Matthew J. Walker

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Education

Ph.D. Candidate in Economics, Durham University (ESRC studentship), expected August 2021.

Thesis Title: "Trust and Trustworthiness in Imbalanced Markets".

Visiting Scholar, The University of Texas at Dallas, Spring 2019.

Postgraduate Certificate Research Methods, *Distinction*, 2018.

MSc. Experimental Economics, *Distinction*, Durham University, 2017.

B.A.(Hons) Economics with Hispanic Studies, *First-Class Honours*, University of Nottingham, 2014.

Erasmus Study Abroad in Economics, University of Granada, 2012–2013.

References

Prof. Jason Shachat*
Durham University
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Prof. Daniel John Zizzo
The University of Queensland
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Dr. Kyle Hyndman
The University of Texas at Dallas
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Dr. Kenju Kamei
Durham University
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Research Interests

Experimental and Behavioural Economics, Auctions and Procurement, Industrial Organization, Public Economics, Behavioural Operations.

Teaching Interests

Microeconomic Theory, Experimental Economics, Behavioural Game Theory, Applied Econometrics.

Research Papers

1. Walker, M. J. (2020). Trade Contingencies in Procurement Interactions. [Job Market Paper]. *Solo-authored.*

Abstract: It is difficult to write a perfect contract. Contracts are often renegotiable and parties to a contract may understand their obligations differently. When these differences are important, disputes over buyer and seller non-performance arise. This paper addresses the problem of seller

non-performance in procurement, by developing a flexible price contract structure that contains an arbitration clause. We embed this structure into a procurement interaction, where the contract price bounds are determined under competitive conditions. We test the predictions of the model in a laboratory experiment. Our theoretical results suggest that there exists a contingent contract, defined by the degree of price flexibility and the probability of arbitration, for which trade is efficient. This contract is robust in that it relies only on the regard of each party to their own interest. We find support for the model in our experimental data. Yet the shadow of an arbitrator crowds out buyer reciprocity, and so a contingent contract does not increase trade efficiency relative to a flexible-price contract that contains non-binding incentives. Our findings have several managerial implications for the establishment of trust and procurement efficiencies driven by competition.

2. Walker, M. J., Katok, E. & Shachat, J. (2020). Trust and Trustworthiness in Procurement Contracts with Retainage. ESI Working Paper 20-34.
Under review: Management Science.

Abstract: When product quality is unverifiable by third parties, enforceable contracts that condition price upon quality are not feasible. If higher quality is also costly to deliver, moral hazard by sellers flourishes, particularly when procurement is via a competitive auction process. Retainage is a contractual mechanism that presents a solution to the third-party unverifiability problem, by setting aside a portion of the purchase price. After delivery, the buyer has sole discretion over the amount of retainage money that is released to the seller. While generally a feasible contract form to implement, retainage introduces a moral hazard for the buyer. We use laboratory experiments to investigate how and when retainage might be successfully used to facilitate trust and trustworthiness in procurement contracts. We observe that retainage induces a significant improvement in product quality when there are some trustworthy buyers in the population, consistent with a model of fair payment norms that we develop. This improvement is realized at the cost of increased buyer-seller profit inequalities. We also observe that at high levels of retainage, there is a welfare-decreasing market unraveling in which sellers do not bid on contracts. Our results imply that retainage incentives can mitigate the tension between competition and cooperation arising from reverse auctions, but only at appropriate levels of retainage.

3. Hyndman, K. B. and Walker, M. J. (2020) Fairness and Risk in Ultimatum Bargaining. Available at: https://ssrn.com/abstract=3651557.
Under review: Games and Economic Behavior.

Abstract: We conduct an experiment in which subjects play an ultimatum game but, rather than bargaining over money, they bargain over lottery tickets for a prize. Compared to the standard ultimatum game, proposers offer a significantly lower percentage of lottery tickets, which is inconsistent with either ex ante or ex post fairness. In contrast, responders have a significantly higher acceptance threshold, which is consistent with ex post fairness. By varying the timing of the accept/reject decision of responders, we also show that intentions matter and present evidence of a choice anomaly in responder preferences concerning their willingness to accept extreme inequality.

4. Shachat, J., Walker, M. J. & Wei, L. (2020). The impact of the Covid-19 pandemic on economic behaviours and preferences: Experimental evidence from Wuhan. ESI Working Paper 20-33.
Under review: Journal of Public Economics.
Selected for ASSA Annual Meeting 2021.

Abstract: We examine how the emergence of Covid-19 in Wuhan, and the ramifications of associated events, influence pro-sociality, trust and attitudes towards risk and ambiguity. We assess these influences using an experiment consisting of financially incentivized economic tasks. We establish causality via the comparison of a baseline sample collected pre-epidemic with five sampling waves starting from the imposition of a stringent lockdown in Wuhan and completed six weeks later. We find significant long-term increases - measured as the difference between the baseline and final wave average responses - in altruism, cooperation, trust and risk tolerance. Participants who remained in

Wuhan during the lockdown exhibit lower trust and cooperation relative to other participants. We identify transitory effects from two events that permeated the public psyche. First, in the immediate aftermath of the Wuhan lockdown, there is a decrease in trust and an increase in ambiguity aversion. Second, the news of a high-profile whistleblower's death also decreases trust while heightening risk aversion.

