



THE JOHNS HOPKINS UNIVERSITY

DEPARTMENT OF ECONOMICS

Tel: (410) 516-7601  
Tel: (410) 516-7600

---

Dear Colleague:

Enclosed please find the packet containing an annotated list of the Johns Hopkins Ph.D. candidates in economics who are on the job market this year, along with their curriculum vitae and dissertation abstracts. Please note that the same information is available on our web site, <http://econ.jhu.edu/directoryindex/job-market/>.

All of these candidates expect to complete their dissertations by September of next year and will attend the AEA meeting in January.

Feel free to contact me if you have questions regarding any of the candidates. Of course, you can also contact the candidates directly, or their advisors.

Thank you.

Sincerely,

Chris Carroll

Placement Officer

[ccarroll@jhu.edu](mailto:ccarroll@jhu.edu)

**Department of Economics  
Faculty 2011-2012**

NAME	OFFICE TELEPHONE	E-MAIL
Laurence Ball	410-516-7605	lball@jhu.edu
Christopher Carroll	410-516-7602	ccarroll@jhu.edu
Greg Duffee	410-516-8828	duffee@jhu.edu
Hülya Eraslan	410-516-6118	eraslan@jhu.edu
Jon Faust	410-516-7614	faustj@jhu.edu
Caroline Fohlin	410-516-6135	fohlin@jhu.edu
Mark Gersovitz	410-516-7612	gerso@att.net
Bruce Hamilton	410-516-7613	bruce.hamilton@jhu.edu
Joseph Harrington	410-516-7615	joe.harrington@jhu.edu
Yingyao Hu	410-516-7610	yhu@jhu.edu
Olivier Jeanne	410-516-7604	ojeanne@jhu.edu
Przemek Jeziorski	410-516-4938	przemekj@jhu.edu
Edi Karni	410-516-7608	karni@jhu.edu
M. Ali Khan	410-516-8545	akhan@jhu.edu
Elena Krasnokutskaya	410-516-7606	ekrasno1@jhu.edu
Louis Maccini	410-516-7607	maccini@jhu.edu
Robert Moffitt	410-516-7611	moffitt@jhu.edu
Barbara Morgan	410-516-7529	bmorgan@jhu.edu
Richard Spady	908-727-0687	rspady@jhu.edu
Jonathan Wright	410-516-5728	wrightj@jhu.edu

Mailing address for all Faculty is:

Johns Hopkins University  
Department of Economics  
440 Mergenthaler Hall  
3400 North Charles Street  
Baltimore, MD 21218

Academic Program Coordinator: Maggie Potts  
Telephone: 410-516-7570  
Fax: 410-516-7600  
E-mail: mpotts@jhu.edu

**Other References  
For Job Candidates 2011**

NAME	OFFICE TELEPHONE	E-MAIL
Dale Jorgenson	(617) 495-4661	djorgenson@harvard.edu
Pravin Krishna	(202) 663-5733	Pravin_Krishna@jhu.edu
Stephen H. Shore	(202) 622-1513	sshore@gsu.edu
Tiemen Woutersen	(520) 621-6224	woutersen@email.arizona.edu

**The Johns Hopkins University Department of Economics  
Job Candidates 2011**

<b>Last Name</b>	<b>First Name</b>	<b>E-mail</b>	<b>Thesis Title</b>	<b>Fields</b>	<b>Advisors</b>
Barth	Daniel	dbarth4@jhu.edu	Essays on Household Financial and Labor Decisions	Financial Economics, Applied Microeconomics, Labor Economics	Prof. Greg Duffee Prof. Christopher Carroll Dr. Stephen Shore
Lake	James	jlake2@jhu.edu	Essays in International Trade Agreements	International Trade, Networks, Microeconomics, Game Theory, Applied Econometrics	Prof. Pravin Krishna Prof. M. Ali Khan Prof. Richard Spady
Phelan	Brian	bphelan2@jhu.edu	Essays on the Cost of Worker Displacement	Labor Economics, Applied Microeconomics, Applied Econometrics, Demographic Economics	Prof. Robert Moffitt Prof. Tiemen Woutersen Prof. Richard Spady
Samuels	Jon	jon.samuels@jhu.edu	Essays on Technology and Forecasting	Macroeconomics, Economic Growth and Productivity, Economics of Information Technology	Prof. Jon Faust Prof. Dale Jorgenson Prof. Jonathan Wright
Sekkel	Rodrigo	rsekkel@jhu.edu	Essays on Forecasting in Macroeconomics and Finance	Time Series Econometrics, Applied Macroeconomics, Empirical Finance	Prof. Jonathan Wright Prof. Jon Faust
Wu	Weifeng	wwu19@jhu.edu	Essays on Household Saving Behavior and Habit Formation	Macroeconomics, International Economics, Computational Economics, Monetary Economics	Prof. Christopher Carroll Prof. Olivier Jeanne Prof. Laurence Ball

# Essays on Household Financial and Labor Decisions

Daniel Barth

A household's investment, savings and labor decisions play an integral role in household welfare. My dissertation explores the underlying idiosyncratic factors which motivate household choices about investment and career choice.

## **1 Wealth, Direct Stock Ownership, and Household Beliefs about the Predictability of Individual Stock Returns (Job Market Paper)**

A well documented feature of household investment portfolios is the often sizable allocation to individual stocks. This paper is the first to estimate a structural model of the beliefs required to rationalize this direct stock ownership. In the model, households believe they can learn about individual stock returns through costly research. I show that the model generates investment choices consistent with many of the observed features of household portfolios. Further, the model identifies both the distribution of research costs and the distribution of household beliefs about the predictability of individual stock returns. Estimation results indicate that most households have only modestly optimistic beliefs about the benefits of individual stock research, although a minority must expect research to yield exceptionally high return premiums.

