as data of economic variables is used by a wide range of researchers and policy decision makers, spanning the social sciences, humanities and the physical sciences. Therefore, the research undertaken by the Economic Measurement Initiative is dedicated to improving measurement techniques of economic variables to more accurately reveal empirical facts. To achieve its aim the initiative applies advanced and innovative tools from economic theory, econometrics, aggregation theory, experimental economics, mathematics, and statistics. The initiative research areas include: performance measurement, inflation measurement, index number theory, functional form specification and measurement issues in international comparisons.

**Law and Economics Initiative**

The Herbert Smith Freehills Initiative on Law and Economics is a collaboration between CAER, UNSW Business School, UNSW Law and the Herbert Smith Freehills law firm (Sydney). Its main goals are to help establish law and economics in the Australian academia, begin a dialogue with practitioners about developments in the field and developments in practice, and to establish UNSW as a key leader in the field. The research of the initiative aims to analyse and understand law and legal institutions from economic perspectives rather than the legal realistic tradition. This is achieved by applying the latest developments in the field of economics, including the incorporation of tools from labour economics and the insights of information and behavioural economics on the limits of neo-classical economic models.

**Real Estate Initiative**

With the encouragement and financial support of UNSW alumnus, Mr. Andrew Roberts, the Real Estate Initiative was established in 2012 under the umbrella of CAER within the UNSW Business School. It is a multi-disciplinary initiative, with collaboration between CAER, UNSW Business School and UNSW Built Environment. As the real estate sector represents a substantial share of the capital assets and savings of businesses and households in the economy and is a major influence on the performance of the economy, the Real Estate Initiative was established to develop a research program to explore real estate-related issues from multidisciplinary perspectives and also to develop education programs to boost skills in the sector.

CAER’s diverse research activities clearly indicate its role in leading research that crosses discipline boundaries, and as such it adds great value to UNSW research capabilities, supports UNSW’s research strength “Law, Business and Economics”, and significantly contributes to promoting the UNSW research brand.

- Encourage and support collaborative research across schools and faculties both at the national and the international level.

CAER’s collaborative research during 2018 is demonstrated by its following undertakings:

- During 2018, the Real Estate Initiative completed and finalized its research project “The Economic Measurement of Property Markets: Prices, Bubbles, Economic Growth and
Productivity”. This project is part of an Australian Research Council Linkage Grant which involves collaboration between the Real Estate Initiative Group and property investor RF Capital together with its associate property fund manager and investor CorVal Partners Limited.

- In 2018 CAER supported domestic and international collaborations and stimulated its research activities by hosting seven distinguished visitors.

- As a research centre, CAER’s collaborative activities are mainly concentrated on research. However, CAER also undertakes educational collaborative activities where they are deemed appropriate in achieving its mission. In 2018 Professor Kevin Fox delivered a course on Economic Measurement as part of the Economic Measurement Initiative. Dr Nigel Stapledon member of the Real Estate Initiative, delivered a course offered as part of the UNSW Business School’s Real Estate major. Professor Rosalind Dixon member of the Law and Economics Initiative delivered a course on Economic analysis of the Law.

- Support and facilitate research training and career opportunities for outstanding Australian and international students and researchers.
  
  During 2018 CAER members have supervised 13 PhD students. Many junior academic and government researchers participated in the Economic Measurement Group Workshop.

- Build and enhance UNSW research capacity and outcomes through stimulating network opportunities and exposure to cutting-edge research.
  
  CAER’s commitment to building and enhancing UNSW research capacity and outcomes is shown by the following activities undertaken in 2018:

  **Visitors**
  
  In 2018 CAER supported domestic and international collaboration by hosting eight visitors. These visits of distinguished and internationally-recognized visitors assist stimulating CAER’s research activities and provide staff and students the possibility of interactions with leading researchers in diverse areas of investigation. Among other activities, these visits usually involve a formal presentation given by the visitor.

  **Conferences, workshops and special events**
  
  In 2018, the EMG Workshop was run over two days, continuing the success which has led it to become a regular and well-attended event of international standing. The workshop is run as part of CAER’s objective of helping academics and students engage with government and industry, and contributing to their development as internationally-recognised researchers. Each year the workshop involves academics from overseas and around Australia, and representatives from the public and private sectors.


  In addition, the Law and Economic Initiative also hosted the UNSW Comparative Constitutional Law Roundtable.

  **Academic, industry and government engagements**
  
  In 2018 CAER continued to foster and expand its linkages with the broader academic community, industry and the public sector:
**Academic engagements**

- In October 2018, Kevin Fox, invited speaker, Seminar Series, Department of Economics, Queensland University of Technology, 4 October 2018, Queensland.

- In May 2018, Kevin Fox, invited speaker, Grand Challenge Meetup, UNSW Sydney, 15 March 2018.

- In March 2018, Kevin Fox, invited speaker, Seminar Series, Deakin University, Melbourne, Victoria.


- In November 2018 Professors Rosalind Dixon and Richard Holden were panelist at the Festival of Dangerous Ideas.

