HEEJOON HAN

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EDUCATION

Ph.D. in Economics, Rice University, 2001~2006.
M.A. in Economics, Rice University, January 2006.
B.A. in Economics, Seoul National University, Republic of Korea, 1998.

EMPLOYMENT

Founding Head, Department of Quantitative Applied Economics, Sungkyunkwan University, 2019 to 2020.
Professor, Department of Economics, Sungkyunkwan University, 2019 to present.
Associate Professor, Department of Economics, Sungkyunkwan University, 2014 to 2019.
Associate Professor, Department of Economics, Kyung Hee University, 2012 to 2014.
Assistant Professor, Department of Economics, National University of Singapore, 2006 to 2012.
Economist, Research Department, the Bank of Korea, 1998~2001.

VISITING APPOINTMENT

Indiana University: Visiting Associate Professor (2018.1 – 2018.8)

AFFILIATIONS

Affiliated Researcher, Risk Management Institute, National University of Singapore, 2007 to present.
Affiliated Researcher, Centre for Financial Econometrics (CoFiE), Singapore Management University, 2009 to present.

RESEARCH INTERESTS

Econometrics, Financial Econometrics, Empirical Finance, International Finance and Applied Time Series Econometrics.

PUBLICATIONS

- "Time Series Properties of ARCH Processes with Persistent Covariates," with Joon Y. Park, *Journal of Econometrics*, 146 (2008), 275-292.
- "Non-stationary Non-parametric Volatility Model," with Shen Zhang, *The Econometrics Journal*, 15 (2012), 204-225.
- "ARCH/GARCH with Persistent Covariate: Asymptotic Theory of MLE," with Joon Y. Park, *Journal of Econometrics*, 167 (2012), 95-112.
- "Comparison of Realized Measure and Implied Volatility in Forecasting Volatility," with Myung D. Park, *Journal of Forecasting*, 32 (2013), 522-533.
- "GARCH with Omitted Persistent Covariate," with Joon Y. Park, *Economics Letters*, 124 (2014), 248-254.
- "Asymptotic Theory of the QMLE for GARCH-X Models with Stationary and Non-stationary Covariates", with Dennis Kristensen, *Journal of Business & Economic Statistics*, 32 (2014), 416-429.
- "Semiparametric ARCH-X Model for Leverage Effect and Long Memory in Stock Return Volatility," with Shen Zhang, *Journal of Economic Theory and Econometrics*, 25 (2014), 81-100.
- "Asymptotic Properties of GARCH-X Processes," *Journal of Financial Econometrics*, 13 (2015), 188-221.
- "A Multiplicative Error Model with Heterogeneous Components for Forecasting Realized Volatility," with Myung D. Park and Shen Zhang, *Journal of Forecasting*, 34 (2015), 209-219.
- "Quantile Dependence between Foreign Exchange Market and Stock Market: The Case of Korea," with Na Kyeong Lee, *East Asian Economic Review*, 20 (2016), 519-544.
- "The Cross-Quantilogram: Measuring Quantile Dependence and Testing Directional Predictability between Time Series," with Oliver Linton, Tatsushi Oka, and Yoon-Jae Whang, *Journal of Econometrics*, 193 (2016), 251-270.
- "Modeling the Dynamics between Stock Price and Dividend: An Endogenous Regime Switching Approach,", with Na Kyeong Lee, *Korean Economic Review*, 34 (2018), 2, 213-235.
- "Carry Trades and Endogenous Regime Switches in Exchange Rate Volatility", with Dooyeon Cho and Na Kyeong Lee, *Journal of International Financial Markets, Institutions & Money*, 58 (2019), 255-268.
- "Quantile Dependence between Stock Markets and Its Application in Volatility Forecasting," *Journal of Economic Theory and Econometrics*, 30 (2019), 96-142.
- "World Distribution of Income for 1970-2010: Dramatic Reduction in World Income Inequality during the 2000s", with Soondong Hong and Chang Sik Kim, *Empirical Economics*, 59 (2020), 765-798.