## **2 Identifying Idiosyncratic Career Taste and Skill with Income Risk (with Stephen H. Shore and Shane T. Jensen)**

How important to well-being is choosing a career with the right fit? This question is difficult to answer because we observe individuals only in their chosen careers, but not in the other (presumably inferior) options they did not choose. To overcome this problem, we estimate a model in which individuals vary in risk tolerance, ability and idiosyncratic skill in and taste for various careers. Individuals choose from a set of careers that differ in income risk, typical pay, and other attributes. Given the model, the importance of idiosyncratic taste and skill is identified from the shift in the distribution of income risk with risk aversion. We estimate the model using individual-specific measures of income volatility to proxy for income risk and survey questions about hypothetical income gambles to proxy for risk preference, both from the PSID. We separate idiosyncratic career taste from skill using the pay gap between high- and low-income risk people with high and low risk-aversion.

## **3 Estimating Effort Shirking with Endogenous Contract Lengths: A Case Study of the NBA**

Previous research in sports economics has documented a negative correlation between player performance and the time until contract expiration. This correlation is usually attributed to optimal effort shirking. An alternative explanation is that contract lengths are chosen endogenously. Athletes may negotiate for contracts which expire in the year they expect their ability to peak. Such choices would also produce a negative correlation between player performance and the time until contract expiration. Using panel data from the NBA, this paper develops an estimation strategy which tests for the presence of effort shirking while controlling for endogenously chosen contract lengths. Estimation results indicate that no effort shirking is present in the data once endogenous contract lengths are accounted for.

## DANIEL BARTH

Johns Hopkins University  
Department of Economics  
3400 N. Charles St.  
Baltimore, MD 21218, USA  
(410) 516-7601

108 W. 39th St., Apt.40  
Baltimore, MD 21210, USA  
Cell: (503) 317-6430  
dbarth4@jhu.edu  
URL:econ.jhu.edu/directory/Daniel-Barth

---

### PERSONAL INFORMATION

Citizenship: U.S. Citizen  
Date of Birth: January 4th, 1982

### EDUCATION

Ph.D. in Economics, Johns Hopkins University, June 2012 (expected).  
M.A. in Economics, Johns Hopkins University, May 2009.  
B.A. in Business Economics, Lewis and Clark College, May 2004.

### RESEARCH PAPERS

“Wealth, Direct Stock Ownership, and Household Beliefs about the Predictability of Individual Stock Returns,” - *Job Market Paper* (PDF).  
“Identifying Idiosyncratic Career Taste and Skill with Income Risk,” with Stephen H. Shore and Shane T. Jensen - *Under Review*, 2011 (PDF).  
“Estimating Effort Shirking with Endogenous Contract Lengths: A Case Study of the NBA,” *Work in Progress*, 2011.

### TEACHING EXPERIENCE

Instructor, Johns Hopkins University, M.A. in Applied Economics Program, 2009 - Present.  
(average of student evaluations: 4.75/5)  
Teaching Assistant to Prof. Bruce Hamilton, Elements of Microeconomics, Spring 2009.  
Teaching Assistant to Prof. Stephen Shore, Investments and Portfolio Management, Fall 2008.  
Teaching Assistant to Prof. Burt Barnow, Labor Economics, Spring 2008.

### AWARDS

Professor Joel Dean Teaching Award, for Excellence in Undergraduate Teaching, 2009  
Department Fellowship, Johns Hopkins University, 2008–present.

DANIEL BARTH

**PROFESSIONAL ACTIVITIES**

Referee, *American Economic Review*

**PRESENTATIONS**

SOLE/EALE Annual Joint Conference, 2010

Foster School of Business, University of Washington - Lunch Seminar (August 2011)

**WORK EXPERIENCE**

Project Intern, M Financial, 2007

Analyst, CTC Consulting, 2004-2006

**SKILLS**

Programming: MATLAB, Stata, T<sub>E</sub>X.

Languages: English (native).

**REFERENCES**

Professor Greg Duffee, Johns Hopkins University  
e-mail: [duffee@jhu.edu](mailto:duffee@jhu.edu), Phone: (410) 516-8828

Professor Christopher Carroll, Johns Hopkins University  
e-mail: [ccarroll@jhu.edu](mailto:ccarroll@jhu.edu), Phone: (410) 516-7602

Professor Stephen H. Shore, Robinson College of Business - Georgia State University  
On leave at United States Treasury: Aug. 2011 - July 2012  
e-mail: [sshore@gsu.edu](mailto:sshore@gsu.edu), Phone: (202) 622-1513 (Treasury Dept.)

# Essays in International Trade Agreements

James Lake

## **Preferential Trade Agreements as Dynamic Farsighted Networks**

(job market paper, revise and resubmit, *Journal of International Economics*)

In the presence of multilateral negotiations, are preferential trade agreements (PTAs) necessary for, or will they necessarily lead away from, global free trade? This question is explored using a novel dynamic network theoretic model in which countries are farsighted and asymmetric in terms of market size. I develop a new equilibrium concept that endogenizes the order of negotiations. When two countries have a PTA, one member's formation of an additional PTA may create incentives for its original partner to form a PTA with its new partner. When considering forming an additional PTA, the current member therefore recognizes the potential for erosion of its preferential access in both partner markets. This fear of preference erosion undermines its willingness to form the additional PTA. Global free trade is attained when countries fear of preference erosion is sufficiently small. Even when countries are symmetric in terms of market size, the discount factor determines the importance of preference erosion. Since greater asymmetry increases rents protected by members, preference erosion becomes more costly and the scope for global free trade falls. However, under high enough asymmetry, some future PTAs do not form. This eliminates the fear of preference erosion for certain countries and dramatically increases the extent to which PTAs are necessary for global free trade. The model provides insights into the dynamics of recent trade negotiations involving the US. It also suggests that the ambiguities inherent in GATT Article XXIV may actually promote global free trade.