- Professor Ricard Holden participated as a panel member of UNSW Business School’s experts who analysed the 2018 Federal Budget and its implications, “BusinessThink Federal Budget Roundtable 2018” in May 2018 at Sydney’s CBD.

**Industry engagements**

- As part of its teaching program, the Real Estate Initiative hosted Bryan Reid (Vice President, Research, MSCI), as a guest lecturer in Professor Kevin Fox’s ECON4309/6309 Economic Measurement course in the second semester 2018. In his lecture Bryan discussed the methodologies employed by MSCI in producing real estate related regional and global indexes, benchmarks, performance modelling, data metrics and risk analytics.

- In 2018 Dr Nigel Stapledon continued his appointment as Chief Advisor at MacroPlan-Dimasi, a firm located at Sydney’s CBD and provides a range of property related services, such as research, economics, planning, spatial analysis and advisory, critical to the formulation of successful development projects.

**Government engagements**

- In 2018 Professor Kevin Fox was an Advisor to the Australian Treasury.

- In 2018 Professor Kevin Fox advised the Australian Bureau of Statistics on land price measurement.

- In 2018 Professor Kevin Fox was a member of the Australian Bureau of Statistics Methodology Advisory Committee, the Australian Bureau of Statistics Productivity Measurement Reference Group, and the Australian Bureau of Statistics Input-Output User Group.

- In 2018 Professor Kevin Fox was a member of the Australian Bureau of Statistics Productivity Measurement Reference Group (PMRG).

- In 2018 Professor Kevin Fox was an Academic Representative, Economic Data and Analysis Network (EDAN) Governance Committee, Department of Industry, Innovation and Science.

- Professor Kevin Fox, invited discussant, Reserve Bank of Australia 2018 Quantitative, Macroeconomic Workshop, December 2018, Sydney.
• In 2018 Professor Kevin Fox met with the Innovation and Metrics Review Taskforce, Department of Industry, Innovation and Science to provide advice in relation to innovation metrics and the data underpinning them as part of the “Innovation and Science Australia 2030 Plan”.

• On 1 March 2018, Professor Kevin Fox was invited to discuss on Diewert and Fox method of smoothing the user cost at the Australian Bureau of Statistics.

• On 17 April 2018, Professor Kevin Fox was invited to discuss on monthly CPI at the Australian Bureau of Statistics.

• In 2018, Professor Kevin Fox met on multiple occasions with the Department of Agriculture and Water Resources to provide advice on research relating to land valuation.

➢ Raise the profile, around Australian and internationally, of applied economic research at UNSW.

In 2018 CAER continued to create impact through the following activities:

**Publications**

To enhance the profile of UNSW’s high-impact research and researchers CAER publishes and communicates its research achievements in journals and outlets of the highest standing internationally. In 2018 members of CAER edited four books, published two book chapters and twelve articles in highly regarded international refereed journals.

**Conferences, workshops and special events**

In 2018 CAER organized the EMG Workshop. The EMG workshop is such, as these raise the profile of applied economic research at UNSW in the broader community and strengthen CAER’s position as a leading research centre in the region.

**Professional engagements and scholarly achievements**

The professional engagements and scholarly achievements attained by CAER members in 2018 further contributed to its community impact. In particular,

• In 2018 Professor Kevin Fox was invited to be a member of the editorial board of The Review of Income and Wealth (2019-2021 term).

• In 2018 Professor Kevin Fox was elected as President-Elect and Treasurer of the International Association for Research in Income and Wealth (IARIW), (2018-2020 term).

• In 2018, Professor Kevin Fox was elected as Chair, Panel B of the Academy of the Social Sciences in Australia. (Panel B represents Fellows of the Academy from Accounting, Economics, Economic History, Statistics and Marketing).

• Professor Kevin Fox, member of the Policy and Advocacy Committee of the Academy of the Social Sciences in Australia. (2016-2018 term).

• Professor Kevin Fox, member of the Panel B Committee of the Academy of the Social Sciences in Australia. (2016-2018 term).

• Professor Kevin Fox, member of the Council of the International Association for Research in Income and Wealth (IARIW). (2016-2020 term).

• Professor Kevin Fox, invited discussant, Reserve Bank of Australia 2018 Quantitative Macroeconomic Workshop, Sydney, 12-14 December 2018.

• Professor Kevin Fox, Invited Speaker, OECD Global Forum on Productivity, Ottawa, 28-29 June 2018.


• Professors Rosalind Dixon and Richard Holden were panelist at the Festival of Dangerous Ideas.

• Professor Ricard Holden participated as a panel member of UNSW Business School’s experts who analysed the 2018 Federal Budget and its implications, “BusinessThink Federal Budget Roundtable 2018” in May 2018 at Sydney’s CBD.

It is evident that CAER’s work is valued by external stakeholders and its brand name has achieved a significant level of recognition.

