Doctoral Program in Applied Economics

PHD CANDIDATES AVAILABLE FOR POSITIONS IN THE ACADEMIC YEAR 2015-2016

Patrick DeJarnette
Wharton School, University of Pennsylvania

Placement Director: Joseph Harrington	harrij@wharton.upenn.edu	(215) 898-9072
PhD Student Coordinator: Diana Broach	dhs@wharton.upenn.edu	(215) 898-7761

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Doctoral Studies:

Wharton School, University of Pennsylvania — Sep'10 – May'16

Business Economics and Public Policy Department — (expected)

- Candidate for Ph.D. in Applied Economics
- Thesis Title: *Essays on Labor and Risk*

Pre-Doctoral Studies:

University of Chicago — Sep'04 – Jun'08

- B.A. Economics with Honors
- B.A. Mathematics
- Honors Thesis Advisor: Dr. Gary S. Becker

Research and Teaching Fields:

Primary:	Experimental economics, labor economics, behavioral economics
Secondary:	Applied microeconomics, risk management

Thesis Committee and References: (alphabetical)

Professor Iwan Barankay
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Professor Daniel Gottlieb
Olin Business School, Washington Univ. in St. Louis
——
St Louis, MO 63130
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Email: dgottlieb@wustl.edu

Professor Robert T. Jensen
The Wharton School, Univ. of Pennsylvania
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Professor Judd B. Kessler
The Wharton School, Univ. of Pennsylvania
1454 SH-DH, 3620 Locust Walk
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Professor Jeremy Tobacman
The Wharton School, Univ. of Pennsylvania
1409 SH-DH, 3620 Locust Walk
Philadelphia, PA 19104
Phone: (215) 898-9450
Email: tobacman@wharton.upenn.edu

Professor Joan Lamm-Tennant (teaching ref.)
The Wharton School, Univ. of Pennsylvania
3511 SH-DH, 3620 Locust Walk
Philadelphia, PA 19104
Phone: (917) 937-3103
Email: ljoan@wharton.upenn.edu

Research Experience:

2012	Research Assistant for Professor Shing-Yi Wang, Wharton School, Univ. of Pennsylvania
2008 - 2010	Research Assistant for Professors Matthew Gentzkow and Jesse Shapiro,
	Becker Center, Booth School of Business, University of Chicago
	Theoretical conception, data preparation, and empirical analysis
	Helped compile US Newspaper panel dataset, available as ICPSR 30621
2006	Research Assistant for Professor James Heckman, University of Chicago
	Cleaning data sets, proofreading papers, presentation preparation

Honors, Scholarships, and Fellowships:

2015	Penn Prize for Distinguished Teaching by Graduate Students, Finalist (30 finalists)
2015	Center for Teaching and Learning Graduate Fellowship, Nomination (1 per dept.)

Research Grants and Professional Activities:

2014	Mack Center for Innovation Management
2014	Wharton Social Impact Initiative Grant
2013	Wharton Social Impact Initiative – GoodCompany Mentoring
2012	Russell Sage Foundation Summer Institute in Behavioral Economics
2010	Founded and organized PhD reading group

Teaching Experience:

Instructor	Spring 2016	Risk Management (Undergraduate / MBA, with Profs. Tobacman and Nini)
Instructor	Spring 2015	Markets for Risk (MBA, with Joan Lamm-Tennant)
TA	Spring 2015	Managerial Economics (Undergraduate / MBA)
TA	Fall 2014	Risk and Crisis Management (MBA)
TA	Fall 2013	Managerial Economics (Undergraduate / MBA)
TA	Spring 2013	Managerial Economics (Undergraduate / MBA)
TA	Fall 2012	Microeconomics for Managers (MBA)

Research Papers:

"Effort Momentum" (Job Market Paper)

While recent literature has found both financial and non-financial incentives can elicit greater effort, there remains uncertainty about the source of this increase and its role on intertemporal effort allocation. This study differentiates effort driven by reciprocity, reference dependence, and "momentum" models. I conducted a series of incentivized real-effort experiments in which both piece rates and leisure options were manipulated, with randomized foreknowledge. I find significant evidence that effort stickiness in later periods are the result of worker "momentum" rather than reciprocity or reference dependence. First, when informed of future wage increases, there is no contemporaneous increase in effort as predicted by reciprocity. Second, when given additional access to leisure, future rounds feature similar decreases in effort. Last, varying information salience had no impact on effort as one might expect by reference dependence. When employing an IV approach, approximately 50% of the effort increase continues to the next period.