## **Preferential Trade Agreements: an Empirical Network Approach (in progress)**

Competitive liberalization is a consistent theme in domestic policy discussions surrounding preferential trade agreements (PTAs). This view posits that countries compete to gain a foothold in desirable export markets. Put simply, the value of preferential market access gained in any particular market varies inversely with the number of other countries who already have preferential access. This provides a strong foundation for the proposition that the structure of the global trade network is an important determinant of the ever increasing pace of PTA formation. The empirical model used extends the empirical model of Christakis, Fowler, Imbens and Kalyanaraman (2010) to a setting of repeated network observations. Because the network structure makes direct use of the likelihood function computationally impractical, a Bayesian Markov chain Monte Carlo procedure is used to draw from the posterior distribution of the parameter vector. Estimation of parameters governing how the network structure affects the attractiveness of PTAs enables predictions regarding the future state of the global trade network. Consideration of counterfactual states of the global trade network, such as the absence of NAFTA, are also possible.

## **Tariff Transitions and Binding Overhang (with Maia Linask, U of Richmond)**

Little theoretical work explains why governments routinely set tariffs below their WTO commitments, a practice known as binding overhang. In a dynamic lobbying model, we view government as being captured by importers or exporters. Initially, importers control tariff policy. To pre-emptively avoid exporter lobbying, importers are content with a lower tariff when the time varying opportunity cost of lobbying is low. Thus, the average tariff falls as lobbying becomes easier, which increases binding overhang. However, eventually importers cannot prevent exporter lobbying, and exporters gain control of tariff setting. Then, binding overhang falls as lobbying becomes easier because exporters accept a higher average tariff to maintain control. The size of the economy also affects binding overhang. In particular, a larger economy increases the opportunity cost of lobbying, which lowers the variance of binding overhang. Hence, the model offers empirically testable predications relating the first and second moments of binding overhang to the ease of lobbying and the size of the economy.

## JAMES LAKE

Johns Hopkins University  
Department of Economics  
3400 N. Charles St.  
Baltimore, MD 21218, USA  
(410) 516-7601  
<http://www.econ.jhu.edu/directory/james-lake>

Citizenship: Australia  
Date of Birth: February 21, 1982  
Cell Phone: (410) 245-9238  
[james.lake@jhu.edu](mailto:james.lake@jhu.edu)

---

### EDUCATION

**Ph.D. in Economics**, Johns Hopkins University, June 2012 (expected)

Advisors: Pravin Krishna (primary), M. Ali Khan, Richard Spady

Dissertation: *Essays in International Trade Agreements*

**M.A. in Economics**, Johns Hopkins University, October 2007

**M.Phil. in Economics**, *first class honors*, Monash University, Australia, May 2006

**B.Econ**, *first class honors*, Monash University, Australia, November 2003

**B.Acc**, Monash University, Australia, November 2002

### RESEARCH INTERESTS

International Trade, Networks, Microeconomics, Game Theory, Applied Econometrics

### TEACHING INTERESTS

International Trade, Microeconomics, Game Theory, Econometrics

### RESEARCH PAPERS

“Preferential Trade Agreements as Dynamic Farsighted Networks,” *job market paper* (revise and resubmit, *Journal of International Economics*)

“Preferential Trade Agreements: An Empirical Network Approach” (in progress)

“Tariff Transitions and Binding Overhang”, with Maia Linask (U of Richmond)

“The Near Equivalence of Tariffs and Quotas under Rent Seeking”, with Maia Linask (U of Richmond)

### PRESENTATIONS

*Preferential Trade Agreements as Dynamic Farsighted Networks*

European Economic Association Meetings (Oslo, 2011), Stony Brook Game Theory Festival–Workshop on Game Theory in Trade and Development (SUNY Stony Brook, 2011), Asia Pacific Trade Seminars (U of Hawaii, 2011), Public Economic Theory Conference (U of Indiana, 2011), Midwest International Economic Group Spring Meeting (U of Notre Dame, 2011), Eastern Economic Association Annual Conference (Philadelphia, 2010)

*Binding overhang and tariff transitions*

Western Economic Association International (San Diego, 2011)

## ACADEMIC EXPERIENCE

### Primary Instructor

Econometrics, Johns Hopkins University (Fall 2011)

Econometrics (online), Johns Hopkins University, Master of Science in Applied Economics (Summer 2011, Summer 2012)

Elements of Macroeconomics, Johns Hopkins University (Summer 2009, Summer 2010)

### Teaching Assistant

Elements of Microeconomics, Prof. Bruce Hamilton (Spring 2010, Spring 2011, Spring 2012)

International Trade, Prof. M. Ali Khan (Fall 2009, Fall 2010)

Game Theory, Prof. Ted To (Spring 2006)

Elements of Macroeconomics, Prof. Larry Ball (Fall 2006) and Prof. Lou Maccini (Fall 2008)

Monetary Analysis, Prof. Larry Ball (Spring 2007, Spring 2009)