**Media engagement**

To raise the profile of CAER and UNSW, members of CAER’s research initiatives were actively engaged with the media and were extensively interviewed on various topical issues during 2018. In addition to Professor Holden’s on-going media engagement on SkyNews Australia, the Australian Financial Review and the Conversation, there were fifty-two media engagements during the year with media engagements taking place almost every month.

In summary, CAER delivers its stated mission and objectives in a financially sustainable manner and continues to add significant value to UNSW.

3. **CAER’s planning for the coming year 2019**

A review of the existing research initiatives commenced, to respond to new opportunities. With the end of the funding for the Real Estate Initiative, plans commenced for winding up this initiative. The possibility of a new initiative on Competition, Policy and Regulation (CPR) will be explored in 2019.

### Statement of Financial Performance

**For the Year Ended December 2018**

<table>
<thead>
<tr>
<th>Category</th>
<th>2018</th>
<th>2017</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Revenue:</td>
<td>217</td>
<td>364</td>
<td>(146) -40%</td>
</tr>
<tr>
<td>Donations &amp; Bequest - Draw downs</td>
<td>100</td>
<td>62</td>
<td>38 90%</td>
</tr>
<tr>
<td>UNSW Contributions</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Faculty Contributions</td>
<td>5</td>
<td>(9)</td>
<td>14 -156%</td>
</tr>
<tr>
<td>Other Restricted Revenue</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Commercial Activity - Fees for Service</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sundry Other Revenue</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
<td>322</td>
<td>417</td>
<td>(95) -23%</td>
</tr>
<tr>
<td><strong>Expense</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries, Wages and other staff costs</td>
<td>165</td>
<td>289</td>
<td>(124) -43%</td>
</tr>
<tr>
<td>Scholarship Stipends</td>
<td>2</td>
<td>2</td>
<td>- 0%</td>
</tr>
<tr>
<td>Contract &amp; Consulting Services</td>
<td>1</td>
<td>0</td>
<td>0 356%</td>
</tr>
<tr>
<td>Repairs and Maintenance</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Consumables</td>
<td>5</td>
<td>7</td>
<td>(3) -37%</td>
</tr>
<tr>
<td>Travel</td>
<td>96</td>
<td>55</td>
<td>41 75%</td>
</tr>
<tr>
<td>Equipment Non Capitalised</td>
<td>2</td>
<td>2</td>
<td>(0) -4%</td>
</tr>
<tr>
<td>Entertainment</td>
<td>2</td>
<td>2</td>
<td>0 0%</td>
</tr>
<tr>
<td>Marketing</td>
<td>-</td>
<td>1</td>
<td>(1) -100%</td>
</tr>
<tr>
<td>Miscellaneous Expenses</td>
<td>2</td>
<td>(31)</td>
<td>33 -100%</td>
</tr>
<tr>
<td><strong>Total Non-People Costs</strong></td>
<td>100</td>
<td>39</td>
<td>71 182%</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td>274</td>
<td>328</td>
<td>(54) -16%</td>
</tr>
<tr>
<td><strong>TOTAL CONTRIBUTION - SURPLUS/(DEFICIT)</strong></td>
<td>848</td>
<td>89</td>
<td>(47) -47%</td>
</tr>
<tr>
<td>Depreciation</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>SURPLUS / (DEFICIT) after Depreciation</strong></td>
<td>848</td>
<td>89</td>
<td>(42) -47%</td>
</tr>
<tr>
<td><strong>Cashflow Funded Capital Expenditure (CAPEX)</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Revenue in Advance will be noted in Current & Other Liabilities.
   - Research Revenue generated (cash basis).
   - Category 3 Research Revenue therein

2. **UNSW Budget model includes other revenue items**
   - Teaching Revenue
   - Block Grants
   - Indirect Cost Recoveries

3. Other Research Revenue includes internal fund transfers.

4. Restricted Funds - Cash at year end

5. Funds available in Division of Advancement
Additional notes:

- The expenses of the Real Estate Initiative are administrated through an FC101 project on UNSW accounts. Every year funds from the UNSW Foundation accounts are transferred to the FC101 project to cover the expenses and appear as donation income in the FC101 project.

- The expenses of the Law and Economics Initiative are administrated through an FC101 project on UNSW accounts. Every year funds from the UNSW Foundation accounts are transferred to the FC101 project to cover the expenses and appear as donation income in the FC101 project. On the 31st of December 2018 the remaining donation balance within the UNSW Foundation accounts of the Law and Economics Initiative was $62,449.39.

- CAER would like to acknowledge the generous support of $6,000 from the UNSW Business School’s Research Office for the EMG Workshop 2018. The support was transferred into CAER’s operating project and was incorporated in the above annual financial statement.
5. Details of research grants and projects associated with CAER during 2018

The following is a list of research grants and projects held by CAER’s research initiatives in 2018 as part of their activities. CAER members are marked in bold.

- Australian Research Council Future Fellowship Grant, 2013-2017, R. Holden, $910,034. The project aims to further the understanding of non-price institutions such as firms, voting rules, trading mechanisms, bargaining protocols, and publicly owned assets. Fifteen percent of this project is devoted to research which is undertaken by the Law and Economics Initiative. Funds of this project are administrated by the School of Economics (UNSW).

