

## **CURRICULUM VITAE – ADAM BUTT *BCom MHE PhD SFHEA FIAA***

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### **Education and Professional memberships**

2005-present: Fellow of the Institute of Actuaries of Australia  
2016-present: Senior Fellow of the Higher Education Academy  
2014-2016: Fellow of the Higher Education Academy  
2010-2013: Master in Higher Education at Australian National University  
2005-2011: PhD in Statistics at Australian National University  
1998-2001: Bachelor of Commerce (Actuarial Studies) at Macquarie University

### **Professional experience**

#### **2005-present: Australian National University (ANU)**

I commenced as a Lecturer in 2005 and was promoted to Senior Lecturer in 2014 and then Associate Professor in 2017. My current responsibilities involve research, course co-ordination and teaching, administration and supervision of actuarial honours student research projects.

Specific service roles I am currently responsible for are:

- Interim Deputy Director (Education)
- College of Business and Economics Education Committee member
- Convenor of the Bachelor of Actuarial Studies
- Convenor of the Bachelor of Social Studies (Honours in Actuarial Studies and Economics – a joint program with the National University of Singapore)
- Nominated Accreditation Actuary
- Chair of the Actuarial Staff Working Group

I have previously been responsible for the following service roles:

- Coordinator of the Actuarial Employment Seminar, where employers come to ANU to speak to students
- College of Business and Economics Teaching Awards Selection Panel

#### **2006-present: Professional Financial Solutions (PFS)**

During my time at ANU I have also worked as a consultant on an ad-hoc basis for PFS. I have completed consulting tasks in the following areas:

- Valuation of executive share options;
- Analysis of datasets for statistical trends;
- Advising on the development of a stochastic investment model; and
- Advice on the valuation of Commonwealth Superannuation Scheme benefits.

**2007-2008: Mercer - United Kingdom**

During a one year sabbatical / leave without pay from ANU I spent six months working in the Retirement Resources Group for Mercer in London. My main task during this time was to review the methodology being used to recommend discount rates for accounting and other statutory valuations of defined benefit pension schemes. My other duties included:

- preparation and technical review of communications to Mercer staff giving information and best practice on numerous areas of pension consulting; and
- research on the effect of potential changes to International Accounting Standards on pension expense and liability recognition.

**1998-2004: Aon Consulting Pty Limited**

During my undergraduate study I was employed on yearly cadetships and commenced full time in 2001. I commenced as an Actuarial Assistant and was promoted to an Actuarial Consultant in 2003. My duties included:

- acting as consultant to a number of corporate superannuation funds;
- running actuarial valuations for defined benefit superannuation funds;
- completing other actuarial superannuation tasks;
- preparation of quarterly investment reports;
- analysis of benefit design including member investment choice;
- review of group insurance arrangements;
- preparation of annual reporting information to members;
- calculation of interest rates and unit prices for superannuation funds;
- answering complex member enquiries; and
- completing miscellaneous actuarial tasks.

**Other professional involvement and memberships**

2005-2013, 2016-present:

Marking of assignments and examination papers for Part III Courses 1, 4A, 4B, 6A, 6B and 10 of the Actuaries Institute

2014-2015: Educational Development Group (EDG) of the Actuaries Institute

2012-2014: Rewriting of the Institute of Actuaries of Australia Part III Courses 6A and 6B

2009-2011: Superannuation & Employee Benefits Research Sub-committee of the Institute of Actuaries of Australia

**Awards**

2013: ANU College of Business & Economics Award for Teaching Excellence

2014: Special Commendation in the ANU Vice Chancellor's Award for Teaching Excellence

2015: Highly Commended in the ANU Media and Outreach Emerging Media Talent Award

## Teaching experience

I am the developer and course instructor for a Massive Open Online Course (MOOC) for the edX platform titled "An Introduction to Actuarial Science" which has enrolled approximately 22,000 students from over 170 countries from October 2015 – May 2016. The primary target of the MOOC are those considering an actuarial career, so as to give them information upon which to base a decision on whether to pursue actuarial science further. The course is taught completely online, using short video lectures, practice and assessment questions, and a discussion forum for interacting with the course instructor and other students. Student are required to use Microsoft Excel software to complete questions during the course.

