Research Statement
Hisayuki YOSHIMOTO

This document summarizes the areas and focus of my research activities. I primarily describe on-going studies for which relevant core datasets have already been obtained. My field of research is **empirical industrial organization (including finance applications)** with microeconomic theory foundations, as well as econometric analyses, including structural estimations. My three areas of expertise are:

(1) **Auction Markets** (including Financial Auctions)
(2) **Asymmetric Information Markets** (including Food Hygiene and Reputation and Online Reviews)
(3) **Productivity Studies** (Highway-Productivity Linkage, primarily working with Ph.D. students)

(1) *Auction Markets*

Auctions, including financial auctions, are one of my primary research agendas. One of my studies, *"Search and Resale Frictions in a Two-Sided Online Platform: A Case of Multi-Use Assets"*, investigates a large online auction platform market, shedding light on its welfare structure and potential welfare improvements for multi-use asset markets. Another of my structural auction-market studies, *"How Accurately Do Structural Asymmetric First-Price Auction Estimates Represent True Valuations?"*, verifies micro-theory-based econometrics analyses with auction data, providing solid support for empirical auction market designs.

Regarding financial auction markets, I investigate the Chinese Government Treasury auction markets and their auction-rule designs, which involves about 300 billion US dollars (about 2.12 trillion Chinese yuan, 230 billion British pounds). One of these financial auction market studies, "*Auction Mechanisms and Treasury Revenue: Evidence from the Chinese Experiment*", investigates a large-scale alternating-auction-rule experiment, in which the Chinese Government switched back and forward between discriminatory- and uniform-pricing rules over a three-year period. We empirically find that the two most commonly used auction rules (i.e., discriminatory and uniform pricing) were not statistically different in revenue. This finding provides an answer to the quarter-century-long debate regarding Treasury auction market design, at least (but not limited to) the context of Chinese government security issuance. However, despite lack of revenue difference, the two auction rules have different influences on financial market stability, which is the topic of another financial auction market paper.

In "*Bond Losses and Systemic Risk*", we further study post-Treasury-auction financial market instability in China. As Treasury auctions are essentially a large liquidity (i.e., cash) transfer from the private banking sector to the government, it is natural to expect a liquidity shortage in the private sector in post-auction periods. We find that a substantial portion of the newly issued (and just auctioned) bonds are actually sold with negative profit margins on their secondary-market debut days. These negative margin trades are also associated with a plunge of representative financial sector indices, and spikes of money market borrowing cost indicators (i.e., Shibor and interbank market Repo rates in China). Interesting to market design, by exploiting data from the alternating-auction-rule period, we find that the uniform pricing rule curbs negative margin trades, which sheds light on Treasuries' auction rule choice from a market stability viewpoint. Indeed, this empirical finding agrees with the global trend of switching from discriminatory to uniform pricing auctions (e.g., the U.S., Mexico, Korea, Poland, etc.).

Other ongoing financial auction market projects are (1-a) an analysis of bidders' market power in local municipal bond auction markets with uniform pricing, and (1-b) a structural analysis of IPO [Initial Public

Offering] auction markets. For both (1-a) and (1-b), by exploiting unique institutional settings, I am also currently investigating the informational structure of these auction markets. These investigations include information designs, which can assist in achieving the local governments' and the security issuers' goals.

(2) *Asymmetric Information Markets*

My second research portfolio focuses on asymmetric information. Specifically, as a co-investigator, I was privileged to work on an Economic and Social Research Council (ESRC) project, which investigates information economics. Specifically, we study food-hygiene and online/guidebook restaurants reviews, where informational market design is possible. The goal of these publicly funded studies is to provide economic insights regarding information structures and potential regulations, in order to protect consumers.

Regarding food-hygiene information, the paper "*Are there Ratatouille Restaurants? On Anticorrelation of Food Quality and Hygiene*", combines professionally rated restaurant guidebook scores with corresponding hygiene inspection scores. We find that there is a negative conditional correlation between food-ratings and hygiene scores. In other words, better food scores are associated with worse hygiene conditions, indicating that restaurant chefs face a trade-off between food quality and kitchen cleanliness. This is highly relevant for food hygiene regulation policies, such as mandatory hygiene score disclosure acts. In addition, the ongoing study "*Information Disclosure and Food Hygiene: Evidence from England and Wales*" exploits a historical change in the UK's hygiene policies: Wales introduced mandatory hygiene disclosure (the so-called score-on-the-door policy), while England retained voluntary disclosure. This particular policy environment allows us to use a difference-in-difference(-in-difference) research design, which suggests statistically significant hygiene condition improvements in Wales after the policy introduction. In addition, as we observe detailed hygiene scores, we are supporting our empirical findings with a model of multitasking effort for inspection design (e.g., improving hygiene through human resources vs. kitchen equipment).

About our online and guidebook restaurant reviews studies, we use online food review data from a platform where anyone can write reviews. In addition, we collect food-rating scores for the same restaurants using a number of well-known restaurant guidebooks, which are professionally evaluated. We are currently matching these online reviews and professional guidebook food evaluations, in order to study the underlying dynamic incentives behind the evolution of online review scores, which is of public interest.

(3) *Productivity Studies*

Lastly, I have been privileged to supervise a number of talented Ph.D. students, who engage in firm-level productivity studies with micro-firm-level datasets. We use GIS data of Chinese highway infrastructure expansions and link it to firm-level productivity data, taking advantage of the large sample size. China is particularly well-suited for empirical highway-(transportation-infrastructure)-productivity linkage studies, as well as inventory study, as China has rapidly constructed a turnpike system over the last three decades. In addition, the unique historical context in China enables us to construct interesting sets of instrumental variables with intuitive economic interpretations, which further supports our panel econometric analyses.

This concludes my current research portfolio, and I am delighted to pursue further research, including collaborations, in these areas.