

TESARY LIN

The University of Chicago
Booth School of Business
5807 South Woodlawn Avenue, Office 372
Chicago, IL 60637

Phone: (312) 860-7753
Email: tesarylin@chicagobooth.edu
Homepage: <https://tesarylin.github.io>

Education

Ph.D. Quantitative Marketing, University of Chicago, expected June 2020
M.S. Economics, Tsinghua University, July 2014
B.S. Economics (with honors), Nankai University, June 2012

Research Interests

Digital Marketing, Privacy, Information and Attention, Causal Machine Learning

Research Projects

Job Market Paper

“Valuing Intrinsic and Instrumental Preferences for Privacy”

Winner, 2018 MSI Alden G. Clayton Doctoral Dissertation Proposal Competition

Working Paper

“The Identity Fragmentation Bias” (with Sanjog Misra)

Work in Progress

“Privacy Preferences in Microloan Applications” (with Ivy Dang, Mandy Hu, Pradeep Chintagunta)

“Complementarity in Privacy Choices” (with Sanjog Misra)

Conferences

Presentations

MSI Trustees Meeting Marketing Science Fair (poster), April 2019

ISMS Marketing Science Conference, June 2018

Trans-Atlantic Doctoral Conference, May 2017

Beijing Economic Theory Workshop, May 2014

Participation

NBER Economics of Digitization Conference, March 2019, March 2018

Quantitative Marketing and Economics Conference, October 2018, October 2016

Frontiers of Computational Social Science Conference, October 2016

Machine Learning and Economics Conference, September 2016
Marketing Analytics and Big Data Conference, September 2016
ISMS Marketing Science Conference, June 2015

Research Internship

Microsoft Research Chief Economist Office, Project ALICE (Automated Learning and Intelligence for Causation and Economics), June-August 2017

Teaching Assistantships

Digital and Algorithmic Marketing (MBA elective) by Sanjog Misra, 2019
Pricing Strategies (MBA elective) by Jean-Pierre Dubé, 2016 & 2017
Data-Driven Marketing (Executive MBA elective) by Günter J. Hitsch, 2016
Theory of Information, Contract and Organization (graduate elective) by Ruqu Wang, 2014
Enterprise Organization and Analysis (MBA elective) by Alex White, 2014
Game Theory (undergraduate elective) by Hong Ma, 2013

Other Academic Activities

Research Assistantship

Research Assistant to Alexander White & Glen Weyl, Project “Insulated Platform Competition,” March-December 2013

Workshop Organizing

Chicago Booth quantitative marketing brown bag seminar, September 2016-June 2017

Honors and Awards

MSI Alden G. Clayton Doctoral Dissertation Proposal Competition Award, 2018
AMA-Sheth Foundation Doctoral Consortium Fellow, 2018
J. Michael Harrison Doctoral Prize, 2018
Juan Manuel de la Torre Memorial Ph.D. Fellowship, 2018-2019
Katherine Dusak Miller Ph.D. Fellowship, 2017-2018
Chiang Chen Scholarship, Tsinghua University, 2013
National Scholarship of China, 2009
First Prize, Tianjin Mathematics Competition for University Students (Economics and Management Division), 2009

Programming Language

Python, R, JavaScript, Stan, Matlab

References

Pradeep K. Chintagunta (co-chair)

Joseph T. and Bernice S. Lewis Distinguished
Service Professor of Marketing
Chicago Booth School of Business
pradeep.chintagunta@chicagobooth.edu
(773) 702-8015

Bradley Shapiro

Associate Professor of Marketing
Chicago Booth School of Business
bradley.shapiro@chicagobooth.edu
(773) 702-9316

Sanjog Misra (co-chair)

Charles H. Kellstadt Professor of Marketing
Neubauer Family Faculty Fellow
Chicago Booth School of Business
sanjog.misra@chicagobooth.edu
(773) 834-0655

Oleg Urminsky

Professor of Marketing
Chicago Booth School of Business
oleg.urminsky@chicagobooth.edu
(773) 834-4710

Selected Ph.D. Coursework

Marketing

Foundations of Advanced Quantitative Marketing
Advanced Quantitative Marketing
Advanced Marketing Theory: Behavioral Science
Marketing Literature Seminar

Pradeep Chintagunta
Jean-Pierre Dubé, Günter J. Hitsch
Oleg Urminsky
Sanjog Misra, Øystein Daljord; Abigail Sussman;
Pradeep Chintagunta, Bradley Shapiro

Economics

Price Theory (1-3)
Advanced Industrial Organization (1-2)
Economics of Information
Economics of Communication
Experimental Economics

