Nika Lazaryan   *Curriculum Vitae*

nika.lazaryan@rich.frb.org
https://sites.google.com/site/nllazaryan/

Employment

Federal Reserve Bank of Richmond

Apr 2020 – present   **QSR Manager, Quantitative Supervision and Research/SRC**
Deputy Lead of DFAST stress-testing PPNR modeling team.

May 2019 – Apr 2020   **Senior Quantitative Analyst, Quantitative Supervision and Research/SRC**
Member of the DFAST stress-testing modeling teams: operational risk, wholesale credit risk; quantitative support to local bank exams.

Jun 2010 – May 2019   **Various analyst positions in Research, Community Development and Human Resources departments**

Virginia Commonwealth University

Aug. 2015 – May 2019   **Affiliate/Adjunct Faculty**
Teaching and research collaboration at the Depts. of Economics and Mathematics.

Jan. 2009 – May 2010   **Graduate Assistant**
Teaching and research assistance to the Department of Economics.

FINCA International
Jun. 2008 – Aug. 2008   **Research fellow, microfinance client assessment**
Research on microfinance client assessment. Collection and primary analysis of baseline survey data on microfinance clients in the Republics of Georgia and Armenia.

Work experience prior to graduate school was in the fields of international development, microfinance, real estate, personal/corporate bankruptcies, teaching, translations. Full resume available upon request.

Education

Dec. 2015   **PhD, Systems Modeling and Analysis**
Concentration: Applied Mathematics. Secondary concentration: Statistics
Departments of Mathematics and Statistical Sciences/Operations Research
Virginia Commonwealth University

May 2010   **MA, Economics**
School of Business, Virginia Commonwealth University

June 2002   **MA, English Linguistics and Area Studies**
Yerevan State University of Linguistics after V. Brusov

Academic Activities

Publications in peer-reviewed journals

Global dynamics in a search and matching model of the labor market, with T. Lubik. *Economic Theory,* May, 2018, 1-17.

Extinction and the Allee effect in an age structured Ricker population model with inter-stage interaction, with H. Sedaghat. *Discrete and Continuous Dynamical Systems,* March 2018, 23(2), 731-747.

Using Richmond Fed manufacturing survey to gauge national and regional economic conditions, with S. Pinto. *Federal Reserve Bank of Richmond Economic Quarterly,* 2017, 103(1-4).

Monetary incentives and mortgage renegotiation outcomes, with U. Neelakantan. *Federal Reserve Bank of Richmond Economic Quarterly.* 2016, 102(2), 147-168.

Global stability and periodic solutions for a second order rational equation. with H. Sedaghat. *International Journal of Difference Equations,* 2016, 11(1), 79-103.

Periodic and non-periodic solutions in a Ricker-type second-order equation with periodic coefficients, with H. Sedaghat. *Journal of Difference Equations and Applications,* 2016, doi:10.1080/10236198.2016. 1187142.

Extinction, periodicity and multistability in a Ricker model of stage-structured populations, with H. Sedaghat. *Journal of Difference Equations and Applications,* 2015, 22(4), 645-670.

Dynamics of planar systems that model stage-structured populations, with H. Sedaghat. *Discrete Dynamics in Nature and Society,* vol. 2015, Article ID 137182, 2015. doi: 10.1155/2015/137182.

Periodic and chaotic orbits of a discrete rational system, with H. Sedaghat. *Discrete Dynamics in Nature and Society,* vol. 2015, Article ID 519598, 2015, doi: 10/1155/2015/519598.

Federal Reserve publications

How couples approach portfolio allocation, with U. Neelakantan and H. Fessenden. *Federal Reserve Bank of Richmond Economic Brief*, 2017, 17-02.

The prevalence of apprenticeships in Germany and the US, with U. Neelakantan and D. Price. *Federal Reserve Bank of Richmond Economic Brief,* 2014, 14-08.

Foreclosure crisis and response: How homeowners fared in reaching out for mortgage assistance, with S. McKay and U. Neelakantan. *Community Scope*, Federal Reserve Bank of Richmond, 2013, 3(2).

Work in progress

Operational loss recoveries and the macroeconomic environment: Evidence from the US banking sector, with S. Frame, P. McLemore and A. Mihov. Under review.

Cyber risk in the financial Sector, with F. Curti, J. Gerlach and S. Kazinnik. Working paper.

Operational losses and natural disasters, with F. Curti and A. Mihov. In preparation.

Periodic and chaotic solutions in the survival region of a second order exponential difference equation with Allee effect, with H. Sedaghat. Working paper.

Periodic and non-periodic solutions of an exponential difference equation with periodic parameters, with H. Sedaghat. Working paper.

Uniform boundedness and global convergence in higher order fractional difference equations, with H. Sedaghat. Working paper.

Research interests and projects in the making

Nonfinancial risks: operational risk, cyber risk, climate risk (with F. Curti and A. Mihov).

Empirical banking: optimal bank size, geography of bank diversification (with N. Prescott and Z. Wang).

Nonlinear dynamics:
   Algebraic dynamics; dynamical systems as algebraic structures.

Nonlinear dynamics in economics: Perils of approximations (with T. Lubik).
   Testing for chaos and nonlinearities in economic time series (with T. Lubik).

Statistics: Estimating transition rates in Markov models with cross-sectional data (with E. Boone).

Teaching experience (Virginia Commonwealth University)

- Panel and Nonlinear Methods in Econometrics (graduate course): Fall 2018 and 2015.
- Introduction to Mathematical Economics (upper-level undergraduate course): Spring 2017-2019.
- Calculus and Analytic Geometry I and II: 2016-2018.
  Average student evaluations: 4.7-5/5.

Invited talks at conferences and seminars

Presented at invited talks at conferences and seminars:
- Society of Nonlinear Dynamics and Econometrics (Paris, France)
- American Mathematical Society (Raleigh NC, Memphis, TN, Washington, DC, Greensboro, NC)
- International Society of Difference Equations (Covilha, Portugal)
- Joint Mathematics Meetings (Seattle, WA; Baltimore, MD)

- Virginia Commonwealth University (Richmond, VA)
- Federal Reserve System Community Development Research Conference (Washington, DC)
- Federal Reserve Bank of Richmond (Richmond, VA, Charlotte, NC)
- Virginia Association of Economists (Lynchburg, VA)

Referee experience
Journal of Difference Equations and Applications, Mathematics and Financial Economics, Federal Reserve Bank of Richmond Economic Quarterly.

Memberships
American Mathematical Society, Phi Kappa Phi.

Programming languages
Stata, Matlab, SAS, R, Python, AMPL, LaTex

Languages
- English (professional proficiency, primary language of communication)
- Russian (near-native proficiency)
- Armenian (native proficiency)

Hobbies and interests
Creative writing, philosophy, classical music, photography.