Application to the NBER Digital Economics and AI Tutorial

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I am a third-year PhD candidate in Finance at the University of Bristol Business School, where I began doctoral studies as a fully funded student in September 2024 and expect to graduate in September 2028. My research interests are at the intersection of digital economics, household finance, behavioural economics, and AI. My doctoral training includes quantitative methods, asset pricing, corporate finance, and econometrics, alongside seminars and research workshops in finance and economics.

As a visiting scholar at USI Lugano and the Swiss Finance Institute, I completed advanced training in household finance (with Professor Lorenz Kueng from USI Lugano, the host of my visit), empirical asset pricing (Professor Francesco Franzoni from USI Lugano), subjective expectations (Professor Francesco D'Acunto from Georgetown), financial statistics (Professor Markus Pelger from Stanford), and capital markets and the macroeconomy (Professor Antonio Mele from USI Lugano). Before this, I have also attended the Princeton Summer School in Macro-Finance and specialist workshops in econometrics, behavioural economics, computational social science, and machine learning. I was also a visiting scholar at Luohan Academy in China, a prestigious think tank initiated by the Alibaba Group and launched by world-renowned social scientists, including seven Nobel Prize Laureates in economics, focusing on the digital economy and the social and economic implications of digital technologies.

My current research studies how digital technologies reshape financial decisions: who takes up algorithmic financial services, how much wealth investors actually entrust to them, which frictions prevent beneficial delegation, and how behavioural biases affect the financial markets in the digital and AI era. Beyond the adoption of AI, I am interested in how AI systems themselves make economic decisions and whether the behaviours LLMs report reliably predict the choices they make.

My two complementary PhD dissertation papers use anonymised monthly account data for approximately 100,000 mutual fund investors on Ant Group's Alipay platform from September 2020 to September 2024. "*The Demand for Robo-Advising*" separates the decision to start using an algorithmic adviser from the share of wealth delegated upon adoption. Results suggest that investors with more concentrated portfolios are less likely to adopt but, conditional on adopting, delegate a greater share; the project investigates whether limited awareness of investment mistakes may help explain this contrast.

"*Advice Is Cheap, Authority Is Not*" instead asks whether the decisions an investor must surrender constrain demand even when advice is inexpensive. The paper finds that investors who exercise more decision authority before delegation use robo-advice less, and that they resist surrendering fund selection more than surrendering timing of trades. These projects distinguish awareness of the benefits of advice from the value investors place on retaining control.

My solo job-market paper, "A Market for Bias", examines whether investors prefer fund managers whose beliefs or behavioural biases resemble their own, potentially allowing biased professionals to survive even in competitive markets. I also plan to investigate whether algorithmic asset management can reshape these competitive dynamics by introducing new sources of competition and potentially reducing the persistence of behavioural biases in financial intermediation.

In parallel, a project on the behavioural biases of large language models (LLMs) places simulated trading decisions at the centre of the analysis, asking whether survey-elicited biases translate into actual choices, whether established human bias–decision relationships also hold for LLMs, and how sensitive those relationships are to prompting.

In joint work with my supervisor, Dr. Manuela Pedio (from Bristol & Bocconi), we have used convolutional neural networks and explainable-AI techniques to investigate how information contained in price charts and stock characteristics predicts retail investors' trading behaviour. Building on this work, we plan to develop a broader research agenda that moves beyond using AI as a predictive tool towards understanding its economic implications through micro-level empirical investigations. To support this next stage of research, we have secured an allocation of 1,000 node-hours on Isambard-AI, the UK's most powerful AI supercomputer, providing substantial computational resources to pursue more ambitious AI-related research in economics.

Together, these projects connect human behaviour, algorithmic behaviour, and the digital environments in which both operate. They are motivated by a broader question: how do the economic consequences of AI depend not only on what algorithms can do, but also on how individuals respond to them, which decisions they are willing to delegate, and how AI systems themselves behave?

The NBER Digital Economics and AI Tutorial closely aligns with my research agenda. I am particularly attracted by its interdisciplinary approach, bringing together research on AI adoption, digital platforms, market competition, and the economic implications of increasingly capable algorithms. Previous tutorials have addressed topics ranging from the use of machine learning in economic decision-making and digital platform regulation to organisational learning, AI deployment, and economic growth. Exposure to these and related perspectives would help me connect my finance-focused research agenda to broader questions about technology diffusion, incentives, and market design. In particular, I hope to learn how researchers in other fields approach the identification challenges associated with technology

adoption, distinguish selection effects from behavioural responses to new technologies, and develop empirical strategies to evaluate the economic consequences of AI.

I would also be keen to contribute actively to the discussions by bringing evidence and questions from my own research. My work with large-scale investor-level data from a major Chinese digital investment platform provides a setting in which to examine an important puzzle: why do individuals who could benefit most from algorithmic advice sometimes remain the least willing to adopt it? Our findings and ongoing investigations raise questions about the roles of limited awareness, preferences for decision authority, and the design of human–algorithm interactions. I would be particularly interested in discussing whether these mechanisms extend beyond financial advice to other AI-enabled services, and how platform design or information interventions might affect technology adoption and delegation. My ongoing LLM experiments offer a complementary perspective by questioning whether human-like responses in surveys necessarily translate into human-like economic decisions. I hope these projects could contribute concrete empirical settings and testable hypotheses to discussions about AI adoption, algorithmic behaviour, and the appropriate measurement of AI's economic effects.

Beyond feedback on my existing projects, I would especially value exchanging ideas with doctoral students and researchers working in different areas of economics. I am interested in challenging the assumption that improvements in the affordability, accessibility, or performance of AI necessarily translate into widespread adoption or better economic outcomes, and in exploring how such predictions could be tested across different markets. The opportunity to attend the accompanying NBER Digital Economics and AI meeting would further expose me to emerging research questions and approaches beyond my immediate field.

My longer-term academic ambition is to build a research agenda that studies AI both as an institutional technology, reshaping information, participation, competition, and the allocation of decision rights, and as an economic decision-maker whose behaviour must be understood and measured carefully. I see the tutorial as an opportunity not only to improve my current research but also to develop new questions and collaborations at the intersection of finance, behavioural economics, and digital economics.