Brian Poi

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Expert-level Economist and Risk Modeler

I am a seasoned professional who combines the highest levels of economic and statistical rigor with open-mindedness, practicality, and integrity to help clients and employers achieve long-term success. I have a proven track record both developing and validating models for consumer credit, deposit balances, and PPNR for use in stress testing and other regulatory requirements like CECL; and I have extensive experience with macroeconomic and regional economic models. On the technology side I am fluent in most data science languages (Python, PySpark, R, Stata, SQL, etc.) and am comfortable with datasets ranging from kilobytes to terabytes. I particularly enjoy mentoring and managing junior economists and data scientists to help them acquire the skills needed to have successful, impactful careers.

Qualifications

Energetic focus fostering successful long-term relationships and making clients succeed.

- Broad expertise in econometrics and statistics, including linear and nonlinear regression, discrete choice modeling, time-series forecasting, panel analyses, and simulation.
- Superb communications skills, both written and oral, with clients from a variety of backgrounds ranging from those with little exposure to economics and banking to experts.
- Deep knowledge of loan- and vintage-level credit models, deposit models, and other quantitative tools used within the banking industry.
- Steady consumer of the latest academic economics and statistics research with an eye on how developments can be used to enhance industry practices.
- Expert-level R, Stata, and Eviews programmer. Significant experience with C, Matlab, Python, PySpark, SQL, etc. Fluent in Linux/Unix and Windows. Remarkable ability to quickly master new domain-specific languages.

Strong desire to branch out into other areas of bank management including pricing, ALM, and capital planning.

Enjoy working with and serving as mentor for recent graduates and junior employees.

Committed to fostering a collaborative, inclusive work environment where everyone feels welcome to contribute.

Experience

Amazon Advertising, New York, NY

Senior Economist (L6), 1/2022—1/2023

- Team built models to predict attribution metrics, reach, and frequency on third-party ads served by Amazon DSP to unrecognized users such as those using Apple iPhones, where identity is blocked. My focus was on establishing "ground truth" estimates of reach and frequency.
- Used big data platforms like AWS EMR clusters, Apache Spark, and PySpark on multi-terabyte datasets.
- Left to pursue opportunities more aligned with my skills and interests.

Nomis Solutions, San Francisco, CA Senior Data Scientist, 2/2020–1/2022

- SaaS company providing solutions to banks and online lenders to optimize pricing decisions, explore new markets, and enable clients to offer personalized, deal-specific prices.
- Created mortgage pricing index at a level of granularity never before seen in the industry; quickly adopted by several leading lenders. Based on hundreds of gigabytes of mortgage quote data.
- Developed proprietary indices of deposit availability and competitive intensity. Allows banks to identify ZIP codes and counties where they could collect deposits at attractive rates.
- Developed macroeconomics dashboard to allow mortgage brokers and lenders to stay abreast of lending conditions in each market they serve.

Moody's Analytics, West Chester, PA Director, 1/2014–7/2019 Associate Director, 9/2010–9/2011

- Creator and product lead of Moody's Bank Call Report Forecasts[®] product. Provides clients with internally consistent forecasts of quarterly financial statements for individual banks, custom peer groups, and the entire population of 5,000+ banks. Used by CCAR banks as a benchmark against internal models for stress-testing and capital planning and used by smaller banks as a primary model for DFAST stress tests and capital planning. My team was responsible for marketing initiatives and demonstrations, sales presentations, product support, etc.
- Creator of Moody's CECL Accelerator[®] prototype product. Calculates FASB-compliant CECL allowances for consumer credit portfolios using data from the Bank Call Report Forecasts product. Estimates vintage-level originations, calculates vintage-level losses and reserves, and requires no proprietary data from the banking institution.
- Global head of model validation for Moody's Analytics Global Macroeconomic Model[®]. Led team responsible for producing independent validation reports of Moody's macroeconomic, regional economic, and house price forecast models. Wrote reports available to subscribers as well as custom reports required by subscribers' internal validation teams.
- Previously led external model validation group that worked with leading banks and fintech companies to validate their internally developed PPNR, consumer credit performance, and scorecard models. Group was named Category Leader in Model Validation Solutions, 2019, by Chartis Research.
- Worked with many industry-leading consumer credit issuers to develop vintage-level credit models as well as loan-level scorecard models. Many models utilized regional economic data in addition to more commonly used national macroeconomic data.
- Served as a mentor to countless junior-level employees, helping them acquire advanced economics, statistics, and programming skills in addition to wisdom about the workplace and life.

