Enrique ter Horst

Associate Professor

Finance Area

Joined the School in 2017

Academic Background

2003 Ph.D. in Statistics and Decision Sciences. Duke University (ISDS). Durham, NC, United States.

2001 M.S. in Statistics and Decision Sciences. Duke University (ISDS). Durham, NC, United States.

1999 Master in Finance. Université de Strasbourg, Strasbourg, France.

1998 B.S. in Econometrics (Licence). Université de Strasbourg. Strasbourg, France.

Teaching Experience

COURSES TAUGHT IN RECENT YEARS

Graduate

Probability and Measure (Teaching assistant) – Duke University

Statistical Inference (Teaching assistant) – Duke University

Statistics and Mathematics – Dortmund University

Financial Statistics and Risk Management – IESA

Risk Management – University of Navarral, KEDGE Business School and CESA (Colombia)

Mathematics for Business – KEDGE Business School

Business Statistics – Hult University

Business and Financial Statistics – CESA (Colombia)

Statistical Methods for Prediction – Universidad Simón Bolivar (Venezuela)

Undergraduate

Probability and Statistical Inference – Duke University

Mathematics for Business – KEDGE Business School

Academic Activities

2013 - 2017 CESA, Full Professor (Tenured Senior Researcher Colciencias") Bogotá, Colombia Involved in teaching.

2017 – to date Associate Professor (Tenured Senior Researcher Colciencias"). UASM. Bogotá, Colombia.

2005 - 2013 Associate Professor. IESA - Instituto de Estudios Superiores de Administracion, Caracas Venezuela.

2012 Visiting Research Professor. UASM. January - June 2012 Bogotá, Colombia.

2009 - 2011 Associate Professor. Euromed Management School. Marseille, France.

Other Professional Activities

2004 - 2005 Quantitative Strategist. Morgan Stanley, (Research Division). London, United Kingdom.

2003 – 2004 Quantitative Research Analyst. Credit Suisse First Boston. London, United Kingdom.

Research

Idiosyncratic and systemic impacts of derivative risks

Dynamics of the institutional and sovereign credit risk

Inference in mathematical Finance models

Bayesian statistics and Bayesian nonparametric statistics

Risk Management

Publications

ARTICLES IN ACADEMIC JOURNALS

2019. Ribamar Siqueira, ter Horst, E., Molina, G., Peña, N.``Spreading the Word: How Customer Experience in a Traditional Retail Setting Impacts: Traditional and Electronic Word-of-mouth Intention.'', forthcoming Electronic Commerce Research and Applications.

2019 Gzyl, H., Molina, G., ter Horst, E. (2019) ``A Model-Free, non-Parametric Method for Determination of the Distribution of Asset Returns.'' Physica A: Statistical Mechanics and its Applications, volume 517, p.210-221.

2019 Ter Horst E. (2017) 2019 Informs Alio International Conference. Energy Economics (ISSN 0140-9883) 66 (-), pp. 431-449.

2019 Gunn L., Ter Horst E., Markossian T., Molina G. Online interest regarding violent attacks, gun control, and gun purchase: A causal analysis. Plos One. doi.org/10.1371/journal.pone.0207924.

2019 Camargo J., González M., Guzmán A., Ter Horst E., Trujillo, M.A. Topics and methods in economics, finance, and business journals: A content analysis enquiry. Heliyon. Vol: 4. doi.org/10.1016/j.heliyon.2018.e01062.

2018 Gzyl, H., Ter Horst, E., Molina, G. A Model-Free, non-Parametric Method for Density Determination, with Application to Asset Returns. Physica A. Vol 517. Pp 210-221

2018 Gunn, L., Gzyl H., Ter Horst, E., Ariza, M., Molina, G. Maximum Entropy in the Mean Methods in Propensity Score Matching for Interval and Noisy Data. Journal Communications in Statistics.

2018 Gzyl, H., Ter Horst, E., Molina G. "Risk neutral measure determination from price ranges: Single period market models". Entropy. Pp 21.

2018 Casarin, R., Molina G., Ter Horst E. A Bayesian Time-varying Approach to Risk Neutral Density Estimation. Journal of the Royal Statistical Society. Vol 182. Pages 165 – 195.

2017 Echeverri, L., ter Horst, E., Mohamad, Z., Molina, G., Nation Branding: Unvailing Factors that Affect the Image of Colombia from a Foreign Perspective.'' Tourism Planning & Development, p.1 - 21.

2017 Espinasa, R., Guerra Reyes, S., Ter Horst, E., Manzano, O., Molina, G., Rigobon, R. A. Micro-Based Model for World Oil Market.'' Journal of Energy Economics, 66, p.431 - 449.

2017 Gzyl, H., Ter Horst, E., Molina, G. (2017) Inferring probability densities from expert opinion.'' Applied Mathematical Modelling, 43, p.306 - 320.