"Time Lotteries" (with David Dillenberger, Daniel Gottlieb, and Pietro Ortoleva)

We study preferences over lotteries that pay a specific prize at uncertain dates. Expected Utility with convex discounting implies that individuals prefer receiving $x in a random date with mean t over receiving $x in t days for sure. Our experiment rejects this prediction. It suggests a link between preferences for payments

at certain dates and standard risk aversion. Epstein-Zin (1989) preferences accommodate such behavior, and fit the data better than a model with probability weighting. We thus provide another justification for disentangling attitudes toward risk and time, as in Epstein-Zin, and suggest new theoretical restrictions on its key parameters.

"Altruism, Reciprocal Giving, and Information"

A theoretical work on the impossibility of reciprocal giving equilibria. With modest assumptions, I find that two individuals cannot both prefer to give to the other. For example, we find that a child will never purchase a gift that the parent could otherwise buy in the marketplace. Using this as a starting point, I consider the three person extension and find that a gift will never pass through the hands of all three individuals, completing a cycle. I also explore altruism with imperfect information. With imperfect knowledge regarding preferences, we consider two cases. The first is when a husband assumes his wife has the same preferences as himself, and vice versa. If both have separately additive concave utility functions, we conclude that reciprocal giving equilibria cannot occur. The second case looks at altruistic learning and concludes that altruistic individuals want to learn more about "happier-than-average" individuals.

Work in Progress:

"Risk Preferences over Goods"

"Internet Origins: First Movers in Network Systems"

"Uncertainty and Regret: A Novel Test for Origins of Risk Aversion"

Other:

Other Employment:	Social Enterpreneur Mentoring, GoodCompany Ventures Summer 2013
	Assisted summer incubator for social impact enterprises
	Focus on providing insights from behavioral economics to businesses
	Programmer, One Laptop per Child (through Google Summer of Code 2007)
	Researched computationally efficient engine designs for children in developing nations
	Successful completion of open source platform for educational games
Skills:	Expertise in Stata and R statistical software, Perl and Python programming,
	SQL database designs, Javascript, HTML5, PHP, Unix/Linux systems, LaTeX
	Proficient with Matlab, Mathematica, C programming, SAS, SVN, and ArcGIS
Interests:	Boardgames, Hiking, Minimalism, Science Fiction, Virtual Reality
Citizenship:	US

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PLACEMENT DIRECTOR	GRADUATE STUDENT ADMINISTRATOR
Professor Joseph Harrington	Ms. Diana Broach
harrij@wharton.upenn.edu	dhs@wharton.upenn.edu

DOCTORAL STUDIES	The Wharton School, University of Pennsylvania
	Ph.D. Applied Economics, expected 2016
	DISSERTATION: "Essays in the Economics of School Choice and Education Markets"

DISSERTATION COMMITTEE AND REFERENCES

Professor Fernando Ferreira	Professor Olivia S. Mitchell
The Wharton School	The Wharton School
University of Pennsylvania	University of Pennsylvania
fferreir@wharton.upenn.edu	mitchelo@wharton.upenn.edu
(215) 898-7181	(215) 898-0424
Professor Jean-François Houde	Professor Eduardo Azevedo
The Wharton School	The Wharton School
University of Pennsylvania	University of Pennsylvania
houde@wharton.upenn.edu	eazevedo@wharton.upenn.edu
(215) 573-6849	(215) 573-9984

PRIOR EDUCATION	Pontificia Universidad Católica de Chile	
	M. Sc. in Industrial Engineering	2007-08
	Industrial Engineering with Major in Process Engineering	2002-07
	B. Sc. in Engineering	2002-05

FIELDS	Primary Fields: Economics of Education, Public Economics, Applied Microeconomics
	Secondary Fields: Industrial Organization, Applied Econometrics, Urban Economics

ANA M. GAZMURI
WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA

HONORS, FELLOWSHIPS, AND AWARDS	Russel Ackoff Doctoral Student Fellowship	2015
	Bradley Foundation Graduate Fellowship	2013-15
	Wharton People Analytics Case Competition (3rd place)	2014
	Best Thesis Award. Department of Chemical and Process Engineering	2008
TEACHING EXPERIENCE	Intermediate Microeconomics, Wharton School, Recitation Instructor and Teaching Assistant for Professor J.F. Houde	2014
	Introduction to Economic Analysis, Pontificia Universidad Catolica de Chile, Lecturer	2009
	Fundamentals of Finance, Pontificia Universidad Catolica de Chile, Teaching Assistant for Professor Jaime Casassus.	2007
	Introduction to Economic Analysis, Pontificia Universidad Catolica de Chile, Teaching Assistant for Professor Ricardo Paredes	2004-07
RESEARCH EXPERIENCE AND OTHER EMPLOYMENT	Research Assistant for Fernando Ferreira, Wharton School	2012-13
	Research Assistant for Olivia Mitchell, Wharton School	2012-13
	Research Assistant for Santosh Anagol, Wharton School	2012
	Research Assistant for Sergio Schmukler, The World Bank	2010-11
	Riskamerica Finlab UC, Santiago Chile	2009-10
	Financial analysis and support to Chilean institutional investors, provision of a wide family of indices related to Chilean fixed income securities	

