April 17, 2012

Thomas Hellmann
Entrepreneurship Research Boot Camp

Dear Prof. Hellmann,

Recently, I saw the flyer of the 5th Entrepreneurship Research Boot Camp (ERBC), and I would like to apply for this opportunity. Currently, I am a Ph.D. candidate in Department of Economics at Princeton University and will begin my assistant professorship at Fuqua School of Business at Duke University this coming fall.

My adviser Stephen Morris will write a reference letter for me.

My contact information:

Ming Yang

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Thank you for your consideration, and I look forward to hearing from you.

Sincerely yours,

Ming Yang

MING YANG

April 2012

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EDUCATION: Princeton University, Ph.D., Economics, 2012 (Expected)
Princeton University, M.A., Economics, 2009
Tsinghua University, M.Sc., Economics, 2007
Nanjing University, B.S., Mathematics, 2004 (Rank 1/111)

GENERAL EXAMINATION FOR THE PH.D.: Finance and Macroeconomics, May 2009

PH.D. COURSES

Fall 2007
1. ECO501_F2007: ECO501_F2007 Microeconomic Theory I
Instructor Faruk Gul
2. ECO503_F2007: ECO503_F2007 Macroeconomic Theory I
Instructor Christopher Sims, Noah Williams
3. ECO517_F2007: ECO517_F2007 Econometric Theory I
Instructor Bo Honore, Ulrich Mueller
4. ECO525-FIN595_F2007: ECO525-FIN595_F2007 Financial Economics I
Instructor Harrison Hong, Wei Xiong
5. ECOS500_F2007: ECOS500_F2007 Mathematics for Economists
Instructor Andres Aradillas-Lopez

Spring 2008
6. ECO502_S2008: ECO502_S2008 Microeconomic Theory II
Instructor Dilip Abreu, Wolfgang Pesendorfer
7. ECO504_S2008: ECO504_S2008 Macroeconomic Theory II
Instructor Per Krusell, Noah Williams
8. ECO518_S2008: ECO518_S2008 Econometric Theory II
Instructor Angus Deaton, Mark Watson
9. ECO526-FIN596_S2008: ECO526-FIN596_S2008 Financial Economics II
Instructor Amil Dasgupta, Hyun Shin

Fall 2008
10. ECO521_F2008: ECO521_F2008 Advanced Macroecomic Theory I
Instructor Nobuhiro Kiyotaki, Lars Peter Hansen
11. ECO513_F2008: ECO513_F2008 Advanced Econometrics: Time Series Models
Instructor Christopher Sims
12. ECO525-FIN595_F2008: ECO525-FIN595_F2008 Financial Economics I
Instructor Jakub Jurek, José A. Scheinkman

Spring 2009
13. ECO522_S2009: ECO522_S2009 Advanced Macroeconomic Theory II
Instructor Thomas Sargent, Christopher Sims
14. ECO510_S2009: ECO510_S2009 Mechanism Design Theory

Instructor Eric Maskin, Stephen Morris
15. ECO512_S2009: ECO512_S2009 Advanced Economic Theory II
Instructor Dilip Abreu, Yuliy Sannikov
16. ECO526-FIN596_S2009: ECO526-FIN596_S2009 Financial Economics II
Instructor Yuliy Sannikov, Wei Xiong
17. ECO575-FIN575_S2009: ECO575-FIN575_S2009 Topics in Financial Economics
Instructor Markus Brunnermeier

MAJOR FIELDS OF INTEREST: Finance, Microeconomics
Applied Theory

PRINCIPAL THESIS ADVISOR: Professor Stephen E. Morris

FELLOWSHIPS: Ph.D. research funding from a grant to Prof. Christopher A. Sims as part of the NSF's Center for the Science of Information, 2011-2012
Goldfeld Summer Fellowship, Princeton University, 2011
William K. Fung '70 P02 Scholarship, Princeton University, 2011
Princeton University Summer Fellowship, 2008-2011
Princeton University Graduate Fellowship, 2007-2011
Fei Xiaotong Scholarship, Tsinghua University, 2006
CitiBank Scholarship, Tsinghua University, 2005
Chen Ning Yang Scholarship, Nanjing University, 2004

PROFESSIONAL EXPERIENCE:

Teaching Assistant for Prof. Paolo Colla, *Institutional Finance: Trading and Markets* (graduate), Fall 2010
Teaching Assistant for Prof. O. Griffith Sexton, *Corporate Restructuring* (graduate), Spring and Fall 2010
Teaching Assistant for Prof. Simon Potter, *Macroeconomics: A Mathematical Approach* (undergraduate), Spring 2010
Teaching Assistant for Prof. Jakub W. Jurek, *Fixed Income—Models and Applications* (graduate), Fall 2009
Tutor for WWS Summer Institute, Summer 2008

Research Assistant for Prof. Stephen E. Morris, Summer 2009

WORKING PAPERS:

"Optimality of Securitized Debt with Endogenous and Flexible Information Acquisition", Princeton University, 2011

ABSTRACT: This paper studies the optimality of securitized debt when information acquisition is endogenous and flexible. A seller designs an asset backed security and a buyer decides whether to buy it to provide liquidity. Rather than treating the seller as an insider endowed with information, we assume no information asymmetry at the beginning. The buyer has an expertise in acquiring information of the fundamental in the manner of rational inattention. She collects the most relevant information determined by the "shape" of the security, which may endogenously generate adverse selection. Hence, the seller deliberately designs the security in order to induce the agent to acquire information least

harmful to the seller's interest. Issuing securitized debt is uniquely optimal in raising liquidity, regardless of the stochastic interdependence of underlying assets and the allocation of bargaining powers. Fixed total risk exposure and homogeneous information cost are the key factors driving the results.

