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Degrees: B. A. Huazhong University of Science and Technology, China 1998
                 M. A. University of Arkansas – Fayetteville 2002
                 M. S. University of Wisconsin – Madison 2004
                 Ph.D. University of Wisconsin – Madison, expected May 2007

Dissertation Title: Three Essays in Game Theory

Abstract Summary: The first essay extends the belief-based approach for the repeated prisoners' dilemma with asymmetric private monitoring to approximate full efficiency and to obtain certain folk theorems. The second essay introduces a general probabilistic endowment and inheritance rule for the house allocation problem. The third essay studies the effect of heterogeneous discounting on Pareto frontiers and feasible payoff sets for general two-player finitely repeated games.

References: Larry Samuelson (Major Professor) – LarrySam@ssc.wisc.edu
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Papers: "Belief-Based Strategies in the Repeated Prisoners' Dilemma with Asymmetric Private Monitoring," (*Job Market Paper*)
                 "The Pareto Frontier of a Finitely Repeated Game with Unequal Discounting", *Economics Letters*, Forthcoming.
                 "The Role of Heterogeneous Discounting in General Two-Player Finitely Repeated Games," UW -Madison, December, 2004.
                 "The Probabilistic Endowment and Inheritance Rule for the House Allocation Problem," UW - Madison, April, 2005.
                 "Mechanism Design with Positive Externalities: An Example," (with Tanapong Potipiti) UW - Madison, January, 2006.

Teaching Experience: Teaching Assistant (Principle of Microeconomics – Econ 101, Intermediate Microeconomics – Econ 301, Mathematical Economics – Econ 703).

Fields of Interest: Microeconomic Theory, Industrial Organization, Econometric Theory.

Three Essays in Game Theory
Dissertation Abstract
Bo Chen
Department of Economics
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Chapter 1. Belief-Based Strategies in the Repeated Prisoners' Dilemma with Asymmetric Private Monitoring

This paper extends the "belief-based" approach to the repeated prisoners' dilemma with asymmetric private monitoring technologies. We first found that previous type of construction in Sekiguchi (1997) and Bhaskar and Obara (2002) may not be sufficient to accommodate all asymmetric private monitoring scenarios in that the previous belief-based strategy profiles may fail to be Nash equilibria when the private monitoring structure is asymmetric enough. We then modify the previous belief-based strategies by letting the player with smaller observation errors always randomize between "C" and "D" along the cooperative path of the play. It is shown that full efficiency can be approximated using a modified belief-based strategy profile, provided that observation errors are small and a public randomization device is available for the players. We then apply the techniques to obtain certain forms of folk theorems for the repeated prisoners' dilemma with asymmetric private monitoring structures. Finally, we construct an example to show that the modified "belief-based" strategies can be potentially generalized to more general two-player repeated games with almost perfect private monitoring structures.

Chapter 2. The Probabilistic Endowment and Inheritance Rule for the House Allocation Problem

This paper is concerned with random assignments for the house allocation problem introduced by Shapley and Scarf (1974) when monetary compensation is not allowed. Motivated by TA assignment processes in an academic department and the hierarchical exchange rule in Pápai (2000), we introduce a general "probabilistic endowment and inheritance (PEI)" rule where the primary set of endowments (houses) is randomly assigned to a subset of agents and the property rights of the endowments are also transferred randomly as the sequential trade process proceeds. When the initial set of endowments is finite, we find that the PEI rule is non-bossy, strategy-proof and ex post efficient. We also show that the PEI rule is a general stochastic mechanism for the house allocation problem (all the existing deterministic and random mechanisms in the literature are special cases of the PEI rule). In particular, we establish an equivalence result between an *anonymous* PEI rule and the random serial dictatorship mechanism in Abdulkadiroğlu and Sönmez (1998).

