

QIFAN HAN

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EDUCATION

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| Boston University <i>Ph.D. in Economics</i> | 2019 - Present |
| London School of Economics <i>M.Sc. Econometrics and Mathematical Economics</i> | 2018 - 2019 |
| Columbia University <i>M.A. in Quantitative Methods in the Social Sciences</i> | 2016 - 2018 |
| Fudan University <i>B.A. in International Politics</i> | 2012 - 2016 |

RESEARCH INTERESTS

Topics: Digital Marketing, Digital Platform, Content Regulation, Applied Econometrics
Methods: Causal Inference, Partial Identification, Structural Modeling, Analytical Modeling

JOB MARKET PAPER

“The Impact of Banning Online Gambling Livestreams: Evidence from Twitch.tv”
with Jasmine Yang and Andrey Simonov

WORKING PAPERS

“Collaboration Among Content Creators”
with Jasmine Yang and Kinshuk Jerath
“Impulse Response Inferences With Existence of Repeated Roots”

WORKING IN PROGRESS

“Partial Identification Under Multiple Nest Structures”
“Optimal Achievement System Design on Video Game Platforms”

RESEARCH ABSTRACTS

“The Impact of Banning Online Gambling Livestreams: Evidence from Twitch.tv”
with Jasmine Yang and Andrey Simonov
Job market paper

Abstract: The necessity of content regulation on digital platforms, particularly concerning misinformation and harmful content, has sparked a growing debate. While many platforms have increasingly relied on self-regulation to address these issues, the effectiveness of such measures remains uncertain, as platforms may prioritize profits over consumer protection, potentially leading to misaligned incentives with regulators. We investigate the effectiveness and market outcomes of content self-regulation by studying Twitch’s ban on on-line gambling livestreams in October 2022, using a novel high-frequency panel dataset covering the top 6,000 Twitch streamers. To identify banned content and streamers affected by the policy, we leverage video analysis on historical video clips, high-frequency stream titles, and in-stream chat analysis. To tackle key identification challenges, we use three causal estimators: two-way fixed effects DiD, Synthetic DiD, and the doubly-robust estimator of group-time average treatment effects, and propose a network analysis to construct valid treated and control groups. On the supply side, we find that the policy caused a reduction in weekly gambling streams

by 63.2% for streamers whose content was banned and 12.2% for streamers whose content was not banned. However, the policy also decreased non-gambling streams as an unintended cost for the platform, resulting in an overall reduction in content production and diversity. Additionally, the more popular streamers experienced a higher content reduction, driven by two underlying mechanisms: lower reliance on gambling content and concerns for reputation. On the demand side, we find that the policy only reduced total viewership and low-tier subscriptions, with revenue from loyal viewers unaffected. We discuss the implications of Twitch's policy ban and the broader practices of content self-regulation on platforms in general.

“Collaboration Among Content Creators”

with Jasmine Yang and Kinshuk Jerath

Working paper; available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4538856

Abstract: We study content collaboration in the creator economy, in which competing creators mutually agree to collaborate on joint content and negotiate on content production and revenue sharing. Using a game theory model with creators competing for consumers on a Hotelling line, we show that collaboration allows creators to use the jointly-produced content to moderate competition, while using their individual content to expand into new audiences. This increases content diversity but also leads to increased monetizability of content. In general, collaboration among creators has an effect of increasing the profits of creators while reducing consumer surplus. When creators create content with heterogeneous entertainment values, the creator producing content of lower entertainment value has an incentive to free ride on the collaborative content. This free riding may increase surplus for consumers (who without collaboration would watch content of low entertainment value), thereby improving creators' profits as well as consumer surplus. Our results provide guidance to content creators, to platforms designing tools to facilitate collaborations, and to policy makers.

“Impulse Response Inferences With Existence of Repeated Roots”

Working paper

Abstract: Vector Autoregression (VAR) and Local Projection (LP) are two popular methods of estimating the impulse response functions (IRFs) and conducting inferences in macroeconomic studies. However, it remains unclear which one should be a better choice in empirical practices. This paper extends existing works on the comparison between Vector Autoregression and Local Projection methods, by considering inferences when the data generating processes involve repeated roots. I show that the autoregressive estimation of impulse response functions will converge to a special type of real-valued random variable, resulting in conservativeness of the widely-used bootstrap Efron confidence interval, even when the roots are away from the unit circle. This property of conservativeness becomes even more severe in the following cases: 1) when the time series is highly persistent; and 2) when the researcher is interested in impulse response functions at intermediate or long horizons. The theoretical results are supported by Monte Carlo simulations with different values of roots in a variety of model specifications, including AR(2), AR(3) and VAR(1).

“Partial Identification Under Multiple Nest Structures”

Working in progress; draft in preparation

Abstract: Nested logit model is one of the most widely applied tools in discrete choice analysis, due to its ability to capture rich substitution patterns in market data. However, the researcher needs to define a nest structure ex ante, as the chosen nest is usually based on prior knowledge of the market and will be applied to all individuals. This paper discusses the identification of individual preferences, while relaxing this unique nest structure assumption and allowing for heterogeneity in individuals' recognition of the nest structures in the same market. I characterize the sharp identification region of parameters in the nested logit model, based on the coexistence of a given set of nest structures. I show in a series of Monte Carlo simulations that misspecification of the nest structure may result in the identification region not covering the true parameter, whereas the identification region solves the misspecification problem and partially identifies the parameters by allowing for multiple nest structures.

RESEARCH EXPERIENCE

Research Assistant for Hiroaki Kaido, Boston University

2022, 2023

RESEARCH PRESENTATIONS (* denotes presented by coauthor)

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| Interactive Marketing Research Conference | May 2024 |
| Boston University Econometrics Seminar | May 2024 |
| Boston University Applied Microeconomics Workshop | March 2024 |
| China India Insights Conference | September 2023 |
| Marketing and the Creator Economy Conference* | November 2023 |
| 45th ISMS Marketing Science Conference* | June 2023 |
| Trans-Atlantic Doctoral Conference* | May 2023 |
| Boston University Econometrics Seminar | October 2021, April 2023 |

TEACHING EXPERIENCE

Discussion Instructor

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| Statistics for Economics (Graduate) | 2023, 2024 |
| Empirical Economic Analysis II (Undergraduate) | 2022 |
| Introductory Macroeconomics (Undergraduate) | 2020, 2021 |

Teaching Assistant

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| Environmental Economics (Undergraduate) | 2022 |
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SKILLS

Programming: MATLAB, R, Python, Stata, SQL
Languages: English (fluent), Chinese (native), Japanese (intermediate)
Hobbies: tennis, video games

REFERENCES

Hiroaki Kaido (hkaido@bu.edu)
(main advisor)
Associate Professor (with tenure), Department of Economics, Boston University

Marc Rysman (mrysman@bu.edu)
(committee member)
Professor, Department of Economics, Boston University

Andrey Simonov (as5443@gsb.columbia.edu)
(committee member, coauthor of job market paper)
Gary Winnick and Martin Granoff Associate Professor of Business, Columbia University & CEPR