

Barry Quinn

BSc (Hons), PhD, CStat

Curriculum Vitae
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Personal Statement

As a Senior Lecturer in Finance, Technology, and Data Science at Queen's University Belfast, I bridge the gap between academic research and industry innovation. My work focuses on applying advanced statistical and machine learning techniques to complex problems in finance, with a particular emphasis on regulatory technology, systemic risk, and ethical AI development in financial services.

Education and qualifications

B.Sc.(Hons) Accounting and Finance	Queen's University Belfast	1995
MSc Quant Finance	RMIT University Melbourne	2006
Ph.D. Finance	Queen's University Belfast	2012
Chartered Statistician	Royal Statistical Society	2019
MSc Artificial Intelligence	Queen's University Belfast	Graduating 2025

Professional Qualifications

- Chartered Statistician (CStat), Royal Statistical Society, 2019

Employment history

2023 – present	Senior Lecturer in Finance, Technology and Data Science , Queen's Management School
2020 – 2023	Senior Lecturer , Department of Finance, Queen's Management School
2010 – 2020	Lecturer , Department of Finance, Queen's Management School
2009 – 2009	Teaching Fellow , Business School, Ulster University
2005 – 2005	Teaching Fellow , Department of Finance, RMIT University Melbourne
2000 – 2004	Currency Trader/Liquidity Manager , Janus Henderson Investors, London
1998 – 2000	Unit and Investment Trust Dealer , Janus Henderson Investors, London
1995 – 1998	Financial Adviser , City Financial Partners, London

Academic and research leadership

- **Co-director**, Finance, Technology and AI lab, Queen's University Belfast, 2022–.
- **QUB Academic Lead**, Steering group for Northern Ireland global centre in secure connected intelligence for regulatory technology in finance.
- **Programme Director**, MSc Quantitative Finance, Queen's University Belfast, 2018–2022.
- **Programme Director**, MSc Computational Finance & Trading, Queen's University Belfast, 2014–2018.
- **Founder**, Queen's Student Managed Fund, 2012–2023.

Awards and honours

2016	QUB Teaching Award
2018	European CFA Quant Award (1st)
2021	Associate Research Fellow, Global Innovation Institute

Skills and Expertise

- Advanced statistical modeling and machine learning
- AI applications in finance and trading
- Regulatory technology (RegTech) and compliance
- Financial risk management and systemic risk analysis
- Data science and big data analytics in finance
- Interdisciplinary research leadership

Research

- Since 2012, I have authored 25 papers and reports on topics in econometrics and data science, state-of-the-art efficiency and productivity analysis, risk implications of policy actions in banking and climate finance, and association football economics.
- On Google Scholar, my h-index is 8 with total citations of 553 (as of 9 September 2024).

- My current research involves the application of statistics and machine learning to complex problems in capital regulation, systemic risk, climate risk, and trade surveillance.
- I currently supervise six PhD students (including one visiting PhD student). I have previously supervised an additional three PhD students and ten Masters students.

Current Projects

- AI system for regulatory compliance in global investment management (2024-present)
 - Principal Investigator
 - Funded by UKFin+ (UKRI)
 - Developing AI models with enhanced reasoning capabilities for regulatory content generation
- Detecting trading anomalies using AI and machine learning (2021-2024)
 - Finance expert collaborator
 - In partnership with Citigroup's Belfast-based Market Intelligence and Data Science team

Industry Collaboration

- FCA Mentor for Tech Sprint on market manipulation (2023-present)
- Lead academic on knowledge transfer projects with Fund Axis Ltd and Research Affiliates Inc (2022-present)
- Collaboration with Citigroup on AI applications for detecting trading anomalies (2021-2024)

Organized Conferences and Symposia

- Symposium on AI and the Future of Financial Regulation, Queen's University Belfast, November 2023
- Chair, Panel debate on "Digital Regulation: Shaping digital markets and safeguarding consumer rights in Northern Ireland", Northern Ireland Competition Forum, May 2024

Public Teaching lectures

- PhD Seminar, *Causality and AI*, Queen's Management School, Belfast, April 2023
- PhD Seminar, *Statistical inference for business school research: Part 1*, Queen's Management School, Belfast, April 2022
- PhD Seminar, *Statistical inference for business school research: The statistics strike back*, Queen's Management School, Belfast, Aug 2022

