

Curriculum Vitae

Personal Information

Name: Han Li
Faculty: Business and Economics
Department: Centre for Actuarial Studies
Department of Economics
Current Position: Associate Professor
Email: han.li@unimelb.edu.au

Education History

Doctor of Philosophy, Department of Econometrics and Business Statistics **2013 – 2017**
Monash University, Australia
Thesis Title: *Techniques to Analyze and Forecast Mortality*

Bachelor of Commerce (Honours), Major in Actuarial Studies **2009 – 2012**
University of Melbourne, Australia

Employment History

University of Melbourne **Jan 2022 – present**

- Associate Professor, Centre for Actuarial Studies, Department of Economics

Macquarie University **Jan 2020 – Dec 2021**

- Senior Lecturer, Department of Actuarial Studies and Business Analytics

Macquarie University **Feb 2018 – Dec 2019**

- Lecturer, Department of Actuarial Studies and Business Analytics

UNSW Sydney **Feb 2018 – present**

- Associate Investigator, ARC Centre of Excellence in Population Ageing Research

UNSW Sydney **Sep 2016 – Jan 2018**

- Senior Research Associate, ARC Centre of Excellence in Population Ageing Research

Monash University **Jul 2013 – Aug 2016**

- Teaching Associate with responsibilities around the actuarial program encompassing material on **actuarial professional examinations** module *CT4*, *CT5* and *CT6*

University of Melbourne **Feb 2013 – Dec 2013**

- Teaching Associate with responsibilities around the actuarial program encompassing material on **actuarial professional examinations** module *CT4* and *CT5*

- Internship with responsibilities around processing overseas telegraph transfers and bank account management

List of Publications

Published Papers:

1. **Li, H.**, Liu, H., Tang, Q., Yuan, Z., 2023. Pricing Extreme Mortality Risk in the Wake of the COVID-19 Pandemic. *Insurance: Mathematics and Economics*, 108, 84–106. **(ABDC: A*)**
2. **Li, H.**, Chen, H., 2022. Hierarchical Mortality Forecasting with EVT Tails: An Application to Solvency Capital Requirement. *International Journal of Forecasting*. In Press. **(ABDC: A)**
3. **Li, H.**, Tang, Q., 2022. Joint extremes in temperature and mortality: A bivariate POT approach. *North American Actuarial Journal*, 26(1), 43–63. **(ABDC: A)**
4. Li, J., Pitt, D., **Li, H.**, 2022. Dispersion modelling of mortality for both sexes with Tweedie distributions. *Scandinavian Actuarial Journal*, 4, 356–374. **(ABDC: A)**
5. **Li, H.**, Hyndman, R. J., 2021. Assessing mortality inequality in the U.S.: What can be said about the future? *Insurance: Mathematics and Economics*, 99, 152–162. **(ABDC: A*)**
6. Best, R., **Li, H.**, Trueck, S., Truong, C., 2021. Actual uptake of home batteries: the key roles of capital and policy. *Energy Policy*, 151, 112186. **(ABDC: A)**
7. Best, R., Chareunsky, A., **Li, H.**, 2021. Equity and effectiveness of Australian small-scale solar schemes. *Ecological Economics*. 180, 106890. **(ABDC: A)**
8. **Li, H.**, Hanewald, K., Wu, S., 2021. Healthy life expectancy in China: Modeling and implications for public and private insurance. *Annals of Actuarial Science*, 15(1), 40–56. **(ABDC: A)**
9. **Li, H.**, Tang, Q., 2019. Analyzing mortality bond indexes via hierarchical forecast reconciliation. *ASTIN Bulletin - The Journal of the International Actuarial Association*, 49(3), 823–846. **(ABDC: A)**
10. **Li, H.**, Li, H., Lu, Y., Panagiotelis, A., 2019. A forecast reconciliation approach to cause-of-death mortality modeling. *Insurance: Mathematics and Economics*, 86, 122–133. **(ABDC: A*)**
11. **Li, H.**, O'Hare, C., 2019. Mortality forecasting: how far back should we look in time? *Risks*, 7(1), 22. DOI: <https://doi.org/10.3390/risks7010022> **(ABDC: B)**
12. Hanewald, K., **Li, H.**, Shao, A., 2019. Modeling multi-state health transitions in China: A generalized linear model with time trends. *Annals of Actuarial Science*, 13(1), 145–165. **(ABDC: A)**

13. Li, H., O'Hare, C., 2017. Semiparametric extensions of the Cairns-Blake-Dowd model: A one-dimensional kernel smoothing approach. *Insurance: Mathematics and Economics*, 77, 166–176. **(ABDC: A*)**
14. Li, H., O'Hare, C., Vahid, F., 2017. A flexible functional form approach to mortality modeling: Do we need additional cohort dummies? *Journal of Forecasting*, 36(4), 357–367. **(ABDC: A)**
15. Li, H., O'Hare, C., Vahid, F., 2016. Two-dimensional kernel smoothing of mortality surface: An evaluation of cohort strength. *Journal of Forecasting*, 35(6), 553–563. **(ABDC: A)**
16. Li, H., O'Hare, C., Zhang, X., 2015. A semiparametric panel approach to mortality modeling. *Insurance: Mathematics and Economics*, 61, 264–270. **(ABDC: A*)**