I have taught in the following courses for at least one semester during my time at ANU:

ACST4032/8041 Actuarial Control Cycle 2 (S2, 2010, 2016). This course is the second of two courses making up the Part II requirements of the Actuaries Institute. It considers actuarial work in practice and uses Microsoft Excel software to undertake actuarial tasks. I taught half of this course whilst the regular lecturer was on leave. Role: Instructor.

ACST8049 Advanced Global Retirement Income Systems (Semester 1 or 2, S1or2, 2005-06, 2007-2014). This is a postgraduate course designed to replicate the learning structure and environment of Actuaries Institute Part III exams. The course is taught in seminar style, with students sharing answers and ideas to material done in pre-reading. Role: Developer, Instructor and Co-Ordinator.

STAT1003 Statistical Techniques (S1, 2009). This is a basic first year statistics course, designed with science students in mind and is non-mathematically intensive. I taught it for one year and rewrote the lecture slides. The course uses the JMP statistical package. Role: Instructor and Co-Ordinator.

STAT1031 Introduction to Actuarial Studies (S2, 2008-09, 2011). I was a co-creator of this course, which was designed to give students an initial taste of the actuarial profession. The course was taught by a number of actuarial staff, each specialising in their area of experience. I taught sections on superannuation, investment and professionalism. Role: Developer, and Instructor.

STAT2032/6046 Financial Mathematics (S1, 2005-07). This course is equivalent to CT1 of the U.K. exams. I took it over from another instructor, rewrote the course notes, and introduced cash flow modelling in Microsoft Excel as an option for students in assignments. Role: Developer (joint), Instructor and Co-Ordinator.

STAT3015/7030 Generalised Linear Modelling (S2/2006, 2008-09). A technical and practical course in Generalised Linear Models, I took this course over from another instructor and developed comprehensive lecture notes to supplement the reading book for the course. Additional learning material from the course came from Introduction to Generalized Linear Models by Dobson. Students used the statistical package S-Plus during the course. Role: Developer (joint), Instructor and Co-Ordinator.

STAT3038/6045 Actuarial Techniques (S2, 2012-17). I took over this course from another instructor in 2012, when it was part of CT5 of the U.K. exams. In that year I introduced a flipped classroom approach. In 2013 I redesigned the course to be a capstone course which aims to synchronise learning from other actuarial courses. The course involves students working in groups, using Microsoft Excel to solve realistic actuarial problems. Learning occurs in class and through pre-prepared video lessons. Role: Developer, Instructor and Co-Ordinator.

Copies of teaching evaluations can be provided upon request.

## **Supervision**

### **PhD**

Fei Huang (Chair of Panel): 2011 (commenced) – 2015 (graduated). In 2017 Fei was appointed as a Lecturer in the Research School of Finance, Actuarial Studies & Statistics at ANU.

Zhuoran Liu (Chair of Panel): 2018 (commenced) – ongoing

### **Honours**

- Penghao Jia: 2017
- Zhen Yu: 2013
- Le Chang: 2012
- Calvin Teng: 2012
- Jielu Chen: 2011
- Huan Zhang: 2011
- Zhao Yu Zhong: 2010
- Ziyong Deng: 2009
- Yikan Liu: 2009
- Xue Han: 2007
- Yu Mao: 2007
- Cheng Cherng Wong: 2006

In addition, I have supervised a number of students in the following activities:

- Research Essay in Actuarial Studies
- ANU Summer Research Scholarship Program
- College of Business & Economics Internship Program

## **Refereed publications**

17. Butt A., Khemka G. and Warren, G., 2018, What Dividend Imputation Means for Retirement Savers, Under revision with *The Economic Record*.