### Research Assistant

Prof. Larry Ball, Johns Hopkins University (June 2007–March 2008)

Prof. Vai-Lam Mui, Monash University, Australia (August 2004–July 2005)

### Referee

B.E. Journal of Macroeconomics

## PROFESSIONAL EXPERIENCE

**English Teacher**, KAPLAN, Tokyo, Japan, (June 2007–March 2008)

**Intern**, PriceWaterhouse Coopers (Summer 2000, Summer 2002, Summer 2003)

## PROGRAMMING SKILLS

**Programming:** MATLAB, R, Stata, T<sub>E</sub>X

## FELLOWSHIPS AND AWARDS

**Professor Joel Dean Undergraduate Teaching Award**, Johns Hopkins University, 2010/2011

**Bruce Hamilton Research Seminar Award**, Johns Hopkins University, Department of Economics, 2009/2010, 2010/2011

**Graduate Fellowship**, Johns Hopkins University, Department of Economics, 2005–2007, 2008–present

**Vice-Chancellor’s Commendation Award for Masters Thesis Excellence**, Monash University, Australia, 2006

**Australian Postgraduate Award**, Monash University, Australia, 2004–2005

**R.H. Snape Prize** (top average for Economic honors student), Monash University, Australia, 2003

## REFERENCES

Professor Pravin Krishna (primary advisor)  
Johns Hopkins University, School of Advanced International Studies,  
Department of Economics  
E-mail: Pravin.Krishna@jhu.edu, Phone: (202) 663-5733

Professor M. Ali Khan  
Johns Hopkins University, Department of Economics  
E-mail: akhan@jhu.edu, Phone: (410) 516-8545

Professor Richard Spady  
Johns Hopkins University, Department of Economics  
E-mail: rspady@jhu.edu, Phone: (908) 727-0687

Professor Bruce Hamilton (teaching)  
Johns Hopkins University, Department of Economics  
E-mail: bruce.hamilton@jhu.edu, Phone: (410) 516-7613

# Essays on the Cost of Worker Displacement

Brian Phelan

## 1 Task Mismatch & the Reemployment of Displaced Workers (*Job Market Paper*)

A common empirical finding in the displacement literature is that displaced workers that switch industries following displacement experience larger relative earnings losses than those that remain in their pre-displacement industry. While the standard explanation for this stylized fact is that “switchers” lose accumulated industry-specific human capital that “stayers” retain, this explanation ignores the endogeneity of reemployment and does not explain why switchers would ever choose to switch. I develop a match-based model of wages and endogenous mobility where a worker’s ability to find another good firm-level match depends upon his match with the overall labor market. If industries are sufficiently distinct from each other in terms of the types of jobs they offer, the model implies that mismatched workers will be both more likely to switch industries and more likely to experience high displacement costs. Using data on displaced workers from the NLSY79 and task data from the DOT, I develop task-based measures of match and instrument for the industrial mobility decision using a worker’s relative industry-level match. Contrary to previous results, I find that the differences in outcomes across stayers and switchers do not reflect the loss of industry-specific human capital but, rather, are better explained by a mismatch between the inherent skills of switchers and the demands of new employers. These results suggest that mismatch and the resulting inability of some workers to re-match their task-specific skills is an important determinant of the observed costs of worker displacement.

## 2 Partially Endogenous Displacement: Theory and Evidence (*In Progress*)

Since at least Gibbons and Katz (1991), there have been concerns that the displacement literature is estimating the costs of involuntary job losses on a non-random sample. I extend the model in the first chapter of my dissertation to show how changes in the distribution of jobs over time, as characterized by the job polarization literature, will lead mismatched workers to face elevated displacement probabilities. The model implies that displacement is partially endogenous because the displaced are overly represented by workers with outdated vintage human capital – not because the displaced are shirkers or “lemons.” Thus, common estimates of the cost of worker displacement may overstate the true cost of exogenous displacement. I find preliminary empirical support for the model’s main implications: (a) the routine task intensity of pre-displacement jobs has increased over time and (b) the average displacement costs among those in comparably routine task-intensive jobs has also increased over time.

## 3 The Distribution of Displacement Costs (*In Progress*)

The displacement literature has largely focused on estimating the mean earnings losses associated with displacement. However, a fuller understanding of the distribution of displacement costs is warranted. In this paper, I use data on displaced workers from the NLSY79 to estimate the distribution of displacement costs using quantile methods. This simple approach highlights a great deal of heterogeneity in the costs of worker displacement. I then use decomposition techniques to explore the extent to which commonly observed patterns in the costs of worker displacement can explain this distribution of displacement costs. Preliminary results suggest that both the unemployment duration and the industrial mobility of displaced workers capture a great deal of this heterogeneity across individual displacement experiences.

## BRIAN PHELAN

Johns Hopkins University  
Department of Economics  
3400 N. Charles St.  
Baltimore, MD 21218, USA  
(410) 516-7601  
<http://econ.jhu.edu/directory/brian-phelan/>

Citizenship: United States  
3341 Beech Avenue  
Baltimore, MD 21211  
Cell Phone: (617) 519-5571  
[bphe1an2@jhu.edu](mailto:bphe1an2@jhu.edu)

---

### EDUCATION

- Ph.D. in Economics**, Johns Hopkins University, Summer 2012 (expected)  
Advisors: Profs. Robert Moffitt (primary), Tiemen Woutersen, and Richard Spady  
Dissertation: *Essays on the Cost of Worker Displacement*
- M.A. in Economics**, Johns Hopkins University, May 2009
- M.A. in Economics**, Tufts University, May 2006
- B.A. in Economics**, Wesleyan University, May 2000