PROFESSIONAL ACTIVITIES	*Presentations*	
	London Business School TADC Conference	2015
	Wharton School Applied Economics Workshop	2015
	Wharton School Doctoral Students Seminar	2014
	Referee Work Journal of Public Economics	
	Workshops Handbook of Regional and Urban Economics Conference	2014

ANA M. GAZMURI
WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA

RESEARCH PAPERS	**"Cream-skimming, sorting and education inequality: the unintended consequences of school choice settings" (Job Market Paper)**

The school choice debate notes that, when private schools compete with public schools, they will cream-skim the best students from public schools, increasing social segregation. Using data from a 2008 reform implemented in Chile, I study the underlying mechanisms that account for students sorting, mainly schools' cream-skimming behavior and parents' preferences for school characteristics. I estimate a choice model that captures parents' preferences for different school characteristics and peer composition. I show that the decrease in cream-skimming explains the higher enrollment in private subsidized schools that participate in the reform, and that strong preference for better peers explains the increased enrollment in private schools that opted out of the reform. Overall, this leads to increased sorting with higher impact in markets with greater choice and competition. I incorporate in the model, the admissions restrictions that low-income parents face when choosing a school and show that ignoring these leads to underestimating poor parents' preferences for quality.

RESEARCH IN PROGRESS	**"Competition and the cannibalization of college quality" (with J.F Houde, C. Fu and P. Bordon)**

In this paper we study the consequences of increase competition and geographic differentiation resulting from the deregulation of the college market in Chile and the increase in government scholarships and loans. We study the effects of these changes in market characteristics on the efficiency of the higher education system and the accessibility and quality of colleges. We estimate a sorting model to account for vertical and horizontal dimensions of differentiation and quantify the quality of public and private colleges. We quantify the impact of these expansion policies on the distribution of education quality.

"More teachers and fewer students: Improving public schools quality through targeted vouchers"

The 2008 SEP reform to the Chilean education system resulted in a large shift of students from public schools to private subsidized schools, decreasing the average socioeconomic characteristics of public school students. Despite this, following the reform there has been significant improvement in public schools test scores and a decrease in the gap between public and private schools. Using data from teachers' contracts, I show that part of this quality improvement comes from significant changes in class size and pupil-teacher ratio.

ANDREW C. JOHNSTON

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GRADUATE ADMINISTRATOR
Ms. Diana Broach   215-898-7761
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DOCTORAL
STUDIES

The Wharton School
University of Pennsylvania
PhD, Applied Economics, Expected completion June 2016
DISSERTATION: "Essays in Public Economics and Labor"

DISSERTATION COMMITTEE AND REFERENCES

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Professor Alexandre Mas
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Professor Todd Gormley
The Wharton School
Finance Department
2458 Steinberg Hall-Dietrich Hall
3620 Locust Walk
215-746-0496
tgormley@wharton.upenn.edu

PRIOR EDUCATION	Brigham Young University, 2011 B.S. Economics, Mathematics	
CITIZENSHIP	United States of America	
FIELDS	Primary Field: Public Economics Secondary Fields: Labor Economics, Education Economics, Econometrics	
RESEARCH INTERESTS	Employment, Education, Personnel Economics, Social Insurance, Taxation	
TEACHING INTERESTS	Introductory Economics, Microeconomics, Applied Econometrics, Public Economics, Labor Economics, Energy and Environmental Economics, Personnel Economics (Human Resources), Social Insurance, Taxation, Education Economics, Law and Economics, National Security Economics, Family Economics, Public Policy, Government and Business, Competitive Strategy/IO	

TEACHING EXPERIENCE	Economics for Public Policy, *Instructor*	2015
	Energy and Environmental Economics, with *Arthur V.Benthem*	2013
	Intermediate Econometrics, with *James McDonald*	2011
	Honors Economic Principles, *Instructor* with *Larry Wimmer*	2009

ACADEMIC EXPERIENCE	Research Assistant for Mark Duggan, The Wharton School	2013
	Research Assistant for Melissa Tartari, Yale University	2010
	Research Assistant for Arden Pope, Brigham Young University	2008-11

FELLOWSHIPS, HONORS, AND AWARDS	Bradley Foundation Fellow	2015
	Ackoff Fellowship	2015
	Wharton People Analytics Case Competition, 3rd Place	2014
	NBER Pre-Doctoral Fellowship	2014
	DOL ETA Research Grant	2014
	IES Graduate Fellowship	2011-13
	Mack Center Grant	2012
	University Full-Ride Scholarship	2008-11
	ORCA Grant	2010

PROFESSIONAL ACTIVITIES	Referee: *Journal of Labor Economics (ad hoc)*	2014
	NBER Summer Institute	2014-15
	Price Theory Camp	2015
	AEA Conference	2012-15

PUBLICATIONS	"The Effect of Unemployment Benefits on the Duration of Unemployment Insurance Receipt: New Evidence from a Regression Kink Design in Missouri, 2003-2013" (with David Card, Pauline Leung, Alexandre Mas, and Zhuan Pei),

AER Papers and Proceedings, 2015.