Commissioned Reports:

Truong, Chi., Li, H., Trueck, S., Malavasi, M, 2022. Flood Risk Management and Adaptation Under Sea-level Rise Uncertainty, prepared for the *Society of Actuaries*.
Published at: <https://www.soa.org/resources/research-reports/2022/flood-rm-adapt-sea-level/>
GitHub repository: <https://github.com/Society-of-actuaries-research-institute/CC169---Flood-Risk-Management-and-Adaptation-Under-Sea-Level-Rise-Uncertainty>

Li, H., Hanewald, K., 2022. Analyzing Geographical Variation in Cause-of-Death Mortality for China: Evidence from 2004 to 2019, prepared for the *Society of Actuaries*. Published at: <https://www.soa.org/resources/research-reports/2022/analyze-geo-variation-china/>
Media interview: https://www.youtube.com/watch?v=mqANfM2_MUA

Andrew, A., Cutter K., Lang J., Li, H., Lyon, R., Wang, Z., Xu, M., 2022. How COVID-19 has affected Mortality and Morbidity in 2020 & 2021, prepared for *Actuaries Institute of Australia*.
Published at: <https://www.actuaries.asn.au/Library/Opinion/2022/ResearchNoteno4.pdf>
Media release: <https://www.actuaries.digital/2022/06/16/actuaries-institute-research-shows-true-impact-of-covid-19-pandemic-on-excess-mortality-in-2020-21/>

Li, H., Hanewald, K., Liao, Pu., 2019. Constructing occupation-specific life tables for China, prepared for the *Society of Actuaries*. Published at: <https://www.soa.org/resources/research-reports/2019/occupation-specific-life-tables-china/>

Website/Media Contributions:

Li, H. (interviewed by ABC Radio National producer Anna Kelsey-Sugg). Insights contributed to article: *Peter Attia says we have more knowledge than we use to stop deterioration from ageing*. Published at: <https://www.abc.net.au/news/2023-04-19/peter-attia-advice-for-improving-health-span-in-ageing/102219240>

Andrew, A., Cutter K., Lang J., Li, H., Lyon, R., Wang, Z., Xu, M., 2023. COVID-19 Mortality Working Group: Confirmation of 20,000 excess deaths for 2022 in Australia. *Actuaries Digital*.
Published at: <https://www.actuaries.digital/2023/04/06/covid-19-mortality-working-group-confirmation-of-20000-excess-deaths-for-2022-in-australia/>
Referenced and mentioned by *Asian Insurance Review*:
<https://www.asiainsurancereview.com/News/View-NewsLetter-Article/id/84229/Type/eDaily>

Andrew, A., Cutter K., Lang J., Li, H., Lyon, R., Wang, Z., Xu, M., 2023. Almost 20,000 excess deaths for 2022 in Australia. *Actuaries Digital*. Published at:

<https://www.actuaries.digital/2023/03/06/almost-20000-excess-deaths-for-2022-in-australia/>

Referenced and mentioned by *The Australian*:

<https://www.theaustralian.com.au/nation/covid-blamed-for-increase-in-australian-deaths-in-2022/news-story/416b6eeac04581b9b1962f17a467a281>

Referenced and mentioned by *SBS Radio*:

<https://www.sbs.com.au/news/article/australia-recorded-20-000-more-deaths-than-expected-last-year-this-is-why/wle0tyz07>

Andrew, A., Cutter K., Lang J., Li, H., Lyon, R., Wang, Z., Xu, M., 2022. COVID-19: High excess mortality continues into June 2022. *Actuaries Digital*. Published at:

<https://www.actuaries.digital/2022/10/06/covid-19-high-excess-mortality-continues-into-june-2022/>

Referenced and mentioned by *The Sydney Morning Herald*:

<https://www.smh.com.au/national/the-notion-that-covid-19-has-been-vanquished-is-not-supported-by-the-facts-20221031-p5budz.html>

Andrew, A., Cutter K., Lang J., Li, H., Lyon, R., Wang, Z., Xu, M., 2022. COVID-19: Excess mortality for May 2022 at similarly high levels to earlier in 2022. *Actuaries Digital*. Published at:

<https://www.actuaries.digital/2022/08/31/covid-19-excess-mortality-for-may-2022-at-similarly-high-levels-to-earlier-in-2022/>

Referenced and mentioned by *The Guardian Datablog*:

<https://www.theguardian.com/australia-news/datablog/2022/sep/04/covid-pandemic-may-be-causing-more-deaths-than-australias-daily-numbers-suggest>

Li, H., Tang, Q., 2021. Temperature extremes and health: The heat is on. *The Actuary* magazine.

Published at: <https://www.theactuary.com/features/2021/02/26/temperature-extremes-and-health-heat>

Li, H., Tang, Q., 2020. How resilient is the insurance industry against climate change?