Major conference presentations

- Keynote Speaker, *Estimating Systemic Risk*, Irish Finance Association, Maynooth University, Ireland, April 2023
- Invited Talk, *Teaching data science in the age of FinTech*, Royal Statistics Society Annual Conference, Aberdeen UK, Sep 2022
- Invited Talk, *Carbon pricing and machine learning*, Multidisciplinary Workshop on Fintech, Islamic Finance and Sustainability (online), Hamad Bin Khalifa University, Qatar, Nov 2022
- Invited Speaker, *Understanding fintech and financial stability*, International Workshop on Financial System Architecture and Stability, Bayes Business School, London, Sept 2018
- Invited Speaker, *Systemic Risk and Basel Compliance*, British Accounting and Finance Association Annual Conference, London, April 2018
- Invited Speaker, *Differential regulation of Irish credit unions: Does one size fit all?*, 2nd Conference on Contemporary Issues in Banking, Centre for Responsible Banking and Finance, St Andrews, Dec 2017
- Invited Speaker, *Business model diversity, efficiency and productivity of cooperatives*, European workshop in efficiency and productivity analysis, Aalto University, Finland, Jun 2017
- Invited Panelist, *Statistical inference and credibility in finance*, Emerging Scholars in Banking and Finance, Bayes Business School, London, Dec 2016
- Invited Speaker, *Capital regulation compliance and the performance of European banks*, International Workshop on Financial System Architecture and Stability, HEC Montreal, Aug 2016
- Participant, *Bloomberg Annual Educational Symposium*, Bloomberg London HQ, Sep 2015

Research income

I have acquired (in most cases jointly) £0.8165 million in external research grants since 2010. External research grants over £70,000 are listed below.

2018–2021	Byron, Graham. “Designing and deploying a retail analytics platform using advanced analytics and machine learning”. <i>Funding from Innovate UK</i>	£165,000
2021	Donal McKillop. “PhD investigation into how AI innovation affect a highly valued financial service provision experience”. <i>Funding from Department of the Economy NI</i>	£70,000
2021–2023	Fearghal, Kearney. “Regulatory technology and portfolio analytics using state-of-the-art econometrics and financial machine learning”. <i>Funding from Innovate UK</i>	£173,000
2022–2023	Lisa Sheenan Byron Graham. “E.S.G fair value analytics platform: using state-of-the-art financial data science and business analytics to design a fair-value ESG prediction engine”. <i>Funding from Innovate UK</i>	£173,000
2023	Declan French. “PhD investigation of the economic costs of cultural displays in Northern Ireland”. <i>Funding from Department of the Economy NI</i>	£70,000
2024–2025	Jesus Del Rincon Martinez Abhishek Pramanick Darren Burrows (CEO of Funds Axis). “Leveraging AI to understand and improve regulatory compliance in the Investment Management Industry”. <i>Funding from UKFin+ (UKRI funded)</i>	£100,000

Teaching

- I design and teach advanced topics in statistics and machine learning for finance students.
- I have developed and lead the PG-Cert in Financial Technology and Machine Learning in partnership with the School of Electronics, Electrical Engineering and Computer Science.
- In the past I have taught courses in:
 - Statistics for Business
 - Financial Econometrics and Data Science
 - Financial Institutions and Markets
 - Trading Principles
- I currently teach graduate-level courses in AI and Trading, and Advanced Financial Analytics.
- I have also designed and delivered executive education courses in:
 - Statistical forecasting for energy markets (3-Day course for PNG Ltd demand forecasting professionals)
 - Capital Markets and Regulation (3-Day course for Axiom Ltd)
- In every year since 2012, student evaluations for my teaching have given an average rating above 4.5 out of 5.

Impact and Outreach

- My research on AI applications in financial regulation has informed policy discussions at the Financial Conduct Authority (FCA).
- The Finance, Technology and AI lab has become a hub for industry-academia collaboration in Northern Ireland, fostering innovation in financial technology.
- My work on ESG authentication and regulatory compliance has contributed to the development of more robust and ethical financial practices in the industry.

