

**IBRAHIM ERGEN**  
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#### EDUCATION

- Rice University, Ph.D. in Economics, Houston, TX, December 2009
  - Thesis: “Essays in Financial Risk Management”
- Rice University, MA in Economics, Houston, TX, January 2008
- Marmara University, B.S. in Industrial Engineering, Istanbul, Turkey, June 2004

#### ACADEMIC RESEARCH

- Research Interests: Financial econometrics, Quantitative risk models, Energy derivatives modelling, Systemic risk and contagion, Value-at-Risk models, Financial applications of extreme value theory.
- Articles:
  - Ergen, I., and Ridvanoglu, I. (2016). “[Asymmetric Impacts of Fundamentals on the Natural Gas Futures Volatility: An Augmented GARCH Approach](#)”, *Energy Economics*, Vol.56, pgs. 64-74
  - Curti, F., Ergen, I., Le, M., Migueis, M., and Stewart, R. (2016) [Benchmarking Operational Risk Models](#), Finance and Economics Discussion Series, Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Washington, DC
  - Ergen, I. (2015). “[Two step methods in VaR prediction and the importance of fat tails](#)”, *Quantitative Finance*, Vol.15, pgs. 1013-1030
  - Balla, E., Ergen, I. and Migueis, M. (2014). “[Tail dependence and indicators of systemic risk for large US depositories](#)”, *The Journal of Financial Stability*, Vol.15, pgs.195-230.
  - Ergen, I. (2014). “[Tail dependence and diversification benefits in emerging market stocks: An extreme value theory approach](#)”, *Applied Economics*, Vol.46, No.19, pgs.2215-2227
- Working Papers:
  - Abdymomunov, A. and Ergen, I. (2016) “[Correlations and Systemic Risk in Operational Losses of the U.S. Banking Industry](#)” SSRN working paper
  - Ergen, I., and Inanoglu, H. (2015). “[Diversification benefits and International financial contagion: The impact of hidden asymptotic dependence](#)”, *presented in FMA 2015, SFA 2015 annual meetings.*

#### EXPERIENCE

- **Federal Reserve Bank of Richmond**, Senior Financial Economist, Baltimore, MD, Aug. 2015-Now
  - Portfolio quant lead, wholesale credit risk evaluation team: In CCAR 2016 lead a team of 4 quants to review C&I and CRE stress testing models of 7 large banking organizations.

- Deputy Lead, operational risk supervisory modeling team: In CCAR 2016 cycle, lead the team in code review, internal validation and performance testing efforts such as sensitivity, benchmarking and backtesting analysis.
- Member Wholesale Basel Qualification Team
  - Reviewed wholesale credit risk quantification models of few large U.S. banks for Basel II capital estimation purpose.
- ***Federal Reserve Bank of Richmond, Financial Economist, Baltimore, MD, May 2011–Aug. 2015***
  - Deputy Lead, operational risk supervisory modeling team: Developed and sustained the ownership of Federal Reserve System's LDA based operational risk loss forecasting model used for CCAR stress testing exercise in 2012–2015 cycles. Involves model-ready data preparation, frequency and severity parameter estimation, and Monte-Carlo simulation of losses for all banks.
  - Member, AMA Basel Qualification Team
    - Had a major role in drafting the AMA guidance published in Federal Reserve BCC Bulletin-1401: “Supervisory Guidance for data, modeling and model risk management under the operational risk advanced measurement approach.”
    - Developed the Federal Reserve’s analytic benchmarks for AMA capital and produced quarterly benchmarking reports based on FR-Y 14Q operational loss data.
    - Reviewed operational risk capital models of many large and complex U.S. banks.
  - Member, Wholesale Risk Evaluation Team
    - Risk quantification support for the review of wholesale credit stress testing models of few large U.S. banks as part of the CCAR exercise.
  - Performed analytical research on student loan performance and college tuition, presented and provided updates to the president Jeff Lacker.
- ***Fannie Mae, Economist, Credit Portfolio Risk Analysis, Washington, D.C., June 2009–May 2011***
  - Participated in the development of the integrated credit analytics tool (ICAT) that integrates all credit models in a Monte-Carlo Simulation set up to generate projected cash flows from mortgage loans. The loan level models integrated include credit scoring, prepayment, default, loss severity, loan pricing and guarantee fee pricing.
  - Implemented the whole loan pricing and duration analytics module for non-performing and modified loan portfolio. Responsible for preparing monthly duration report to support the interest rate risk management and hedging decisions of Capital Markets business unit.
  - Implemented the re-default model for modified loans. Performed empirical model vetting. Tracked the performance of the model over time using back-testing methods.

## SKILLS

- Development, implementation and validation of complex econometric models for financial risk measurement and management. Quantitative finance, credit market and operational risk modeling for Basel II and stress testing, volatility and value-at-risk prediction and backtesting, Monte Carlo simulation, Financial Engineering, Derivatives pricing.
- Software: R, Matlab, SAS, S-Plus

FORMAL CLASS WORK: Econometrics I-II, Time series econometrics, Quantitative risk management, Financial engineering, Panel data econometrics, Bayesian Econometrics.