Xuan Liang

✉ xuan.liang@anu.edu.au | ⌂ https://xuan-liang.github.io | ⌂ xuan-liang

Employment

2022 – **Lecturer**, Research School of Finance, Actuarial Studies and Statistics, the Australian National University
2019 – 2021 **Associate Lecturer**, Research School of Finance, Actuarial Studies and Statistics, the Australian National University
2017 – 2018 **Postdoctoral Fellow**, Department of Econometrics and Business Statistics, Monash University

Education

Peking University   *Beijing, China*
PHD IN STATISTICS   *2012 – 2017*
- Visiting scholar in Department of Statistics, Iowa State University, US during Sep 2013 – Jan 2014, Sep 2014 – Sep 2015.

Zhejiang University   *Hangzhou, China*
BSC IN STATISTICS   *2008 – 2012*

Research Interests

Spatial econometrics, panel data, nonparametric statistics, network data modelling, environmental statistics.

Publications

[†] *Corresponding author*

REFERRED JOURNAL ARTICLES

1. **Liang, X.**[†], Gao, J. and Gong, X. (2022). Semiparametric spatial autoregressive panel data model with fixed effects. *Journal of Business & Economic Statistics*, 40, 1784-1802.

   - *A* in ABDC Journal List. Time Cited: 1.*

2. Liu, W., **Liang, X.**[†] and Cui, G. (2020) Common risk factors in the returns on cryptocurrencies. *Economic Modelling*, 86, 299-305.

   - *A in ABDC Journal List. Time Cited: 81.*

3. Russell, L., Holst, L. B., Lange, T., **Liang, X.**, Ostrowski, S. R., Perner, A. (2018). Effects of anaemia and blood transfusion on clot formation and platelet function in patients with septic shock: a sub-study of the randomized TRISS trial.

   - *A in ERA Journal List. Time Cited: 8.*

4. **Liang, X.**, Li, S., Zhang, S., Huang, H., Chen, S. X. (2016). $PM_{2.5}$ data reliability, consistency and air quality assessment in five Chinese cities.

   - *A* in ERA Journal List. Times Cited: 151.*

   - *The paper was reported in "China air quality study has good news and bad news", The New York Times, Mar 30, 2016: The team scrutinized three years of air quality data for the measure known as PM2.5, the fine particulate matter that is especially hazardous to health. One source of the data was the Chinese Ministry of Environmental Protection. The other was the United States Embassy in Beijing and consulates in Guangzhou, Shanghai, Chengdu and Shenyang. By using two independent data sets, the researchers answered a second question: Is the Chinese government's air quality data trustworthy? The answer: Yes, at least in these five cities. That was one piece of good news.*

5. **Liang, X.**, Zou, T., Guo, B., Li, S., Zhang, H., Zhang, S., Huang, H. and Chen, S. X. (2015). Assessing Beijing's $PM_{2.5}$ pollution: severity, weather impact, APEC and winter heating. *Proceedings of the Royal Society of London A: Mathematical, Physical and Engineering Sciences*, 471, 20150257.

   - *A* in ERA Journal List. Times Cited: 346.*

   - *The paper was reported in "Hundreds of Chinese cities don't meet air standards, report finds", The New York Times, Apr 21, 2015: The government's air-monitoring methodology was recently called into question in a report released by the Center for Statistical Science at Peking University. That report said the air monitors and the collection of data by the government failed to take into account wind patterns and other weather phenomena when calculating PM2.5 levels.*

Windy months might give a false impression that PM2.5 levels have dropped. The report said that average PM 2.5 levels in 2013 and 2014 were worse than in the two previous years if weather patterns were taken into account.

Preprints

1. **Liang, X.** and Zou, T. (2023) Quasi-score matching estimation for spatial autoregressive model with random weights matrix and regressors. *Journal of Econometrics* (A* in ABDC Journal list), Under review, available at `https://arxiv.org/abs/2305.19721`.

2. Zou, T., Li, X., **Liang, X.**[†] and Wang, H. (2021). On the subbagging estimation for massive data. *Journal of Econometrics* (A* in ABDC Journal list), Reject & Resubmit, available at `https://arxiv.org/pdf/2103.00631.pdf`.

3. Gong, X., Gao, J. and **Liang, X.** (2019). Inter-regional spillover and intra-regional agglomeration effects among local labour markets in China. IZA Discussion Paper No. 12329, available at SSRN: `https://ssrn.com/abstract=3390318`.

Technical Reports

1. **Liang, X.**, Li, S., Zhang, S., Huang, H., and Chen, S.X. (2016). Air Quality Assessment Report II: Statistical Analysis of $PM_{2.5}$ in Chinese Five Cities. Peking University. Available at `https://www.songxichen.com/Uploads/Files/Report/Air_Quality_Assessment_Report_II.pdf`.

2. **Liang, X.**., Zou, T., Guo, B., Li, S., Zhang, H., Zhang, S., Huang, H., and Chen, S.X. (2015). Air Quality Assessment Report I: Statistical Analysis of $PM_{2.5}$ in Beijing from 2010 to 2014. Peking University. Available at `https://www.songxichen.com/Uploads/Files/Report/Air_Quality_Assessment_Report_I.pdf`.

Working in Progress

1. **Liang, X.** and Gao, J. Inference for network dynamic panel data with unknown heterogeneous network effects.

2. **Liang, X.** and Wang, F. Generalised linear regression model for network correlated data.

3. **Liang, X.** and Zou, T. Correlation regression in panel data with fixed effects.

4. Liu, W., Zhou, H. and **Liang, X.** Good skewness, bad skewness and the cross section of stock returns.

Software and Patents

1. **Liang, X.**, Hui, F.K.C., Tanaka, E. and Seimon, D. (2022). `ggmatplot`: Plot columns of two matrices against each other using `ggplot`. (*I am also the maintainer of this R package*).

