Ying-Kai Huang

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EDUCATION

University of Pittsburgh — Pittsburgh, PA
Doctor of Philosophy — Expected May 2021
Economics

University of Pittsburgh — Pittsburgh, PA
Master of Arts — May 2018
Economics

National Taiwan University — Taipei, Taiwan
Master of Arts — Jan 2014- June 2015
Economics
Credits: 46

National Taiwan University — Taipei, Taiwan
Bachelor of Science — June 2012
Mechanical Engineering

RESEARCH INTERESTS

Primary Fields: Financial Forecasting, Applied Econometrics
Secondary Fields: Behavioral Economics, Applied Microeconomics, Experimental Economics

WORKING PAPERS

"From Econometrics to Machine Learning: Application of Recurrent Neural Networks on Yield Curve Forecasting" (Job Market Paper)

"Attribution Bias on Online Reputation Systems"

"When Hope Hurts: How Reference-dependent Preference Influences Yelp User's Rating?" with David Min-Heng Wang and Shuyan Zhan

WORK IN PROGRESS

"An Elicitation Horse Race (Where the Blinkered Horse Wins by a Nose)"
with M. Avery, D. Danz, L. Vesterlund, A. Wilson, P. Akbar, C. Brown, D. Ilin, Y. Podvysotskiy, T. Wang

RELEVANT POSITIONS HELD

Research Intern, *Data Analytics and Research at PNC Bank* Summer 2020

- Constructed a two-step hidden Markov model through regression tree analysis for home-equity customers to identify potential consumers and evaluate the lifetime values of existing customers

Terri Waters Memorial Seminar Organizer, *University of Pittsburgh* Spring 2018

TEACHING EXPERIENCE

Instructor, Undergraduate:

Introduction to Macroeconomic Theory, *University of Pittsburgh* Summer 2019

Overall teaching effectiveness score: 4.39/5

Teaching Assistant, Undergraduate:

Introduction to Macroeconomic Theory, *University of Pittsburgh* Fall 2017 - Summer 2018, Spring 2020

Overall teaching effectiveness score: 4.14/5

Introduction to Microeconomic Theory, *University of Pittsburgh* Fall 2018 - Spring 2019, Fall 2019

Overall teaching effectiveness score: 4.34/5

Teaching Assistant, Graduate:

PhD Macroeconomic Theory, *University of Pittsburgh* Fall 2016 - Spring 2017

Overall teaching effectiveness score: 4.48/5

WORKING PAPER ABSTRACTS

"From Econometrics to Machine Learning: Application of Recurrent Neural Networks on Yield Curve Forecasting"(Job Market Paper)

Financial derivatives and interest rates correlate strongly with United States government bonds. Among many characteristics of government bonds, the term structure or the so-called yield curve is one of the main targets that investors always attempt to forecast. In this paper, I construct a model with autoencoder structures and recurrent neural networks (RNN) and focus on the point forecasting of the yield curve to explore the possibility of having a better forecast for the term structure. In addition, the similarities between RNN and the state-space models allow me to show that the newly proposed neural-network method is closely linked with previous financial econometric forecasting literature and can be considered as a generalization of the dynamic Nelson-Siegel method (Diebold and Li, 2006). While allowing similar interpretation as previous econometric methods, the neural network model in this paper shows better forecasting accuracy.

"Attribution Bias on Online Reputation Systems"

Consumers benefit from reading ratings online before making their purchases, yet this information aggregation process may have some potential problems that were not previously credited in the literature. Through an empirical approach, I show how people could review businesses inconsistently when their expectations are formed by ratings on crowd-sourced review websites. Using data from Yelp, I tested how potential disappointments may affect

customers' reviews by applying a regression discontinuity design to control for unobserved factors that may also simultaneously influence ratings. In addition, I developed a model illustrating rating behaviors with reference-dependent utilities to establish testable hypotheses and showed that comparisons between their true experience and expectation, when consumers write their reviews, could impede their assessment of businesses' qualities and cause attribution bias. After carefully excluding confounding factors, my results support the hypothesis that consumers have attribution bias when they write reviews. Several robustness checks support these findings and shed further light onto this example of attribution bias. This paper links to an emerging literature of attribution bias in economics and provides empirical evidence and implications of attribution bias on online reputation systems.

"When Hope Hurts: How Special Occasions Lead to Attribution Bias" (Joint with David Min-Heng Wang and Shuyan Zhan)

This paper incorporates computational linguistics and the theories of reference-dependent preferences to test whether consuming in a restaurant on special occasions or special days, such as one's birthday, anniversary, commencement, etc, would increase one's "expectation" and would result in low ratings for consumption experiences. In our study, we analyzed text reviews and conducted a sentiment analysis to capture users' emotions. After controlling for many characteristics of users, we found evidence that an individual's review is not only dependent on what they consume but also how high they set their expectations.

RESEARCH IN PROGRESS

"An Elicitation Horse Race (Where the Blinkered Horse Wins by a Nose)"
(Joint with M. Avery, D. Danz, L. Vesterlund, A. Wilson, P. Akbar, C. Brown, D. Ilin, Y. Podvysotskiy, T. Wang)

Scoring rules are used to elicit the probabilistic beliefs of subjects in experiments. When it comes to incentivizing participants with arbitrary risk preferences, two most-common mechanisms are the binarized BDM (outlined in Karni, 2009) and the binarized QSR (outlined in Houssain and Okui, 2013). In this paper, we study which mechanism elicits more accurate belief under a fixed experimental budget. With a between-subject comparison, our results indicate that while both mechanisms lead subjects to provide accurate beliefs when considering coarse aggregates such as the median, they also generate substantial noise in the response. Using a simulated regression with beliefs as an explanatory variable, we show that while both cause an attenuation bias, the responses in the binarized QSR are less noisy and make QSR a preferred mechanism.

SEMINAR AND CONFERENCE PRESENTATIONS

Intern Research Seminar, *PNC Bank* July 2020
Applied Young Economist Seminar, *Monash University and Warwick University* July 2020
Econometrics Seminar, *University of Pittsburgh* December 2019
Behavioral/Experimental Brownbag, *University of Pittsburgh* March 2018
Labor/Development Brownbag, *University of Pittsburgh* October 2017

HONORS, GRANTS AND FELLOWSHIPS

Arts and Sciences Graduate Summer Fellowship, *University of Pittsburgh* Summer 2017
Arts and Sciences Graduate Fellowship, *University of Pittsburgh* 2015

SKILLS

Programming:
- Python, STATA
- R, MATLAB
- LaTeX

Functional:
- Machine Learning
- Neural Network
- Time Series

Languages:
- English(Fluent)
- Mandarin(Native)

PERSONAL INFORMATION

Date of Birth: June, 1990 **Sex:** M **Citizenship:** Taiwan (F-1 Visa)

REFERENCES

Prof. Douglas Hanley
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PLACEMENT OFFICERS

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