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Curriculum Vitae**Fall 2009****JULIA THORNTON SNIDER****Personal Data***Home Address*

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Citizenship: U.S.A.**Major Fields of Concentration**

Healthcare Economics, Applied Microeconomics, Industrial Organization

Education

<i>Degree</i>	<i>Field</i>	<i>Institution</i>	<i>Year</i>
Ph.D.	Economics	University of Minnesota (expected)	2010
M.A.	Economics	University of Minnesota	2007
B.A.	Economics (with honors, with distinction)	Stanford University	2004

Dissertation

Title: "Essays in Pharmaceutical Economics"

Dissertation Advisor: Professor Thomas J. Holmes

Expected Completion: Spring 2010

References

Professor Thomas J. Holmes	(612) 625-4512 (612) 204-5537 holmes@umn.edu	Department of Economics University of Minnesota 4-101 Hanson Hall 1925 Fourth Street South Minneapolis, MN 55455
Professor Minjung Park	(612) 624-4551 mpark@umn.edu	
Professor Morris M. Kleiner	(612) 625-2089 kleiner@umn.edu	Hubert H. Humphrey Institute of Public Affairs University of Minnesota 260 Humphrey Center 301 19th Avenue South Minneapolis, MN 55455
Professor Robert J. Town	(612) 626-4683 rjtown@umn.edu	Health Policy and Management School of Public Health University of Minnesota 420 Delaware Street S.E. Minneapolis, MN 55455

Honors, Grants and Awards

- 2007 *Graduate School Thesis Research Grant*, University of Minnesota.
2007 *Research Grant*, Department of Economics, University of Minnesota.
2006 *Distinguished Teaching Assistant*, Department of Economics, University of Minnesota.
(Awarded in three sections)
2004-2006 *Graduate School Fellowship*, University of Minnesota.
2004 *Phi Beta Kappa*, Stanford University.

Teaching Experience

- 2006 *Teaching Assistant*, Department of Economics, University of Minnesota.
Led recitation sections for *Principles of Microeconomics*.

Research Experience

- 2007 - 2009 *Research Analyst*, Research Department, Federal Reserve Bank of Minneapolis, Minneapolis, Minnesota. *Research Assistant* for Professor Thomas Holmes.
2007 *Research Assistant*, Department of Economics, University of Minnesota, Minneapolis, Minnesota. *Research Assistant* for Professor Thomas Holmes.
2003 *Research Assistant*, World Bank, Buenos Aires, Argentina. *Research Assistant* for Dr. Zeinab Partow.
2002 *Research Assistant*, World Bank, Moscow, Russia. *Research Assistant* for Dr. Vladimir Drebensov.

Papers

(Download papers at www.econ.umn.edu/~julieta/)

- “Evidence of the Complementarity of Detailing and Direct-to-Consumer Advertising of Prescription Drugs” 2009.
“A Theory of Outsourcing and Wage Decline,” with Thomas J. Holmes, 2009. Revise and Resubmit *American Economic Journal: Microeconomics*.
“Preemptive Advertising at Drug Patent Expiration: Evidence from the US and Canada” 2009.
“Pharmaceutical Profitability in the U.S. and Canada,” in progress.
“The Global Implications of National Pharmaceutical Regulation: Price Regulation and Incentives for Innovation,” in progress.

Computer Skills

C programming language, Stata, SAS, Gauss, Matlab, Arc GIS, Scientific Word, LaTeX

Languages

English (native), Spanish (fluent), French (proficient), German (proficient), Russian (basic)

Dissertation Abstract

Essay 1: “Evidence of the Complementarity of Detailing and Direct-to-Consumer Advertising of Prescription Drugs” (Job Market Paper)

Prescription drugs are chosen by the physician but consumed by the patient, giving two potential targets for advertising. Advertising to doctors, called “detailing,” has historically been more common, but in recent years direct-to-consumer (DTC) advertising has risen in prevalence. The question of how these two types of advertising interact is important for understanding the implications of controversial policies such as the bans on DTC advertising found in most countries. This paper develops an identification strategy exploiting policy differences between the United States and Canada to estimate a model of the joint effects of DTC advertising and detailing. I find a significant complementary effect between the two types: All else equal, for every additional dollar spent on DTC advertising, firms spend eight additional cents on detailing. This implies that DTC advertising bans decrease the effectiveness of detailing, and firms will do less as a result. Using the complementarity estimate to simulate the impact of banning DTC advertising in the U.S., I find sales would decline between one and a half and four percent per year between 1999 and 2008, with a full forty percent of the decline attributable to the indirect channel of decreased detailing.