<table>
<tr><td>RESEARCH
PAPERS</td><td>

"UI Taxes and Labor-Market Recovery: Evidence from Florida and Missouri" (Job Market Paper)

I study the effect of increased unemployment-insurance (UI) taxes on labor demand and firm exit by exploiting changes, kinks and discontinuities in the UI tax rates of Missouri and Florida. Because UI taxes are experience-rated, taxes *increase* after recessions, exacerbating unemployment in the short-run. I present a model implying the small tax base reduces labor demand more for low-income workers. The results of various identification strategies indicate that increases in UI taxes induce employers to reduce employment, substitute away from low-income labor, and exit at a higher rate. The results suggest that the tax increases since the recession reduced total domestic employment by 1.1 million jobs.

"Potential Unemployment Insurance Duration and Labor Supply: Evidence from a Benefit Cut" (with Alexandre Mas) [*Under Review at Journal of Political Economy*]

In this paper we examine how an unanticipated cut in potential unemployment insurance (UI) duration, which reduced maximum duration in Missouri by 16 weeks, affected the search behavior of UI recipients and the aggregate labor market. Using a regression discontinuity design (RDD), we estimate that a one-month reduction in maximum duration is associated with 15 fewer days of UI receipt and 8.6 fewer days of nonemployment. We use the estimated change in the UI survivor function to simulate the change in the time path of the unemployment rate, assuming that moves from UI into employment do not displace other jobseekers, or lead to other spillover effects. The simulated response closely approximates the estimated change in the unemployment rate following the benefit cut, suggesting that even in a period of high unemployment, the labor market was able to absorb this influx of workers without crowding out other jobseekers.

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AER Papers and Proceedings, 2015.

RESEARCH PAPERS

"UI Taxes and Labor-Market Recovery: Evidence from Florida and Missouri" (Job Market Paper)

I study the effect of increased unemployment-insurance (UI) taxes on labor demand and firm exit by exploiting changes, kinks and discontinuities in the UI tax rates of Missouri and Florida. Because UI taxes are experience-rated, taxes *increase* after recessions, exacerbating unemployment in the short-run. I present a model implying the small tax base reduces labor demand more for low-income workers. The results of various identification strategies indicate that increases in UI taxes induce employers to reduce employment, substitute away from low-income labor, and exit at a higher rate. The results suggest that the tax increases since the recession reduced total domestic employment by 1.1 million jobs.

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RESEARCH IN PROGRESS

"The Effect of Increased Teacher Pay on Teacher Quality: Evidence from a Regression Discontinuity"

Teacher compensation constitutes over $304 billion in yearly expenditure but we know little about how compensation structure and generosity affects teacher quality, retention, and student achievement. To address this question, I exploit a discontinuity in a federal program that offers loan-forgiveness to teachers at schools beyond a low-income threshold. A modest, one-time, average $3,100 compensation increase improves student achievement (by 0.04 standard deviations in mathematics, 0.02 standard deviations in reading), corresponding to a 0.3 standard deviation increase in teacher quality. The compensation increases teacher retention by 18 percent, but only in the year of loan forgiveness. These results suggest delayed compensation tools are less effective in promoting retention, but that raising starting salaries would significantly improve student achievement.

"Who Pays Corporate Taxes?: Evidence from Banks"

The incidence of corporate taxes is not well understood, in part due to immense complexity, an absence of detailed firm data, and the scarcity of a suitable comparison group. Banks can operate as c-corps and pay the corporate tax rate, s-

corps and effectively pay the individual tax rate, or credit unions and pay no income tax. I compare banks in the same local markets but face different tax changes owing to their legal type to estimate the short-run, partial equilibrium effect of corporate income taxes on employment, wages, profits, prices, and investment. I also investigate whether individual taxes have the same effect on pass-through corporations that corporate taxes have on corporations. To begin to study general equilibria effects, I compare the estimated effect in counties with high- and low-densities of c-corporations. I find that a one-point increase in state corporate-income taxes reduced employment and average wages by 3 percent; at the same time firms increase interest rates to borrowers and originate fewer loans.