Professional Memberships

- Royal Statistical Society
- [Any other relevant professional memberships]

Consulting

- Since 2016, I have worked with several different private companies in Northern Ireland. I have produced 5 written consulting reports listed below.
- 1. Graham, B and B Quinn (2017). *Machine learning and retail analytics*. Tech. rep. Queen's University Belfast, Management School.
- 2. French, D, D McKillop, and B Quinn (2018). *Landscape review of Northern Ireland credit unions*. Tech. rep. Queen's University Belfast, Management School.
- 3. Graham, B and B Quinn (2019). *Price comparison and web analytics*. Tech. rep. Queen's University Belfast, Management School.
- 4. Kearney, F and B Quinn (2020). *The theoretical foundations of value at risk modelling*. Tech. rep. Queen's University Belfast, Management School.

Refereed research papers

1. Quinn, B and D McKillop (2009). Cost performance of Irish credit unions. *Journal of Cooperative Studies* **42**, 22–36.
2. Glass, JC, DG McKillop, B Quinn, and J Wilson (2014). Cooperative bank efficiency in Japan: a parametric distance function analysis. *The European Journal of Finance* **20**(3), 291–317.

3. Glass, J, D McKillop, and B Quinn (2015). Modelling the Performance of Irish Credit Unions, 2002-2010. *Financial Accountability & Management*.
4. McKillop, DG and B Quinn (2015). Web adoption by Irish credit unions: Performance implications. *Annals of Public and Cooperative Economics* **86**(3), 421–443.
5. Ayadi, R, SB Naceur, B Casu, and B Quinn (2016). Does Basel compliance matter for bank performance? *Journal of Financial Stability* **23**, 15–32.
6. McKillop, DG and B Quinn (2017). Irish credit unions: Differential regulation based on business model complexity. *The British Accounting Review* **49**(2), 230–241.
7. Quinn, B, A Hanna, and F MacDonald (2018). Picking up the pennies in front of the bulldozer: The profitability of gilt based trading strategies. *Finance Research Letters* **27**, 214–222.
8. Gallagher, R and B Quinn (2020). Regulatory own goals: The unintended consequences of economic regulation in professional football. *European Sport Management Quarterly* **20**(2), 151–170.
9. McKillop, D, D French, B Quinn, AL Sobiech, and JO Wilson (2020). Cooperative financial institutions: A review of the literature. *International Review of Financial Analysis* **71**, 101520.
10. Liu, J, F Papailias, and B Quinn (2021). Direction-of-change forecasting in commodity futures markets. *International Review of Financial Analysis* **74**, 101677.
11. Liu, K, D McKillop, B Quinn, and Q Peng (2022). Modelling and Predicting Credit Union Failures. *Working Papers in Responsible Banking and Finance* **1**.
12. Quinn, B, R Gallagher, and T Kuosmanen (2023). Lurking in the shadows: The impact of CO2 emissions target setting on carbon pricing in the Kyoto agreement period. *Energy Economics* **118**, 106338.
13. Liu, W, Y Zhang, K Liu, B Quinn, X Yang, and Q Peng (2024). Evolutionary Multi-Objective Optimisation for Large-Scale Portfolio Selection With Both Random and Uncertain Returns. *IEEE Transactions on Evolutionary Computation* **PP**(99), 1–1.

Papers in refereed conference proceedings

1. Ayadi, R, SB Nacuer, B Casu, and B Quinn (2016). The unintended systemic risk consequences of regulatory compliance. In: *Proceedings of 2nd International Workshop on Financial System Architecture and Stability*. IWFSAS.
2. Quinn, B (2022). Teaching open science analytics in the age of financial technology. In: *Annual Conference*. Royal Statistical Society.

Unpublished working papers

1. McKillop, DG and B Quinn (2013). “Cooperative traits of technology adoption: website adoption in Irish Credit Unions”.
2. McKillop, DG and B Quinn (2015). “A Sustainable Business Model Strategy for Irish Credit Unions: Does One Size Fit All?”
3. Gallagher, R, T Kuosmanen, and B Quinn (2017). “Lurking in the Shadows: Testing For Shadow Price Differences with Applications in Economic Regulation”.

Software (R packages)

1. Quinn, B (2020). *Financial Machine Learning*. Version 2.0.4. <https://github.com/quinfer/fml>.
2. Quinn, B (2022). *Time Series Econometrics Software*. Version 0.2.0. <https://github.com/quinfer/tsfe>.