Matthew J. Walker

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Education

Ph.D. Candidate in Economics, Durham University, expected Spring/Summer 2021.

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

Economic and Social Research Council Studentship.

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

Experimental & Behavioural Economics, Auctions and Procurement, Social Norms, Digitization.

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] [Video].

Abstract: It is difficult to write a perfect contract. Contracts are often incomplete and parties to a contract may understand their obligations differently. When these differences are important, disputes over non-performance arise. This paper studies a seller moral hazard problem in procurement auctions when contracts cannot be conditioned on outcomes. I develop a flexible price contract

structure that contains an arbitration clause and embed this structure into a procurement interaction, where the contract price bounds are determined via a price-based auction process. The theoretical results suggest that there exists a contingent contract, defined by the degree of price flexibility and the probability of arbitration, which can mitigate the seller moral hazard problem. This contract relies only on the regard of each party to their own interest. I test the predictions of the model in a laboratory experiment and find support for several comparative statics in the data. Under the shadow of arbitration, bidding is more aggressive and high quality is the more profitable seller strategy. However, the arbitrator also crowds out buyer reciprocity and so a contingent contract does not increase trade efficiency relative to a contract based on implicit incentives. The findings have 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. *Revise & Resubmit at 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. Shachat, J., Walker, M. J. & Wei, L. (2020). The Impact of an Epidemic: Experimental Evidence on Preference Stability from Wuhan. *Selected for publication in 2021 AEA Papers and Proceedings*. Link to ASSA session.

   Abstract: We harness the exogenous shock of the Covid-19 outbreak to provide controlled evidence on the evolution of deep economic parameters including trust, risk and time preferences. Our study repeatedly applies incentivized decision tasks via the WeChat social media platform to a randomly selected sample of 396 student subjects in Wuhan, China. The experiments were conducted from late January to early March of 2020. We compare behavioural measurements elicited during the period from January to March 2020 with those of a pre-epidemic baseline sample. Our results suggest that the initial outbreak undermined trust and tempered the willingness of subjects to seek out unknown situations. The outbreak also led to a fall in risk aversion and there is marginal evidence subjects exhibited more present-biased in the early stages. Over the rest of the period, notwithstanding several interesting transitory effects, we observe measurements return to baseline levels with the following exceptions: trust is elevated in March relative to January; risk aversion remains significantly below its baseline level; and subjects become more averse to lying.

4. Guo, Y., Shachat, J., Walker, M. J. & Wei, L. (2020). Viral social media videos can raise pro-social behaviours when an epidemic arises. *Revised & Resubmitted at Journal of the Economic Science Association*. Working paper.

   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.

5. Shachat, J., Walker, M. J. & Wei, L. (2020). How the onset of the Covid-19 pandemic impacted prosocial behaviour and individual preferences: Experimental evidence from China. Working paper. *Submitted to Journal of Economic Behavior and Organization*.

   Abstract: We present experimental evidence on how pro-sociality, trust and attitudes towards risk and ambiguity evolved over the six weeks following the imposition of stringent Covid-19 related lockdown measures in the Hubei province of China. We compare incentivized economic decision-making in a baseline sample, collected pre-epidemic, with a series of repeated cross-sectional samples drawn from the same population between January and March, 2020. We find high rates of altruism, cooperation and ambiguity aversion in the immediate aftermath of the lockdown, while trust is significantly below its baseline level. Risk attitudes also differ in the post-lockdown sample, with decreased risk tolerance in the loss domain and lesser risk aversion in the gain domain. We further uncover significant transitory effects for trust and risk aversion around the date of a high-profile whistleblower's death from Covid-19. Our findings suggest that lockdown policies may have unintended consequences for economic preferences that determine population compliance.

6. Hyndman, K. B. and Walker, M. J. (2020) Fairness and Risk in Ultimatum Bargaining. Available at: https://ssrn.com/abstract=3651557. *Reject & Resubmit at 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.

7. Haruvy, E., Heinrich, T. and Walker, M. J. (2020) Eliciting individual risk preferences in first-price auctions. Working paper. *Submitted to 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.

8. Walker, M. J. and Hyndman, K. B. (2020) A Theoretical and Experimental Investigation into the Welfare Consequences of Late Payments. Available at: https://ssrn.com/abstract=3752360.
   Target: Journal of the European Economic Association.

   Abstract: We analyse how late payments affect market entry and price competition. Buyers first send a signal to potential suppliers about their intended payment date. Suppliers then decide whether to incur a fixed and irreversible cost to enter into price competition. After the seller and winning bid is determined, the buyer chooses the *ex-post* payment date, which may or may not coincide with the *ex-ante* date promised. We show that in theory, if firms value payment made or received late below its nominal value, payment delays feed into higher consumer prices and reduced competition. This outcome depends on the distribution of discount factors in the population, which we interpret as a proxy for a firm's financial strength. Reneging on a promise to pay on-time entails a cost for the buyer. If this cost is not set carefully, a welfare loss arises. We find support for the main predictions of the model in an experiment. The probability that a buyer follows an on-time payment strategy responds to the size of the cost of reneging and free-riding behaviour emerges among weak buyers when the fine is not set high enough. We provide further experimental evidence that seller over-entry can distort payment behaviours in the market. Our findings have implications for the horizontal effects of payment practices and for the design of regulatory interventions to deter late payments.

Works in Progress

1. Trade Contingencies in Procurement Interactions (solo-authored) - Additional data collection.
   Target: Management Science.
2. Field Experience and Overbidding in First-Price Auctions (with Timo Heinrich) - Writing up.
   Invited submission to Handbook of Experimental Finance 2022.
3. Moralizing the public good (with Simon Siegenthaler) - Design.
4. Third-party punishment norms in large-scale communities (with Kenju Kamei) - Design.

Grants and Awards

Economic and Social Research Council Overseas Institutional Visit funding for 3 month visit to The University of Texas at Dallas Naveen Jindal School of Management, 2019.

IFREE Graduate Student Workshop in Experimental Economics 2019.

Economic and Social Research Council 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

2021 ASSA Annual Meeting (Panelist).

2020 University of Cologne Supply Chain Management Seminar; Doctoral Consortium on Behavioral Decision Making, IE University; Economic Science Association Global Conference; SABE Annual Conference; Utah Experimental Economics Conference; Virtual Experimental Finance Workshop (Discussant).

2019 Behavioral Operations Conference, Eindhoven University of Technology; Invited talk at The University of Texas at Dallas School of Management.

Teaching Experience

Durham University (Graduate Teaching Assistant)

Enrolled on the Gateway to Academic Practice: 2020 – 2021 (HEA Fellowship: AFHEA)

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

Behavioural and Experimental Economics (Undergraduate Year 2): 2020 – 2021. Virtual seminars to groups of 20 students, including group assessments.

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, Dec 2017 – Mar 2018, zTree development, economic experiments.

Professional Activities

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

University service: Doctoral Committee Chair (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).