

Daniel H. Neilson

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EDUCATION

Columbia University, Department of Economics, New York, NY, 2004–present.

- M.A. 2006, M.Phil. 2007, Ph.D. expected: 2009

Simon's Rock College, Great Barrington, MA, 1997–2001.

- B.A. *magna cum laude*, 2001; Majors: mathematics, music
- Thesis title: “Methods: a study of theory and practice in three disciplines”

Norwegian University of Science and Technology, Trondheim, Norway, 2000.

- Exchange student in mathematics, linguistics, and Norwegian language

Coursework

- M.A. fields: microeconomic theory, economic development
- Graduate: macroeconomic theory, econometrics and statistics, probability theory
- Advanced mathematics: real analysis, differential geometry, algebraic geometry, differential topology

AWARDS AND FELLOWSHIPS

Complex Systems Summer School participant, *Santa Fe Institute*, 2007.

NSF-IGERT International development and globalization graduate fellow, *Columbia University*, 2004–2007.

- Graduate fellowship for multidisciplinary social-science approaches to development and globalization Hutchins scholar, *Simon's Rock College*, 1999–2001.

RESEARCH

Manuscripts in progress

- “Cash and carry”, advisor and co-author: Perry Mehrling, Barnard College.

Studied two puzzles of monetary economics, the failure of the expectations theory of the term structure of interest rates and the failure of uncovered interest parity, by considering the natural arbitrage which would take advantage of each anomaly. Contractual particulars of the futures market mean that these trades expose the arbitrageur to liquidity risk, which may explain the failure of the theory in these cases.

- “Multiplicative random processes as models of firm growth: an evaluation using order statistics”, advisor: Duncan Watts.

Simulated stochastic-process models for firm growth, using order statistics to test simulations against COMPUSTAT firm data. Designed simulation in Python programming language. Created, merged, and analyzed large data sets.

Non-refereed publications

- “Limits of prediction in modeling social systems”, co-author: Andrew Bell, University of Michigan.
- “Nonlinear reversion to purchasing-power parity in exchange rates using daily data”, advisor: Bankim Chadha, Deutsche Bank.

Used exponential smooth-transition autoregressive (ESTAR) models to study mean-reversion in daily exchange-rate series. Confirmed earlier studies which had used monthly data. Used non-parametric methods to study characteristics of mean-reversion.

Unpublished papers

- “Firm-size distribution in Chile: a quantile-regression approach”, advisor: Eric Verhoogen. (M.A. paper.) Used quantile regression to study change in size distribution of firms following Chile's economic liberalization in the 1980s and 1990s. Wrote code for statistical analysis in R. Managed and manipulated large data set.

Research interests

- Open-source software, money and the banking system
- Social networks, graph theory, microeconomic theory, complex systems

Seminar

- “Firm size”, IGERT-IDG student seminar, November 2005.
Wrote and presented two-hour seminar on two current projects related to firm growth and size.

TEACHING

Teaching assistant, Money and banking, *Columbia University*, Fall 2006, Fall 2007. Supervisor: Prof. Perry Mehrling.

Prepared and held weekly recitations and office hours, focusing on students' understanding of foundational texts in monetary economics and banking. Additionally, developed technical details introduced in class. Met individually with students. Graded homework and exams.

TECHNICAL SKILLS

Applications	Stata, R, EViews, L ^A T _E X, Matlab, s+, Excel, Word, Powerpoint, Access
Programming	Python, C/C++, Visual Basic, bash
Operating systems	Linux, UNIX, Windows 2000/XP, Mac OS

CONSULTING

AJA Risk Management Consultants, Economic consultant, Great Barrington, MA, 2007.

PROFESSIONAL EXPERIENCE

Deutsche Bank, Research intern, New York, NY, 2006.

Applied Educational Research, Inc., Programmer/analyst, Princeton, NJ, 2001–2002, 2004, 2006–7.

- Wrote data-manipulation software in Python to generate reports for client delivery from raw-data output. Created customer-records database in Access. Software is currently in use, and has saved the company time and improved record-keeping by allowing easier electronic storage.

Kaplan Test Prep Inc., Law School admissions test tutor and teacher, New Brunswick, NJ, 2004.

- Qualified by scoring above 90th percentile on LSAT.

American International Group, Inc., Compliance analyst, New York, NY, 2002–2003.

- Coordinated compliance activities throughout AIG's domestic commercial insurance business. Responsible for monitoring upcoming deadlines, coordinating between business units to ensure timely compliance, documentation and record-keeping.

Simon's Rock College, Research assistant, Physics department, Great Barrington, MA, 1999–2001.

LANGUAGES

Spanish, French: proficient

Norwegian, Turkish, Italian: slight

PROFESSIONAL SERVICE

Vice president, Association of graduate economics students, *Columbia University*, 2006–2007.