# Heebum Lee
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Department of Finance, Leonard N. Stern School of Business, New York University
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## Research Interest

Empirical Asset Pricing, Machine Learning, ESG Investing

## Education

**Leonard N. Stern School of Business, New York University,** New York, NY
*Ph.D. Finance (expected May 2020)*                    *Aug 2014 - present*

**The University of Chicago,** Chicago, IL
*M.S. Statistics*                    *Feb 2014*

**Seoul National University** Seoul, South Korea
*B.S. Mathematics and B.A. Economics*                    *Feb 2012*
 *- Summa Cum Laude*

## Job Market Paper

### What Explains the Cross-Section of Stock Return Reaction to Macroeconomic News? A Machine Learning Approach (2019)

I examine which stock characteristics explain cross-sectional heterogeneity in stock return responses to macroeconomic news announcement (MNA) shocks using a machine-learning approach instead of testing pre-specified factors or characteristics. Specifically, I adopt the Generalized Random Forest algorithm (Athey, Tibshrani, and Wager (2019)), which allows me to identify stock returns' conditional reactions to macroeconomic news jointly and flexibly, depending on a multitude of stock characteristics. I show that stocks whose prices are more positively correlated with MNA shocks earn higher average returns. A long-short trading strategy exploiting this effect generates 10.6% annualized risk-adjusted return with an annualized Sharpe Ratio of 0.59 from 1980 through 2018. I also find that not only market betas but also momentum characteristics play a key role in explaining the cross-section of stock returns on MNA days. Past losers command high premiums on MNA days, which I show is partly driven by the fact that momentum factor is more volatile and more negatively skewed on MNA days than on non-MNA days

## Published Papers

### Hedging Climate Change News (2019)
with Robert Engle, Stefano Giglio, Bryan Kelly and Johannes Stroebel

*Review of Financial Studies (forthcoming)*

We propose and implement a procedure to dynamically hedge climate change risk. We extract innovations from climate news series that we construct through textual analysis of newspapers. We then use a mimicking portfolio approach to build climate change hedge portfolios. We discipline the exercise by using third-party ESG scores of firms to model their climate risk exposures. We show that this approach yields parsimonious and industry-balanced portfolios that perform well in hedging innovations in climate news both in sample and out of sample. We discuss multiple directions for future research on financial approaches to managing climate risk.

## Working Papers

**Is sin news bad news? (2019)**
with Jeong Ho (John) Kim

We measure the stock market response to adverse environmental, social, and governance (ESG) news. Our approach use a comprehensive dataset on environmental, social, and governance (ESG) news, combined with the event study methodology. We find that adverse news about a firm's social or governance factors (e.g., human right abuses or fraud) have a significantly negative impact on its stock prices, while generally, news about environmental factor has a muted impact on the stock market. More generally, our finding highlights the importance of the nature of ESG news for understanding their asset pricing impact.

## Work experience

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|---|---:|
| **UBS Securities Seoul**, Seoul, South Korea | *Dec 2010 - Feb 2011* |
| *Equity Distribution Team, Intern* | |
| **ROK Army, The Rear Operation Command**, Seoul, South Korea | *Jan 2008 – Dec 2009* |
| *Signal Corpsman* | |

## Teaching Experience

**NYU Stern School of Business (Instructor)**

- FINC-UB2 : Foundation of Finance (Undergraduate), Summer 2017

  - Instructor Rating : 5.6/7.0

**NYU Stern School of Business (Teaching Assistent)**

- FINC-GB4388 : Financial Econometrics (Graduate), Fall 2016

  - Taught by Professor Robert F. Engle

## Honors and Awards

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|---|---:|
| **NYU Stern School of Business** | |
| - Jules I. Bogen Fellowship, NYU Stern | *2019* |
| - NYU Stern's Center for Sustainable Business(CSB) Research Grant, NYU Stern | *2018* |
| - Kwanjeong Educational Foundation Scholarship recipient | *2014 - 2017* |
| **Seoul National University** | |
| - Korea Presidential Science Scholarship recipient | *2013* |

## Technical skills

**Programming Languages:** Python, Matlab

**Statistical Packages:** R, Stata, SAS (for big data cleaning)

## Personal Information

**Citizenship:** South Korea

**Language:** Korean (native), English (fluent)

**Personal interests:** Basketball

**Professor Robert F. Engle (Chair)**
Michael Armellino Professor
of Management and Financial Services
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**Professor Kose John**
Charles William Gerstenberg Professorship
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