

Prof. Barry Quinn

Professor of Finance and Financial Technology

Contact Information

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Personal Statement

Professor Barry Quinn is Professor of Finance & Financial Technology at Ulster University Business School and Director of the Centre for Finance and Responsible Technology. The Centre is guided by three pillars: statistical rigour and intellectual humility; practical industry relevance; and responsible algorithmic innovation.

Barry is a Chartered Statistician and views econometrics as an applied statistical science. His work combines applied econometrics and causal inference with trustworthy machine learning and computational approaches to produce decision-relevant evidence for markets, risk, market integrity, and regulatory compliance. In practice, that means making assumptions explicit, quantifying uncertainty, stress-testing results, and being clear about limits—so claims remain proportionate to evidence.

His research spans causal policy evaluation, algorithmic trading risk detection, and trustworthy AI methods. He works collaboratively across finance, statistics, computer science, and law, and teaches across quantitative finance, econometrics, and AI applications in finance, emphasising ethical practice, reproducibility, and critical thinking.

Before entering academia, Barry worked in financial markets, specialising in currency trading and liquidity management. He holds a PhD in Finance and an MSc in Artificial Intelligence from Queen’s University Belfast, and works with external partners to ensure research translates into robust practice.

Education and Professional Qualifications

Qualification	Institution	Year
B.Sc.(Hons) Accounting and Finance	Queen’s University Belfast	1995

Qualification	Institution	Year
MSc Quantitative Finance	RMIT University Melbourne	2006
Ph.D. Finance	Queen’s University Belfast	2012
Chartered Statistician	Royal Statistical Society	2019
Advanced Data Science Professional	Royal Statistical Society	2023
MSc Artificial Intelligence	Queen’s University Belfast	2025

Research Excellence

Research Programme

My research develops across three methodological strands. The first is **trustworthy machine learning for market integrity and risk**, covering representation-learning approaches to market-manipulation detection (Dai, Quinn, Kearney *et al.*, under review at *Information Processing and Management* and at *Economics Letters*) and transformer-based crash-risk modelling (Birem, Abidi Perier, Quinn & Kearney, under review at the *European Journal of Operational Research*). The methodological commitment throughout is that model performance and model trustworthiness are separable properties, both of which must be evidenced before deployment in operational or regulatory settings.

The second is **computer vision for socio-economic measurement**: the Hannon, French, Quinn & O’Hagan geospatial study of vehicle crime in Northern Ireland (submitted to *Insurance: Mathematics and Economics*), and the hierarchical flag-classification programme (4,501-image NI dataset; 70→16→7 taxonomy; ViT-H-14 baseline at 94.78% on the 7-category task; codebase at **economic-flag-classification**). Both treat vision pipelines as measurement instruments rather than accuracy-maximising systems.

The third is **causal and statistical evidence for governance and regulation**: innovation signals and strategic exits in computational approaches to financial regulation (Kearney, Quinn & Pramanick, under review at the *Journal of Business Venturing*); ownership, risk and regulation in Chinese banking (Zhang, Quinn & Sheenan, CRBF WP 25-017); and the collaborative doctoral partnerships with Pytillia, Napier AI and Funds Axis. Across all three strands the methodological priority is that evidence survive operational and regulatory scrutiny — assumptions explicit, uncertainty quantified, and claims proportionate to what the data can support.

Key Publications (Selected from 14 peer-reviewed papers)

ABS4 Journal:

- Liu, Weilong, Zhang, Yong, Liu, Kailong, Quinn, Barry, Yang, Xingyu, Peng, Qiao (2024). Evolutionary Multi-Objective Optimisation for Large-Scale Portfolio Selection With Both Random and Uncertain Returns. *IEEE Transactions on Evolutionary Computation* (ABS4).

Recent ABS3 Publications:

- McKillop, Donal, Liu, Kailong, Quinn, Barry, Peng, Qiao (Forthcoming). Modelling and Predicting Credit Union Failures. *International Journal of Forecasting* (ABS3).
- Bouri, E., Quinn, B., Sheenan, L. & Tang, Y. (2024). Investigating extreme linkage topology in the aerospace and defence industry. *International Review of Financial Analysis* (ABS3).

- Quinn, Barry, Gallagher, Ronan, Kuosmanen, Timo (2023). Lurking in the shadows: The impact of CO2 emissions target setting on carbon pricing in the Kyoto agreement period. *Energy Economics* (ABS3).

Full publication list: see *index.qmd* or request on application.

