Grant M. Aarons

Curriculum Vitae updated August 2016

CONTACT INFORMATION

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RESEARCH INTERESTS

Primary: Empirical Macro, Factor Modeling,
Real-time Data, Labor Dynamics
Secondary: Policy Analysis, Reduced Rank Methods

EDUCATION

London Business School – London, UK *Expected 2021*
PhD Programme in Economics

The Cooper Union for the Advancement of Art and Science – New York, NY *May 2014*
Bachelor of Engineering, Mechanical Engineering: 3.5 Overall, 3.7 Major GPA
Full-Tuition Merit Scholarship, 2010-2014: Graduated with Distinction – Cum Laude

RESEARCH EXPERIENCE

Senior Research Analyst – Federal Reserve Bank of New York *July 2014 – Present*

- Factor Modeling: Various estimators with restrictions

  Nowcast Platform with Dr. Domenico Giannone
  - Extract dynamic factor from 2-stage likelihood estimator [principle component initialization, and Kalman filter] with state space calculations in MATLAB
  - Analyze real-time data flow, updating the state vector, to yield weekly GDP forecasts; methodology from Dr. Giannnone co-founded company and papers Now-casting.com
  - Jagged-edge vintage datasets collected from FRED, and Bloomberg; used in validation
  - Specification of factor structure using loss function tests at various forecast horizons
  - Presentations to President Dudley and weekly forecasts distributed department-wide

  Factor Augmented Vector Autoregression with Dr. Marc Giannoni
  - Extract static factor and apply *a posteriori* time dynamics
  - Explicitly modify the estimation routine to disentangle monetary policy mechanisms
  - Reduced-rank approximations of the covariance matrix
  - Address *a priori* factor structure (data baskets) assumptions by testing different orthonormal factor basis restrictions

  Regional Coincident Economic Indicators with Drs. James Orr and Robert Rich
  - Research characteristics of this small span (4 variable) dynamic factor model; revisions to data history & monthly releases causing pre-mature changes to Kalman filtered states
  - Run the model monthly, check autoregressive specifications, and post to web CEI

- Head Research Analyst: Forecasting Team

  Staff Judgmental Forecast with Drs. Richard Peach and Argia Sbordone
  - Full automation of forecast relationships in Visual Basic (lead 3 RAs from cohort)
  - Detailed knowledge of NIPA, CPI, and PCE tables

  Judgmental Forecast Comparison with Drs. Domenico Giannone and Argia Sbordone
  - Diebold and Mariano (1995) tests of forecast rationality between Blackbook, Tealbook, Survey of Professional Forecasters, and Blue Chip at various horizons

Professional Experience

Summary Analyst – Federal Reserve Bank of New York *July – September 2013*

- Engineering write-up of documentation for LEED accreditation: building sustainability
- Connected with Research Economists following open seminars to discuss their research
  *Led to interview with Drs. Del Negro and Giannoni – hired for state space based research

Mechanical Engineering Intern – Syska Hennessy *July – September 2012*

- Prepared medical facility drawings; calculating negative pressure differentials airflows
- Worked through the business of document versioning, revisions, and submittal

Teaching

Visiting Professor – Mathematical Modeling for Economics & Financial Engineering *Fall 2015*

- EID300 at Cooper Union: Structural & Reduced Form Vector Autoregression, Identification, Impulse Response, Bootstrap, Reduced Rank Approximation
- Final data intensive projects through my personal webpage.

Publications

Aarons G, Giannoni M, and E Schaumburg (2016) “Forecasting Financial Conditions; A Factor Augmented Vector Autoregressive (FAVAR) Approach.” *In-Preparation: Conferences*

Aarons G. (2015) “Coincident Economic Indicators: New York, New Jersey, and New York City.” *Federal Reserve Bank of New York: Economic Research*, Web.

Aarons G. (2014) “Reconstructing a Critical Interest Rate Spread from Macroeconomic Indicators.” *In-Preparation: Conferences and Cooper Union*

Contributions

Del Negro Marco, Marc Giannoni, and Christina Patterson (2016). “The Forward Guidance Puzzle.” *In-Preparation: NBER and Conferences*

Conferences

Speaker & Discussant – Eastern Economic Association – New York, NY *February 2015*

Aarons, Grant “Reconstructing a Critical Interest Rate Spread from Macroeconomic Indicators”

Research Contributor – Forward Guidance and Expectations – New York, NY *May 2015*

Del Negro Marco, Marc Giannoni, and Christina Patterson (2016). “The Forward Guidance Puzzle.” Banque de France and Federal Reserve Bank of New York.

Programming Experience

Primary: MATLAB, Stata, Visual Basic, LaTeX, Microsoft Office
Secondary: Github/Git, Server & Parallel Computing, R, SAS, RATS, GAUSS, Eclipse

Campus Activities & Outreach

Cooper Union Basketball Captain, Collegiate Season *2013-2014*
Cooper Union Basketball Coach, Collegiate Season *2015-2016*

Research Advisor – Federal Reserve Challenge Team
Undergraduate: Cooper Union *Fall 2015*
High School: Croton Harmon *Spring 2016*

Diversity & Outreach – FRBNY Research Analyst Program *July 2014 – Present*
Math X Economics Speaker at Lehman College, Bronx NY
Math Lounge Speaker at Borough Manhattan Community College, Manhattan NY

Certificates & Awards

Full-Tuition Merit Scholarship, Cooper Union *2010-2014*
Pi Tau Sigma, Mechanical Engineering Honor Society [1st Round Inductee] *Fall 2013*
Statistical Learning, Stanford *April 2014*
Performance Excellence Award, FRBNY – Developing Nowcasting Framework *June 2015*
– Presidential Briefing, Factor Models *June 2015*
– Staff PCE Forecast Automation *October 2015*