### RESEARCH AND TEACHING INTERESTS

**Research:** Labor Economics, Applied Microeconomics, Applied Econometrics  
**Teaching:** Labor Economics, Microeconomics, Econometrics, Sports Economics

### RESEARCH

- “Task Mismatch and the Reemployment of Displaced Workers,” *Job Market Paper*  
presented at:
- Society of Labor Economists 16th Annual Meeting                      Vancouver, April 2011
  - Eastern Economics Association Annual Conference                      New York, February 2011
- “Partially Endogenous Displacement: Theory and Evidence” *in progress*
- “The Distribution of Displacement Costs” *in progress*
- “The Effect of Welfare Laws on the Composition of Households,” *in progress*  
with Robert Moffitt (JHU) and Anne E. Winkler (UMSL)
- “Can Selection on Observables Explain the Distinct Experiences of Displaced Industry Stayers and Switchers?” *June 2010*
- “Labor Supply Substitution and the Ripple Effect of Minimum Wages: A Hedonic Approach”  
*January 2009*

### TEACHING EXPERIENCE

- Instructor**, Sports Economics, JHU, Spring 2012.
- Instructor**, Elements of Microeconomics, JHU, Summers 2008 & 2011.
- Undergraduate Advising Assistant**, JHU, 2008-Present.
- Teaching Assistant:** Labor Economics, Fall 2008; Elements of Microeconomics, Spring 2008; Public Finance, Fall 2007.
- Instructor**, English Composition, Cuenca College, Cuenca, Ecuador  
Fall 2002 & Spring 2003.

## RESEARCH EXPERIENCE

**Research Assistant** to Professor Robert Moffitt, JHU, Spring 2009-Present.

**Consultant** The Polus Center Central American Regional Wheelchair Project, Leon, Nicaragua, January 2008-March 2008.

**Summer Research Fellow**, Massachusetts Institute of Technology, Center for Real Estate, Cambridge, MA, Summer 2006.

**Senior Analyst**, Economics & Technology Inc., Boston, MA, 2003-2005.

**Associate Analyst**, NERA Economic Consulting, White Plains, NY, 2000-2002.

## REFEREE

American Economic Review

## SKILLS

**Programming:** Stata, MATLAB, SAS, T<sub>E</sub>X

**Languages:** Spanish (proficient)

## FELLOWSHIPS & AWARDS

**Dean's Teaching Fellowship**, Johns Hopkins University, School of Arts and Sciences, Spring 2012.

**Department Fellowship**, Johns Hopkins University, Department of Economics, 2006-2012

**Travel Grant** (2x), Johns Hopkins University, Department of Economics, 2011.

**Community Service Scholarship**, Beacon Hill Civic Assoc., Boston, MA, 2006.

## REFERENCES

Professor Robert A. Moffitt (primary advisor)  
Johns Hopkins University, Department of Economics  
E-mail: moffitt@jhu.edu, Phone: (410) 516-7611

Professor Tiemen Woutersen  
University of Arizona, Department of Economics  
E-mail: woutersen@email.arizona.edu, Phone: (520) 621-6224

Professor Richard Spady  
Johns Hopkins University, Department of Economics  
E-mail: rspady@jhu.edu, Phone: (908) 727-0687

Professor Bruce W. Hamilton (teaching reference)  
Johns Hopkins University, Department of Economics  
E-mail: bruce.hamilton@jhu.edu, Phone: (410) 516-7613

# Essays on Technology and Forecasting

Jon D. Samuels

## 1 The Production Frontier and Macro Dynamics (job market paper)

In this paper, I consider a frictionless DSGE model that is standard in most respects, but which uses a production possibility frontier (PPF) that accommodates both sector- and factor-specific productivity effects. I show that this extension helps the model of production fit U.S. productivity and relative price data. The model predicts that the impact of a productivity shock depends on how technology interacts with outputs and inputs in the economy. Specifically, the model predicts that hours worked may either increase or decrease in response to an expansionary productivity shock, depending on how productivity affects outputs. Furthermore, I find that the confidence bands for the impact effect of a productivity shock include both New Keynesian and RBC-type responses. Thus, it is difficult to distinguish between these classes of models based solely on the impact effect of a productivity shock.

## 2 Macro Forecasting with Large Datasets: Trimming Predictors and Forecast Combination (with Rodrigo Sekkel)

A longstanding finding in the forecasting literature is that averaging forecasts from different models improves upon forecasts based on a single model, with equal weight averaging working particularly well. We show that the simple average approach can be improved by trimming the set of potential models prior to forecast combination. We compare different trimming schemes and propose a new version based on the Model Confidence Set (MCS) (Hansen et al. (2011)). Applying our analysis to U.S. macroeconomic aggregates, we find significant gains in out-of-sample forecast accuracy from our proposed trimming method. We argue that parameter estimation error in small samples provides an explanation for these gains. Finally, we show that once the worst models are trimmed, there are minimal gains from using approaches like BMA that assign different weights to the remaining forecasts.