- Australian Research Council Discovery Grant, 2015-2019, “Productivity Measurement, Drivers and Trends: A New Analytical Framework”, $551,400, investigators: K.J. Fox and W.E. Diewert. The project aims to advance new concepts and methods for productivity measurement that have the potential to improve policy and national welfare, with special attention to: productivity in the mining industry, the increased holding of precautionary cash balances by firms during financial crises, innovative examination of firm productivity dynamics, and a more realistic approach to capitalisation of research and development and other intangible investments. The project is part of the research agenda of the Economic Measurement Initiative. Funds of this project are administrated by CAER.

- Australian Research Council Discovery Grant, 2017-2019, “Natural Resources and Ecosystem Services in Productivity Measurement”, $320,000, investigators: K.J. Fox, R.Q. Grafton, C. Obst and W.E. Diewert. This project aims to significantly advance the understanding of sources of productivity growth through addressing theoretical and practical problems in the economics of natural resources and ecosystem services. A key issue is the valuation of non-renewable resources and ecosystem services, acknowledging their contributions to economic activity and the impact on national income from their depletion and degradation. This then leads to new approaches to incorporating natural resource depletion and degradation into productivity analysis. Theory and practice for aggregate, regional and industry level analysis will be developed with the goal of better informing environmental, innovation and industry policy.

- Australian Research Council Linkage Grant, 2014-2017, “The Economic Measurement of Property Markets: Prices, Bubbles, Economic Growth and Productivity”, $625,000, investigators: K.J. Fox, G. Otto, N. Stapledon, M. Kulish, M. Hu, W.E. Diewert and I.A. Syed, industry partners: property investor RF Capital and its associate property fund manager and investor CorVal Partners Limited. The research project is a collaboration between the Real Estate Initiative and the two industry firms, building on both firms’ research capacity on property markets, including their data availability and industry expertise. Funds of this project (both ARC and industry partners’) are administrated by CAER.

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1 Research grants and projects which CAER members obtained outside the activities of CAER’s research initiatives are excluded from the list.
6. Statement of in-kind contributions, cash contributions, infrastructure and other resources provided to CAER during 2018

6.1 In-kind contributions

**Estimated value of CAER members contribution to CAER’s activities –by research initiatives**

<table>
<thead>
<tr>
<th>CAER member</th>
<th>Type of Activity</th>
<th>Value of Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Kevin Fox</td>
<td>Economic Measurement Initiative activities</td>
<td>64,022</td>
</tr>
<tr>
<td>Professor Erwin Diewert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate Professor Glenn Otto</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor Richard Holden</td>
<td>Law and Economics Initiative activities</td>
<td>56,008</td>
</tr>
<tr>
<td>Professor Rosalind Dixon</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total in-kind</strong></td>
<td></td>
<td><strong>120,030</strong></td>
</tr>
</tbody>
</table>

**Estimated value of in-kind contribution to CAER’s administration**

<table>
<thead>
<tr>
<th></th>
<th>Type of Activity</th>
<th>Value of Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Kevin Fox</td>
<td>Director</td>
<td>46,671</td>
</tr>
<tr>
<td>Professor Richard Holden</td>
<td>Deputy Director</td>
<td>16,033</td>
</tr>
<tr>
<td>Professor Elizabeth Carson (Associate Dean Research)</td>
<td>Steering Committee</td>
<td>7468</td>
</tr>
<tr>
<td>Professor Jerry Parwada (Head, School of Banking and Finance)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr Tim Harcourt (J.W. Nevile Fellow in Economics)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms Maree Magafas (School Manager, (School of Taxation &amp; Business Law)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNSW Business School administrative support</td>
<td>HR, IT, finance and marketing support</td>
<td>13,113</td>
</tr>
<tr>
<td><strong>Total in-kind</strong></td>
<td></td>
<td><strong>83,285</strong></td>
</tr>
</tbody>
</table>

---

2 CAER members whose salary was paid by funds held within CAER’s department ID are excluded from the table.

3 Administrative support which was funded by CAER’s funds is excluded from the table.
6.2 Cash contributions

<table>
<thead>
<tr>
<th>Entity</th>
<th>Purpose</th>
<th>Cash Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Economics</td>
<td>Support for the EMG Workshop 2018</td>
<td>$13,000</td>
</tr>
<tr>
<td><strong>Total cash</strong></td>
<td></td>
<td><strong>$13,000</strong></td>
</tr>
</tbody>
</table>

6.3 Infrastructure and other resources provided to CAER

CAER continue to share the allocated office space in the Quadrangle Building (Quad 1039) with the Industrial Relations Research Centre (IRRC). Dr Stapledon was allocated an office within this space while the other two offices are reserved to CAER’s visitors. The remaining four workstations are reserved to CAER’s postgraduate students. The rest of CAER members provided their own office space (including computers) on or off campus. The School of Economics provided office space and printer/photocopier facilities for CAER administrative staff.