- A ranked journal (ABDC 2016)

- Quantifies the impact of dividend imputation on decisions made by retirement savers, including providing a rationale for home bias

- Investigates the impact of opposition policy to disallow tax refunds from dividend imputation

16. Butt, A., Khemka G. and Strickland L., 2018, How academic research can inform default superannuation fund design and individual financial decision-making. Forthcoming in *JASSA: The Finsia Journal of Applied Finance*.

- B ranked journal (ABDC 2016)

- Provides an accessible introduction to optimisation of financial decision-making using dynamic programming

- Shows the impact of Australian tax and social security design on optimal decisions

15. Butt, A., 2018, Quantification of factors influencing student perceptions of group work. Forthcoming with *Journal of University Teaching & Learning Practice*.

- B ranked journal (ERA 2010; not listed in ABDC 2016)

- Reports of a case study undertaken of student perceptions of group work in my course, Actuarial Techniques, over 2013-2015.

14. Butt, A., Donald, M.S., Foster, F.D., Thorp, S. and Warren, G., 2018, One size fits all? Tailoring retirement plan defaults. *Journal of Economic Behaviour & Organisation*, 145, 546-566.

- A\* ranked journal (ABDC 2016)

- Reports on surveys of members superannuation funds on the factors that impact their decision to choose or default in the Australian retirement income system

- Provides the most comprehensive overview of motivations for superannuation fund and investment choices in Australia in the literature

13. Khemka, G. and Butt A., 2017, Non-parametric integral estimation using data clustering in stochastic dynamic programming: an introduction using lifetime financial modelling. *Risks*, 5(4), 57.

- B ranked journal (ABDC 2016)

- Investigating the intersection of non-parametric modelling and dynamic programming, which has not been attempted before in the literature

12. Butt, A., Donald, M.S., Foster, F.D., Thorp, S. and Warren, G., 2017, Design of MySuper Default Funds: Influences and Outcomes. *Accounting and Finance*, 57(1), 47-85.

- A ranked journal (ABDC 2016)

- Reports on interviews with executives of large superannuation funds on the impact of the implementation of MySuper in 2014 on the design of default funds

- This series are the first papers to report on fund executive views on the Australian retirement income system

11. Butt, A., Farmer, J., Pitt, D. and Salmons, M., 2016, A survey of actuarial graduates' views on their education. *Australian Journal of Actuarial Practice*, 4, 35-49.

- C ranked journal (ABDC 2013)

- Provides final survey results, comments and impacts as followed from the 2014 *Australian Journal of Actuarial Practice* paper

10. Butt, A., Donald, M.S., Foster, F.D., Thorp, S. and Warren, G., 2015, The Australian superannuation system post Stronger Super: views from fund executives. *Law and Financial Markets Review*, 2015, 9(2), 96-102.

- B ranked journal (ABDC 2013)

- Reports on interviews with executives of large superannuation funds on the impact of the implementation of MySuper in 2014 on the superannuation system as a whole

- This series are the first papers to report on fund executive views on the Australian retirement income system

9. Butt, A. and Khemka, G., 2015, The effect of objective formulation on retirement decision making. *Insurance: Mathematics & Economics*, 64, 385-395.

- A ranked journal (ABDC 2013)

- One of only four A ranked journals in actuarial science (there are no A\* journals in actuarial science)

- Considers the impact of the objective assumption, which despite being a key assumption, has typically in the past just been set as a basic assumption for simplicity in the literature

8. Huang, F., Butt, A. and Ho, K-Y., 2014, Stochastic economic models for actuarial use: an example from China. *Annals of Actuarial Science*, 8(2), 374-403.

- A ranked journal (ABDC 2013)

- One of only four A ranked journals in actuarial science (there are no A\* journals in actuarial science)

- The first example of stochastic economic models for Chinese actuarial applications in the literature

7. Butt, A., Evans, J., Pitt, D. and Farmer, J., 2014, A pilot survey of actuarial graduates' views on their education. *Australian Journal of Actuarial Practice*, 1, 63-75.

