Michael D. Grubb

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ACADEMIC EXPERIENCE

MIT SLOAN SCHOOL OF MANAGEMENT, Cambridge MA
Assistant Professor of Applied Economics — July 2007 – Present

HARVARD DEPARTMENT OF ECONOMICS, Cambridge MA
Visiting Scholar — September 2009 – June 2010

EDUCATION

STANFORD GRADUATE SCHOOL OF BUSINESS, Stanford CA
Ph.D. in Business Administration (Field: Economics) — June 2007

UNIVERSITY OF OXFORD - NUFFIELD COLLEGE, Oxford UK
M. Phil. in Economics — July 2002

UNIVERSITY OF PENNSYLVANIA, Philadelphia PA
Management and Technology Joint Degree — Summa Cum Laude
The Wharton School, B.S. in Economics — May 2000
School of Engineering and Applied Science, B.S. in Engineering — May 2000

FIELDS OF INTEREST

Applied Microeconomic Theory, Industrial Organization, Behavioral Economics

PUBLICATIONS

"Selling to Overconfident Consumers", *American Economic Review*, 2009, 99(5), pp. 1770-1807.
(Winner of The Claire and Ralph Landau Prize 2007)
Consumers may overestimate the precision of their demand forecasts. This overconfidence creates an incentive for both monopolists and competitive firms to offer tariffs with included quantities at zero marginal cost, followed by steep marginal charges. This matches observed cell-phone service pricing plans in the US and elsewhere. An alternative explanation with common priors can be ruled out in favor of overconfidence based on observed customer usage patterns for a major US wireless phone service provider. The model can be reinterpreted to explain the use of flat rates and late fees in rental markets, and teaser rates on loans. Nevertheless, firms may benefit from consumers losing their overconfidence.

"Developing a Reputation for Reticence", *Journal of Economics & Management Strategy*, 2011, 20(1) pp. 225-268.
A sender who has disclosable information with probability less than one may partially conceal bad news by choosing to withhold information and pooling with uninformed types. The success of this strategy depends on receivers' beliefs about the probability that the sender has disclosable news. In a dynamic context, informed senders try to cultivate a reputation for reticence either by concealing good news along with the bad, or by concealing some good news and disclosing some bad news. A reputation for reticence is valuable because it makes receivers less skeptical of past or future non-disclosures. The model provides insight into the choice by firms such as Google not to disclose quarterly earnings guidance to analysts, as well as Tony Blair's reticence over his son's vaccine record during the MMR scare in the UK.

PUBLICATIONS CONTINUED

"Dynamic Nonlinear Pricing: biased expectations, inattention, and bill shock", *International Journal of Industrial Organization* (forthcoming)

Recent research highlights the importance of biased expectations and inattention for nonlinear pricing in dynamic environments. Findings are: (1) Three-part tariffs, such as cellular service contracts, exploit consumer overconfidence. (2) Surprise penalty fees may be used to further exploit biased beliefs or alternatively to price discriminate more efficiently whenever consumers are inattentive. (3) Implementing the recent bill-shock agreement between cellular carriers and the FCC is predicted to harm rather than help consumers when endogenous price changes are taken into account.

WORKING PAPERS

"Consumer Inattention and Bill-Shock Regulation"

For many goods and services, such as cellular-phone service and debit-card transactions, the marginal price of the next unit of service depends on past usage. As a result, consumers who are inattentive to their past usage may be aware of contract terms and yet remain uncertain about the marginal price of the next unit. I develop a model of inattentive consumption, derive equilibrium pricing when consumers are inattentive, and evaluate bill-shock regulation requiring firms to disclose information that perfectly substitutes for attention. Inattention leads firms to charge surprise penalty fees for high usage when consumers are heterogeneous ex ante or have biased beliefs. When consumers are heterogeneous ex ante and have unbiased beliefs, inattention and penalty fees increase welfare in fairly-competitive markets, and bill-shock regulation is socially harmful. Under these conditions, cellular-phone usage-alerts required by the FCC's bill-shock agreement could reduce welfare and harm consumers. If consumers are homogeneous ex ante but underestimate their demand, then bill-shock regulation has an ambiguous impact on total welfare but may have large distributional benefits by increasing price competition and protecting consumers from exploitation. Hence the Federal Reserve's new opt-in rule for debit-card overdraft protection may substantially benefit consumers.