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4 The following table reports only cash contributions which were made available to CAER and which were administrated by the contributing entity. Cash contributions which were transferred into CAER’s financial projects are reported as part of CAER’s annual financial statement in section 4 above.
7. Details of publications, professional engagements and scholarly achievements associated with CAER during 2018.

7.1 Research output of CAER members

The following is a list of research output attained by CAER members in 2018 as part of their initiative activities. CAER members are marked in bold.

**Books – edited**
Rosalind Dixon, Comparative Judicial Review (ed. with Erin Delaney) (Edward Elgar, 2018)


Rosalind Dixon Australian Constitutional Values (Hart Publishing, 2018)


**Book Chapters**


**Refereed Journal Articles**


Fox KJ, 2018, 'What Do We Know About the Productivity Slowdown? Evidence from Australian Industry Data' International Productivity Monitor, pp. 149 – 156.

Richard Holden, "When to Drop a Bombshell" (with Gabriele Gratton and Anton Kolotilin). Review of Economic Studies, 85(4), 2018., 2139-2172. [Online Appendix A], [Online Appendix B]


Other Research Output


Richard Holden and Jesse Zhang, “The Economic Impact of Improving Regional, Rural & Remote Education in Australia”.

Richard Holden and Rosalind Dixon, “A Climate Dividend for Australians”.

Richard Holden and Rosalind Dixon, “Levelling the Playing Field: The Economic Case for Reforming Negative Gearing”.

7.2 Professional engagements and scholarly achievements of CAER members

The following is a list of professional engagements and scholarly achievements attained by CAER members in 2018 as part of their research initiative activities. CAER members are marked in bold.

Editorial activities

- Kevin Fox, Associate Editor, Journal of Productivity Analysis.
**Professional memberships:** None in 2018.

**Invited speaker/discussant/chair/participant**


- **Kevin Fox**, discussant of “The Counteracting Effects of Credit Constraints on Productivity: Theory and Evidence”, by Philippe Aghion (College de France and LSE), Antonin Bergeaud (Bank of France), Gilbert Cette (Banque de France and AMSE), Remy Lecat (Bank of France) and Hélène Maghin (Bank of France), IARIW 35th General Conference, Copenhagen, Denmark, August 20-25, 2018.


- **Khánh Hoang** (PhD student), presenter of “Accounting for Natural Capital in Mining MFP: Comparing User Costs for Non-Renewable Resources”, IARIW 35th General Conference, Copenhagen, Denmark, August 20-25, 2018.


- **Kevin Fox**, Invited Speaker, "What do we know about the productivity slowdown?" OECD Global Forum on Productivity Ottawa, 28-29 June 2018.


• **Rosalind Dixon**, Invited Speaker, ICON-S (Hong Kong), 25-27 June 2018.

**Members/fellows of committees/organizations**

**Scholarly achievements**

• In 2018 **Professor Kevin Fox** was an Advisor to the Australian Treasury.

• In 2018 **Professor Richard Holden** was appointed to the executive committee of the Academy of Social Sciences in Australia and Chair of the Public Forums & Communications Committee.
8. Details of CAER’s engagement with the academia, government, industry and broader community

The following sections provide details of CAER’s activities undertaken in 2018 to accomplish its aims of providing a stimulus to the research undertaken at UNSW, supporting research students and early career academics, encouraging collaborative research and raising the profile of applied economic research at UNSW in the broader community.

8.1 Conferences, workshops and special events

EMG Workshop 2018
The Economic Measurement Initiative of CAER hosted its eighteenth annual international workshop on the 29th & 30th November 2018 at UNSW main campus. The aim of the workshop is to create a genuine engagement between academics, statistical agencies researchers, government policy makers and industry representatives from all around the world, leading to an improved understanding of economic measurement and the potential impact on policy. The workshop was supported by the Australian Research Council, UNSW Business School and the School of Economics.

The workshop featured an outstanding program consisting of the following speakers:
Jan de Haan (Deft University of Technology, Statistics Netherlands and Australian Bureau of Statistics), Michael Webster (Australian Bureau of Statistics), Erwin Diewert (University of British Columbia) Tom Rosewall (Reserve Bank of Australia), Paul Schreyer (OECD), and UNSW), Shipei Zeng (UNSW), Stephanie Parsons (UNSW/RBA), Ken Clements (University of Western Australia), Shengyu Li (UNSW), Gianni La Cava (Reserve Bank of Australia), David Hansell (Australian Treasury), Calvin He (Reserve Bank of Australia), Kevin Fox (UNSW), Franklin Soriano (University of New England), Khanh Hoang (ANU and Australian Bureau of Statistics), Will Chancellor (ABARES) and Quentin Grafton (ANU).

8.2 Visitors

The following is a list of visitors hosted by CAER as part of its commitment to stimulate research activities and foster research students and early career academics:

Visitors hosted by the Economic Measurement Initiative of CAER
Dr Paul Schreyer, OECD, visited UNSW in December 2018.