"Teacher Utility, Compensating Differentials, and Separating Equilibria"
Many observers have remarked that teacher compensation may not be efficiently allocated, overpaying in benefits and underpaying in salary. To learn teacher preferences over compensation form, working conditions, and student characteristics, I deploy a conjoint survey to K-12 school teachers, asking them to choose between offers from hypothetical schools. Because job offers are rarely observable and local labor markets have little independent variation in school characteristics, real-world data are both infeasible and uninformative. I merge the teacher responses to teacher evaluations including a value-add measures to test whether high-performing teachers have distinct preferences that could be used to generate a separating equilibrium. The subjective value of various compensation vehicles, working conditions and student qualities is estimated.

VOLUNTEER EXPERIENCE	Tutoring inner-city, minority students in math
FOREIGN LANGUAGES	Spanish, conversational Mandarin, basic
INTERESTS	Tennis, volleyball, history

CINTHIA KONICHI PAULO

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Graduate Administrator

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Doctoral Studies	Wharton School, University of Pennsylvania PhD Applied Economics, Expected completion May 2016 Dissertation: *Empirical Analyses on Procurement Auctions*

Dissertation Committee and References	Professor Joseph Harrington The Wharton School 3408 Steinberg Hall-Dietrich Hall 3620 Locust Walk Philadelphia, PA 19104 215-898-9072 harrij@wharton.upenn.edu	Professor Mike Abito The Wharton School 1407 Steinberg Hall-Dietrich Hall 3620 Locust Walk Philadelphia, PA 19104 215-746-3134 abito@wharton.upenn.edu
	Professor Katja Seim The Wharton School 1457 Steinberg Hall-Dietrich Hall 3620 Locust Walk Philadelphia, PA 19104 215-898-8213 kseim@wharton.upenn.edu	
Research Interests	Applied Microeconomics, Industrial Organization, Auctions	
Teaching Interests	Introductory Economics, Microeconomics, Applied Econometrics, Applied Microeconomics, Industrial Organization, Auctions, Regulation, Antitrust	

Cinthia Konichi Paulo

Prior Education	**Getulio Vargas Foundation**	Rio de Janeiro, Brazil
	MA in Economics	2011
	University of São Paulo	São Paulo, Brazil
	BA in Economics	2007
	Pontifical Catholic University	São Paulo, Brazil
	BA in International Relations	2006

Teaching Experience	**The Wharton School**	Philadelphia, PA
	Managerial Economics (undergrad)	2014
	Getulio Vargas Foundation	Rio de Janeiro, Brazil
	Regulation and Antitrust (MBA)	2011
	Statistics II (grad)	2010
	Microeconomic Theory II (grad)	2010
	International Finance (MBA)	2010
	Getulio Vargas Foundation	São Paulo, Brazil
	Trade (undergrad)	2005
	Industrial Organization (MBA)	2005
	Microeconomics (undergrad)	2004

Research Experience	**The Wharton School, Research Assistant**	Philadelphia, PA
	Prof Santosh Anagol and Prof Thomas Fujiwara	2013
	Prof Arthur van Benthem and Prof Johannes Stroebel	2013
	Prof Katja Seim	2012
	Prof Fernando Ferreira	2012

Awards and Fellowships	Wharton Doctoral Fellowship
	Scholarship for Master's Degree from Brazilian National Committee for Advanced Studies (CAPES)
	Tuition for Undergraduate Studies in Economics from the State of São Paulo

Non-Refereed Published Articles	South-south coalitions: mapping, typology and strategies (with Janina Onuki). In: Oliveira, A. and Onuki, J. (Org.), Coalizões sul-sul e negociações multilaterais - Países intermediários e a coalizão IBSA, 1st ed, São Paulo: M. Alternativa/Caeni, 2007, v. 1, p. 104-151.[1]
	Aspects of Brazilian Competition Policy (with Gesner Oliveira), Revista de Direito da Concorrência, n.9, 2006.
	Peculiarities of Antitrust Policies in Developing Countries (with Gesner Oliveira). In J.P.R.Velloso (Coord), Por uma Moderna Política de Defesa da Concorrência. Rio de Janeiro: J. Olympio, 2006.[1]

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[1] In Portuguese. Titles were freely translated.

Cinthia Konichi Paulo

Job Market Paper	**Bidding When Cost is Uncertain: Evidence from Fresh Produce Procurement Auctions**

Abstract: This paper empirically analyzes procurement auctions in which sellers must decide their bid based on expectations about how future market conditions will affect their costs. While previous literature has focused on the uncertainty about winning or losing the auction, I examine the risk that is intrinsic to the contract. I use data from government procurement auctions in the State of Sao Paulo in Brazil for fresh produce to study the effect of contract risk on auction outcomes. I find that sellers are risk averse and therefore include a risk premium in the prices they bid, which can reach 38% of the price for some goods. In addition, I show that a simple change in the payment scheme in which the government pays a fixed amount plus 40% of the reference index of wholesale prices could reduce the risk premium to less than 1% of the bid price for all goods analyzed.