StataCorp LLC, College Station, TX Director of Professional Services, 10/2011–12/2013 Senior Economist and Developer, 1/2005–8/2010 Senior Economist and Technical Support Representative, 7/2002–12/2004

- Editor of *The Stata News*, a quarterly marketing bulletin sent to all users.
- Led and mentored a team of junior-level statisticians and programmers.
- Proven track record of managing and completing large-scale projects on time and beyond expectations.
- Provided statistical analysis and economic projections to sales and marketing departments.
- Principle architect for many of the most widely used advanced econometric and time-series commands in Stata statistical software.
- o Created web-based time series course taken by thousands of professionals, academics, and students.
- Wrote and edited documentation targeting a user base with a wide range of backgrounds.
- o Published 13 articles in the Stata Journal, an independent peer-reviewed journal.
- o Received countless accolades from clients for clarity, promptness, and accuracy.

Other Activities

Independent Consultant

- One or two projects per year that pique my intellectual curiosity and serve as weekend challenges.
- Past projects have included specialized software development and writing the fifth edition of my book *Maximum Likelihood Estimation with Stata*.

Education

University of Michigan: PhD, Economics, 8/2002, MA, Economics, 4/1999

- o Dissertation (James Levinsohn, chair of committee): Three Essays in Applied Econometrics.
- o Areas of specialization: industrial organization, applied econometrics, consumer behavior, international trade.

Indiana University: BA, Economics, 5/1995

- Magna cum laude, Phi Beta Kappa, with honors in economics.
- 1995 James E. Moffatt Outstanding Senior Award winner.

Scholarship

- o 13 peer-reviewed, published articles as of December 2022, mainly in applied econometrics.
- 1,722 citations; average of 127 per year in past five years.
- All-time Google h-index: 14; i10-index: 15.
- o Many white papers and non-peer-reviewed articles in circulation as well.

Publications

- Gould, W., Pitblado, J., and Poi, B. (2023). *Maximum Likelihood Estimation with Stata*, 5th ed. College Station, TX: Stata Press. Principal author of fourth and fifth editions.
- Poi, B. (2022). Bootstrap forecast intervals in vector autoregressive models. Manuscript to be submitted for publication upon completion.
- Poi, B. (2012). Easy demand-system estimation with quaids. Stata Journal, 12(3), 433-446.
- Poi, B. (2008). Demand-system estimation: Update. Stata Journal, 8(4), 554-556.
- Yasar, M., Raciborsky, R., and Poi, B. (2008). Production function estimation in Stata using the Olley and Pakes method. *Stata Journal*, *8*(2), 221–231.
- Poi, B. (2008). Stata tip 58: nl is not just for nonlinear models. Stata Journal, 8(1), 139-141.
- Mikusheva, A. and Poi, B. (2006). Tests and confidence sets with correct size when instruments are potentially weak. *Stata Journal*, *6*(3), 335–347.
- Poi, B. (2006). Jackknife instrumental variables estimation in Stata. Stata Journal, 6(3), 364-376.
- Poi, B. (2004). From the help desk: Some bootstrapping techniques. Stata Journal, 4(3), 312–328.
- Petrin, A., Levinsohn, J., and Poi, B. (2004). Production function estimation in Stata using inputs to control for unobservables. *Stata Journal*, 4(2), 113–123.
- Poi, B. (2003). From the help desk: Swamy's random-coefficients model. Stata Journal, 3(3), 302–308.
- Moreira, M. and Poi, B. (2003). Implementing tests with correct size in the simultaneous equations model. *Stata Journal*, 3(1), 57–70.
- Poi, B. (2002). From the help desk: Demand system estimation. Stata Journal, 2(4), 403–410.
- Poi, B. (2002). Three Essays in Applied Econometrics. Ph.D. thesis, Ann Arbor, MI: University of Michigan.

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