Visitors hosted by the Real Estate Initiative of CAER
Professor Jan de Haan, Statistics Netherlands and Delft University of Technology, visited UNSW in December 2018.

Visitors hosted by the Law and Economics Initiative of CAER
Dr Robert Akerlof, Department of Economics, University of Warwick, visited UNSW from August 2017 to March 2018.
Bert Huang, Columbia Law School, visited UNSW from August in February 2018.
David Law, Faculty of Law, Hong Kong University, visited UNSW in December 2018.
Maartje De Vissier, School of Law, Singapore Management University, visited UNSW in May 2018.
David Landau, College of Law, Florida State University, visited UNSW in December 2018.
Crystal Yang, Harvard Law School, Harvard University, visited UNSW in April 2018.
8.3 Academic, industry and government engagements

Academic engagements

- In October 2018, Kevin Fox, invited speaker, seminar Series, Department of Economics, Queensland University of Technology, 4 October 2018, Queensland.

- In March 2018, Kevin Fox, invited speaker, Seminar Series, Deakin University, Melbourne, Victoria.

- In May 2018, Kevin Fox, invited speaker, Grand Challenge Meetup, UNSW Sydney, 15 March 2018.


- Professors Rosalind Dixon and Richard Holden were panelist at the Festival of Dangerous Ideas.

- Professor Ricard Holden participated as a panel member of UNSW Business School’s experts who analysed the 2018 Federal Budget and its implications, “BusinessThink Federal Budget Roundtable 2018” in May 2018 at Sydney’s CBD.

Industry and Government engagements

- As part of its teaching program, the REI hosted Bryan Reid (Vice President, Research, MSCI), as a guest lecturer in Professor Kevin Fox’s ECON4309/6309 Economic Measurement course in the second semester 2018. In his lecture Bryan discussed the methodologies employed by MSCI in producing real estate related regional and global indexes, benchmarks, performance modelling, data metrics and risk analytics.


- Professor Kevin Fox, Invited Speaker, OECD Global Forum on Productivity, Ottawa, 28-29 June 2018.


- Professor Kevin Fox, invited discussant, Reserve Bank of Australia 2018 Quantitative Macroeconomic Workshop, Sydney, 12-14 December 2018.

- In 2018 Professor Kevin Fox was an Advisor to the Australian Treasury.

- In 2018 Professor Kevin Fox advised the Australian Bureau of Statistics on land price measurement.

- In 2018 Professor Kevin Fox was a member of the Australian Bureau of Statistics Methodology Advisory Committee, the Australian Bureau of Statistics Productivity Measurement Reference Group, and the Australian Bureau of Statistics Input-Output User Group.
• In 2018 Professor Kevin Fox was a member of the Australian Bureau of Statistics Productivity Measurement Reference Group (PMRG).

• In 2018 Professor Kevin Fox was a member of the Committee for Economic Development of Australia (CEDA) Advisory Group and provided expert advice on their research report on improving the productivity of services.

• In 2018 Professor Kevin Fox was an Academic Representative, Economic Data and Analysis Network (EDAN) Governance Committee, Department of Industry, Innovation and Science.

• Professor Kevin Fox, invited discussant, Reserve Bank of Australia 2018 Quantitative, Macroeconomic Workshop, December 2018, Sydney.

• In 2018 Professor Kevin Fox met with the Innovation and Metrics Review Taskforce, Department of Industry, Innovation and Science to provide advice in relation to innovation metrics and the data underpinning them as part of the “Innovation and Science Australia 2030 Plan”.

• On 1 March 2018, Professor Kevin Fox was invited to discuss on Diewert and Fox method of smoothing the user cost at the Australian Bureau of Statistics.

• On 17 April 2018, Professor Kevin Fox was invited to discuss on monthly CPI at the Australian Bureau of Statistics.

• On 17 April 2018, Professor Kevin Fox met with the Department of Agriculture and Water Resources to provide advice on research relating to land valuation.

8.4 Media engagement

The following is a list of media engagement undertaken by CAER members in order to raise the profile of CAER and UNSW in the broader community:

On-going

• **Professor Richard Holden**, weekly commentator on Peter van Onselen’s PVO NewsDay on SkyNews Australia.

• **Professor Richard Holden**, monthly op-ed writer for the Australian Financial Review.

• **Professor Richard Holden**, weekly columnist for the Conversation. The weekly column called “Vital Signs” aims to contextualise weekly economic events and cut through the noise of the data impacting global economies.

• **Professor Richard Holden** is a regular commentator on ABC radio and television, and on 10News.

January 2018

**Professor Richard Holden** wrote an article on "We should know how this property movie ends," the Australian Financial Review.

**Professor Richard Holden** wrote an article on "Bitcoin, the property market and Trump: the fact and fiction behind doomsaying in 2018," The Conversation.
Professor Richard Holden wrote an article on "Welcome to cash-free Australia," the Australian Financial Review.

Professor Richard Holden wrote an article on "Vital Signs: jobs may be increasing but the real test is whether we get a pay rise this year," The Conversation.


