

## University of Minnesota - Twin Cities

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## Curriculum Vitae Fall 2007

### WEN-TAI HSU

#### Personal Data

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#### Major Fields of Concentration

Applied Microeconomics, Urban/Regional Economics, Industrial Organization, International Trade

#### Education

<i>Degree</i>	<i>Field</i>	<i>Institution</i>	<i>Year</i>
Ph.D.	Economics	University of Minnesota (expected)	2008
M.A.	Economics	University of Minnesota	2006
M.A.	Economics	National Taiwan University	2002
B.A.	Economics	National Taiwan University	1998

#### Dissertation

Title: "The Structure of Distribution: Implications on Cities and Firms"

Dissertation Advisors: Professor Thomas Holmes and Professor Samuel Kortum

Expected Completion: May 2008

#### References

Professor Thomas Holmes	(612) 625-4512 (612) 204-5537 holmes@umn.edu	Department of Economics University of Minnesota 1035 Heller Hall 271 - 19 <sup>th</sup> Avenue South Minneapolis, MN 55455
Professor Erzo G. J. Luttmer	(612) 625-5054 (612) 204-5540 luttmer@umn.edu	
Dr. Simran Sahi	(612) 625-6353 ssahi@econ.umn.edu	
Professor Samuel Kortum	(773) 702-8250 kortum@uchicago.edu	Department of Economics University of Chicago 1126 E. 59 <sup>th</sup> Street Chicago, IL 60637

## Honors and Awards

- 2007 - 2008 Dissertation Fellowship for Taiwan Students Abroad, Taiwan Ministry of Education.
- 2004 Summer Fellowship, Department of Economics, University of Minnesota, Minneapolis, Minnesota.
- 2003 - 2004 Graduate Fellowship, Department of Economics, University of Minnesota, Minneapolis, Minnesota.
- 2002 Postgraduate Research Scholarship, Faculty of Business and Economics, Monash University, Australia.
- 2002 Honorary Mention, Best Master's Thesis Competition, 2002 Taiwan Economics Association.

## Teaching Experience

- 2005-2008 *Instructor*, Department of Economics, University of Minnesota, Minneapolis, Minnesota. Taught *Principles of Microeconomics*, *Principle of Macroeconomics*, *Introduction to Econometrics*, and will teach *Urban Economics*.
- 2004-2005 *Teaching Assistant*, Department of Economics, University of Minnesota, Minneapolis, Minnesota. Led recitation sections for *Introduction to Econometrics* and *Principles of Microeconomics*.
- 2000-2002 *Teaching Assistant*, Department of Economics, National Taiwan University, Taipei, Taiwan. Led recitation sections for *Principles of Economics* and *Statistics*.

## Research Experience

- 2001 Research Assistant, Acumind Consulting Company, Taipei, Taiwan. Wrote sections on Indonesia in the research report, *Economic Reforms of Major Asian Countries after the 1997-98 Financial Crisis*, by Council of Economic Planning and Development, Executive Yuan, Taiwan
- 2001 Research Assistant to Prof Yu-Seng Song, Department of Economics, National Taiwan University

## Papers

(Some papers are available for download at <http://www.econ.umn.edu/~tedhsu75/papers.htm>)

"Central Place Theory and Zipf's Law," November 2007.

"On the Structure of Distribution," July 2007.

"Group Formation and Cultural Transition," September 2006.

"Risk Aversion and Job Search Duration: Longer or Shorter?" February 2005.

## Presentations

"Central Place Theory and Zipf's Law," presented at: Midwest Theory Meeting, Minneapolis, Minnesota, April 20-22, 2007; 54<sup>th</sup> Annual Meetings of the Regional Science Association International, Savannah, Georgia November, 2007.

“On the Structure of Distribution,” presented at: Midwest Economics Association 2007 Annual Meeting, Minneapolis, Minnesota, March 23-25, 2007; Far Eastern Meeting of Econometric Society, Taipei, Taiwan, July 11-15, 2007.

“Hazard Rate Discounting and Sustainability,” presented at: Microeconomic Theory Seminar, Department of Economics, National Taiwan University, Taipei, Taiwan, October 2002.

### **Computer Skills**

Matlab, Gauss, Stata, and Mathematica

### **Dissertation Abstract**

#### **Essay 1: “Central Place Theory and Zipf’s Law” (job market paper)**

This paper provides a theory of the location of firms and, as cities are groups of firms, the emergence of cities. Using both a model of spatial price discrimination and the corresponding social planner's problem, this paper provides a microfoundation for *central place theory* and the conditions under which Zipf's law for cities emerges. Central place theory describes how a hierarchical city system with different layers of cities serving different sized market areas forms from a uniformly populated space. Zipf's law for cities, that is, the size distribution of cities following the Pareto distribution with a tail index close to 1, is a robust empirical regularity. In the model, the main force driving the size difference of cities is the tradeoff between transportation cost and scale economies, which differs across goods due to different fixed costs of production. Since a central place hierarchy also implies a hierarchy of firms, Zipf's law for firms is also approximated. The theory is also consistent with a newly discovered empirical regularity, the Number-Average Size rule, which is a log-linear relationship between the number of cities and the average size of cities where an industry is located.

#### **Essay 2: “On the Structure of Distribution”**

To explain a recent phenomenon of ‘disintermediation,’ this paper presents a general equilibrium model of distribution sector which intermediates goods from manufacturers to consumers. The model is the first in the literature that features multiple layers of middlemen. A case of infinite layers is fully examined in the paper. The approach to modeling is to embed the recursive structure of intermediation in the standard Dixit-Stiglitz (1977) model of monopolistic competition. The friction that creates the recursive structure of distribution is multi-folds: uncertainty upon entry, the retail cost which induces economies of scale, and the entry cost which shrinks at the same rate of expected gross profit over layers. In particular, the interaction between the uncertainty and the retail cost creates cutoff rules for the middlemen to choose between retailing and wholesaling, and the shrinking entry cost enables a recursive structure that permits the existence of infinite layers.