Essay 2: “Preemptive Advertising at Drug Patent Expiration: Evidence from the U.S. and Canada”

Direct-to-consumer (DTC) advertising of prescription drugs is controversial due to its effects on total usage of prescription drugs, potentially extending drug treatment to cases where it is of questionable medical merit. However, DTC advertising may also have significant effects on the composition of usage between branded and generic drugs. This paper examines

these compositional effects by modeling and analyzing the effect of DTC advertising and advertising to doctors (called "detailing") around the time of patent expiration. I create a model with two firms, one branded and one generic, to capture firms' DTC advertising and detailing decisions over the life of a drug. Following the consensus in the literature, I construct the model so that DTC advertising serves mainly to expand the market for a therapeutic class while detailing affects prescription choice. I then compare the model's predictions under different regulations on price and advertising with data from the U.S. and Canada. The model's results are consistent with the empirical observation that optimal detailing and DTC advertising are lower in an environment where lower prices are set by regulators. In addition, numerical results demonstrate that when consumers are reluctant to switch between the branded drug and the generic, the branded firm may choose to engage in a preemptive advertising campaign prior to patent expiration to limit market share grab by the entering generic or even to delay generic entry. This finding helps explain similar preemptive DTC advertising and detailing campaigns observed in the data.

Essay 3: "The Global Implications of National Pharmaceutical Regulation: Price Regulation and Incentives for Innovation"

Multinational corporations create pharmaceutical innovations for the global market, yet government pharmaceutical policy, such as price regulation, is set at the national level. I examine the implications of this arrangement by framing pharmaceutical price regulation as the result of a game between the governments of two countries of varying (economic) size. The agents of the game are a multinational pharmaceutical firm which produces a drug for the global market and the two national governments, each of which is assumed to maximize the welfare of the consumers residing within its borders. Prices are determined as the Nash equilibrium of the game between the governments. Observing the two national prices, the firm then undertakes costly innovation to attain a drug quality level which is homogenous across the global market. My model provides the following results. First, even accounting for the price's impact on quality, firms prefer a higher drug price than what is optimal for consumers. Second, dividing the world's population into countries creates a "tragedy of the commons" in which the public good of pharmaceutical innovation is underfunded. Finally, whenever one of the two countries is considerably larger than the other, the unique Nash equilibrium is for the smaller country to set its drug price to zero. This suggests that a large economy, such as the United States, will end up providing incentives for drug innovation all over the world.

Essay 4: "Pharmaceutical Profitability in the US and Canada"

When considering whether the United States should adopt Canadian-style healthcare reforms such as prescription drug price regulation or consumer advertising restrictions, it is important to assess the profitability of prescription drugs under the American and Canadian systems. To gain a greater understanding of the incentives for innovation provided by the two systems, I analyze the components of firm profits for a sample of 34 brand-name drugs available in the U.S. and Canada between 2002 and 2007. Controlling for market size, one might expect prescription drugs to be more profitable in Canada due to its ban of direct-to-consumer advertising (DTCA), which would prevent firms from using wasteful advertising to fight over market share with competitors. To test this, I keep track of how much sales revenue goes to advertising expenditures to target doctors (as is allowed in both countries) and consumers (allowed only in the US). I find that despite advertising expenditures that are significantly lower as a share of sales revenue, lower prices make the Canadian market significantly less profitable, with firms on average earning only 41 percent as much profit per person over the life of a drug as in the United States. This suggests that any changes to the American policy environment would have significant implications for pharmaceutical innovation, which should be considered along with other costs and benefits when pursuing any reforms.

Additional Paper

"A Theory of Outsourcing and Wage Decline," with Thomas J. Holmes. Revise and Resubmit *American Economic Journal: Microeconomics*

We develop a theory of outsourcing in which there is market power in one factor market (labor) and no market power in a second factor market (capital). There are two intermediate goods: one labor-intensive and the other capital-intensive. We show there is always outsourcing in the market allocation when a friction limiting outsourcing is not too big. The key factor underlying the result is that labor demand is more elastic, the greater the labor share. Integrated plants pay higher wages than the specialist producers of labor-intensive intermediates. We derive conditions under which there are multiple equilibria that vary in the degree of outsourcing. Across these equilibria, wages are lower the greater the degree of outsourcing. Wages fall when outsourcing increases in response to a decline in the outsourcing friction.