Professor Richard Holden wrote an article on "Vital Signs: what the Davos meeting is good for," The Conversation.

Professor Richard Holden wrote an article on "Cut corporate tax to cut inequality," the Australian Financial Review.

February 2018
Professor Richard Holden wrote an article on "Vital Signs: weak inflation means interest rates aren't rising anytime soon," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: future expectations causing share market gyrations and interest rate doubts," The Conversation.

March 2018
Professor Richard Holden wrote an article on "Vital Signs: The one thing holding back an RBA rate cut," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: Construction yet to slow down with a cooling housing market," The Conversation.

April 2018
Professor Richard Holden wrote an article on "Vital Signs: Australia's stubborn growth problems are moving at a geologic pace," The Conversation.

Professor Richard Holden wrote an article "Can Australia avoid Europe's populist fate?" Business Think.

Professor Richard Holden wrote an article on "Vital Signs: the world economy can benefit from a vindicated Trump," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: the calm before the storm in US-China trade," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: Interest only loans are an economic debacle that could bust the property market," The Conversation.
May 2018

**Professor Richard Holden** wrote an article on "Vital Signs: fallout from banking crackdown could be worse than interest rate rises," The Conversation.

**Professor Richard Holden** wrote an article on "Obsession with short-term buries the bad – and even the good," the Australian Financial Review.

**Professor Richard Holden** wrote an article "Morrison’s budget tax plan is another missed opportunity," The Conversation.

**Professor Richard Holden** wrote an article on "Government timing tricks hide the real budget story," The Conversation.

**Professor Richard Holden** wrote an article on "Vital Signs: how inflation in China and the US could affect Australia," The Conversation.

**Professor Richard Holden** wrote an article on "QuItaly is now a real possibility with new Italian Coalition government," the Australian Financial Review.

June 2018

**Professor Richard Holden** wrote an article on "Vital Signs: Italy is broke, and the markets have lost all faith in its elected politicians," The Conversation.

**Professor Richard Holden** wrote an article on "Vital Signs: poor wage growth means interest rates could be low for a long time," The Conversation.

**Professor Richard Holden** wrote an article on "Partially right: rejecting neoliberalism shouldn’t mean giving up on social liberalism," The Conversation.

**Professor Richard Holden** wrote an article on "Technology is the key to unlocking wages growth," the Australian Financial Review.

July 2018

**Professor Richard Holden** wrote an article on "Vital Signs: booming jobs numbers, but dig deeper and it’s not all rosy," The Conversation.

**Professor Richard Holden** wrote an article on "Vital Signs: inflation misses again, so where does the RBA go next?" The Conversation.

August 2018

**Professor Richard Holden** wrote an article on "Vital Signs: the stellar US GDP figures aren’t here to stay," The Conversation.

**Professor Richard Holden** wrote an article on "Vital Signs: is the economy getting stronger? The RBA says, ‘time will tell,’" The Conversation.

**Professor Richard Holden** wrote an article on "Political Correctness, Profit and Loss," the Australian Financial Review.
Professor Richard Holden wrote an article on "Vital Signs: Turkey shows the economic pain of global democratic backsliding," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: it’s time to discuss a new framework for central banking," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: online retailing is changing our lives, whether we use it or not," The Conversation.

September 2018
Professor Richard Holden wrote an article on "When I met James Mirrlees, perhaps the world’s greatest tax theorist," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: National accounts show past performance no guarantee of future results," The Conversation.

Professor Richard Holden wrote an article on "Vital signs. When cutting interest rates might not help," The Conversation.

Professor Richard Holden wrote an article on "Vital signs: the GFC and me. Ten years on, what have we learned?" The Conversation.

Professor Richard Holden wrote an article on "Vital signs: for all its worth, the banking royal commission could hurt a generation of battlers," The Conversation.

October 2018
Professor Richard Holden wrote an article on "Nobel prize recognises two fixers of market failure," the Australian Financial Review.

Professor Richard Holden wrote an article on "Vital signs: Amazon has lifted its wages, but the implications aren’t as good as you might think," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: the housing market might deflate, but it might pop. Here’s how," The Conversation 10/19/18.

Professor Richard Holden wrote an article on "The best way to boost the economy is to improve the lives of deprived students," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: Australia’s 5% jobless rate is not full employment; pushing up interest rates would be wrong," The Conversation.

November 2018
Professor Kevin Fox was interviewed on Radio Northern Beaches on the topic of “Technology in driving innovation productivity and economic growth within the economy”.

Professor Kevin Fox’s article on “Recalculating GDP for the Facebook age” appeared on the Financial Times.

Professor Richard Holden wrote an article on "Vital Signs: Why we distrust the consumer price index," The Conversation.
Professor Richard Holden wrote an article on "Fresh thinking: the carbon tax that would leave households better off," The Conversation.

Professor Richard Holden wrote an article on "There is a third way out of the climate and energy policy knot," the Australian Financial Review.