"Cellular Service Demand: Biased Beliefs, Learning, and Bill Shock", (with Matthew Osborne)

By April 2013, the FCC's recent bill-shock agreement with cellular carriers requires consumers be notified when exceeding usage allowances. Will the agreement help or hurt consumers? To answer this question, we estimate a model of consumer plan choice, usage, and learning using a panel of cellular bills. Our model predicts that the agreement will lower average consumer welfare by $2 per year because firms will respond by raising monthly fees. Our approach is based on novel evidence that consumers are inattentive to past usage (meaning that bill-shock alerts are informative) and advances structural modeling of demand in situations where multipart tariffs induce marginal-price uncertainty. Additionally, our model estimates show that an average consumer underestimates both the mean and variance of future calling. These biases cost consumers $42 per year at existing prices. Moreover, absent bias, the bill-shock agreement would have little to no effect.

WORKING PAPERS CONTINUED

"Peaches, Lemons, and Cookies: Designing Auction Markets with Dispersed Information" (with Susan Athey, Ittai Abraham, Moshe Babaioff)

This paper studies the role of information asymmetries in second price, common value auctions. Motivated by information structures that arise commonly in applications such as online advertising, we seek to understand what types of information asymmetries lead to substantial reductions in revenue for the auctioneer. One application of our results concerns online advertising auctions in the presence of "cookies," which allow individual advertisers to recognize advertising opportunities for users who, for example, are

customers of their websites. Cookies create substantial information asymmetries both ex ante and at the interim stage, when advertisers form their beliefs. The paper proceeds by first introducing a new refinement, which we call "tremble robust equilibrium" (TRE), which overcomes the problem of multiplicity of equilibria in many domains of interest. Second, we consider a special information structure, where only one bidder has access to superior information, and show that the seller's revenue in the unique TRE is equal to the expected value of the object conditional on the lowest possible signal, no matter how unlikely it is that this signal is realized. Thus, if cookies identify especially good users, revenue may not be affected much, but if cookies can (even occasionally) be used to identify very poor users, the revenue consequences are severe. In the third part of the paper, we study the case where multiple bidders may be informed, providing additional characterizations of the impact of information structure on revenue. Finally, we consider richer market designs that ensure greater revenue for the auctioneer, for example by auctioning the right to participate in the mechanism.

"Who Benefits from Tax Advantaged Employee Benefits?: Evidence from Parking" (with Paul Oyer)
NBER Working Paper No. W14062

We use university parking permits to study how firms and employees split the value of employee benefit tax subsidies. Starting in 1998, the IRS allowed employees to pay for parking passes with pre tax income. This subsidized the parking pass purchases of faculty and staff, but did not affect students. We show that the typical university raised its parking rates by 8 10% extra when it implemented a pre tax payment system, but that this increase was the same for those affected by the tax change and those that were not affected. We conclude that university employees captured much of the new tax benefit, that faculty and staff that purchase permits benefitted relative to those that do not purchase permits, and that students that purchase permits were made worse off relative to those that do not buy permits.

FELLOWSHIPS AND AWARDS

Excellence in Refereeing Award, *American Economic Review* (2007-2008)

The *Review of Economic Studies* Tour (2007)

The Claire and Ralph Landau Prize for the best Stanford Institute for Economic Policy Research working paper submitted by a graduate student (2007)

Taube Scholarship Fund Fellowship, Stanford Institute for Economic Policy Research (2007)

State Farm Companies Foundation Doctoral Award (2006)

Paul H., Cathryn M., and Joshua D. M. Cootner PhD Fellowship (2005-2006)

Theodore J. and Esther E. Kreps Fellowship (2004-2005)

Francis Goldsmith Fellowship (2003-2004)

Gustav H. Benkendorf and Elizabeth Benkendorf Scholarship (2003)

Jaedicke Merit Award (2003): Awarded for outstanding first year performance at the Stanford Graduate School of Business. Two awards given per class of approximately 25 PhD students.