Research in Progress	Auctions with Limited Commitment: Evidence from Government Procurement (with Mike Abito)
	Jump Bidding in Procurement Auctions: who, when and why?

Non Academic Experience	**Sabesp**	São Paulo, Brazil
	Advisory Board	2007
	GO Associados	São Paulo, Brazil
	Consultant	2004-2006

Skills	Python, Matlab, R, Stata, web scraping
	Familiar with SQL

Languages	English (fluent), Portuguese (native), Spanish (advanced), French (basic)

Andy Wu
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Graduate Administrator: Diana Broach dhs@wharton.upenn.edu (215) 898-7761

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3620 Locust Walk   5 Appletree Lane
3000 Steinberg-Dietrich Hall   Lexington, MA 02420
Philadelphia, PA 19104

Personal Information: Citizenship: USA. Gender: Male. DOB: May 13, 1990.

Prior Studies:
  SB, Economics and Mathematics, Massachusetts Institute of Technology, 2011
  MA, Managerial Science and Applied Economics, Wharton School, University of Pennsylvania, 2013

Graduate Studies:
  PhD Candidate in Applied Economics, The Wharton School, University of Pennsylvania, 2011 to present
  Thesis Title: "Organizational Resource Assembly in Technology Ventures"
  Expected Completion Date: May 2016

  Thesis Committee and References:
  Professor Joseph E. Harrington, Jr. (Supervisor)   Professor David H. Hsu (Chair)
  The Wharton School, University of Pennsylvania   The Wharton School, University of Pennsylvania
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Research and Teaching Fields:
  Entrepreneurship, Technological Innovation, Strategic Management, Organizational Economics

Teaching Experience:

Spring 2015	Management of the Emerging Enterprise (MBA) T.A. for Professors Exequiel Hernandez, David Hsu, and John Paul MacDuffie
Spring 2015	Entrepreneurship (MBA) T.A. for Professor Laura Huang
Spring 2015	Veterinary Economics (VMD) Instructor
Fall 2014	Formation and Implementation of Entrepreneurial Ventures (EMBA) T.A. for Professor Ethan Mollick
Fall 2014	Healthcare Marketing (MBA) T.A. for Professor Matthew Grennan
Fall 2014	Healthcare Entrepreneurship (UG) T.A. for Professor Matthew Grennan
Spring 2014	Managerial Economics (UG) Instructor for Professor Joseph Harrington
Spring 2014	Entrepreneurship (MBA) T.A. for Professor Laura Huang
Spring 2014	Veterinary Entrepreneurship (VMD) Instructor
Fall 2013	Entrepreneurship (MBA) T.A. for Professor David Hsu
Fall 2013	Veterinary Economics (VMD) Instructor
Summer 2013	Entrepreneurship (EMBA) T.A. for Professor David Hsu
Fall 2012	Risk Management (UG, MBA, Law) T.A. for Professors David Huffman, Freda Song, and Gregory Nini
Fall 2012	Entrepreneurship (EMBA) T.A. for Professor David Hsu
Summer 2012	Entrepreneurship (EMBA) T.A. for Professor David Hsu
Fall 2010	Designing Consumer Electronics (UG) T.A. for Dr. V. Michael Bove
Fall 2009	Economics of Mutual Funds (UG) T.A Professor Nancy Rose

Teaching Materials:

"Pressed Juicery: Managing Growth", Wharton Case (2015) with Professor David Hsu
"Cotopaxi: Social Enterprise", Wharton Case (in progress) with Professor Laura Huang

Research Experience:

2011–Present	Research Assistant to David Hsu (Wharton)
2013–2014	Research Assistant to Jeremy Fox (Michigan)
2011–2013	Research Assistant to Vikas Aggarwal (INSEAD)
2009–2010	Research Assistant to Jonathan Gruber (MIT)
2011	Research Assistant to David H. Autor (MIT)
2008	Research Assistant to Peter Temin (MIT)

Other Employment:

2013–Present	Identified Technologies Corporation, Founding Director
2011	MassChallenge, Inc., Business Development
2010	Peter J. Solomon Company, Analyst
2009	Office of Governor Deval Patrick, Staffer
2009	Consortium for Energy Efficiency, Data Analyst
2008–2011	MIT Information Center, Tour Guide
2008	Vivox, Inc., Consumer Strategy
2007	State Rep. Jay R. Kaufman/MA Joint Comm. on Public Service

Honors, Scholarships, and Fellowships:

2015	Strategic Management Society Best Conference Paper Finalist (Top 10)
2015	Social Enterprise @ Goizueta Research Colloquium Best Paper
2015	Wharton Risk Center Russell Ackoff Fellowship
2015	INSEAD-Wharton Center for Global Research and Education Grant
2014	Penn Prize for Excellence in Graduate Teaching
2014	Certificate in College and University Teaching
2014	President Gutmann Leadership Award

