

CURRICULUM VITAE  
MAY 2021

**Hyungil “Henry” Kye**

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EDUCATION

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- **Ph.D. in Economics** | Rutgers University, New Brunswick, NJ, USA Expected 2021
  - Dissertation: Essays on U.S. Stock Market Microstructure and Big Data Analytics
  - Committee: Bruce Mizrach (chair), Roger Klein, Norman R. Swanson
- **Master of Economics** | Soongsil University, Seoul, South Korea 2015
- **Bachelor of Economics** | Soongsil University, Seoul, South Korea 2013

FIELDS OF INTEREST

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- **Primary:** Market Microstructure, Financial Economics
- **Secondary:** Applied Econometrics, Applied Machine Learning

RESEARCH PAPERS

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- [1] “*The Off-Exchange Routing Decision*” (with Bruce Mizrach)  
**submitted** [[SSRN](#)]
- [2] “*Machine Learning from the Covid-19 Pandemic about the Value of the NYSE Floor in Market Closing Time*” (with Bruce Mizrach)  
**submitted** [[SSRN](#)]
- [3] “*Machine Learning from Randomized Experiments: The Case of the Tick Size Pilot Program*”  
**job market paper** [[PDF](#)]  
*Abstract:* In this paper, I investigate the Tick Size Pilot Program with the goal of policy evaluation beyond average treatment effect. Using a machine learning approach, I study policy effects stock-by-stock on three major market quality measures, percentage quoted spread, consolidated displayed depth, and high-low volatility. For each pilot stock, I test whether it receives significant treatment effects. I find less than half of the pilot stocks in the treatment groups show positive significance for percentage quoted spread; more than 80% shows positive significance for consolidated displayed depth; only less than 5% shows significance for high-low volatility in either direction; the control group stocks rarely show significance for all the outcomes, revealing no spillover effect at the individual level. Tick constrainedness turns out to be useful in explaining differing significance only for percentage quoted spread, but not for consolidated displayed depth. Percentage realized spread, though, appears to explain for the both outcomes: the lower percentage realized spread, the more likely is the null hypothesis rejected, indicating less-profitable stocks for liquidity providers in the pre-intervention periods tend to receive significant effects in the post-intervention periods.
- [4] “*Nonlinear Effects of Off-Exchange Trading Activities on Market Quality*”  
**work in progress**

SOFTWARE DEVELOPMENT

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- **semiBRM:** An R package, built upon **Rcpp** along with OpenMP, that offers an implementation of semiparametric binary response models theorized in [Klein and Spady \(1993\)](#) [[GitHub](#)]

TEACHING EXPERIENCE

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- *Instructor*
  - Econ 320: Intermediate Microeconomics Summer 2019, Summer 2020

- *Teaching Assistant*
  - Econ 715: Seminar in Econometrics; Semiparametric Approaches (grad course) Spring 2021
  - Econ 607: Econometrics I (grad course) Spring 2018, Spring 2019, Spring 2020, Fall 2020, Spring 2021
  - Econ 483: Information Economics Fall 2017
  - Econ 482: Game Theory Spring 2018, Spring 2019
  - Econ 480: Behavioral Economics Fall 2017, Fall 2018
  - Econ 423: Advanced Time Series and Financial Econometrics Fall 2016
  - Econ 322: Econometrics Fall 2016
  - Econ 320: Intermediate Microeconomics Spring 2017, Fall 2020
  - Econ 102: Introduction to Microeconomics Spring 2017

#### RELEVANT WORK EXPERIENCE

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- Department of Economics, Rutgers University–New Brunswick 2020–2021
  - *Research Assistant* for Roger Klein
- Office of Advanced Research Computing, Rutgers University–New Brunswick 2019–2020
  - *Graduate Liaison* for the Amarel high performance computing (HPC) cluster

#### HONORS AND AWARDS

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- Peter Ash Memorial Scholarship | Rutgers University–New Brunswick May 2019
  - *In recognition of an outstanding student working on dissertation in applied microeconomics*
- International Student Scholarship | Soongsil University 2017–2018
- Sidney I. Simon Research Award; Honorable Mention | Rutgers University–New Brunswick May 2018
  - *In recognition of achievement in writing an excellent 2nd-year research paper*
- Sidney Brown Prize in Economics | Rutgers University–New Brunswick May 2017
  - *In recognition of outstanding performance in the first two years in the PhD program*
- Graduate School Tuition Fellowship | Soongsil University 2013–2015

#### PRESENTATIONS

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- (2021) LongTail Alpha<sup>[3]</sup>
- (2020) Econometrics Seminar, Department of Economics, Rutgers University–New Brunswick<sup>[3]</sup>
- (2019) Cubist Systematic Strategies (Point72’s quant arm)<sup>[1]</sup>

#### OTHER INFORMATION

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- **Language:** English (fluent), Korean (native)
- **Computer Skills:** R (advanced), Python (intermediate), Java (intermediate), SQL (intermediate), C/C++ (basic)
- **Citizenship:** South Korea
- **Military Service:** Sergeant, Republic of Korea Navy, South Korea, Jul. 2008–Jul. 2010

#### REFERENCES

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##### **Bruce Mizrach**

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##### **Roger Klein**

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