2017 Dakduk, S., Malave, J., Molina, G., Ter Horst, E., Santalla, Z. (2017) Customer Behavior in

Electronic Commerce: A Bayesian Approach." The Journal of Theoretical and Applied Electronic Commerce Research, 11(2), p.1-20.

2016 Garay, U., Molina, G., Rodriguez, A., Ter Horst, E. (2016) Bayesian Nonparametric Measurement of Hedge Fund Returns." Econometrics, 4(1), 13.

2016 Gramacy, B. and Malone, S. and Ter Horst, E. (2016) Timing Foreign Exchange Markets." Econometrics, 4(1), 15.

2015 Casarin, R., Leisen, F., Molina, G., Ter Horst, E. (2015) A Bayesian Beta Markov Random Field calibration of the term structure of implied risk neutral densities." Bayesian Analysis, Vol. 10, Number 4, p.791 – 819.

2015 Rodríguez, A., E. ter Horst, S. Malone. (2015) Statistical inference in structural credit risk models: Likelihood and Bayesian approaches. the Journal of Financial Econometrics, vol. 13(4), p.839 - 867.

2015 Gzyl, H., Molina G., ter Horst, E. (2015) "A spectral measure estimation problem in rheology." Physica A: Statistical Mechanics and its Applications, vol. 434, p.129 - 133.

2015 Gzyl, H., Molina, G., ter Horst, E. (2015) Application of the maximum entropy method in the mean to classification problems." Physica A: Statistical Mechanics and its Applications, vol. 437C, p.101 - 108.

2015 Echeverri, L., ter Horst, E., Parra, J. (2015) Imagen pais de Colombia desde la perspectiva extranjera." Arbor, Vol. 191, No. 773, 114142. ISSN: 02101963.

2015 Gzyl, H., ter Horst, E., Villasana, M. (2015) Numerical determination of hitting time distributions from their Laplace transforms: One dimensional discusions." Physica A: Statistical Mechanics and its Applications, vol. 419, p. 594 – 602.

2014 ter Horst, E. and Molina, G. (2014) "Discussion on a Tractable State-Space Model for Symmetric Positive-Definite Matrices" (Invited discussion paper) Bayesian Analysis, 9, No. 4, p.809 - 818.

2014 Gzyl, H. and ter Horst, E. (2014) Numerical determination of hitting time distributions from their Laplace transform." Physica A: Statistical Mechanics and its Applications, vol. 410, p.244 - 252.

2014 Gzyl, H. and ter Horst, E. (2014) A Relationship between the Ordinary Maximum Entropy Method and the Method of Maximum Entropy in the Mean." Entropy, 16(2), p.1123-1133.

2013 Gramacy, R., Malone, S. and ter Horst, E (2013) "Exchange Rate Fundamentals, Forecasting, and Speculation: Bayesian models in Black Markets." Journal of Applied Econometrics, vol. 29, issue 1, p.22-41

2012 ter Horst, E., Rodríguez, A., Gzyl, H. and Molina, G.(2012) "Stochastic Volatility Models including open, close, high and low prices." Quantitative Finance, vol. 12, Issue 2, p.199-212. Special Issue: Themed Issue on Volatility.

2011 Rodríguez, A., ter Horst, E. (2011) "Measuring Expectations in Options Markets: An Application to the S&P500 Index." Quantitative Finance, vol. 11, issue 9, p.1393 – 1405.

2010 García, I., Trigo, L., Costanzo, S., ter Horst, E. (2010) "Procesos Gaussianos en la Predicción de las Fluctuaciones de la Economía Mexicana ", El Trimestre Económico, vol. LXXVII (3), No. 307, July - September 2010, pp. 585 - 602.

2010 Malone, S. and ter Horst, E. (2010) "The Black Market for Dollars in Venezuela." Emerging Markets Finance and Trade, September-October 2010, vol. 46, No. 5, pp. 67 - 89.

2009 Garay, U. and ter Horst, E. (2009) "Real Estate and Private Equity: A review of the diversification benefits and some recent developments." Journal of Alternative Investments, Spring 2009.

2009 Gzyl, H., Molina, G., ter Horst, E. (2009) "Assessment and Propagation of Input Uncertainty in Tree-based Option Pricing Models.", Applied Stochastic Models in Business and Industry, Vol. 25, Issue 3, p 275 - 308.

2009 Gzyl, H., ter Horst, E. (2009) "Noise Corrected Estimation: Filtering additive measurement noise", Journal of Probability and Statistics.

2009 Rodríguez, A., Malone, S., ter Horst, E. (2009) "What executives should know about structural credit risk models and their limitations: a primer with examples." Journal of Financial Transformation, vol. 27, pages 58 - 62.

2008 Rodríguez, A., ter Horst, E. (2008) "Bayesian Dynamic Density Estimation.", Bayesian Analysis, vol. 3, No. 2, p.339 - 366.