- “A Triple Regime Stochastic Volatility Model with Threshold and Leverage Effects,” 2020, with Eunhee Lee, *Korean Economic Review*, 36 (2020), 481-509.
- “The Tail Behavior of Safe Haven Currencies: A Cross-Quantilogram Analysis”, 2021, with Dooyeon Cho, *Journal of International Financial Markets, Institutions & Money*, 70 (2021), 1-17.

PUBLICATIONS (in KOREAN)

- “Effect of Implied Volatility on Stock Return Volatility Forecasting,” with Jun-Kyu Lee, *Journal of International Trade & Commerce*, 10 (2014), 507-521.
- “Adopting Economic and Financial Variables to Explain Stock Market Volatility in Korea,” with Seunghee Lee, *The Korean Journal of Economic Studies*, 64 (2016), 2, 67-95.
- “An Endogenous Regime Switching Model for Realized Volatility,” with Sejung Kim, *Journal of Economic Theory and Econometrics*, 27 (2016), 4, 73-97.
- “Measuring the Systemic Risk in Korean Banking Sector and Evaluating the Usefulness of Financial Supervisory Regulations,” with Seong Bok Lee, *The Korean Journal of Studies in Financial Supervision*, 4-2 (2017), 31-60.
- “Distributional Relationship between the Korean and the U.S. Stock Markets Analyzed by a Functional Regression Approach”, with Gyung Mo Kim, *The Korean Journal of Economic Studies*, 67 (2019), 2, 5-38.
- “Additive Endogenous Regime Switching GARCH Model”, 2019, with Hyunjin Yang and Chang Sik Kim, *Journal of Economic Theory and Econometrics*, 30 (2019), 2, 20-54.

WORKING PAPERS

- “Semiparametric Multiplicative GARCH-X Model: Adopting Economic Variables to Explain Volatility,” 2020, with Jihyun Kim and Dennis Kristensen.
- “Estimation and Inference of Quantile Impulse Response Functions by Local Projections: With Application to VaR Dynamics,” 2020, with Whayoung Jung and Ji Hyung Lee.
- “Multi-step-ahead forecasting of the CBOE volatility index in a data-rich environment: Application of random forest with Boruta algorithm,” 2021, with Byung Yeon Kim.

AWARDS

- SKKU Young Fellowship, Sungkyunkwan University, 2020.
- Excellent Teacher Award, Faculty of Arts and Social Sciences, National University of Singapore, 2008.

- RBNZ-NZESG Research Award, Special NZESG Meeting in Honour of Peter C. B. Phillips, March 2008.
- Research Fellowship, Jones Graduate School of Management (Finance), Rice University, 2004~2006.
- Graduate Fellowship, Rice University, 2001~2004.
- Korean Honor Scholarship, Korean-American Scholarship Foundation, 2002, 2003.

RESEARCH GRANTS

- Sungkyun Researech Fund, Sungkyunkwan University, 2019-2020.
- National Research Foundation of Korea Grant, 2016-2017.
- Grant for Excellent Article, National Research Foundation of Korea, 2015.
- Sungkyun Researech Fund, Sungkyunkwan University, 2014-2015.
- National Research Foundation of Korea Grant, 2013-2015.
- KHU 2012-1676, Kyung Hee University, 2012-2013.
- Risk Management Institute, National University of Singapore, 2009-2012.
- Risk Management Institute, National University of Singapore, 2007-2009.
- National University of Singapore, FASS SRSS, 2006.

PROFESSIONAL SERVICE

Associate Editor, Korean Economic Review, 2018 to present.
Associate Editor, The Korean Journal of Economic Studies (경제학연구), 2020 to present.
Co-Editor, Journal of Economic Theory and Econometrics, 2015 to 2017.

