

CURRICULUM VITAE

Address

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1. Personal details and the date of the CV

Name: Dai, Sheng
ORCID: [0000-0001-6083-0362](https://orcid.org/0000-0001-6083-0362)
Homepage: daisheng.org
Date of birth: 25th October 1991
Date of the CV: 31th July 2024

2. Degrees

DSc in Economics and Business Administration, Aalto University, October 2022.
MSc in Management Science and Engineering, China University of Geosciences, June 2017.
BSc in Business Management, China University of Geosciences, June 2014.

3. Language skills

Chinese (mother tongue), English

4. Current employment

School of Economics, Zhongnan University of Economics and Law
Associate Professor, 6/2024 -

5. Previous work experience

Department of Economics, Turku School of Economics, University of Turku
Postdoctoral researcher, 11/2022 – 6/2024.
Department of Information and Service Management, Aalto University School of Business
Doctoral researcher, 9/2018 - 10/2022.
China University of Geosciences, Research Center of Resource and Environmental Economics
Research Assistant, 9/2014 - 8/2018.

6. Research funding and grants

Research funding

Foundation for Economic Education (Liikesivistysrahasto). 30k€ for the *research project* “How resource allocation affects economic growth?” Nov 2023, PI.
Turku University Foundation (Turun Yliopistosäätiö). 10.2 k€ for the *research project* “Optimal Resource Reallocation and Economic Growth,” May 2023. PI.
OP Group Research Foundation (OP Ryhmän Tutkimussäätiö). 75k€ for the *research project* “Optimal Resource Reallocation and Economic Growth,” Mar 2023, PI.
Prime Minister’s Office of Finland (VN TEAS). 150k€ for the *research project* “Assessing the accessibility impacts of developments in the transport system on the labour market,” 2023 - 2024. Primary participant (14k€ for my part).
Foundation for Economic Education (Liikesivistysrahasto). 30k€ for the *research project* “Synergies or Trade-offs? Reassessing Sustainable Development Goals”, Nov 2022, PI.

Finnish Energy Authority (Energiavirasto). 100k€ for the *research project* “Kohtuullinen muuttuva kustannus sähkön jakeluverkkoyhtiöiden valvontamallissa: Ehdotus tehostamiskannustimen kehittämiseksi 6. ja 7. valvontajaksolla vuosina 2024–2031”, Jun - Sep, 2022. Primary participant (10k€ for my part).

Prime Minister’s Office of Finland (VN TEAS). 150k€ for the *research project* “Efficient allocation of capital and labor at the establishment, firm, and industry levels”, 2021 - 2022. Primary participant (18k€ for my part).

Doctoral studies and research grants

Foundation for Economic Education (Liikesivistysrahasto). Total of 49k€ for full-time doctoral studies and research and attending conferences, 2018 - 2021.

HSE Support Foundation. 18.5k€ for full-time doctoral studies and research and attending conferences, 2018 - 2022.

7. Research output

Bibliometric statistics

	Google Scholar	Scopus
Number of publications	27	14
Citations	830	620
H-index	11	9

Peer-reviewed articles

- [1] Dai, S., Fang, Y., Lee, C., Kuosmanen, T. (2024). pyStoNED: A Python Package for Convex Regression and Frontier Estimation. *Journal of Statistical Software*. Forthcoming.
- [2] Yi, J., Dai, S., Cheng, J., Dai, Y. (2024). Heterogeneous effect of renewable energy policies on resource misallocation: Evidence from Chinese zombie firms. *The Energy Journal*. Forthcoming.
- [3] Yi, J., Dai, S., Li, L., Cheng, J. (2024). How does digital economy development affect renewable energy innovation? *Renewable and Sustainable Energy Reviews*, 192, 114221.
- [4] Liao, Z., Dai, S.*, Kuosmanen, T. (2024). Convex support vector regression. *European Journal of Operational Research*, 313, 858-870. [ABS 4]
- [5] Dai, S., Kuosmanen, T., Zhou, X. (2023). Non-crossing convex quantile regression. *Economics Letters*, 233, 111396. [ABS 3]
- [6] Yi, J., Dai, S., Cheng, J., Liu, K. (2023). How urban sprawl affects local and adjacent ecosystem services? Evidence from a spatial analysis of China. *Regional Environmental Change*, 23, 139.
- [7] Dai, S., Kuosmanen, T., Zhou, X. (2023). Generalized quantile and expectile properties for shape constrained nonparametric estimation. *European Journal of Operational Research*, 310, 914-927. [ABS 4]
- [8] Kuosmanen, T., Tan, Y., Dai, S. (2023). Performance analysis of English hospitals during the first and second waves of the coronavirus pandemic. *Health Care Management Science*, 26, 447–460. [JUFO 3]
- [9] Dai, S. (2023). Variable selection in convex quantile regression: L_1 -norm or L_0 -norm regularization? *European Journal of Operational Research*, 305, 338-355. [ABS 4]
- [10] Yi, J., Dai, S., Cheng, J., Wu, Q. and Liu, K. (2021). Production quota policy in China: Implications for sustainable supply capacity of critical minerals. *Resources Policy*, 72, 102046.