- C ranked journal (ABDC 2013)
- Reports on a pilot survey of how Australian actuarial graduates view their education after some time in the workforce and the impact this might have on educational design

6. Butt, A., 2014, Student views on the use of a flipped classroom approach: Evidence from Australia. *Business Education & Accreditation*, 6(1), 33-43.

- C ranked journal (ABDC 2013)
- Reports on the surveyed experience of students in a flipped classroom of a course taught by the author
- The first paper the author is aware of on actuarial education issues to be published in a non-actuarial specific journal

5. Butt, A., 2013, Effects of Scheme Default Insurance on Decisions and Financial Outcomes in Defined Benefit Pension Schemes. *Annals of Actuarial Science*, 7(2), 288-305.

- A ranked journal (ABDC 2013)
- One of only four A ranked journals in actuarial science (there are no A\* journals in actuarial science)
- The first paper to quantify the impact of scheme default insurance on decisions made whilst taking into account both funding and contribution desires; this paper finds that the U.S. system has negative indirect effects on members whilst the U.K. system has positive indirect effects on members

4. Butt, A., 2012, Causes of Defined Benefit Pension Scheme Funding Ratio Volatility and Average Contribution Rates. *Annals of Actuarial Science*, 6(1), 76-102.

- A ranked journal (ABDC 2013)
- One of only four A ranked journals in actuarial science (there are no A\* journals in actuarial science)
- Uses a unique regression overlay of a simulation model to quantify what the key risks for defined benefit schemes are

3. Butt, A. and Deng, Z., 2012, Investment Strategies in Retirement: in the presence of a means-tested government pension. *Journal of Pension Economics and Finance*, 11(2), 151-181.

- B ranked journal (ABDC 2013)
- Provides the first analysis of the impact of the Australian mean-tested age pension on the optimal investment strategies of retirees

2. Butt, A., 2011, Management of Closed Defined Benefit Superannuation Schemes – An Investigation using Simulations. *Australian Actuarial Journal*, 17(1), 25-87.

- C ranked journal (ABDC 2009)
- For the first time in the literature uses a simulation model of a closed defined benefit superannuation scheme to investigate optimal investment and contribution strategies

1. Butt, A., 2008, Effect of AASB 119 'Employee Benefits' on Defined Benefit Superannuation Costs Recognised by Sponsoring Employers. *Australian Actuarial Journal*, 14(1), 97- 170.

- C ranked journal (ABDC 2009)
- Uses a simulation model to investigate the impact of a significant change in accounting standard on the costs of employers sponsoring defined benefit schemes

## Working papers

Butt, A., Farmer, J. and Pitt, D., 2016, Professional Education in Australia: a review of accounting, engineering and medicine with suggestions for improvements to actuarial education.

## Work in progress

Statistics related to Massive Open Online Course experiences.

- Compilation and organisation of the vast amount of data collect in a Massive Open Online Course taught by the author.

Developing Coherent and Usable Decision Support Systems to Improve Financial Wellbeing over an Individual's Lifecycle.

- A large multidisciplinary project involving the development of a financial calculator that better captures the decisions and risks individuals face over their lifetime.
- We aim to seek ARC Linkage funding for this project some time in 2018-19.

Mathematical modelling of financial decision making.

- Extension of work previously published in Insurance: Mathematics and Economics, looking to extend and make the model more realistic to assist with financial decision making.
- We aim to seek ARC Discovery funding for this project some time in 2018-19.

Insurance in Superannuation – Drivers of Design & Structure

- A follow up of work previously done on investment defaults (see above), this time looking at the design of insurance in Australia.
- Currently seeking partners for an ARC Linkage proposal some time in 2018-19.

## Conference presentations

15. Courses the prepare students for the workforce. *Presented to the Asia-Pacific Actuarial Teaching Conference*, 9 July 2018, University of Hong Kong.