Kevin Murphy; Philip Reny; Balázs Szentes
Chad Syverson; Ali Hortaçsu
Milton Harris
Matthew Gentzkow
Michael Price

Econometrics and Statistics

Empirical Analysis (1-3)
Topics in Econometrics
Bayesian Inference
Applied Bayesian Econometrics (audit)

Azeem Shaikh; Lars Hansen; Stéphane Bonhomme
Stéphane Bonhomme
Robert Gramacy
Sanjog Misra

Machine Learning and Computation

Computational Content Analysis
Machine Learning for Public Policy
Applications of Machine Learning to the Empirical
Sciences (audit)
Computational Methods for Marketing and Eco-
nomics (audit)

James Evans
Rayid Ghani
Sendhil Mullainathan
Sanjog Misra

Selected Research Abstracts

Valuing Intrinsic and Instrumental Preferences for Privacy (Job Market Paper)

In this paper, I propose a framework for understanding why and to what extent people value their privacy. In particular, I distinguish between two motives for protecting privacy: the intrinsic motive, that is, a “taste” for privacy; and the instrumental motive, which reflects the expected economic loss from revealing one’s “type” specific to the transactional environment. Distinguishing between the two preference components not only improves the measurement of privacy preferences across contexts, but also plays a crucial role in developing inferences based on data voluntarily shared by consumers. Combining a two-stage experiment and a structural model, I measure the dollar value of revealed preference corresponding to each motive, and examine how these two motives codetermine the composition of consumers choosing to protect their personal data. The compositional differences between consumers who withhold and who share their data strongly influence the quality of firms’ inference on consumers and their subsequent managerial decisions. Counterfactual analysis investigates strategies firms can adopt to improve their inference: Ex ante, firms can allocate resources to collect personal data where their marginal value is the highest. Ex post, a consumer’s data-sharing decision per se contains information that reflects how consumers self-select into data sharing, and improves aggregate-level managerial decisions. Firms can leverage this information instead of imposing arbitrary assumptions on consumers not in their dataset.

The Identity Fragmentation Bias (with Sanjog Misra)

Consumers interact with firms across multiple devices, browsers, and machines; these interactions are often recorded with different identifiers for the same individual. The failure to correctly match different identities leads to a fragmented view of exposures and behaviors. This paper studies the *identity fragmentation bias*, referring to the estimation bias resulted from using fragmented data. Using a formal framework, we decompose the contributing factors of the estimation bias caused by data fragmentation and discuss the direction of bias. Contrary to conventional wisdom, this bias cannot be signed or bounded under standard assumptions. Instead, upward biases and sign reversals can occur even in experimental settings. We then propose and compare several corrective measures, and demonstrate their performances using an empirical application.

Privacy Preferences in Microloan Applications (with Ivy Dang, Mandy Hu, Pradeep Chintagunta)

Consumers’ valuation for privacy plays a crucial role in determining how much data a firm can collect to drive its managerial decisions. Meanwhile, previous literature that measures consumers’ dollar value for privacy often features small incentives to encourage data sharing. In this paper, we estimate consumers’ valuation for privacy by examining their data sharing decisions under a wide range of incentives, for customers of a microloan provider in Hong Kong. During the application process, the loan provider uses interest rate discounts to incentivize applicants to provide additional personal data. This percentage discount translates to dollar gains from 4,643 to 9,285 Hong Kong dollars (amount to 30% to 50% of their monthly salaries) for applicants who request different loan terms and expect different repayment behaviors. Using a structural model, we calculate the dollar price for personal data as a function of applicant risk type and the characteristics of the loan that they apply for. Despite the substantial benefits

of sharing data, only 19 percent of applicants choose to share any optional personal data requested. In the counterfactual, we show how the incentive scheme can balance its role in collecting personal data to improve loan offering decisions and its role in screening applicants who accept the loan.

Complementarity in Privacy Choices (with Sanjog Misra)

Under the new privacy regulatory regime, consumers will own the rights to decide whether to share their personal data. Their data sharing decisions can be substitutes or complements with each other due to informational or psychological reasons; as such, privacy decisions are choices among high-dimensional bundles. Estimating the complementarity pattern in privacy choices is crucial for understanding the nature of privacy preferences and for designing compensation schemes for data collection. We propose and implement novel machine learning methods to model privacy choices over bundles using data from a large-scale field experiment. Preliminary results show that instrumental incentives induce complementarity in privacy choices for consumers who will suffer economic losses by sharing their personal data; on the contrary, they induce choice substitution for consumers who will benefit economically from data sharing. This pattern reflects consumers' belief that the marginal information value of personal data decreases with the number of data shared, while contrasting an alternative hypothesis that consumers hold a "privacy budget" and substitute their data sharing decisions under all circumstances.