

Nathan Heinrich

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Education

University of Wisconsin-Madison

Madison, WI

BACHELOR OF SCIENCE IN ECONOMICS AND CHINESE, GPA: 3.84/4.0

May 2017

- **East China Normal University**, Shanghai, China — *Fall Semester Abroad 2016*
- **Tianjin Normal University**, Tianjin, China — *Summer Semester Abroad 2016*

Honors & Scholarships

- Chou Kuo-ping Scholarship (UW-Madison International Academic Programs)
- David L. Boren Scholarship (National Security Education Program, U.S. Department of Defense)
- Lawrence Louey Merit Scholarship (UW-Madison Department of Languages & Cultures)
- National Security Language for Youth Scholarship (Bureau of Educational & Cultural Affairs, U.S. Department of State)

Research

Co-Authored Research

- “Capturing the Illiquidity Premium” (with Nathan Foley-Fisher & Stephane Verani)

Research Assistance

- “Assessing the size of the risks posed by life insurers’ nontraditional liabilities” (Nathan Foley-Fisher, Stephane Verani, & Borghan Narajabad)
- “Managing Counterparty Risk in OTC Markets” (Celso Brunetti, Chris Frei, & Agostino Capponi)

Skills

Languages SAS, Stata, R, Python, HTML/CSS/JavaScript, PHP

Environments GNU Linux (Ubuntu), SLURM, Apache Hadoop/Spark/Zeppelin

Software Bloomberg Terminal, Excel/VBA, Git

Experience

Systemic Financial Institutions & Markets Section

Division of Research & Statistics

Board of Governors of the Federal Reserve System

Washington, DC

SENIOR RESEARCH ASSISTANT

November 2017 - PRESENT

- Pioneered the use of new IT infrastructure for financial data management with design of SQL databases with data on insurance companies, structured finance products, and FHLBs to guide input to Quantitative Surveillance (QS) and the Financial Stability Report (FSR)
- Maintained distribution of supervisory data on the on- and off-balance sheet activities of life insurance companies such as funding agreement-backed securities issuance, commercial paper facilities, and securities lending and repo transactions
- Managed the authorized release of confidential regulatory data from the Federal Housing Finance Agency (FHFA) to economists in the Division of Research & Statistics and the Division of Supervision & Regulation via SQL database to support surveillance of borrowing from FHLBs
- Co-authored research with R&S economists describing the impact of Dodd-Frank on the financial system and regulatory arbitrage via statutory accounting principles that increased insurance companies’ risky corporate lending through on- and off-balance sheet investment in CLOs
- Audited and investigated insurance companies’ financial statements to engineer stress tests assessing the impact of a shock to their financial strength and risk-based capital in simulated stress scenarios
- Facilitated the migration of production work to Git repositories and integrated it into research/policy workflows for version-control, better management of code, and documentation of procedures
- Composed Python/BASH scripts to leverage parallel computing on the SLURM cluster for timely processing of ETL jobs across of ten years of daily snapshots for structured finance instruments
- Prepared online user guides and documentation for the management of the insurance and FHLB SQL databases through development of dedicated webpages using PHP, HTML, CSS, and JavaScript
- Monitored the issuance of securitized products and capitalization of financial institutions using a Bloomberg Terminal and created VBA scripts to procure payment feeds on fixed income and structured finance products
- Procured research data on the interconnectedness of intermediary banks in credit default swap transactions using regulatory data
- Reviewed and summarized academic research on insurance companies and FHLBs in order to report on systemic risk stemming from insurance companies’ commercial real estate loan origination and the balance sheet dynamics of FHLBs in the academic literature

Department of Economics

University of Wisconsin-Madison

Madison, WI

UNDERGRADUATE RESEARCHER

January 2017 - May 2017

- Synthesized and joined data from corporate, federal, state, and local statistical reporting agencies to build research datasets
- Transformed time-series and panel data by collapsing high frequency time-series and adjusting data for seasonal trends
- Analyzed different econometric model specifications through optimization of measures of model fit
- Estimated econometric forecasting model parameters with seasonal, cyclical, and trend components
- Conducted statistical tests for Granger non-causality, unit roots, and spurious regressions for validation of econometric analysis and results
- Constructed weighted consensus forecasts using advanced forecast combination methods such as the Granger-Ramanathan method
- Generated high-quality forecast fan charts capturing economic forecast intervals and point forecasts
- Composed formal reports, proposals, and evaluations of econometric models using \LaTeX

Center for Academic Excellence

College of Letters and Sciences

University of Wisconsin-Madison

Madison, WI

ACADEMIC MENTOR

October 2015 - May 2017

- Instructed students in the areas of statistics, econometrics, and economic theory
- Conveyed concepts and ideas in economic theory and statistics in an accessible manner
- Utilized different learning styles and methods to convey intricate details and concepts in mathematical theory

Adventure Learning Programs

Center for Leadership & Involvement

University of Wisconsin-Madison

Madison, WI

WORKSHOP FACILITATOR

November 2015 - May 2017

- Planned and facilitated workshops where participants develop leadership skills, appreciation of others, communication, trust, and community
- Directed reflective group discussions to promote learning and self-awareness of leadership styles
- Delivered oral presentations and instructions to large audiences
- Managed risk throughout ground workshops and on the high ropes course, and assumed legal responsibility for participants on ropes courses