14. Introduction to Actuarial Science: An academic's experience in creating a Massive Open Online Course (MOOC). *Presented to the Actuarial Teachers and Researchers Conference*, 17-18 July 2017, University of Kent.

13. Massive Open Online Courses: How might they be relevant to the actuarial profession? *Presented to the Actuaries Summit*, 21-23 May 2017, Melbourne.

12. Introduction to Actuarial Science: An academic's experience in creating a Massive Open Online Course (MOOC). *Presented to the 51<sup>st</sup> Actuarial Research Conference*, 28-30 July 2016, University of Minnesota and University of St Thomas.

11. Graduate views on actuarial education and implications for educating actuaries of the future. *Presented to the Actuaries Summit*, 17-19 May 2015, Melbourne.

10. Graduate views on actuarial education. *Presented to the Australasian Actuarial Education & Research Symposium*, 8-10 December 2014, Curtin University.

9. Graduate views on actuarial education. *Presented to the International Congress of Actuaries*, 31 March – 4 April 2014, Washington D.C.

8. Alternative use of lecture time – towards an active student experience. *Presented to the Australasian Actuarial Education & Research Symposium*, 6-7 December 2012, Monash University.

7. Feedback effects of default insurance for defined benefit schemes. *Presented to the Pensions, Benefits and Social Security Colloquium*, 25-27 September 2011, Edinburgh.

6 Actuarial Education: Theory into Practice. *Presented to the Australasian Actuarial Education & Research Symposium*, 1-2 December 2011, Australian National University.

5. Actuarial Education: Theory into Practice. *Presented to the 46<sup>th</sup> Actuarial Research Conference*, 11-13 August 2011, University of Connecticut.
4. The Universities' Role in Improving Actuarial Education. *Presented to the Australasian Actuarial Education & Research Symposium*, 25-26 November 2010, University of Melbourne.
3. Investment Strategies in Retirement. *Presented to the 18<sup>th</sup> Annual Colloquium of Superannuation Researchers*, 12-13 July 2010, University of New South Wales.
2. The Funding of Closed Defined Benefit Schemes. *Presented to the Institute of Actuaries of Australia Biennial Convention*, 19-22 April 2009, Sydney.
1. Effect of AASB119. *Presented to the 14<sup>th</sup> Annual Colloquium of Superannuation Researchers*, 20-21 July 2006, University of New South Wales.

## **Refereeing / Examination**

### **Journals**

Referee for numerous actuarial, economics and education journals, including *Insurance: Mathematics & Economics*, *ASTIN Bulletin*, *Annals of Actuarial Science*, *Behavioural Public Policy*, *The Economic Papers*, *The Australian Economic Review*, *Education + Training*, and *Education Sciences*.

### **PhD**

External examiner for two PhD theses.

## **Funding Obtained**

(with Gaurav Khemka) Simulation and Sampling in Dynamic Programming, 2015/16, Research School Internal Grant, \$12,000.

(with Anthony Asher, Ujwal Kayande and Gaurav Khemka) Developing Coherent and Usable Decision Support Systems to Improve Financial Wellbeing over an Individual's Lifecycle. Centre for International Finance and Regulation Research Grant, 2014/15, \$56,498.

(with Jim Farmer and David Pitt) Graduate Views on Their Actuarial Education in Australia, 2014/15, Actuaries Institute Research Grant, \$18,000.

(with Gaurav Khemka) Decision Making in Retirement using Dynamic Programming Techniques, 2013/14, Research School Internal Grant, \$10,000.

(with Geoff Warren, Scott Donald, Doug Foster and Susan Thorp) Structure and Responsibilities in Default Superannuation Funds: Influences and Effectiveness. Centre for International Finance and Regulation Research Grant, 2013/15, \$40,000.

(with Yin Liao) Does the Financial Market Fully Price Unfunded Pension Liabilities in Australia: Evidence from Corporate Defined-benefit Superannuation. AFAANZ Research Fund Grant 2011/12, \$10,000.



## **Referees**

Can be provided upon request.