

Ryan Byun

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Citizenship	USA, Korea Republic Legal name in Korea: Byun, Wongyu	Gender	Male
Doctoral Studies	Indiana University Ph.D. in Economics Expected Completion: May 2025 Dissertation: <i>"Essays on Machine Learning Applications in Economics"</i>		2018 to present
Prior Education	Hanyang University M.A. in Economics B.A. in Business and Finance		2017 2015
Fields	Primary: Finance, Machine Learning Secondary: Climate Economics, Applied Microeconomics		
Research Experience	Research Assistant to Prof. Todd Walker, Indiana University Research Assistant to Prof. Sungrin Na, Hanyang University		2023 - 2024 2017
Teaching Experience	<u>Graduate Courses</u> M524 Financial Econometrics (Master's) Lecturer (Associate Instructor) E572 Econometrics II (PhD) Teaching Assistant to Prof. Ke-Li Xu <u>Undergraduate Courses</u> E370 Statistics for Business and Economics Lecturer (Associate Instructor) E321 Intermediate Microeconomics Teaching Assistant E202 Introduction to Macroeconomics Teaching Assistant E201 Introduction to Microeconomics Teaching Assistant E3048 Public Economics II (Hanyang University) Teaching Assistant E3045 Public Economics I (Hanyang University) Teaching Assistant		Fall 2023, Fall 2024 Spring 2021 Fall 2019 - Spring 2022, Spring 2023 Summer 2022 Summer 2021 Fall 2018 - Spring 2019, Spring 2020 Fall 2016 Spring 2016
Honors and Awards	<u>Indiana University</u> Distinguished Alumni Graduate Fellowship Alumni Associate Instructor Award for Excellence in Teaching Henry M. Oliver Award for Excellence in Graduate Economic Theory		2022 - 2024 2022 2021

Top-up Fellowship	2018 - 2019
Graduate Assistantship	2018 - present
<u>Hanyang University</u>	
Hanyang-IN Scholarship	2015 - 2017
Junior Researcher Fellowship	2016

Research

Working Papers

"Climate Language Model: How CEOs respond to Climate Change" (Job Market Paper)

Abstract: This paper explores the implications of the recent surge in large language models (LLMs) and advancements in natural language processing (NLP) for finance research. To quantify firm-level financial risks caused by climate change using earnings conference call transcripts, I utilize a state-of-art language model and test its validity in the context of executive compensation. I find evidence that physical and transition climate risks, as identified by the model, are negatively correlated with CEO equity-based incentives and total compensation. Notably, the observed reduction in stock-based compensation in response to physical climate shocks suggests a divergence in how managers and the market perceive the impact of the physical aspects of climate change on firm valuation. Furthermore, the impact of climate risks on CEO compensation becomes significant after the Paris Climate Agreement. These findings are statistically significant and consistent with recent climate finance literature, indicating that firms are increasingly incorporating climate change factors into their executive pay schemes.

"Language Model-Identified High-Frequency Monetary Policy Shocks to Financial Markets"
with Todd Walker and Margaret Jacobson

In Progress

"Simultaneous Inference of Time-varying Random Alphas in Factor Models"
with Kun Ho Kim (Concordia University)

"Penalized Regression in Factor Pricing Models and Validity of Cross-Validation"

"Heterogeneous Effects of Consumer Boycotts on Trade and Firm Value"

Publication

"Does ESG Performance Enhance Firm Value? Evidence from Korea"
with Jeong Hwan Lee (Hanyang University)

Additional Information

Computation

R, Python (Linux; PyTorch, RAPIDS, TensorFlow), Matlab

Language

Korean (native), English (fluent), Japanese (intermediate; N2-certification)

References

Prof. Todd Walker (Co-chair)
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