REFEREE SERVICE

Journal of Econometrics, Journal of Business & Economic Statistics, Econometric Theory, Econometric Reviews, Studies in Nonlinear Dynamics and Econometrics, Journal of Time Series Econometrics, Journal of Forecasting, Journal of Banking & Finance, Empirical Economics, Journal of Empirical Finance, Economic Modelling, Energy Economics, Journal of Futures Markets, European Journal of Finance, Pacific-Basin Finance Journal, International Journal of Finance & Economics, Singapore Economic Review, Journal of Economic Theory and Econometrics, Journal of Economic Development, Journal of East Asian Economic Integration, Seoul Journal of Economics, International Journal of Finance and Economics, 경제분석, 금융정보연구, 산업연구, 한국경제연구, 한국경제학보, BOK 경제연구, 통계연구.

CONFERENCE PRESENTATIONS

- World Congress of the Econometric Society (Virtual), August 2020.
- 2019 KER (Korean Economic Review) International Conference, Seoul, South Korea, August 2019.
- 2018 Conference on Asia-Pacific Financial Markets, Seoul, South Korea, December 2018.
- 2018 IAAE (International Association for Applied Econometrics) Annual conference, Montreal, Canada, June 2018.
- 11th Conference on Asia-Pacific Financial Markets, Seoul, South Korea, December 2016.
- 2016 Japan-Korea Allied Conference in Econometrics, Tokyo, Japan, November 2016.
- 10th Cross-Strait Conference on Statistics and Probability, Chengdu, China, August 2016 (invited).
- 2016 Korean Econometric Society Summer Meeting, Jeju, South Korea, June 2016.
- 9th Annual SoFiE (Society for Financial Econometrics) conference, Hong Kong, June 2016 .
- Time Series Workshop on Macro and Financial Economics, Seoul, South Korea, May 2016.
- 11th World Congress of the Econometric Society, Montreal, Canada, August 2015.
- 90th Western Economic Association International Annual Conference, Honolulu, USA, June 2015.
- 2015 Korean Econometric Society Summer Meeting, Seoul, South Korea, June 2015.
- 11th International Symposium on Econometric Theory and Applications, Tokyo, Japan, May 2015.
- 2014 Hitotsubashi-Sogang Conference on Econometrics, Seoul, South Korea, December 2014.
- Korean Econometrics Camp, Seoul, South Korea, August 2014.
- International Workshop on Non- and Semiparametric Volatility and Correlation Models, Paderborn, Germany, July 2014 (invited).
- 10th International Symposium on Econometric Theory and Applications, Taipei, Taiwan, May 2014.
- 7th CSDA International Conference on Computational and Financial Econometrics, London, UK, December 2013.
- 9th Annual Conference of Asia-Pacific Association of Derivatives, Busan, South Korea, August 2013.
- 9th International Symposium on Econometric Theory and Applications, Seoul, South Korea, July 2013.
- Econometric Society Australasian Meeting, Sydney, Australia, July 2013.
- 33rd International Symposium on Forecasting, Seoul, South Korea, June 2013.
- Asian Meeting of Econometric Society, Delhi, India, December 2012.
- Korean International Economic Association Winter Meeting, Seoul, South Korea, December 2012.
- SNU Summer Econometrics Workshop 2012, Seoul, South Korea, August 2012.