Professor Richard Holden wrote an article on "Vital Signs: why now is the right time to clamp down on negative gearing," The Conversation.

December 2018
Professor Richard Holden wrote an article on "Vital Signs: 35 extraordinary years. What the float of Australian dollar bought us," The Conversation.

Professor Richard Holden wrote an article on "Vital Signs: No, Joe, America should not be copying Australia's 'asset recycling' misdirection," The Conversation.
9. Details of research supervision and teaching activities carried out by CAER members on behalf of academic units

9.1 Research supervision

Postgraduate research supervision activities within CAER are coordinated with the relevant Schools/Faculties (mainly the School of Economics and UNSW Business School), in accordance with the relevant UNSW policies, procedures and delegations. The following is a list of research supervision carried out by CAER members in 2018 as part of their initiative activities. CAER members are marked in bold.

(1) Honours Supervision
Name(s) of supervisor(s)
Student’s name
Thesis title
Student’s school/faculty/university

(2) PhD Supervision
Name(s) of supervisor(s)
Student’s name
Thesis title
Date submitted – if applicable
Date conferred – if applicable

PhD Supervision
Supervisor: Kevin Fox
Adam Gorajek: *Crossing Econometrics and Measurement*
In progress

Supervisor: Kevin Fox
Shipei Zeng: *Topics in Measurement Economics*
In progress

Supervisor: Kevin Fox
Miguel Lorca: Retirement savings adequacy: A cross-country analysis of pensions
In progress

Supervisor: Kevin Fox
Khanh Hoang: *Accounting for Natural Capital in Productivity Analysis*
In progress

Supervisor: Richard Holden
Muse Garcia-Demie
School of Economics, UNSW, 2017-2018 (submitted April 2018)

Supervisor: Richard Holden
Johannes Hoelzemmann
School of Economics, UNSW, 2017-2018 (submitted March 19, 2018)

Supervisor: Richard Holden
Barton Lee
School of Economics, UNSW, 2017-2018 (ongoing).

Supervisor: Richard Holden
Sachin Devalia
School of Economics, UNSW, 2018- (ongoing).
9.2 Teaching activities

Real Estate Initiative

- Forty one students have completed the real estate studies major, which is a great achievement for the Real Estate Initiative since the establishment of the major in 2014. The real estate major continued to see an increase in students’ enrolments. In particular, enrolments for the “Real Estate Economics and Public Policy” course has increased to 92 in 2019, and twelve current students chose the real estate major as their specialized major.

Dr Nigel Stapledon, member of the Real Estate Initiative taught the “Real Estate Economics and Public Policy” course which was delivered to both undergraduate and postgraduate students in the second semester of 2018. The delivery of the two courses was coordinated with the UNSW Business School in accordance with the relevant UNSW policies and procedures.

With support from the Real Estate Initiative and the UNSW Business School, the UNSW Real Estate Student Society (Real Soc) continued to be very active in 2018. In particular, the UNSW Real Estate Student Society organised career's panel event chaired by Professor Kevin Fox on the 26th of April 2018 at UNSW main Campus (UNSW Law).

The panel included Jonathan Lui, investor, mentor and entrepreneur within the Australian and Singaporean startup space. Nerida Conisbee, Chief Economist for the REA Group, an advisor to fintech startup, BrickX and Skelton Project, Jack Yang, has extensive background in the real estate industry, starting off in the banking sector and Colin Lee, Head of Strategic Property Services at Ironfish.

Law and Economics Initiative

- Professor Rosalind Dixon member of the Law and Economics Initiative delivered a course on Economic analysis of the Law.
10. Details of significant managerial or personnel changes during 2018

- As part of CAER's strategic planning, the succession plan for the leadership of CAER was completed with the appointment Mariano Kulish in 2018. However, due to the departure of Professor Kulish from UNSW, CAER's Director in consultation with Chair of the Steering Committee, Professor Elizabeth Carson, appointed Professor Richard Holden as the Deputy Director of CAER, commencing in June 2018.

- Dr Stapledon continued his association with CAER on a voluntary basis and the Director is in the process of officially appointing him as a visiting Real Estate Research Fellow within CAER (a non-remunerated position).

- Ms. Maree Magafas (School Manager, School of Taxation and Business Law) accepted the invitation to be a member of the CAER's steering committee.

11. A record of dates and attendance at meetings of CAER’s Steering Committee

<table>
<thead>
<tr>
<th>Date</th>
<th>Attendance</th>
<th>Apologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>14/06/18</td>
<td>Professor Liz Carson (chair), Professor Kevin Fox, Ms Maree Magafas Professor Richard Holden and Kala Miranda (minutes).</td>
<td>Professor Jerry Parwada, Professor Tim Harcourt</td>
</tr>
<tr>
<td>30/08/18</td>
<td>Professor Liz Carson (chair), Professor Kevin Fox, Ms Maree Magafas Professor Richard Holden and Kala Miranda (minutes).</td>
<td>Professor Jerry Parwada, Professor Tim Harcourt</td>
</tr>
</tbody>
</table>