BUSINESSTHINK. Published at: <https://www.businessthink.unsw.edu.au/articles/how-resilient-insurance-industry-climate-change-risk>

Li, H., Hanewald, K., Wu, S., 2017. Healthy life expectancy in China. *VoxChina*. Published at:

<http://www.voxchina.org/show-3-58.html>

International Conference Proceedings:

Li, H., 2022. How did COVID-19 change the dependence structure across major causes of death? *Living to 100 Symposium 2023*. Accepted.

Li, H., 2019. Examining the oldest-old mortality in the United States: A forecast reconciliation approach. *Living to 100 Symposium 2020*. Published at: <https://www.soa.org/resources/essays-monographs/2020-living-to-100-essays/>

Awards

- 2017 Mollie Holman Doctoral Medal for Thesis Excellence, *Monash University*

Description: The Mollie Holman Doctoral Medal was established in 1998 and is named after the late pioneering physiologist, Emeritus Professor Mollie Holman AO. Through this medal, the University seeks to acknowledge and reward its doctoral candidates for both the quality of their thesis and the quality of their research. The medals are among the highest academic honours the University bestows, and mark the recipients as researchers of the highest order.

- **Monash Graduate Scholarship, Monash University**
Description: This competitive scholarship is awarded to graduate research students (stipend).
- **Monash Faculty Postgraduate Research Scholarship, Monash University**
Description: This competitive scholarship is awarded to graduate research students (tuition fee).
- **International Undergraduate Fee Remission Scholarship, University of Melbourne**
Description: This competitive scholarship is awarded to high achieving international students in recognition of their excellent academic results.

Teaching Activity

University of Melbourne

2022 – present

2022 Session Two:

- ACTL30006 – Intermediate Financial Mathematics. Undergraduate. On campus/Online. Enrolment number: 75. **(Unit Convenor; ESS Score: 4.2/5)**
- ACTL90002 – Mathematics of Finance 2. Postgraduate. On campus/Online. Enrolment number: 15. **(Unit Convenor; ESS Score: 4.4/5)**

Macquarie University

2018 – 2021

2021 Session One:

- MQBS3010 – Agility and Excellence in Business **(B.Com Capstone Unit)**. Undergraduate. On campus/Online. Enrolment number: 500. **(LET Score: 4.9/5)**
- ACST2002 – Mathematics of Finance. Undergraduate. On campus/Online. Enrolment number: 115. **(Unit Convenor; LEU Score: 4.0/5)**
- ACST8081 – Mathematics of Finance. Postgraduate. On campus/Online. Enrolment number: 20. **(Unit Convenor; LEU Score: 4.2/5)**

2020 Session Two:

- ACST3057 – General Insurance Pricing and Reserving. Undergraduate. Online. Enrolment number: 63. **(Unit Convenor; LEU Score: 4.0/5)**
- ACST8081 – Mathematics of Finance. Postgraduate. Online. Enrolment number: 5. **(Unit Convenor)**

2019 Session Two:

- ACST357 – General Insurance Pricing and Reserving. Undergraduate. On campus. Enrolment number: 59. **(LEU Score: 4.5/5)**
- ACST862 – General Insurance Pricing and Reserving. Postgraduate. On campus. Enrolment number: 10. **(LEU Score: 4.6/5)**

2019 Session One:

- ACST202 – Mathematics of Finance. Undergraduate. On campus. Enrolment number: 82. **(Unit Convenor; LEU Score: 4.7-5.0/5; LET Score: 4.9/5)**
- ACST881 – Mathematics of Finance. Postgraduate. On campus. Enrolment number: 49. **(Unit Convenor; LEU Score: 4.5-4.9/5; LET Score: 4.8/5)**

2018 Session Two:

- ACST357 – General Insurance Pricing and Reserving. Undergraduate. On campus. Enrolment number: 46. **(Unit Convenor; LEU Score: 4.1/5)**
- ACST862 – General Insurance Pricing and Reserving. Postgraduate. On campus. Enrolment number: 40. **(Unit Convenor; LEU Score: 4.5/5)**

2018 Session One:

- ACST201 – Financial Modelling. Undergraduate. On campus. Enrolment number: 571.
- ACST202 – Mathematics of Finance. Undergraduate. On campus. Enrolment number: 86.
- ACST851 – Mathematics of Finance. Postgraduate. On campus. Enrolment number: 53.

UNSW Sydney

2017 – 2017

2017 Session One:

- ACTL2131 – Probability and Mathematical Statistics. Undergraduate. On campus. **(Teaching Evaluation: 5.5 out of 6 with 90% agreement in satisfactory teaching quality)**

Other Activity

Member of the COVID-19 Mortality Working Group at the Actuaries Institute since 2021

- Attend regular meetings with Chair of the Working Group.
- Work closely with senior actuarial practitioners from Pacific Life Re, TAL Insurance, Finity Consulting, and Azuria Partners.
- Conduct statistical modelling and forecast reconciliation on COVID-19 deaths in Australia.
- Contribute to the monthly COVID-19 mortality report.

Memberships

Member of International Institute of Forecasters
Associate of Institute of Actuaries of Australia **(AIAA)**