Patrick Ward

6116 S. University Avenue, #200 ♦ Chicago, IL 60637
910-850-7591 ♦ prw@uchicago.edu
http://home.uchicago.edu/~prw/research.html

Education

UNIVERSITY OF CHICAGO, Chicago, IL
JD/PhD (Economics) Candidate, June 2019 (Anticipated)
PHD COURSES: Advanced Health Economics; Advanced Industrial Organization I–III; Analysis of Microeconomic Data; Introduction to Microeconomic Research; Theory of Financial Decisions; Advanced Law & Economics; Price Theory I–III; Theory of Income I–III; Empirical Analysis I–III
HONORS: Outstanding Graduate Lecturer in Econometrics; Department of Economics Fellow; Ruth Wyatt Rosenson Scholar; Martin D. and Mary A. Jacobson Scholar; Dean's Award for Property (highest exam score)
ACTIVITIES: Editor-in-Chief, Volume 85, *University of Chicago Law Review*

MIDDLEBURY COLLEGE, Middlebury, VT
MA in French, 1999
HONORS: Diploma in Civil Studies (Economics) from University of Paris-Sorbonne; John K. Gerhart Fellow

US AIR FORCE ACADEMY, Colorado Springs, CO
BS in English, 1997
HONORS: Distinguished Graduate (among seven of 795 with cumulative academic, military, and athletic honors)
ACTIVITIES: National Champion (Individual), Masters Accuracy, National Collegiate Parachuting Championship

Work in Progress

Thesis: *Preventive Health and Productive Leisure*

This paper models the production of endogenous health over the aging cycle. It draws inspiration from work environments characterized by decreased productivity and increased healthcare outlays. The dynamic program explores consumer choice in the face of productive leisure and relevant biomarkers. Agents underinvest in preventive action and have an incentive to free ride on investments made by others.

Tort Reform and Vertical Food Safety: Evidence from Broiler Chicken Production

For consumers harmed by contaminated food, the ability to recover damages varies from state to state. This is because states now treat firms differently based on their location in the production chain: under the moniker of tort reform, twenty-six states relaxed liability for passive sellers of upstream products. A developing literature remains divided on whether shifting liability upstream increases producers' marginal costs thereby contracting output or whether decreased downstream costs prompt seller moral hazard and increase output. Using border identification in the poultry industry, this paper finds a 7% increase in quantity sold when liability is relaxed downstream.

Personal Morality versus Rule-Based Decisionmaking: An Empirical Examination of Negotiation Ethics

Mastering the nuances of professional ethics appears to play second fiddle to other demands on practicing attorneys' time. Using two different datasets, the study finds that practicing attorneys agreed to participate in a simulated client's fraudulent settlement scheme at roughly the same rate as nonlawyers. Attorneys thus seem to rely on preexisting notions of morality rather than on knowledge of professional codes of ethics. Yet despite making similarly poor decisions, attorneys and nonattorneys differ sharply in justifying those choices. The rationalizations given by attorneys for their inappropriate choices were more sophisticated than those given by nonlawyers—a pattern of behavior that appears to begin as early as law school.

Publications (http://home.uchicago.edu/~prw/research.html)

Testing for Multisided Platform Effects in Antitrust Market Definition, 84 U. CHI. L. REV. 2059 (2017), available at https://lawreview.uchicago.edu/print-archive.

Because market definition is frequently outcome determinative, it is both a central and contested part of antitrust litigation. Recognition of business methods known as multisided platforms presents the challenge of whether and how to incorporate their characteristically interconnected groups during market definition. This paper asks if a court's antitrust market definition analysis should be subject to a test for multisided platform effects. Answering in the affirmative, the paper contends that the positive-law mandate of fine-grained and flexible analysis is well satisfied by the primitives from which applied theorists build industrial organization models of multisidedness. It then proceeds to specifically identify those primitives and to translate them into the factors of a permissible legal test for excluding or including multisidedness. In so doing, it synthesizes a large body of case law and economic theory.

Semiprepared Airfield Characteristics at Higher Elevations, 134 J. TRANSP. ENG'G. 163 (2008), available at http://ascelibrary.org/journal/jtepbs.

Personnel Parachute Operations, AIR FORCE INSTRUCTION 11-410 (2008) (lead author), available at http://www.e-publishing.af.mil.

Tactical Employment: Guardian Angel and Special Tactics Forces, 8 AIR FORCE TACTICS, TECHNIQUES & PROCEDURES 3-1 (2004) (lead author for Chapter Five), available through classified channels.