Stanford Graduate School of Business Fellowship (2002-2007)

Thouron Award (2000-2002): Fully funds two years of graduate study in the UK.

George Webb Medley Thesis Prize (2002): Awarded for best thesis among all (~30) Oxford M.Phil. Economics candidates (co-recipient).

Exam Prize (2002): Best exam performance among all (~30) Oxford M.Phil. Econ. candidates.

PROFESSIONAL ACTIVITIES

REFEREE

American Economic Review (2005, 2006, 2007, 2008, 2009, 2010, 2011,2012); *American Economic Journal: Micro* (2011), *American Economic Journal: Policy* (2010, 2011), *American Economic Journal: Applied Economics* (2008); *Review of Economic Studies* (2010, 2012), *Journal of the European Economic Association* (2010, 2011, 2012), *The B.E. Journal of Economic Analysis & Policy* (2009); *RAND Journal of Economics* (2009, 2010, 2011); *Journal of Economic* Theory (2007); *The Economic Journal* (2009); *Theoretical Economics* (2011); *International Economic Review* (2009, 2011, 2012); *Journal of Public Economics* (2011); *The Quarterly Review of Economics and Finance* (2009); *Economic Inquiry* (2012); *Management Science* (2009, 2010, 2012); *Journal of Law Economics and Organization* (2010, 2012), *Journal of Environmental Policy & Planning* (2009); *Games and Economic Behavior* (2004, 2005); *Manufacturing and Service Operations Management* (2006); *Journal of Empirical Legal Studies* (2011);

INVITED PRESENTATIONS

2012: Econometric Society meetings; Cornell University; Chicago Booth; Washington University in St Louis, Olin; University of Maryland; University of Michigan; Stanford University; Yale; Brown; Dartmouth; Marketing Science Conference
2011: UC Berkeley; Columbia University; University of Rochester, Simon School; International Industrial Organization Conference; Cornell University, Johnson School; Berlin-wide Behavioral Economics Seminar; European Association for Research in Industrial Economics; University of South Carolina, Moore School; NBER Market Design meeting; Columbia-Duke-Northwestern IO Theory Conference; Duke University
2010: SITE (Stanford Institute for Theoretical Economics) workshop; NYU Stern; Quantitative and Marketing Economics Conference; Kellogg School of Management, Northwestern University; FTC Microeconomics Conference; Chicago Booth School of Business; University of Wisconsin.
2008: Harvard University; University of Pennsylvania; University of California San Diego; International Industrial Organization Conference.
2007: University of California Berkeley, Haas School of Business; Kellogg School of Management, Northwestern University; MIT Sloan School of Management; Princeton University; Yale University; Columbia Business School; Harvard Business School; California Institute of Technology; UCLA Anderson School of Management; Tinbergen Institute Amsterdam; IEW, University of Zurich; London Business School.
2006: International Industrial Organization Conference.
2005: Trans-Atlantic Doctoral Conference, London Business School; HP Research Laboratories.

TEACHING EXPERIENCE

MIT SLOAN SCHOOL OF MANAGEMENT, Cambridge MA — Fall 2007, 2008, 2010, 2011
INSTRUCTOR: Economic Analysis for Business Decisions (MBA)

STANFORD GRADUATE SCHOOL OF BUSINESS, Stanford CA — Fall 2005, Sept. 2004
COURSE ASSISTANT: Managerial Economics - Advanced (MBA)

PRE-ENROLLMENT INSTRUCTOR: Mathematics and Microeconomics (PhD)

ST. CATHERINE'S COLLEGE, UNIVERSITY OF OXFORD, Oxford UK — 2001 – 2002
CLASS A LECTURER: Mathematics and Microeconomics

THE WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA, Philadelphia PA — Fall 1998
TEACHING ASSISTANT: Corporate Finance

OTHER PROFESSIONAL EXPERIENCE

WORLD BANK, Washington DC, Intern	Summer 2001
OLIVER WYMAN & COMPANY, London UK, Consultant	Summer 2000
BRAND EQUITY VENTURES, Greenwich CT, Associate	Summer 1999

PERSONAL

Dual US and UK citizen. Eagle Scout.