Nancy Hammond

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Economist, University of Chicago, Ph.D.

I have a PhD in economics from the University of Chicago with fields in money and banking and international economics. I have completed coursework in graduate finance at Chicago Booth. I have a deep knowledge of monetary policy, including changing practices at the Fed. I bring my love of macro finance and Fed/central bank policy to my work in finance and risk. An economist and financial services professional with 10 years of experience in applied econometric analysis, financial econometrics, operational and credit risk, and consumer choice, I have validated bank portfolios for credit and operational risk, developed factor models of bond risk premia, operational risk software, and authored white papers on best practice in operational risk and mortgage security pre-payment models. I am an experienced user of Matlab, R, Python, Stata, and C++. My current research focus is the choice of the maturity structure of US Treasury debt.

My interests include interactions of finance with the macroeconomy and public finance. I am forging a transition from consulting to finance. I have prepared for this transition with independent research in bond term structure of interest rates, coursework in finance, and attending key conferences. My recent paper isolates the contribution of inflation and real activity to risk premia of monthly US Treasury bond returns. My current research focus is the choice of the US Treasury debt maturity structure, fiscal insurance, and the effects on bond premia.

During my PhD studies in economics at the University of Chicago, I taught undergraduate courses in microeconomics, econometrics, international finance, and macroeconomics courses at the University of Chicago, Northwestern and DePaul. Before the PhD program, I was part of a modelling team for analysis of regional corridor transportation investments. I integrated Daniel McFadden's research in transportation mode choice into the nine county San Francisco Bay Area regional demand models.

EDUCATION

University of Chicago

Ph.D., Economics, 2016

Fields: Monetary Economics, International Economics

University of California Berkeley

B.A., Political Science

University of Chicago Booth School of Business

PhD Finance course work: Asset pricing Empirical finance Stochastic calculus

Stevanovich Center for Financial Mathematics University of Chicago

2018 SoFiE Summer School Certificate Machine Learning and Finance

PROFESSIONAL EXPERIENCE

KPMG, Risk Management Advisory Group (Chicago IL) May 2016 – May 2017 Manager Recruited to estimate and validate statistical models of firm expected loss including probability of default, exposure at default, realizable collateral values, loss given default, and operational risk.

- Authored review of prepayment models for borrower refinancing choice and valuation of mortgage securities
- Developed white paper and deck for best practices in operational risk
- Validated equity margin loss model for large bank
- Performed audit of wholesale credit model validation and monitoring program for large bank

Protiviti, Risk Modeling and Compliance Group (Chicago IL) September 2013 – March 2015 Senior Consultant

Recruited to develop operational and credit risk models, validation and audit models, and perform stress tests. Working primarily with heads of stress testing and modeling teams.

- Developed Poisson regression model of loss frequencies for operational risk Loss Distribution Approach (LDA) model. Produced data analysis and documented model theory for large bank
- Performed positive assurance audit of Operational Risk LDA models for international bank.
 Assessed integrity of use of internal and scenario analysis data in estimating model parameters
 and thresholds. Reviewed validation of model and recommended additional tests for tail
 dependence
- Performed positive assurance audit for Basel AIRB compliance including probability of default (PD) and loss given default (LGD) models
- Validated stress testing models for large bank preparing for its 2014 CCAR submission.
 Developed benchmark and alternative models to forecast monthly gross charge-offs, remaining life time losses, and monthly customer recoveries of student loans. Replicated bank models to evaluate the reasonableness of bank's submission. Conducted sensitivity and scenario analysis
- Maintained up-to-date inventory and review of CCAR, DFAST, BASEL regulation

RCF Economic and Financial Consulting (Chicago, IL) 2006 – 2010 Economist Recruited to provide market analyses, economic impact studies, and regulatory impact and policy evaluation

• Implemented extreme value theory approach (EVT) operational risk management system. Authored reports for client global risk management group; 1) detailed review of theory, 2)

technical guide, and 3) full documentation of Matlab software

- Developed vector autoregression (VAR) and error correction models (ECM) (Stata) to analyze response in advertising spending to short term and trend changes in economic activity
- Developed probit model of household response to promotional material from household characteristics received
- Authored white paper on price and quantity indices

TEACHING EXPERIENCE

Economics, Northwestern University

Lecturer, International Finance 2000 Lecturer, Money and Banking, Economic Growth 2000-2004

Economics, Northwestern University

Lecturer, Microeconomics, Macroeconomics 2000-2004

Booth School of Business

Research Associate, International Finance 2002-2004

Economics, University of Chicago

Lecturer, Microeconomics 1991-2 Teaching Assistant, Econometrics 1990

SKILLS. LANGUAGES MATLAB, C++, Python, Quantopian, STATA, Excel, R, SAS, Microsoft Office; French, Spanish, Russian, Arabic

COURSE WORK IN FINANCE:

- Asset pricing, Part 2, John Cochrane, University of Chicago Booth School of Business 2015 expected return beta model, classic time series, cross section regressions, return predictability and volatility; options, bonds, term structure models; portfolio theory

 https://www.coursera.org/account/accomplishments/certificate/ZURA84VUTR
- Asset pricing Part 1, John Cochrane, , University of Chicago Booth School of Business expected March 2019
- Empirical finance with Pietro Veronesi, John Heaton. Winter 2016
- Mathematical finance with Stavros Panageas Spring 2016
- Stevanovich Center for Financial Mathematics University of Chicago 2018 SoFiE Summer School. Machine Learning and Finance
- Yale course, the 2008 financial crisis with Andrew Metrick Janet L. Yellen Professor of Finance and Management

CONFERENCES:

- Stevanovich Center for Financial Mathematics <u>Market Microstructure and High Frequency Data</u> May 2-4, 2019
- Taxation and Fiscal Policy Conference May 18–19, 2018 Saieh Hall for Economics (5757 S. University Ave., 60637) Room 021 https://bfi.uchicago.edu/events/taxation-and-fiscal-policy-conference
- Macro Financial Modeling Winter 2018 Meeting January 25–26, 2018 CME Group, 300 Vesey Street, New York, NY 10282, USA https://bfi.uchicago.edu/macro-financial-modeling-2018
- Government Debt: Constraints and Choices April 21–22, 2017 Saieh Hall Room 021, University of Chicago https://bfi.uchicago.edu/events/government-debt-constraints-and-choices choices
- 2017 Cite Conference. Research frontiers of macroeconomics, finance and linkages.https://bfi.uchicago.edu/events/2017-cite-conference