Teaching

Lecturer, *Econometrics A* (ECON 21000), 2 Sections, 2015
A rigorous undergraduate introduction to regression analysis, related distribution theory, and inference.

Project Mentor, *Healthcare Analytics Laboratory* (BUSF 40721), 2015
MBA course focused on applying data-driving analytics and insights to create healthcare delivery efficiencies.

Primary Facilitator, *Core Working Group* (ECON 63000), 2013–2014
Forum to assist students retaking first-year PhD sequences in econometrics, price theory, and macroeconomics.

Professional Experience

US COURT OF APPEALS FOR THE SEVENTH CIRCUIT, Chicago, IL
Law Clerk to Hon. Frank H. Easterbrook, August 2019 (Anticipated)

WACHTELL, LIPTON, ROSEN & KATZ, New York, NY
Summer Associate, 2017 (Antitrust, Corporate, Litigation)

CORWAY, LLC, Washington, DC
Member, 2008–2017
Carried full profit & loss responsibility for closely held investment and philanthropic interest with real assets in the Mid-Atlantic and Southeastern United States

- Conceived full investment strategy; grew fund to 12.1 percent annual net yield, 34.1 percent EBITDA, in five years
- Wrote business plans, contracts, statements of work, and growth strategy for two in-house startups; led twenty-seven employees/contracts from seed to post-launch in the development of client experience, product offerings, marketing, distribution channels, information technology/communications platforms, and electronic infrastructure security
- Authored non-profit's strategic plan, leading to $800 thousand in Danish Embassy, multi-source grants directed at reintegrating formerly trafficked women and supporting hundreds of elders living on $5 per month

US AIR FORCE, Worldwide
Special Tactics Major, 1997–2008

HONORS:
- Four Bronze Stars (Afghanistan 2001–2002 & 2004; Iraq 2003; Pakistan/Afghanistan 2005); Defense Meritorious Service Medal (Joint Special Operations Command 2007); three Meritorious Service Medals (Uzbekistan 2001, Air Force Special Operations Command 2003, Pentagon 2008)
- Seven-time Officer of Year/Quarter (various levels 2000–2006); leadership team named Special Operations Squadron of Year for three consecutive years (2002–2004)

LEADERSHIP:
- Led fourteen-person team and neutralized 140-man ambush during seizure of Iraq's Al Faw peninsula; precluded environmental catastrophe twelve times size of Exxon *Valdez* spill
- Directed personnel recovery operations for 1,350-member Joint Task Force and planned/participated in hostage rescue operations that returned murdered United Kingdom hostage

NEGOTIATION:
- Brokered agreement with Uzbek Air Force Chief that yielded eighty kilometers of airspace and basing acreage for thousands of allied forces and aircraft
- Expedited interagency approval and led joint air-ground force in disaster relief for severe Pakistani earthquake; evacuated 323 refugees and delivered over twenty-seven tons of relief supplies

ORGANIZATION:
- Led Special Tactics planning for liberation of southern and central Iraq, resulting in imminently executable air-ground war plan; conceived allied D-Day communication/aerial fires blueprint for thirty aircraft and 220 troops
- Served as Joint Task Force planner 100+ times, effecting direct action, reconnaissance, and rescue

COMMUNICATION:
- Presented infrastructure, training, and fiscal recommendations to delegation chaired by Afghan President Hamid Karzai and enabled access to two and one-half million-person capitol, establishment of ten embassies, as well as aid work
- Authored Air Force policy, tactical doctrine, and engineering specifications as training baseline for 2,250 airmen; keynote speaker at conferences, seminars, and on behalf of Ambassador to France

HEADQUARTERS US AIR FORCE, The Pentagon, Washington, DC, 2007–2008
Special Tactics Branch Chief/Program Element Monitor
Exercised autonomous decision-making authority for $350 million operating & capital account that funds 1,469 Special Tactics personnel engaged in continuous combat at thirty locations in US Central Command; interacted with armed services/appropriations committees and member staffs concerning President's Budget

- Rectified flagging Department oversight as manager for $5 million/2,250-user tactical parachute program; led contentious, eight-month negotiation, then authored sixty-five-page policy to reduce liability and boost safety
- Turned around sagging $2.7 million procurement project, providing Air Force Special Operations Command with means to procure fifty-four small unmanned aerial vehicles for surveillance missions in Iraq and Afghanistan
- Developed and defended $795 million defense budget submission through Congressional committees, resulting in unprecedented expansion flexibility for bottlenecked air-ground combat role in Central Asia
- Generated multi-agency roadmap for $2.9 million Senate Armed Services Committee budget addition, defining roles and analyzing acquisition milestones—achieved solid near- and long-term investment balance