"Coordination with Flexible Information Acquisition", Princeton University, 2011

ABSTRACT: We study flexible information acquisition in a coordination game. "Flexible" means that players choose not only how much information to acquire, but also the qualitative nature of their information. Information acquisition incurs a cost proportional to reduction of entropy. Hence, players can and will collect information most relevant to their welfare but be rationally inattentive to other aspects of the fundamental. When information is cheap, this flexibility enables players to acquire information that makes efficient coordination possible, while also leads to multiple equilibria. This result contrasts with the global game literature, where information structure is less flexible and cheap information leads to unique equilibrium with inefficient coordination. We also go beyond the entropic information cost to highlight the key aspects of flexibility and how they drive our results.

CONFERENCE PRESENTATIONS AND INVITED TALKS:

Winter Meeting of American Economic Association, Chicago, January 2012

Department of Economics, Harvard University, Cambridge, November 2011

North American Summer Meeting of the Econometric Society, St. Louis, June 2011

North American Winter Meeting of the Econometric Society, Denver, January 2011

Second Brazilian Workshop of the Game Theory Society, Sao Paulo, July 29-August 4, 2010

Twenty-first International Conference on Game Theory, SUNY Stony Brook, July 2010

LANGUAGES: Chinese (native), English (fluent)

PROFESSIONAL AFFILIATIONS: American Economic Association, Econometric Society

REFEREE EXPERIENCE: *Econometrica, Games and Economic Behavior*

Application to the 5th NBER Entrepreneurship Research Boot Camp

Ming Yang

April 17, 2012

As a prospective assistant professor going to start my career at Fuqua School of Business in Duke University this coming fall, I have been searching for potential research areas that meet my interests in finance and background in microeconomic theory. The field of entrepreneurial finance, especially topics regarding venture capital, could be a promising direction for me. While I have not been studying entrepreneurship, I believe my finance work should have applications in this field, and I would like to learn about it through the great opportunity provided by your Entrepreneurship Research Boot Camp.

My current research interest focuses on flexible information acquisition in strategic circumstances. "Flexible" means that players choose not only how much, namely, the quantitative nature of information to acquire, but also the qualitative nature of their information. In principle, flexible information acquisition expands the scope and capacity of information acquisition to a great extent, which allows for more colorful strategic interactions among players in the aspect of information acquisition. As established in my papers, this flexibility gives raise to various surprisingly interesting implications and predictions, which are different from related literature such as endogenous information acquisitions, rational inattentions, global games, and security designs. Several trends for future research are also expected, following the central theme of flexible information acquisition.

My paper “Optimality of Securitized Debt with Endogenous and Flexible Information Acquisition” focuses on the role of flexible information acquisition in a specific security design problem, in which players move sequentially, only one party acquires information and thus potential information asymmetry arises. In this paper, a seller proposes a take-it-or-leave-it offer, which consists of an asset-backed security and its associated price, and a buyer decides whether to accept the offer. There is no information asymmetry before bargaining, and the buyer has an expertise in acquiring information of the fundamental in the manner of rational inattention. She collects the most payoff-relevant information determined by the "shape" of the security, which may endogenously generate adverse selection. Hence, the seller deliberately designs the security in order to induce the buyer to acquire information least harmful to the seller's interest. Issuing securitized debt is uniquely optimal in raising liquidity, regardless of the stochastic interdependence of

underlying assets and the allocation of bargaining power. Fixed total risk exposure and homogeneous information cost are the key factors driving the results.

Several research proposals could be expected along the line of flexibility and currently established results. First, the role of fixed total risk exposure as discussed above sheds light on a general classification of information, namely, to classify what information is socially valuable and what information is not. In particular, flexibility enables economic agents to acquire these two types of information separately, which results in different welfare implications of information acquisition. At the level of the society, acquisition of information that is not socially valuable not only wastes social resource but also leads to endogenous adverse selection, which in turn harms social welfare. Hence, desired organizational form of the society should deter acquisition of such information. On the contrary, acquisition of socially valuable information generally increases social welfare and thus should be encouraged in principle. In my current model with fixed total risk exposure, none of information is socially valuable, so that securitized debt is optimal because it best deters information acquisition. On the other hand, as the example mentioned in my paper where there is variable total risk exposure, some certain information is socially valuable as it helps prevent investing in bad states. Consequently, acquisition of such socially valuable information should be encouraged, and thus securitized debt may not be the optimal contract. This classification of information also provides a new perspective to look into the mutual existence of debt and equity, both as popular forms of financial contracts in reality. For start-ups and projects with high risk, issuing equity (or equity-like securities) could be more desired because it encourages acquisition of socially valuable information, which helps to screen projects and control the total risk exposure of the entire society. In contrast, for mature corporations with robust growth, in which the provision of liquidity is of the priority, debt (or debt-like securities) could be more desired as it deters unnecessary acquisition of information that is not socially valuable. This consideration is partly consistent with the well-known packing-order theory, and future work may further unify the life-cycle evolution of capital structure of corporations along the line of flexible information acquisition.

Under a similar mentality, flexibility also helps revisit the endogenous determination of capital structure in literature by specializing information acquisition. Given flexible information acquisition, agents who monitor may have different incentives in acquiring different information regarding various forms of financial contracts. Hence, different layers of financial contracts in certain capital structure enable a specialization of information acquisition. In other words, layers of capital structure correspond to specialized layers of information to be acquired. This specialization may in turn affect production of information as well as efficiency of monitoring, and further reshape the optimal capital structure. In this way, it is seen that flexibility plays a role in

determining the capital structure, and more results regarding its effects on corporate finance as well as social welfare are to be expected.

Thanks for your consideration. I am looking forward to hearing from you.

Ming Yang

Ph.D. Candidate in Economics, Princeton University