Charles Shaw

Data Science Director, WPP Media | Econometrics | Causal Inference | Statistical Technology

charles [at] charlesshaw.net • github.com/shawcharles • London, UK • UK citizen

PROFILE

Data Science Director at WPP Media, building the econometric and causal-inference systems behind high-stakes commercial and public-sector decisions. Owns methodological standards, model governance and technical direction across engagements spanning UK government departments and international businesses, while remaining hands-on in Bayesian media mix modelling, geographic experimentation, panel-data demand modelling and optimisation systems. Author of a forthcoming two-volume Taylor & Francis/CRC Press text on causal inference with panel data (November 2026) and an open-source contributor in applied econometrics.

SELECTED WORK & SYSTEMS

- Set the methodological approach for econometric and causal-inference engagements across UK government departments, automotive, retail, travel, gaming, financial services and e-commerce.
- Designed **ABACUS**, a proprietary Bayesian media modelling and optimisation framework built with PyMC and PyTensor.
- Developed sparse synthetic-control tooling for geographic experimentation, including donor selection, power analysis and bootstrap uncertainty quantification.
- Led statistical platforms for commercial decision support, including **CreativeDynamics** for advertising fatigue monitoring and **ConversionFlow** for Toyota/Lexus Europe customer-journey optimisation.

EXPERIENCE

WPP Media | Data Science Director — London, UK — Jan 2026 – Present

- Accountable for methodological standards, model governance and technical review across econometric, causal-inference and media-investment work for major private and public-sector clients.
- Set the technical approach on engagements where the statistical choice determines the decision, spanning panel-data and count-data outcomes, Bayesian media mix modelling, cluster-robust causal inference, geographic experiments and media optimisation.
- Define methodological direction for econometric practice within WPP Media's global network, translating statistical evidence into defensible commercial decisions.
- **Clients advised:** UK government departments and public bodies; Toyota/Lexus, Electronic Arts, Amazon, EasyJet, M&S, IKEA, Virgin Money.

T&P Group | Data Science Director — London, UK — Mar 2022 – Dec 2025

- Led econometric modelling and R&D across media investment, market dynamics and effectiveness measurement; the role transitioned into WPP Media in January 2026.
- Built panel-data demand models, temporo-spatial media mix models, hyperlocal forecasting tools and decision-support systems for media allocation; the National Express programme was recognised at the 2023 MediaTel and Mediaweek awards (see Awards).
- Invited speaker at Meta UK's Analyst Connect 2023 on causal inference and econometric measurement for media effectiveness.

Ocean Media Group Ltd | Head of Data & Audience Development — London, UK — Aug 2016 – Jul 2021

- Led data, analytics and systems across a portfolio of media, conference, exhibition and awards products; managed a team of four.
- Built BI, ETL and data-pipeline infrastructure; used audience and commercial analysis to reposition underperforming awards brands and return them to growth.

RELX Group PLC | Analyst, Team Leader — London, UK — Sep 2015 – Aug 2016

- Led a small BI and analytics team delivering data solutions across business units.

Earlier roles: Senior Business Analyst, Groupe PSA (2011–2013); Researcher, Companies & Markets (2013–2015); Analyst (Contract), AIP (2015) — analytics and market research roles across automotive, industrial and commodities sectors.

PUBLICATIONS & SOFTWARE

BOOK

Shaw, C. *Causal Inference in Marketing: A Practical Toolkit for Panel Data, Volumes 1 & 2*. Under contract with Taylor & Francis/CRC Press; scheduled for publication November 2026.

PEER-REVIEWED PAPERS

Shaw, C. (2022) “Dynamic causal effects of pandemic-induced uncertainty on output, credit, and asset prices: a Symbolic Transfer Entropy approach”, *Industrial Engineering & Management Systems* 21(1), pp. 119–127.

Shaw, C. (2018) “Conditional Heteroskedasticity in Cryptoasset Returns”, *Journal of Statistics: Advances in Theory and Applications* 20(1), pp. 15–65.

Shaw, C., Vanadia, S. (2022) “Utilitarianism on the front lines: COVID-19, public ethics, and the ‘hidden assumption’ problem”, *Ethics & Bioethics* 12(1–2), pp. 60–78.

INDUSTRY AND EDITED-VOLUME CHAPTERS

Ryan, B., Griffiths, A., Shaw, C., Clarke, T., Munton, P. (2025) “Turning Insights into Action: Closing the Loop in Marketing Activation & Analytics”, in *Meta’s Measurement Playbook*, Meta.

Shaw, C., Pycock, D. (2019) “Simplified Planning Zones and the realignment of fiscal incentives”, in *Raising the Roof: How to Solve the United Kingdom’s Housing Crisis*, Institute of Economic Affairs.

OPEN SOURCE

Contributor to *Hayashi*, an applied-econometrics language built in Rust; author of *srvar-toolkit* for Shadow-Rate Vector Autoregression (SRVAR) modelling.

CONSULTING & RESEARCH AFFILIATIONS

FixedPoint IO Ltd | Director — London, UK — Jan 2021 – Present

- Boutique consultancy delivering econometric modelling, financial modelling, applied statistical analysis and decision support for clients including a US hedge fund, a UK insurer and a UK investment firm.

Advance Macro Research | Junior Research Fellow — Current

- Contribute macroeconomic research and applied econometric analysis, with emphasis on statistical modelling and forecasting.

Minerva Statistical Consulting Ltd | Economics Adviser — London, UK — Aug 2016 – Sep 2018

- Part-time consulting affiliation advising on econometric projects covering energy demand modelling and commodity market analysis.

METHODS & TECHNOLOGY

Econometrics & causal inference	Panel data, count data, fixed and random effects, synthetic controls, difference-in-differences, instrumental variables, regression discontinuity, doubly robust estimation, heterogeneous treatment effects, cluster-robust inference.
Bayesian & statistical modelling	Hierarchical models, MCMC, Bayesian networks, spatial econometrics, rough paths and signature methods, power analysis, uncertainty quantification, volatility and tail-risk modelling.
Decision systems	Media effectiveness and incrementality testing, geographic experimentation, customer-journey analysis, temporo-spatial demand modelling, budget and portfolio optimisation.
Technology	Python, R, Stata, MATLAB; PyMC, PyTensor, NumPyro, Stan; SQL and PostgreSQL; statistical libraries, reproducible modelling pipelines, model-governance standards.

EDUCATION

The Johns Hopkins University	Master’s, Applied & Computational Mathematics	Baltimore, US
University of Strathclyde	MSc, Applied Statistics	Glasgow, UK
Birkbeck, University of London	MSc, Financial Risk Management	London, UK
Birkbeck, University of London	BSc(Econ), Financial Economics	London, UK

AWARDS, CREDENTIALS & MEMBERSHIPS

Awards	2023 MediaTel Awards: Best Agency Research Project (Winner); 2023 Mediaweek Awards: Best Use of Econometrics (Silver); 2019 Institute of Economic Affairs’ Richard Koch Breakthrough Prize (Highly Commended).
Memberships	Royal Statistical Society; Society of Professional Economists (SPE); International Society for Bayesian Analysis (ISBA).
Certifications	EITCA Artificial Intelligence Academy; Council of Europe Certificate in Data Protection & Privacy Rights.
Personal	Rugby: Phantoms RFC, Wanstead RFC and Birkbeck 1st XV; two-time British Universities London Division 1 title winner; Middlesex Sevens Men’s Universities Cup winner.