      2014   Wharton Doctoral Travel Grant
      2014   Mack Institute for Innovation Management Research Grant
      2013   Mack Center for Technological Innovation Research Grant
      2012   Mack Center for Technological Innovation Research Grant
      2011   NSF Graduate Research Fellowship Honorable Mention
      2011   Wharton Doctoral Fellowship
      2010   MIT Burchard Scholar

Referee Service:
Management Science (ad hoc), Academy of Management (ENT, TIM)

Professional Affiliations:
Academy of Management, Strategic Management Society, American Economic Association,
Institute for Operations Research and the Management Sciences

Conference Presentations:
      2015   Strategic Management Society Annual International Conference Entrepreneurship and
               Strategy Track
      2015   Strategic Management Society Annual International Conference Knowledge And
               Innovation Track, Strategic Human Capital Track
      2015   INFORMS Annual Meeting
      2015   Academy of Management Annual Meeting ENT Division
      2015   Academy of Management Annual Meeting TIM Division
      2015   Social Enterprise @ Goizueta Research Colloquium
      2015   London Business School TADC
      2015   DRUID15 Conference Rome on the Relevance of Innovation
      2015   West Coast Research Symposium on Tech. Entrepreneurship
      2014   Strategic Management Society Annual International Conference, Knowledge And
               Innovation Track
      2014   Academy of Management Annual Meeting TIM Division
      2014   Academy of Management Annual Meeting ENT Division
      2014   London Business School TADC

Consortia:
      2015   AOM BPS Dissertation Consortium
      2015   Atlanta Competitive Advantage Conference RDW
      2015   West Coast Research Symposium on Technology Entrepreneurship
      2014   Smith Entrepreneurship Research Conference Doctoral Consortium
      2014   West Coast Research Symposium on Technology Entrepreneurship
      2013   NBER Entrepreneurship Research Boot Camp

Institutional Service:
      2013–2016   Trustees of the University of Pennsylvania, Representative
      2015–2016   Graduate Council of the Faculties of the University of Pennsylvania, Representative
      2011–2016   Penn Graduate and Professional Student Assembly, Wharton Representative
      2013–2014   Veterinary Innovation Challenge
      2008–2011   MIT Undergraduate Economics Association, President
      2008–2011   MIT Everett Moore Baker House, President
      2010–2011   MIT Dormitory Council, Risk Manager
      2009–2011   MIT Associate Advising Program, Associate Advisor

Working Papers:
"Organizational Decision-Making and Information: Angel Investments by Venture Capital Partners"
(Job Market Paper)
    We study the role of information in organizational decision-making for the financing of entrepreneurial
    ventures. We formally model a committee of agents who vote to allocate resources to a project with
    unknown outcome; they can each acquire costly information to improve their decision quality.
    Equilibrium outcomes suggest a theoretical tension for group decision-making between the benefits of
    information aggregation and the cost from a disincentive to acquire information among the individual
    agents, and this tension presents a boundary condition for when a group decision is superior to an
    individual decision.

    We test our predictions in the setting of a particular phenomenon in venture capital: private angel
    investments by the partners outside of their employer, which represent investments passed on by the
    employer. Venture capital partners, acting independently, make investments into younger firms with less
    educated and younger founding teams than their employing VC firms, but these investments perform
    financially better on some metrics even when controlling for investment size and stage. Geographic
    distance, technological distance, and liquidity constraints increase the probability the investment is taken
    up by a partner and not the VC. This work contributes to an emerging stream of literature on information
    aggregation in organizations and the established literatures on resource allocation and incumbent spin-
    outs.

    Link: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2656896

"R&D Production Team Organization and Firm-Level Innovation" (Under Review)
with David Hsu (Wharton) & Vikas Aggarwal (INSEAD)
    How should a firm organize the diversity of technological experience contained within its base of
    inventors when firm-level innovation output is a key performance consideration? We investigate the
    innovation implications of alternate firm-level approaches to organizing such diversity. Building on the
    knowledge-based view and organization design literatures, we examine the effects of across-team and
    within-team technical experience diversity on firm-level innovation output. Our framework suggests these
    alternate managerial choices involve trading off knowledge recombination benefits and coordination
    costs. Using a panel dataset of biotechnology start-ups observed from their founding date onwards, we
    find that across-team diversity results in greater firm-level innovation benefits as compared to within-
    team diversity. We also find evidence that collaborative experience and combinatorial novelty moderate
    this effect, further supporting our proposed framework.