## 3 Semiconductors and U.S. Economic Growth

Semiconductor technology is widely credited with driving the evolution of information technology, yet the device's use as an intermediate input by many sectors of the economy makes its economic impact difficult to quantify. I use the prototype NAICS-based industry production account data of Jorgenson et al. (2011) and the weighting scheme of Domar (1961) to measure the direct impact of semiconductor production on aggregate growth and productivity, and the contribution of semiconductors via industries that use these devices as intermediate input. I find that over the 1960-2007 period innovation in the Semiconductor industry grew close to 9% per year, twenty five times the innovation growth rate for the economy as a whole, and accounted for close to 30% of aggregate economic innovation. By sector, semiconductor use accounted for 37% of the growth in labor productivity in the Communications Equipment industry, 25% of the growth of the Other Electronic Products industry, 14% of Educational Services, and 9% of labor productivity growth in the Computer and Peripheral Equipment industry for the period. More recent data on prices through 2009 suggests that innovation in semiconductors remained strong in 2008, but slipped a bit in 2009 amidst the financial crisis.

## JON D. SAMUELS

Department of Economics  
Johns Hopkins University  
3400 N. Charles St.  
Baltimore, MD 21218, USA  
<http://www.econ.jhu.edu/directory/jon-samuels>

Cell Phone: (617) 271-8656  
Home Phone: (202) 290-1212  
Fax: (410) 516-7600  
E-mail: [jon.samuels@jhu.edu](mailto:jon.samuels@jhu.edu)  
Citizenship: U.S.

---

### EDUCATION

**Ph.D. in Economics**, Johns Hopkins University, June 2012 (expected)

Dissertation: *Essays on Technology and Forecasting*.

Advisors: Prof. Jon Faust (primary), Prof. Dale Jorgenson, and Prof. Jonathan Wright

**M.A. in Economics**, Johns Hopkins University, May 2009

**B.A. in Economics (General Honors)**, University of Chicago, December 1996

### RESEARCH AND TEACHING INTERESTS

**Research:** Macroeconomics, Economic Growth and Productivity, Economics of Information Technology, Econometric Modeling.

**Teaching:** Macroeconomics, Econometrics (undergrad), Microeconomics (undergrad)

### DISSERTATION

“The Production Frontier and Macro Dynamics.” [*job market paper*]

“Macro Forecasting with Large Datasets: Trimming Predictors and Forecast Combination,” (with Rodrigo Sekkel). [coming soon]

“Semiconductors and U.S. Economic Growth.”

### PUBLICATIONS

“Information Technology and U.S. Productivity Growth: Evidence from a Prototype Industry Production Account,” *Journal of Productivity Analysis*, Vol. 36, No. 2, October 2011 (with Dale W. Jorgenson and Mun S. Ho), pp.159-175.[[link](#)]

“Industry Origins of the American Productivity Resurgence,” *Economics System Research*, Vol. 19, No. 3, September 2007 (with Dale W. Jorgenson, Mun S. Ho, and Kevin J. Stiroh), pp. 229-252.[[link](#)]

### UNPUBLISHED MANUSCRIPTS

“Can We Go Back to Data? A Reconsideration of U.S.-Harmonized Computer Prices in Japan,” Program on Technology and Economic Policy, JFK School of Government, Harvard University, 2004 (with Koji Nomura).

“Wage Differentials and Structure in the U.S. and Japan,” Development Bank of Japan Discussion Paper, No. 28, 2003 (with Koji Nomura).

Jon D. Samuels

## PRESENTATIONS

Bureau of Economic Analysis, Washington, DC, June 2011  
Bureau of Economic Analysis, Washington, DC, July 2010  
TECHCON 2010, Austin, TX, September 2010 (poster)  
TECHCON 2008, Austin, TX, September 2008 (poster)

## ACADEMIC EXPERIENCE

**Research Assistant** to Professor Dale Jorgenson, Harvard University; Professor Robert Moffitt, Johns Hopkins University.

**Teaching Assistant** to Professor Louis Maccini, Elements of Macroeconomics; Professor Robert Martin, International Monetary Economics; Professor Barbara Morgan, Comparative Economic Systems.

## AWARDS

**Fellowship**, Robert M. Burger Fellowship, Semiconductor Research Corporation, 2008–present

**Fellowship**, Johns Hopkins University, Department of Economics, 2006–2008

## REFEREE

B.E. Journal of Macroeconomics

## ASSOCIATIONS

Institute for Quantitative Social Science (IQSS) at Harvard University, EUKLEMS, World KLEMS, American Economic Association.

## REFERENCES

Professor Jon Faust (primary advisor)  
Johns Hopkins University, Department of Economics  
E-mail: [faustj@jhu.edu](mailto:faustj@jhu.edu), Phone: (410) 516-7614  
Professor Dale Jorgenson  
Harvard University, Department of Economics  
E-mail: [djorgenson@harvard.edu](mailto:djorgenson@harvard.edu), Phone: (617) 495-4661  
Professor Jonathan Wright  
Johns Hopkins University, Department of Economics  
E-mail: [wrightj@jhu.edu](mailto:wrightj@jhu.edu), Phone: (410) 516-5728

# Essays on Forecasting in Economics and Finance

Rodrigo M Sekkel

## **Chapter 1: Forecasting with Large Datasets: Trimming Predictors and Forecast Combinations** (Job Market Paper), with Jon Samuels.

A longstanding finding in the forecasting literature is that averaging forecasts from different models improves upon forecasts based on a single model, with equal weight averaging working particularly well. We show that the simple average approach can be improved by trimming the set of potential models prior to forecast combination. We compare different trimming schemes and propose a new version based on the Model Confidence Set (MCS) (Hansen et al.(2010)). Applying our analysis to U.S. macroeconomic aggregates, we find significant gains in out-of-sample forecast accuracy from our proposed trimming method. We argue that parameter estimation error in small samples provides an explanation for these gains. Finally, we show that once the worst models are trimmed, there are minimal gains from using approaches like BMA that assign different weights to the remaining forecasts.