[ORGANIZATION REDACTED], 2003–2007
Assistant Director of Operations (2006–2007). Director of Operations, Acting (four months)
Held decision-making authority over operations for elite, 244-member organization engaged in combat at twelve locations in three countries. Executed $3.3 million discretionary budget and $18.2 million in equipment and services

- Orchestrated 16,940 deployed person-days, 516 combat objectives, and 474 rescue sorties, resulting in 1,247 enemy detained, 29,000 lbs bombs on target, and insurgent network atrophy in central and western Iraq
- Authored manpower and casualty policy for Air Force Secretariat, Joint Staff, and US Central Command; oversaw $300 thousand, five-month training course that underwrote counterterror operations in five nations

Commander, [Organization Redacted] (2003–2006)
Led forces during classified reconnaissance & airfield control missions in Afghanistan/Pakistan and supervised thirty-eight government/contract employees for compartmented activity directed by Secretary of Defense

- Justified and secured $48.4 million appropriated funds—representing 250 percent increase—for clandestine element that subsequently decimated regional terrorist network and reinforced partner nation governance
- Designed new rescue concept that boosted available assets by 25 percent without fiscal expenditure; directed force that rescued four from downed helicopter and treated victims of vehicle explosive that wounded fifty

23D SPECIAL TACTICS SQUADRON, Hurlburt Field, FL, 2000–2003
Commander, Special Tactics Flight (2001–2003)
Commanded twenty-five-member Special Tactics organization during allied liberation of both Afghanistan and Iraq

- Accomplished international coordination, designed air traffic/navigation plan, then opened and oversaw expansion of Karshi-Khanabad and Bagram Airfields—airlift sorties provided logistics for Taliban overthrow
- Enabled unconventional warfare operations through relentless air-ground campaign in Balkh river valley

THE UNIVERSITY OF CHICAGO
THE LAW SCHOOL

1111 East 60th Street | Chicago, Illinois 60637
PHONE 773-702-9602 | FAX 773-702-0730
E-MAIL amalani@uchicago.edu
www.law.uchicago.edu

Anup Malani
Lee and Brena Freeman Professor of Law

September 20, 2018

Dear Colleagues,

I very strongly recommend Pat Ward for the NBER Health Economics Research Boot Camp. There is one word for Pat – unique. I encourage you to read his resume. You'll find that Pat is an Air Force Academy grad with a spectacular 11 year career in special operations, including 4 Bronze Stars, countless missions in Afghanistan and Iraq, and great leadership experience. He is getting his JD and PhD in economics from the University of Chicago. And he served as the editor of the University of Chicago Law Review. The low point in his resume is that helped run an investment and philanthropy interest for 5 years between finishing his Air Force career and the early years of graduate school, where he only managed a 12.1 percent annual yield. I have never met a student with such a successful and wide-ranging background. To be honest, I have met very few people with this background.

I know Pat in several ways. First, I am the chair of his dissertation committee. (My background is that I am a member of the NBER's Health Care Program and have a PhD in economics and a JD, both from University of Chicago.) Second, Pat was a student last year in a class I taught. Third, I have served as an informal advisor to Pat as he navigates our joint JD/PhD program and weighs his post-graduate employment options. Unsurprisingly, Pat has impressed me in each of these interactions.

To begin, let me speak to his technical qualifications. Pat was twice the sole lecturer for an undergraduate econometrics class, got all As in his econometrics field exams, and won the department's prize (given once per year) for excellence in econometrics teaching. He codes in R and wrote an extension to the dplyr package to facilitate border identification. The department chose him as the instructor for a pilot program designed to bring re-takers of its comprehensive PhD exams (micro, macro, and metrics) up to speed. In his free time, he helped develop open-source BIOS for an up-and-coming Linux/Xen distribution. He also earned an A on his pre-thesis research paper, for which the modal grade is simply "Pass."

Turning to research, although Pat has the interest and capacity to contribute on a range of topics, his primary interest is in health economics. His dissertation on chronic health conditions throughout the aging cycle is an example. He noticed that obesity is a problem of the lower income groups in the US but of higher income groups in places like India. The literature has given different answers to each of these problems. In the US, economists finger, e.g., the lower cost of calories or sedentary lifestyles. In developing countries, we tell stories about obesity signaling wealth. This is pretty ad hoc. Perhaps obesity depends on culture and culture varies across countries. But not all theories of obesity depend on culture (e.g., in the US). And there is no need for obesity – a physiological condition – to respect national boundaries. Noticing this, Pat set out to write a single model that could explain the obesity trend globally – specifically the U-shaped pattern where obesity is concentrated in the middle of the world income distribution.