Research Impact and Funding

Table 2: Major Research Grants (Selected)

Funding Body	Period	Project Title	Full Economic Costs
(Department of the Economy NI)	PI 2025	Three PhD scholarships to support the Centre for Finance and Responsible Technology (including two collaborative doctoral partnerships)	£360,000
Innovate UK	PI 2022–2023	ESG fair value analytics platform: using state-of-the-art financial data science and business analytics to design a fair-value ESG prediction engine	£173,000
Innovate UK	PI 2021–2023	Regulatory technology and portfolio analytics using state-of-the-art econometrics and financial machine learning	£173,000
Innovate UK	PI 2018–2021	Designing and deploying a retail analytics platform using advanced analytics and machine learning	£165,000
(UK-Fin+/EP-SRC)	PI 2024–2025	Leveraging AI to understand and improve regulatory compliance in the Investment Management Industry	£100,000

Figures are read from the canonical `data/Grant_income.csv`. For the full grants register and total research income across 13 awards, see `cv_grants.qmd`.

Working Papers

- Dai, Yongsheng, Quinn, Barry, Kearney, Fearghal, Wang, Hui (Submitted). *Amplifying Market Manipulation Detection Signals*. Submitted to *Economics Letters*. Manuscript EL66561.
- Dai, Yongsheng, Quinn, Barry, Kearney, Fearghal, Liu, Weilong, Spence, Ivor, Rafferty, Karen, Wang, Hui (Submitted). *Detecting Market Manipulation with Dual-branch Self-supervised Learning: A Unified Framework Integrating Frequency-informed Anomaly Synthesis and Domain-Specific Features*. Submitted to *Information Processing and Management*. Manuscript IPM-D-25-06138.
- Hannon, James (Corresponding Author), French, Declan, Quinn, Barry, O’Hagan, Adrian (Submitted). *Geospatial modeling of vehicle crime in Northern Ireland using computer vision to identify environmental factors*. Submitted to *Insurance: Mathematics and Economics*. Manuscript IME-D-25-00419.

PhD Supervision Excellence

Completed Supervisions (6):

1. Dr Jiadong Liu (graduated 2018): *Momentum in Empirical Asset Pricing* (**Principal Supervisor**).
2. Dr Ashleigh Neil (graduated 2019): *Law and Financial Stability* (**Principal Supervisor**).
3. Dr Colm Kelly (graduated 2021): *Machine Learning in Empirical Asset Pricing* (**Principal Supervisor**).
4. Veronica Zhang (2024): *Capital Policy and State Sponsorship in Chinese Banking* (**Principal Supervisor**).
5. Dr Kevin Johnson (graduated 2019): *A Case Study in Industrial Consolidation — The Irish Credit Union Sector* (**Co-Supervisor**).
6. Dr Qiao (Olivia) Peng (graduated 2021): *US Credit Union Mergers — Causes and Consequences* (**Co-Supervisor**).

Current Supervisions (6): Including students working on AI applications in finance, sustainable investing, and computational approaches to financial regulation — see `cv_grants.qmd` for the full current register.

Teaching and Academic Leadership

Teaching Excellence

- **Programme Director**, MSc Quantitative Finance (2018–2022).
- **Programme Director**, MSc Computational Finance & Trading (2014–2018).
- **Co-Founder**, Queen’s Student Managed Fund (2012–2024).
- **Teaching Award**, QUB (2016).

Current Modules: Financial Data Science; Causal AI; AI in Trading; Financial Econometrics.

Academic Service

- **Co-founder**, Finance and AI Research Lab (with Dr Fearghal Kearney), Queen’s University Belfast (2022–2024).
- **Programme Director**, MSc Quantitative Finance (2018–2022).
- **Lead Developer**, Queen’s Business School Remote Analytics Lab Platform.
- **Organiser**, Symposium on AI and the Future of Financial Regulation (2023).
- **Senior Research Fellow** (Sabbatical), International Research Centre on Cooperative Finance, HEC Montreal University, Canada (May–September 2018).
- **Implementation Team Member**, Bloomberg Trading Room, Queen’s University Belfast.
- **External Grant Reviewer**, UKFin+ (UKRI specialist funded project) — reviewed feasibility grant application (£100K) for financial services innovation research (2024).

Professional Experience

Table 3

Period	Position	Institution
2024 - Present	Professor of Finance & Financial Technology	Ulster University Business School
2024 - Present	Director, Centre for Finance and Responsible Technology	Ulster University Business School
2020 - 2024	Senior Lecturer in Finance, Technology and Data Science	Queen's Management School
2010 - 2020	Lecturer	Department of Finance, Queen's Management School
1998 - 2004	Currency Trader and Liquidity Manager	Janus Henderson Investors, London

Professional Recognition

- Chartered Statistician, Royal Statistical Society (2019).
- Advanced Data Science Professional, Royal Statistical Society (2023).
- **1st Place**, CFA European Quantitative Finance Awards (2018).
- **Associate Research Fellow**, QUB Momentum One Zero (2021–2024).

Full publication list and detailed CV available upon request.