## **Chapter 2: Financial Intermediaries Fluctuations: Do they Forecast Economic Activity?**

The current financial crisis has renewed the interest of researchers about the interrelations between the macroeconomy and the financial sector. It has also brought the fluctuations of financial intermediaries to the forefront of the discussions about the transmission of financial crisis to the real economy. This paper conducts a real-time, out-of-sample analysis of the forecasting power of financial intermediaries balance sheets to a wide range of economic activity measures. Using a Bayesian Model Averaging approach, I then evaluate to what extent the informational content of financial intermediaries balance sheet fluctuations is not captured by more traditional measures of macroeconomic activity and financial distress. I find little evidence that balance sheet of most financial intermediaries provide information beyond the one contained in traditional macro and financial series. I do find however evidence of non-linearities, where balance sheet information seem to gain in relevance during times of crisis.

## **Chapter 3: International Evidence on Bond Risk Premia**

This paper revisits the study of time-varying excess bond returns in international bond markets. Using newly available yield curve data from 10 different countries with independent monetary policy, I test the robustness of Cochrane and Piazzesi (2005). For most countries in my sample, I find more modest predictive power for forward rates than originally found by Cochrane and Piazzesi (2005) for the US. Their single-factor model captures well the predictability in international data, and this factor also tends to have a tent-shape in most countries of my sample. CP factors are more idiosyncratic across countries than yields or forward rates. Finally, I show that the recent financial crisis has significantly affected the predictability of excess bond returns.

## RODRIGO M SEKKEL

Johns Hopkins University  
Department of Economics  
3400 N. Charles St.  
Baltimore, MD 21218, USA  
<http://econ.jhu.edu/directory/rodrigo-sekkel>

Cell Phone: (410) 245-2236  
Fax: (410) 516-7600  
E-mail: [rsekkel@jhu.edu](mailto:rsekkel@jhu.edu)  
Citizenship: Brazilian and German

---

### EDUCATION

**Ph.D. in Economics**, Johns Hopkins University, May 2012 (expected)

Advisors: Jonathan Wright and Jon Faust

Dissertation: *Essays on Forecasting in Macroeconomics and Finance*.

**M.A. in Economics**, Johns Hopkins University, May 2008

**M.A. in Economics**, University of São Paulo, São Paulo, Brazil, 2004

**B.A. in Economics**, University of São Paulo, São Paulo, Brazil, 2002

### RESEARCH AND TEACHING INTERESTS

**Research:** Time Series econometrics, Applied macroeconomics and finance

**Teaching:** Econometrics, Macroeconomics, Finance

### RESEARCH PAPERS

“Forecasting with Large Datasets: Trimming Predictors and Forecast Combinations”,  
with Jon Samuels. *job market paper*

“Financial Intermediaries Fluctuations: Do they Forecast Economic Activity?”, work  
in progress.

### PUBLICATIONS

“International Evidence on Bond Risk Premia” *Journal of Banking and Finance*, 35,  
174-181, 2011.

“The Economic Determinants of the Brazilian Term Structure of Interest Rates”,  
*Applied Economics*, vol.42, 1, 2010. With D. Alves. [Lead article]

“Breaking Trend, LM Statistic and the Existence of a Unit Root in the Brazilian  
GDP”, *Applied Economics Letters*, 11, 2004. With A. Abras and B. Borges.

Rodrigo M Sekkel

## **ACADEMIC EXPERIENCE**

**Research Assistant** to Professor L. Ball, Spring and Summer 2009

**Teaching Assistant** Elements of Macroeconomics (Fall 2007), International Monetary Economics (Spring 2008)

**Lecturer** Elements of Macroeconomics (Summer 2008)

## **NON-ACADEMIC EXPERIENCE**

**Ministry of Finance, Brazil**– Economist, 2004–2006

**Banco Bradesco, Brazil**– Economist, 2004

## **FELLOWSHIPS AND AWARDS**

**Campbell Fellowship**, Johns Hopkins University, Department of Economics, 2010–2011

**Fulbright/Capes Fellowship**, 2006–2009

**Capes MA Fellowship**, MA program University of São Paulo, Brazil, 2002–2004

## **REFEREE**

Journal of Banking and Finance (2), Berkeley Journal of Macroeconomics

## **LANGUAGES**

English (fluent), Portuguese (native), Spanish (good), German (good)

## **REFERENCES**

Professor Jonathan H. Wright  
Johns Hopkins University, Department of Economics  
E-mail: [wrightj@jhu.edu](mailto:wrightj@jhu.edu), Phone: (410) 516-5728

Professor Jon Faust  
Johns Hopkins University, Department of Economics  
E-mail: [faustj@jhu.edu](mailto:faustj@jhu.edu), Phone: (410) 516-7614

Professor Laurence M. Ball  
Johns Hopkins University, Department of Economics  
E-mail: [1ball@jhu.edu](mailto:1ball@jhu.edu), Phone: (410) 516-7605

# Essays on Household Saving Behavior and Habit Formation

Weifeng Wu

## 1 High and Rising Chinese Saving: It's Still A Puzzle

*Job market paper*

A wide range of contemporaneous evidence reveals that as China's economy grew rapidly over the past 30 years, expectations of its long-run growth potential improved. Standard forward-looking consumption theory predicts that a higher expected future income growth should lead to a lower saving rate. Several recent studies attribute the increase in Chinese saving to factors like a rise in labor income risk, a flattening age-earning profile and less generous pension benefits. However, this paper shows that all these explanations fail when we incorporate the observed rising optimism about growth. Therefore the high and rising Chinese saving rate remains a puzzle. The paper then suggests that a multiplicative internal habit formation model might help.