Given his price theory background from the University of Chicago, his answers – presented during his thesis proposal – are also simple. Food is a normal good that obeys the law of demand. As either incomes rise (in developing countries) or the price of calories fall (developed countries), individuals consume food. This explains the increase in obesity in the middle of the global income distribution. Borrowing from Hall and Jones (2002), health is a superior good. (The reason is that, whereas the marginal utility of non-health consumption in the present period falls with greater consumption (hence income), the marginal utility of investments in health – specifically *longevity* – is not declining. Increasing the probability of living one more year gives you the value of your consumption that year.) That means, as income reaches the right tail of the global distribution, the return to investments in health – which requires exercise and diets – exceeds the return to eating more food. The story is simple, builds nicely on prior work, and helps unite two different inquiries in the field of obesity research. The model was sufficiently intriguing that his committee, which also includes Kevin Murphy (who doesn't take many students) and a spectacular young health economist, Neale Mahoney, spent 90 minutes debating it in Kevin's office after Pat's presentation. That is very uncommon, and a mark of being onto something.

Pat also shined in one of my classes last year. Gary Becker, my thesis advisor, used to teach a class where he would teach business students how to tackle big public policy problems – crime, the drug war, health care costs, terrorism, etc. – using the tools of economics. When Gary passed away, his student and co-author, Kevin Murphy, along with Bob Topel, David Weisbach and I decided to honor him by teaching the class again. We made some modifications by expanding the toolkit to include science and law , and asking studentsto analyze challenges like health care reform through those lenses. We wanted students to be able to work collaboratively and take the challenging step of applying what they've learned to a problem that is remote from what they usually get in class. Importantly, we wanted them to acquire the skill of developing a framework to think about a complicated issue so that complex problems aren't lost in the weeds or otherwise be confused and confusing. This is a skill we believe distinguishes smart people from insightful people.

Unsurprisingly, Pat received the second highest grade in the class. His team's performance was stellar. They tackled the problem of aging in the US. It was clear from audience questions during the presentation that the team relied on his law background when thinking about the operation of the Medicare and Social Security Trust Funds. They also used his economic model of aging and the labor market as a framework for analysis and to grade different policy options. But where he really stood out from other students was in the ability to perceive connections between seemingly disparate material. For example, we had Michael Leiter, the former director of the National Counterterrorism Center, come to give a talk on cybersecurity policy. He spoke at length about how to identify specific hackers and the challenges of responding given the risk of retaliation. Pat asked questions that demonstrated to Leiter that Pat was capable of using lessons from tactical training to trap hackers. He also pushed Leiter on how to distinguish a genuine hack from a spoof. Leiter was sufficiently impressed that he asked Pat to spend time with him about his future career plans before he had to catch his flight back to DC.

I have also gotten to know Pat better as a person in the course of guiding him through the JD/PhD program, which I finished over a decade ago. Pat is understated. He does not lead with his resume. He is proud of his military service, but not brash. He does not talk about it unless asked. He is not a typical economist – pretending to have a theory of everything. But he does have a framework to begin thinking about problems. And he is capable of seeing the flaws in that framework. That makes his conceptualization of problems clearer than most, but not inflexible. He is respectful and hard working. When I told him a bunch of changes wanted to see in his thesis, he was more responsive than most graduate students. When he said he wanted to be a professor and I responded that he should start developing a portfolio, he came back in a month with 3-4 reasonably well developed ideas. He is also

well liked, is a natural leader, and was selected as the editor in chief of the University of Chicago Law Review. And there is, of course, his resume.

Pat is a student that comes along maybe once or twice in a professor's career. The student that makes you excited to teach and somewhat awed. That Pat combines that with a modest personality makes this the easiest recommendation I have ever written.

Please do not hesitate to contact me with any questions.

Sincerely,



Anup Malani

6116 S. University Ave., #200
Chicago, IL 60637
910-850-7591
prw@uchicago.edu

September 20, 2018

National Bureau of Economic Research
Attn: Health Economics Research Boot Camp for Graduate Students
1050 Massachusetts Ave.
Cambridge, MA 02138

Dear Reviewers:

Enclosed you will find a C.V. and short essay. My thesis chair, Professor Anup Malani (773-702-9602, amalani@uchicago.edu), plans to send a letter of recommendation under separate cover. Please do not hesitate to contact me at 910-850-7591 or at prw@uchicago.edu; it would be a pleasure to amplify. Best of luck in assembling a sincere and capable group!