    Link: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2553265

"Skilled Immigration and Firm-Level Innovation: Evidence from H-1B Lottery"
    We evaluate the impact of skilled immigration on U.S. innovation by exploiting a random lottery in the
    H-1B visa program. Proponents of skilled immigration argue that it allows firms to access necessary
    technical skills and promote innovation, while opponents argue that the program enables firms to
    substitute domestic labor for cheaper but equally or less skilled foreign labor. Using risk sets, we
    compare firms who applied for the same number of lottery-subject applicants but won different numbers
    of immigrants because of the lottery. The results suggest that winning an H-1B immigrant does not
    significantly increase patent applications or grants at the firm-level; our results suggest the existing
    literature showing a positive correlation between the spatial distribution of H-1B immigrants and patents
    is misinterpreted. We argue that our results should be expected given the pervasive use of the program in
    industries where patenting is not the main value appropriation strategy.

"The Structure of Board Committees"
with Kevin Chen (University of Pennsylvania)

> Committees represent a prevalent organizational structure within the board of directors, and they serve as the locus of most board activity. We document and explain the role of this integral internal structure, utilizing a novel dataset containing full committee membership, including that of non-required committees, for over 5000 public firms from 2001 to 2013. Committees allow directors to specialize on certain board-related issues and gain firm-specific knowledge useful for advising and monitoring. In addition, committees can lead to better measurement of a director's contribution, reducing agency costs. These benefits, however, may be accompanied by the coordination costs that arise when committees increase information dispersion. Our findings from analyzing the data are broadly consistent with the view that boards structure committees to balance these benefits and costs. In particular, we highlight the role of multi-committee directors in facilitating this balance and document the relationship between multi-committee directors and performance.
>
> Link: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2646016

"Do Incumbent Firms Have A Midas Touch for Startups? A Two-Sided Matching Model of Incumbent-Entrepreneur Alliances in the Biotechnology Industry"

> We explore the formation and impact of relationships between incumbent pharmaceutical firms and biotechnology startups. To what extent are incumbents creating value in their startup partners and increasing their likelihood of a successful exit event, and to what extent are they merely skilled in matching with successful startups with commercially viable technology? We find that sorting accounts for nearly all the differential impact of incumbents on entrepreneurs in biotechnology. Experienced incumbents match with more successful startups. In addition, incumbents and startups sort and match observable characteristics like technology, access to capital, and geography. We examine both reduced form evidence and construct and estimate a two-sided matching model from Sorensen (2007) using biotechnology alliance data from 1973 to 2007.

"Innovative Investing through Networks: A Non-Bayesian Learning Model of Venture Capital"
with Qiwei "David" Sun (University of Pennsylvania)

> Investors and managers learn about new technologies through interorganizational networks to stay competitive in rapidly evolving markets. We develop a novel non-Bayesian social learning model where agents apply a learning rule to incorporate the knowledge of neighbors: agents update their knowledge based on a convex combination of the Bayesian posterior belief conditioned on private knowledge and the observed opinions of its neighbors, with heterogeneous weighting of neighborhood knowledge and a budget constraint. We evaluate and estimate our model in the context of syndication networks in the life sciences venture capital industry. Using the universe of venture capital investments in life sciences startups from 1985 to 2010, we find robust evidence that venture capitalists are learning about new technologies through their syndication networks. Venture capitalists connected through stronger ties are more likely to be influenced by others, and those with great connectivity and size are more likely to influence their peers.

Patents:

Forthcoming	Methods and Apparatus for UAV Localization Using Ultrasound with Richard Y. Zhang, Brian J. Dougherty & Anna W. Yang
2014	Structure and Manufacturing Process for Unmanned Aerial Vehicle with Bennett L. M. Welker, Richard Y. Zhang & Anna W. Yang (Patent Pending: 62/069,977)
2014	Methods and Apparatus for Persistent Deployment of Aerial Vehicles with Richard Y. Zhang (Patent Pending: 14/193,110)
2014	Single-Action Three-Dimensional Model Printing Methods (Patent Pending: 14/332,616)
2014	Single-Action Three-Dimensional Model Printing Methods (Patent Pending: 14/332,578)
2014	Single-Action Three-Dimensional Model Printing Methods (Patent Pending: 14/332,555)
2014	Single-Action Three-Dimensional Model Printing Methods (Patent Pending: 14/332,544)
2013	Ground Survey and Obstacle Detection System with Richard Y. Zhang & Kelsey D. Duncombe-Smith (Patent Pending: 13/832,540)
2013	Single-Action Three-Dimensional Model Printing Methods (Issued: 8,817,332 B2)
2013	On-Site Ordering System for Mobile Devices (Patent Pending: 13/762,838)
2012	Methods and Apparatus for URL Handling (Patent Pending: 13/524,198)
2011	Single-Action Three-Dimensional Model Printing Methods (Issued: 8,579,620 B2)