## 2 Theoretical Foundations of a Perfect Foresight Habit Formation Model

Habit formation consumption models have been proposed to explain various facts that are puzzling in the traditional time-separable utility framework. This paper provides a general theoretical analysis of a microeconomic multiplicative internal habit formation model, and derives several properties of the optimal consumption function. In particular, I show that even in the absence of labor income uncertainty, the consumption function is concave, and there exists a steady-state wealth-to-habit ratio, to which the economy will converge. Furthermore, this paper demonstrates that with the incorporation of the above theoretical results and the endogenous gridpoint method as in Carroll (2006), we can save a tremendous amount of computational time in numerically solving such a model.

## 3 The 'Method of Moderation' for Solving Dynamic Stochastic Optimization Problems (with Christopher Carroll)

In models with idiosyncratic income risk, optimal consumption is always 'moderate' - between that of two extreme consumers who are either optimistic or pessimistic with respect to income uncertainty. And precautionary saving (a) is always positive, (b) declines in the amount of cash-on-hand and (c) converges to zero in the limit as wealth approaches infinity. An approximation to precautionary saving that incorporates these properties greatly improves the accuracy and efficiency of the numerical solution. This 'method of moderation' is applicable to many microeconomic and macroeconomic problems, whether with or without habit formation preference, and whether in finite or infinite horizons.

# WEIFENG WU

Johns Hopkins University  
Department of Economics  
3400 N. Charles St.  
Baltimore, MD 21218, USA

Phone: (301) 222-7617  
Fax: (410) 516-7600  
Email: [wwu19@jhu.edu](mailto:wwu19@jhu.edu)  
Web: [econ.jhu.edu/directory/weifeng-wu](http://econ.jhu.edu/directory/weifeng-wu)

---

## EDUCATION

**Ph.D. in Economics**, Johns Hopkins University, May 2012 (expected).

Dissertation: *Essays on Household Saving Behavior and Habit Formation*

Advisors: Christopher Carroll (primary), Olivier Jeanne, and Laurence Ball

**M.A. in Economics**, Johns Hopkins University, May 2009.

**M.A. in Economics**, National University of Singapore, February 2007.

**B.A. in International Studies and Economics**, Peking University, June 2004.

**B.S. in Statistics** (Double Degree), Peking University, June 2004.

## RESEARCH AND TEACHING INTERESTS

Macroeconomics, International Economics, Computational Economics, Monetary Economics

## DISSERTATION RESEARCH

“High and Rising Chinese Saving: It’s Still A Puzzle,” *Job Market Paper*

“Theoretical Foundations of a Perfect Foresight Habit Formation Model,” 2011.

“The ‘Method of Moderation’ for Solving Dynamic Stochastic Optimization Problems,” with Christopher Carroll, *in progress*.

## OTHER RESEARCH

“Reviving the Competitive Storage Model: A Holistic Approach to Food Commodity Prices,” with Yanliang Miao and Norbert Funke, IMF Working Papers 2011/64, International Monetary Fund.

“Break-even Inflation and Market-Expected Taylor Rules in UK”, 2010.

## FELLOWSHIPS AND AWARDS

Department of Economics Fellowship, Johns Hopkins University, 2008-present.

Eugenio and Patricia Castillo Award, to the best first- or second-year graduate student in economics, Johns Hopkins University, 2008.

Japan-IMF Scholarship, International Monetary Fund, 2006-2008.

President’s Graduate Fellowship, National University of Singapore, 2005-2006.

NUS Research Scholarship, National University of Singapore, 2004-2006.

Justin Y. Lin China Economic Research Scholarship, Peking University, 2003.

General Electric Educational Foundation Scholarship, Peking University, 2001.

First-Class Prize of National High-School Mathematics Competition, Chinese Mathematical Society, 1999.

Second-Class Prize of Provincial High-School Physics Competition, Chinese Physical Society, 1999.

## PROFESSIONAL EXPERIENCE

**Summer Intern and Research Officer**, International Monetary Fund, Summer 2009 and Winter 2010.

**Research Assistant** to Professor Christopher Carroll, Department of Economics, Johns Hopkins University, Fall 2008-Spring 2009, Summer 2011.

**Research Assistant** to Professor Laurence Ball, Department of Economics, Johns Hopkins University, Fall 2007-Spring 2008.

**Teaching Assistant**, Johns Hopkins University, 2008-2011.

Graduate: Macroeconomic Theory, Mathematical Methods in Economics

Undergraduate: Financial Markets and Institutions, Investment and Portfolio Management, International Monetary Economics, and Intermediate Macroeconomic Theory

**Teaching Assistant**, National University of Singapore, 2004-2006.

Undergraduate: Macroeconomic Analysis, Microeconomic Analysis, Economic Development, Game Theory, and Health Economics

## MISC. INFO

**Programming:** *Mathematica*, MATLAB, Stata and L<sup>A</sup>T<sub>E</sub>X.

**Languages:** Chinese (native), English (fluent).

**Citizenship:** China (F-1 Visa).

## REFERENCES

Professor Christopher Carroll (primary advisor)  
Department of Economics, Johns Hopkins University  
E-mail: ccarroll@jhu.edu, Phone: (410) 516-7602

Professor Olivier Jeanne  
Department of Economics, Johns Hopkins University  
E-mail: ojeanne@jhu.edu, Phone: (410) 516-7604

Professor Laurence Ball  
Department of Economics, Johns Hopkins University  
E-mail: lball@jhu.edu, Phone: (410) 516-7605