- [11] Dai, S., Zhou, X., Kuosmanen, T. (2020). Forward-looking assessment of the GHG abatement cost: Application to China. *Energy Economics*, 88, 104758. [ABS 3]
- [12] Kuosmanen, T., Zhou, X., Dai, S. (2020). How much climate policy has cost for OECD countries? *World Development*, 125, 104681. [ABS 3; JUFO 3]
- [13] Cheng, J., Yi, J., Dai, S., Xiong, Y. (2019). Can low-carbon city construction facilitate green growth? Evidence from China's pilot low-carbon city initiative? *Journal of Cleaner Production*, 231, 1158-1170. [ESI top 1%; Highly cited paper]
- [14] Dai, Q., Ye, X., Wei, Y. D., Ning, Y., Dai, S. (2018). Geography, ethnicity and regional inequality in Guangxi Zhuang autonomous region, China. *Applied Spatial Analysis and Policy*, 11, 557-580.
- [15] Chen, J., Cheng, J., Dai, S. (2017). Regional eco-innovation in China: An analysis of eco-innovation levels and influencing factors. *Journal of Cleaner Production*, 153, 1-14.
- [16] Cheng, J., Dai, S.*, Ye, X. (2016). Spatiotemporal heterogeneity of industrial pollution in China. *China Economic Review*, 40, 179-191.

Submissions

- [1] Kuosmanen, T. & Dai, S. Modeling economies of scope in joint production: Convex regression of input distance function. *Submitted*. Nov 2023.
- [2] Dai, S., Kuosmanen, N., Kuosmanen, T. & Liesiö, J. Optimal resource allocation: Convex quantile regression approach. *Submitted*. Nov 2023.
- [3] Dai, S., Kuosmanen, T., & Zhou, X. Can Omitted Carbon Abatement Explain Productivity Stagnation? Quantile Shadow-Price Fisher Index Applied to OECD Countries. *Submitted*. Oct 2023.

Selected work in progress

- [1] Dai, S., Kuosmanen, T., Liao, Z. Cities and economic growth: Does resource allocation matter?
- [2] Liao, Z., Dai, S., Kuosmanen, T. Weight restricted convex nonparametric least squares: Application to Finland electricity distribution networks
- [3] Dai, S., Kuosmanen, T., Zhou, X. Endogeneity bias of convex regression: Monte Carlo evidence.

Technical Reports

- [1] Kuosmanen, T., Kuosmanen, N., Dai, S. (2022) Kohtuullinen muuttuva kustannus sähkön jakeluverkkoyhtiöiden valvontamallissa: Ehdotus tehostamiskannustimen kehittämiseksi 6. ja 7. valvontajaksoilla vuosina 2024–2031. Energiavirasto, Finland.
<https://www.researchgate.net/publication/363771054>
- [2] Dai, S., Kuosmanen, N., Kuusi, T., Kuosmanen, T. (Editor), Liesiö, J., Maczulskij, T. (2022) Misallocation of labor and capital in Finland's business sector. Prime Minister's Office of Finland. <http://urn.fi/URN:ISBN:978-952-383-212-1>

Thesis

- [1] Dai, S. (2022) Essays on Convex Regression and Frontier Estimation. Aalto University School of Business, Finland. <http://urn.fi/URN:ISBN:978-952-64-0900-9>

Python package

- [1] Dai, S., Fang, Y. H., Lee, C. Y., Kuosmanen, T. A Package for Stochastic Nonparametric Envelopment of Data (StoNED) in Python. <https://github.com/ds2010/pyStoNED>.

- [2] Dai, S., Liao, Z. A Python Package for Stochastic Frontier Analysis (pySFA).
<https://github.com/gEAPA/pySFA>.

8. Teaching merits

Aalto University School of Business (2019-2022)

Co-supervision of MSc theses: Joni Lehtelä (2020), Jasper Mäkelä (2021).

Preliminary examiner of MSc theses: 12 M.Sc. theses from July 2020.

Teaching Assistant at BSc and MSc levels:

Econometrics (30C00200) (January 2019, 2020, 2021, and 2022),

Productivity and Efficiency Analysis (30E00300) (March 2020).

Turku School of Economics (2023-)

Guest lecture for B.Sc. level course:

Environmental and Natural Resource Economics (KT042133-3001 KT8).

9. Awards and honours

HSE Support Foundation. Total of 3.2k€ for *Recognition awards for quality publications*, 2019, 2022.

Ministry of Education of the P.R.C. CNY 20k for *National Scholarship for Postgraduates*, 2016.

Regional Science Association of China. CNY 2k for *Distinguished Youth Scholar Paper*, 2016.

Ministry of Education of the P.R.C. Total of CNY 10k for *National Encouragement Scholarship for Undergraduates*, 2011, 2012.

10. Other key academic merits

Memberships and positions of trust in scientific communities

International Association for Energy Economics (IAEE), Association of Environmental and Resource Economists (AERE)

Referee for scientific publications

Economic Analysis and Policy, Environmental and Resource Economics, Energy, Health care management science, Journal of Cleaner Production, Journal of Environment Management, Journal of Productivity Analysis, Journal of Regulatory Economics, Journal of Regional Science, Resources Policy

Conference presentations

2023	2 nd South Sweden Workshop in Efficiency and Productivity Analysis (SSWEP)
2022	32 nd EURO conference, 17 th EWEPA
2021	31 st EURO conference, 29 th SRAE annual conference
2020	12 th (virtual) WCES conference, 11 th (virtual) NAPW
2019	16 th EWEPA, 42 nd IAEE conference
2018	6 th IAEE Asian Conference, 6 th WCERE
2016	RSAC Annual Meeting, 6 th Asian Seminar in Regional Science

Programming skills

Python, Stata, Julia, GAMS, LaTeX