5. Guo, Y., Shachat, J., Walker, M. J. & Wei, L. (2020). Viral social media videos can raise pro-social behaviours when an epidemic arises. Link to earlier version.
Revise and Resubmit at Journal of the Economic Science Association.

   Abstract: Access to information via social media is one of the biggest differentiators of public health crises today. During the early stages of the Covid-19 outbreak in January 2020, we conducted an experiment in Wuhan, China to assess the impact of viral social media content on pro-social and trust behaviours and preferences towards risk and ambiguity. Prior to the experiment, participants viewed one of two videos that had been widely and anonymously shared on Chinese social media: a central government leader visiting a local hospital and supermarket, or health care volunteers transiting to Wuhan. In a control condition, participants watched a neutral video, unrelated to the crisis. Viewing one of the leadership or volunteer videos leads to higher levels of pro-sociality and increased ambiguity aversion relative to the control condition. The leadership video, however, induces lower levels of trust. We provide evidence from two post-experiment surveys that the video's impact on pro-sociality is modulated by influencing the viewer's affective emotional state.

6. Haruvy, E., Heinrich, T. and Walker, M. J. (2020) Eliciting individual risk preferences in first-price auctions. Link to working paper.
Under review: Games and Economic Behavior.

   Abstract: Typically, in first-price auctions, a deviation of one's bid above the risk neutral Nash equilibrium (RNNE) is attributed to risk aversion and the degree of risk aversion attributed to that individual bidder is monotonically increasing in that individual's deviation from RNNE. A problem with that approach is that the deviation from RNNE could be due to any number of reasons that are not related to risk-preference. We propose a more robust method of identifying the role of individual risk preferences in first-price auctions. The method involves bidding against a computerized opponent (i.e., a random number generator) in a sequence of first-price auctions. Within-subject, comparing auctions with different upper bounds on the computerized opponent's bid space allows us to cleanly isolate risk-aversion as a driver of behaviour. This is because a risk-averse bidder is expected to behave differently in the two settings, and a risk-neutral bidder is expected to behave the same in both settings. We observe significantly lower bids when the opponent's bid space is restricted, which is consistent with the predicted best response functions given risk aversion. To establish robustness, we compare our characterizations to the theoretical predictions for bids that arise out of a separate Holt-Laury risk-elicitation task. We also provide evidence that related experience obtained in the field is associated with a fall in bidding aggression independently of risk preferences, but that this does not necessarily result in bids closer to the RNNE.

Works in Progress

1. Trade Contingencies in Procurement Interactions (solo-authored).
Target: Management Science.
2. Late payments in Bertrand competition (with Kyle Hyndman).
Target: RAND Journal of Economics.
3. Moralizing the public good (with Simon Siegenthaler).
Target: Top 5 Economics journal.
4. Third-party punishment norms in large-scale communities (with Kenju Kamei).
Target: Journal of Economic Behavior & Organization.

Grants and Awards

ESRC National Productivity Investment Fund Doctoral Studentship Award 2017-2021 (No. ES/R500963/1).

Best Academic Performance in MSc. Experimental Economics Programme, Durham University, 2017.

Ustinov College Global Citizenship Scholarship Award, Durham University, 2016–2017.

Academic Presentations

2020 Doctoral Consortium on Behavioral Decision Making, IE University (virtual),
ESA Global Conference (virtual),
SABE Annual Conference (virtual),
Utah Experimental Economics Conference (virtual).

2019 Behavioral Operations Conference (Eindhoven University of Technology),
Invited talk at The University of Texas at Dallas (LBOE seminar series).

Workshop Participation

2020 Virtual Experimental Finance Workshop - Discussant,
Bargaining: Experiments, Empirics, and Theory.

2019 IFREE Graduate Student Workshop in Experimental Economics,
Annual Texas Experimental Association Symposium.

2018 ZEW Workshop on Market Design.

2017 Experimetrics: Econometrics for Experimental Data.

Teaching Experience

Durham University (Graduate Teaching Assistant)

Experimental Economics and Finance (Postgraduate MSc.): 2020 – 2021. Research-based seminars planned to groups of 20 Postgraduate students, including group assessments.

Behavioural and Experimental Economics (Undergraduate Year 2): 2020 – 2021. Virtual seminars planned to groups of 22 students.

Dissertation in Economics (Undergraduate Year 3): 2019 – 2020. Lectures to 40-50 students on panel data methods; and 1-2-1 applied econometrics sessions.

Economic Methods (Undergraduate Year 1): Autumn 2019. Seminar lead on mathematical methods for economic theory to groups of 15 to 20 students (linear algebra, differential calculus, integral calculus and matrix algebra with economic applications).

Research Assistant

Durham University, Dr. Kenju Kamei, December 2017 – March 2018, zTree development for economic experiments.

Professional Activities

Referee service: *Management Science, Economic and Social Research Council*.

University service: Doctoral Committee Chairman (Economics), Durham University, 2019–Present.

Professional Memberships

Economic Science Association (2020–Present).

Royal Economic Society (2020–Present).

European Economic Association (2020–Present).

Non-Academic Work Experience

Operations Analyst, Nomura International plc, London, September 2014 – June 2016.

Miscellaneous

Programming/software: R, Stata, SPSS, Python, HTML, oTree, zTree, Qualtrics, LaTeX, GitHub, Camtasia.

Research accreditations: Office for National Statistics Accredited Researcher 2019-2024.

Languages: English (Native), Spanish (Fluent), Portuguese (Intermediate).