MIT Economics

ADAM HARRIS

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CURRENT POSITION
Postdoctoral Fellow at National Bureau of Economic Research (NBER) 2023 -
Supported by the US Department of Transportation

DOCTORAL STUDIES
Massachusetts Institute of Technology (MIT)
PhD, Economics, June 2023
DISSERTATION: "Essays on Industrial Organization"

DISSERTATION COMMITTEE AND REFERENCES

Professor Tobias Salz
MIT Department of Economics
77 Massachusetts Avenue, E52-460
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Professor Nancy Rose
MIT Department of Economics
77 Massachusetts Avenue, E52-420
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Professor Nikhil Agarwal
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PRIOR EDUCATION
Yale University 2017
B.S. Economics & Applied Mathematics, magna cum laude,
Phi Beta Kappa

CITIZENSHIP United States

GENDER Male

LANGUAGES English (native), Spanish (intermediate)

FIELDS Primary Fields: Industrial Organization, Transportation Economics

TEACHING EXPERIENCE
Industrial Organization (graduate, MIT courses 14.271, 14.272; undergraduate, MIT course 14.20). 2020 - 2021
Teaching Assistant to G. Ellison, S. Ellison, N. Rose, and M. Whinston.

RELEVANT POSITIONS

Research Assistant for Professor Tobias Salz (MIT)	2019
Research Assistant for Professor Dave Donaldson (MIT)	2018
Research Assistant for Professor Michael Peters (Yale)	2016 - 2017

FELLOWSHIPS, HONORS, AND AWARDS

NBER Postdoctoral Fellowship	2023 -
National Science Foundation Graduate Research Fellowship	2018 - 2023
George & Obie Shultz Fund Grant	2020

PROFESSIONAL ACTIVITIES

Refereeing: *American Economic Journal: Applied Economics*

Presentations:
International Industrial Organization Conference: Rising Stars Session (April 2021)
MIT Center for Transportation and Logistics Research Seminar (March 2021)

RESEARCH PAPERS

Long-term Relationships and the Spot Market: Evidence from US Trucking (with Thi Mai Anh Nguyen)

Long-term informal relationships play an important role in the economy, capitalizing on match-specific efficiency gains and mitigating incentive problems. However, the prevalence of long-term relationships can also lead to thinner, less efficient spot markets. We develop an empirical framework to quantify the market-level tradeoff between long-term relationships and the spot market. We apply this framework to an economically important setting—the US truckload freight industry—exploiting detailed transaction-level data for estimation. At the relationship level, we find that long-term relationships have large intrinsic benefits over spot transactions. At the market level, we find a strong link between the thickness and the efficiency of the spot market. Overall, the current institution performs fairly well against our first-best benchmarks, achieving 44% of the relationship-level first-best surplus and even more of the market-level first-best surplus. The findings motivate two counterfactuals: (i) a centralized spot market for optimal spot market efficiency and (ii) index pricing for optimal gains from individual long-term relationships. The former results in substantial welfare loss, and the latter leads to welfare gains during periods of high demand.

Long-term Relationships in the US Truckload Freight Industry
(with Thi Mai Anh Nguyen) [R&R *AEJ: Microeconomics*]

This paper provides evidence on relational contracting in the US truckload freight industry. In this industry, shippers (the demand side) and carriers (the supply side) engage in repeated interactions under contracts that fix prices but leave scope for inefficient opportunism. Guided by a parsimonious model of repeated interactions, we describe empirically the strategies of shippers and the responses of carriers, shedding light on the incentive contracts that sustain cooperation in this setting. We find evidence that shippers employ punishment strategies, using the threat of relationship termination to deter carries from short-term opportunism. The strategies involve soft punishments and exploit multi-market contact. Carriers respond positively to the dynamic incentives generated by shippers' punishment strategies.

RESEARCH IN PROGRESS

Human Decision-Making with Machine Prediction: Evidence from Predictive Maintenance in Trucking (with Maggie Yellen) [**Job market paper**]
(Draft expected September 2023)

Throughout the economy, artificial intelligence is increasingly being used to generate predictions that inform human decision-making. Where humans alone may fail to make accurate predictions—due, perhaps, to an inability to process large amounts of data—the introduction of such algorithms might correct human beliefs and improve decision-making. Despite the increasing ubiquity of these "human-plus-AI" arrangements in industry, there is little empirical evidence on how humans use machine-generated predictions in their decision-making. In this paper, we use a new, rich data set from the trucking industry to provide some of the first evidence on how algorithms shape human decision-making. In particular, we explore how the introduction of an algorithm designed to predict truck breakdowns changed technicians' repair decisions. Applying a parsimonious model of technician decision-making to our high-dimensional microdata, we recover agents' payoffs and beliefs about the probability of breakdown both with and without the algorithm. We find that, after the introduction of the algorithm, technicians' predictions of breakdown risk are improved along multiple dimensions: they are not only better able to order states in terms of riskiness, but also able to more accurately predict the level of risk. Computing expected payoffs both with and without the algorithm, we find that the introduction of the algorithm reduced the gap between actual and optimal maintenance costs by 72%. Surprisingly, this improvement is not driven by technicians being better able to identify high-risk states (which would reduce false negatives), but rather by technicians being better able to identify low-risk states (thereby reducing false positives).