2. Chen, S.X., Zhang, S., **Liang, X**. (2018) Air Quality Assessment Methods, Equipments, Devices and Storage. CN Patent, 2018 1 1183512.0, filed October 11, 2018, and issued October 15, 2019.

Grants

2023	**Grant under ANU-Startup Scheme for supercomputer**, National Computational Infrastructure of Australia	*100KSU (≈AUD 4000)*
2021	**Grant under ANU-Startup Scheme for supercomputer**, National Computational Infrastructure of Australia	*100KSU (≈AUD 4000)*
2020	**Grant under ANU-Startup Scheme for supercomputer**, National Computational Infrastructure of Australia	*100KSU (≈AUD 4000)*
2019 – 2021	**RSFAS Cross-Disciplinary Grant**, the Australian National University	*AUD 16,396*
2016 – 2017	**Caizhai Research Fund**, Peking University	*RMB 36,000 (≈AUD 7200)*

Awards (Post PhD)

2022 **Vice-Chancellor's Citation for outstanding contribution to student learning**, the Australian National University

2022 **SSA President's Award for Leadership in Statistics**, Statistical Society of Australia

2020 **CBE Teaching Commendation for Outstanding Teaching**, the Australian National University

Supervision

PhD

2023 – **Rui Shen**, the Australian National University

2020 – **Xian Li**, the Australian National University

Master

2021 **Qian Jin**, the Australian National University

2018 **Wei Qian**, Monash University

Honours

2022 **Rui Shen**, the Australian National University

Teaching Experience

Course Convenor in the Australian National University

2022, 2023 **STAT4102/8002**, Applied Time Series Analysis

2020, 2021, 2023 **STAT2001/2013/6013/6039**, Introductory Mathematical Statistics (for Actuarial Studies)

2021 **STAT2008/2014/4038/6014/6038**, Regression Modelling (for Actuarial Studies)

Summer 2019 **STAT7026**, Graphical Data Analysis

Professional Service and Outreach

Committee Member

2023 **Panel member of Vice-Chancellor's Award for Excellence in Tutoring or Demonstrating**, ANU

2023 **Organising committee member of RSFAS Research Camp**, RSFAS, ANU

2021, 2023 **Selection committee member for postdoctoral fellowship positions**, RSFAS, ANU

SSA

2023 – **Treasurer**, Statistical Society of Australia Canberra Branch

2020 – 2022 **Councillor**, Statistical Society of Australia Canberra Branch

Reviewers

- DataFest, 2022
- ANU RSFAS Honours thesis and Master thesis

- Academic peer review for journals, including *Journal of Business & Economic Statistics, Econometric Reviews, Economic Modelling, Stat, Science China Mathematics, Atmospheric Pollution Research, Journal of Data Science.*

Professional Memberships

- Statistical Society of Australia
- International Chinese Statistical Association
- Institute of Mathematical Statistics

Presentations

Invited Presentations

ICSA China Conference, 30 Jun – 3 Jul, 2023, Chengdu, China.

Online Workshop on Finance, Economics, Econometrics and Statistics, 3 Jul 2020.

Symposium on Recent Advances in Spatial Econometrics, 17 Dec 2019, Melbourne, VIC, Australia.

The 3rd International Conference on Econometrics and Statistics, 25 – 27 Jun 2019, Taichung, Taiwan.

The INFORMS 2016 International Conference, 12 - 15 Jun 2016, Waikoloa, Hawaii, US.

School seminar, Guanghua School of Management, Peking University, 7 Mar 2016, Beijing, China.

Seminar at China-Japan Friendship Center of Environmental Protection, 16 Nov 2015, Beijing, China.

Contributed Presentations

Australian Statistical Conference, 10 – 15 December 2023, Wollongong, Australia.

Australian Statistical Society and New Zealand Statistical Association Conference, 5 July – 8 July 2021, Online.

Joint Statistical Meeting, 30 July – 4 August 2016, Chicago, US.

National Forum on National Econometrics for Ph.D. Students, 20 – 21 Dec 2015, Dalian, China.

Joint Statistical Meeting, 8 – 13 Aug 2015, Seattle, US.

Computer Skills

Proficient in R, Matlab; familiar with Python, C/C++, Linux servers, SAS, SPSS, Stata, EViews, Minitab.

Referees

Dr Jenni Bettman (Current supervisor at ANU)

Deputy Dean of Students, ANU

Senior Lecturer in Finance, Research School of Finance, Actuarial Studies and Statistics, the Australian National University

Address: CBE Building 26C, Kingsley Street, Canberra, ACT 2600, Australia

Email: jenni.bettman@anu.edu.au

Tel: +61 2 612 51080

Prof Jiti Gao (Posdoc supervisor at Monash University)

Professor and Donald Cochrane Chair of Econometrics

Department of Econometrics and Business Statistics, Monash University

Address: 900 Dandenong Road, Caulfield East, Victoria 3145, Australia

Email: jiti.gao@monash.edu

Tel: +61 3 9903 1675

Prof Song Xi Chen (Ph.D. supervisor at Peking University)

Professor of Business Statistics and Econometrics, Guanghua School of Management, Peking University

Address: Center for Statistical Science, Building 32, Yandongyuan, Peking University, Beijing, 100871, China

Email: csx@gsm.pku.edu.cn

Tel: +86 (10) 62750427

Prof Xiaodong Gong (Collaborator)

Associate Professor, Canberra School of Politics, Economics and Society

Faculty of Business, Government & Law, University of Canberra

Address: Office C21, Building 11, University of Canberra, Bruce, ACT 2617, Australia

Email: Xiaodong.Gong@canberra.edu.au

Tel: +61 2 6201 2771