2008 Gzyl, H., ter Horst, E., Malone, S. (2008) "Bayesian parameter inference for models of the Black and Scholes type", Applied Stochastic Models in Business and Industry, vol. 24, issue 6, p 507 - 524.

CONFERENCE PRESENTATIONS

2019 “A Micro-Based Model for World Oil Market.” Informs Alio International Conference, Cancun, Mexico (June 2019).

2019 “Estimating the Determinants of Art Prices through a Bayesian Dynamic Hedonic Regression Model.” 11th Workshop on Bayesian Inference in Stochastic Processes (June2019), Madrid, Spain.

2018 “A Bayesian time-varying approach to risk neutral density estimation.” Workshop Advances in Bayesian Modelling, University Ca'Foscari, Venize, Italy (July 2018).

2018 “Predicting instantaneous photosynthetic photon flux density for days with different degree of overall cloudiness: a bayesian nonparametric approach.” ISBA, Edinburgh, United Kingdom (June 2018).

2017 “World Oil Linkages.” ESOBE, Maastricht, Netherlands (October 2017).

2017 “Timing Foreign Exchange Markets.” 10th Workshop on Bayesian Inference in Stochastic Processes (July),

2016 9th Workshop on Bayesian Inference in Stochastic Processes (June 2015), Istanbul, Turkey.

2016 “A Bayesian Time-varying Approach to Risk Neutral Density Estimation.” ISBA 2016, International Society for Bayesian Analysis 13 - 17 June, 2016. Forte Village Resort Convention Center Sardinia, Italy.

2014 ISBA-George Box Research Workshop on Frontiers of Statistics (May), Washington, DC, USA.

2014 “Term Structures of Implied Risk Neutral Densities.” International Society for Bayesian Analysis World Meeting, ISBA (July), Cancun Convention Center.

2013 ESOBE, Oslo, Norway (August 2013).

2013 Midwest Finance Association Conference, Chicago, USA.

2013 “Timing Foreign Exchange Markets.” Royal Economic Society, London, UK 2013.

2012 Campus for Finance Research Conference 13, WHU Otto Beisheim School of Management, Vallendar, Germany.

2012 Seminar on Bayesian Inference in Econometrics and Statistics (SBIES),California (April 2012).

2012 BISP 7, Madrid, Spain (Sept 2011).

2011 “Exchange Rate Fundamentals, Forecasting, and Speculation: Bayesian models in Black Markets.” ESOBE, Louvain, Belgium (Nov 2011).

2010 ISBIS-2010 International Symposium on Business and Industrial Statistics, Portoroz, Slovenia (July 2010).

2010 HEC Paris, Finance and Statistics, Second Workshop (October 2010).

2010 Universidad de Elche, XXXVIII Simposio de la Asociación Españoola de Economía (November 2010).

2010 "The Garch structural credit risk model: estimation, benchmarking, and application to the 2007-2008 credit crunch." Institut fur Angewandte Statistik, Linz, Austria (December 2010).

2010 Valencia International Meetings on Bayesian Statistics, Benidorm, Spain (June 2010).

2010 DAGStat2010, Technische Universitat Dortmund, Germany (March 2010).

2009 XVII Finance Forum IESE, Madrid, Spain (November 2009).

2009 "Stochastic Volatility Models including open, close, high and low prices". XXXIV Simposio de la Asociación Española de Economía (December 2009).

2009 "Measuring Expectations In Options Markets: An Application to the S&P500 Index."BISP6. Bressanone, Italy (June 2009).

2009 13th International Congress on Insurance: Mathematics and Economics (May 2009). Istanbul, Turkey.

2008 ISBIS-2008 International Symposium on Business and Industrial Statistics with special emphasis on Quantitative Analytics for Banking, Finance and Insurance. Prague, Czech Republic, 1 - 4 July 2008.

2008 "Bayesian Dynamic Density Estimation." MCMSki 2008. Bormio, Italy (January 2008).

2007 Objective Bayes 2007. Rome, Italy.

2007 "Assessment and Propagation of Input Uncertainty in Tree-based Option Pricing Models".BISP5. Valencia, Spain (June 2007).

2006 "Bayesian inference for Levy processes in option pricing." Valencia International Meetings on Bayesian Statistics. Benidorm, Spain (June 2006).

2004 "A Levy generalization of compound Poisson processes in finance. Theory & applications". 6^{th} World Congress of the Bernouilli Society for Mathematical Statistics and Probability & 67th Annual Meeting of the Institute of Mathematical Statistics. Barcelona, Spain (Jul-Aug 2004).

Scholarships and Academic Distinctions

1999 Graduated with honors. Master in Finance. Université de Strasbourg, Strasbourg, France.

1998 Graduated with honors. B.S. in Econometrics (Licence). Université de Strasbourg. Strasbourg, France.