Respectfully,

//signed: P. Ward//
Patrick R. Ward

Enclosures

SHORT ESSAY

Two reasons drove this application: The first is, of course, to become a more capable and productive researcher in health economics. The second is to prepare for a year as a research clerk at the U.S. Court of Appeals for the Seventh Circuit, after which I'll likely go on the job market.

As to the latter, the court hears a double-digit number of health care cases each year. The trend in evidence has been toward evermore complex testimony by experts. My job will be to digest the record—as well as briefs by the parties and eligible amici curiae—review the law, and synthesize courses of action for the Honorable Frank Easterbrook. My hope is to do so with a better understanding of the major papers, approaches, and datasets in the field. In addition, it would be helpful to have a fuller grasp of their perceived strengths and limitations, as these are fodder for conflict during litigation. Getting the outcome right matters a good deal, not just for the parties involved, but also for those bound directly or indirectly by the court's precedent.

As to the former, my research centers on health economics, IO, and their intersection. It sounds strange to say; after all, portfolios at this stage of training consist of just a few papers. In other words, you almost need small-sample tools to come to any conclusion about what we're doing as grad students. Nevertheless, three papers may be of interest in gauging research interest in health.

The first is my thesis, which is being advised by Anup Malani and Kevin Murphy. It explores both the preventive and mitigating choices that individuals make—in an endogenous-health fashion—during the progression of chronic disease. Cardiovascular consequences, gastrointestinal impacts, and immune effects, as well as things like obesity, are applications of the paper's model. Initial results indicate that leisure has a productive role, that preventive investment is commitment based, and that people free ride on investments by others. The model posits two stable steady states—one high- and the other lower-symptom. Yet the third, unstable steady state is of primary interest. It operates as a threshold between the absorbing states: before it we are resilient, after it less so. Understanding the determinants of where it tends to be located in the aging process would be exciting—though it may require the use of biomarker datasets with which I am presently unfamiliar. Further, how long it is possible to ignore prevention, in a variety of external environments, before crossing the threshold? Is there an extension to an aging-related version of the poverty trap literature?

The second is a food safety paper that looks at whether distributors increase output of potentially contaminated food when shielded from liability. As background, about half of states relaxed liability for so-called passive resellers of goods, instead shifting liability upstream to manufacturers. The paper seeks to test a hypothesis by Eric Helland and co-authors (working paper, 2010) that moral hazard prevails among distributors in these tort-reform jurisdictions. Helland found an increase, above the optimum, in quantity of prescription drugs sold post-reform. As to food safety, the situation appears similar. So long as major food retailers do not disproportionately select into tort-reform regimes (which appears to have been the case during the study period), a border-identification strategy revealed a 7% increase in the quantity of broiler chickens sold on the tort-reform side of the border. Chickens make for an interesting product given their predisposition to salmonella. And under the old regime, distributors downstream tested for the presence of various pathogens by destroying a fraction of the product. An interesting follow-up would be to examine how these product-destroying programs have fared in tort-reform jurisdictions. In other words, one might complement the quantity-based study with one that investigates changes in the fraction of products tested in different liability regimes.

The third is a paper that investigates the suitability of assorted policies to address the challenges created by shifting age demographics in developed countries. Policies like adjusting the retirement age and indexing it to longevity or decreasing the implicit tax on work by aged persons tended to score better than policies like indexing to dependency or attempting to enhance fertility. In reaching its conclusions, the project took a hard look at morbidity via a model of the retirement decision by Aisa, Pueyo, and Sanso (*J Pop Econ*, 2012). The model is helpful because, while maintaining the full complexity of the retirement decision, it allowed for a more detailed analysis of the tradeoff between the desire for more leisure and increased capacity to work at an older age, demonstrating that morbidity compression *entirely* drives the productivity gains that matter to the decision. That suggested leveraging Imrohoroglu and Kitao's MEPS- and HRS-based conclusion (*Am Econ J: Macro*, 2012) that labor force participation should dominate the desire for more leisure.

Of course, I would put the camp's curriculum to use—immediately in shaping current and future papers and next year while reviewing health cases at the Seventh Circuit. But more than that, it was exciting to see the call for applications, and it would be wonderful to learn from some of the field's leaders. Best of luck in assembling the participants, and thanks for organizing the camp!