- SMU-ESSEC Symposium on Empirical Finance & Financial Econometrics, Singapore, June 2012.
- Workshop on Financial Time Series: High-dimensionality, Non-stationarity and the Financial Crisis, Singapore, June 2012.
- 19th International Conference 'Forecasting Financial Markets', Marseille, France, May 2012.
- Princeton/QUT/SMU Tripartite Conference on Financial Econometrics, Singapore, May 2012.
- International Statistics Conference on Statistical Concepts and Methods for the Modern World, Colombo, Sri Lanka, December 2011.
- Asian Meeting of the Econometric Society, Seoul, South Korea, August 2011.
- Singapore Economic Review Conference, Singapore, August 2011.
- Econometric Society Australasian Meeting, Adelaide, Australia, July 2011.
- 4th CSDA International Conference on Computational and Financial Econometrics, London, UK, December 2010.
- First Singapore Conference on Statistical Science, Singapore, November 2010.
- 20th Annual Meeting of the Midwest Econometrics Group, St. Louis, USA, October 2010.
- 20th EC^2 conference (European Conferences of the Econometrics Community) on Real Time Econometrics, Aarhus, Denmark, December 2009.
- Far East and South Asia Meeting of the Econometric Society, Tokyo, Japan, August 2009.
- 5th International Symposium on Econometric Theory and Applications, Kyoto, Japan, July 2009.
- Korean Econometric Society Summer Meeting, Seoul, South Korea, June 2009.
- Conference in Honor of Peter C. B. Phillips, Singapore, July 2008.
- 16th Annual Symposium of the Society for Nonlinear Dynamics and Econometrics, San Francisco, USA, April 2008.
- Special NZESG (New Zealand Econometric Study Group) Meeting in Honour of Peter C. B. Phillips, Auckland, New Zealand, March 2008.
- 18th EC^2 conference (European Conferences of the Econometrics Community) on Advanced Time Series Econometrics, Faro, Portugal, December 2007.
- Korean Econometric Society Summer Meeting, Seoul, South Korea, June 2007.
- 3rd Symposium on Econometric Theory and Applications, Hong Kong, April 2007.
- 15th Annual Meeting of the Midwest Econometrics Group, Carbondale, USA, October 2005.
- 16th Asian Finance Association Conference, Kuala Lumpur, Malaysia, July 2005.
- 10th Texas Camp Econometrics, Conroe, USA, February 2005.

SEMINAR PRESENTATIONS

- Seoul National University, September 2020.
- Bank of Korea, February 2020
- Tianjin University, November 2018.

- University of Missouri, April 2018.
- Hanyang University, November 2017.
- Toulouse School of Economics, December 2015.
- Sungkyunkwan University, May 2014.
- University of Copenhagen, December 2013.
- Shanghai Jiao Tong University, November 2013.
- Fudan University, November 2013.
- Kyungpook National University, October 2013.
- Hankuk University of Foreign Studies, June 2013.
- Korean Econometric Study Group Seminar, November 2012.
- Korea University, October 2012.
- Uppsala University (department of statistics), May 2012.
- Singapore Management University (CoFiE), May 2012.
- Kyung Hee University, October 2011.
- Sokang University, October 2011.
- Chung-Ang University, June 2010.
- Sungkyunkwan University, June 2010.
- Seoul National University, May 2010.
- Korea University, June 2009.
- Sungkyunkwan University, June 2009.
- Singapore Management University (CoFiE), March 2009.
- Korea University (department of finance), June 2008.
- Xiamen University (WISE), April 2008.
- Singapore Management University, November 2006.
- National University of Singapore, February 2006.
- Indiana University-Bloomington, February 2006.
- Bates White, LLC, Washington DC, January 2006.
- Rice University, February 2005.

TEACHING EXPERIENCE

- Machine Learning and Economic Forecasting (graduate), Sungkyunkwan University.
- Forecasting and Time Series Analysis Utilizing Big Data (undergraduate), Sungkyunkwan University.
- Basics for Quantitative Analysis (graduate), Sungkyunkwan University.
- Financial Econometrics (undergraduate, graduate), Sungkyunkwan University, Kyung Hee University, National University of Singapore.
- Econometrics (undergraduate, graduate), Sungkyunkwan University, Kyung Hee University, National University of Singapore.

- Economic Statistics (undergraduate), Kyung Hee University.
- International Finance (undergraduate), Kyung Hee University.
- Principles of Economics 1 (undergraduate), Rice University.