Chapter 3. The Role of Heterogeneous Discounting in General Two-Player Finitely Repeated Games

The first part of this paper characterizes the Pareto frontier of the average payoff set for a general two-player finitely repeated game with heterogeneous discounting. We find that the Pareto frontier shifts outward as the time horizon of the repeated game increases. We further extends the result to show that for *any* two-player finitely repeated game with a nondegenerate stage game, the feasible payoff set of the Tth-repeated game is a *strict* subset of that of the $(T+1)^{th}$-repeated game. In the second part of the paper, we present an example to show that heterogeneous discounting may also enable players to obtain lower equilibrium payoffs than *the effective minmax values* (Wen (1994)), or there exists some nontrivial relationship between the dimensionality condition and unequal discounting for general infinitely repeated games. The main idea is that we can use unequal discounting to design some nonstationary punishments that have different effects on different players. Lower equilibrium payoffs can thus be sustained as players have heterogeneous discounting.

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                  M.S. Economics, University of Wisconsin-Madison, December 2003
                  B.A. Economics, and B.S. Physics, Koç University, Istanbul, 2001

Dissertation Title: "Evolutionary Game Dynamics: Theory, Applications, and Software"

Abstract Summary: The first essay uses recent techniques from evolutionary game theory to formalize and extend Schelling's (1971) isolated neighborhood model of the dynamics of residential segregation, and derives predictions about the disequilibrium trajectories of neighborhood racial composition. The second essay extends the first by allowing agents to have preferences not only over the racial composition of the neighborhood but also over its wealth level. The third essay employs large deviation and Freidlin-Wentzel techniques to study long-run behavior in a model of evolution in which agents observe random samples of noisy payoffs. Finally, a computational project, Dynamo, provides a suite of computer programs for generating variety of graphics related to evolutionary game dynamics.

References: William H. Sandholm (chair) – whs@ssc.wisc.edu (608) 263 3858
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Papers: "Schelling Redux: An Evolutionary Dynamic Model of Segregation," with
                     W. H. Sandholm, (job market paper).
                  "An Evolutionary Model of Segregation and Inequality," (in progress)
                  "Stochastic Evolution with Samples of Random Payoffs," with W. H. Sandholm,
                     (in progress).
                  "The Projection Dynamic, the Replicator Dynamic, and the Geometry of
                     Population Games," with W. H. Sandholm and R. Lahkar, submitted to
                     Theoretical Economics, 09/2006.
                  "Quantile Best Response Dynamic," (in progress).
                  "Robustness of Bad Reputation," (in progress).

Software: "Dynamo: Phase Diagrams for Evolutionary Dynamics," with W. H. Sandholm,
                     2006

Teaching Experience: Teaching Assistant: Graduate Micro Theory Sequence (two semesters),
                            Graduate Econometrics Sequence (two semesters).
                            Undergrad: Prob.&Statistics, Intermediate Micro, Linear Algebra.

Fields of Interest: Micro Theory, Evolutionary Game Theory, Applied Micro, Industrial Organization

Evolutionary Game Dynamics: Theory, Applications, and Software
Dissertation Abstract

Emin Dokumaci
University of Wisconsin-Madison

FIRST ESSAY: Schelling Redux: An Evolutionary Dynamic Model of Segregation (with William H. Sandholm)

Abstract: Using recent techniques from evolutionary game theory, we formalize and extend Schelling's 1971 model of the dynamics of residential segregation in an isolated neighborhood. In Schelling's model, agents are heterogeneous: different types have different preferences concerning the racial composition of the neighborhood. We write down an explicit model of behavioral dynamics without imposing "semi-equilibrium" restrictions on the types of the agents present in the neighborhood at disequilibrium states. While this results in an infinite-dimensional dynamical system, we show that the analysis of this system can be reduced to the analysis of a certain two-dimensional dynamical system. Thus, our approach allows for more satisfying modeling of individual behavior, but recovers all of Schelling's original insights. Moreover, since we specify our dynamics explicitly, we are able to consider the speed of the dynamic, which is crucial for understanding phenomena like neighborhood tipping. We also make predictions about disequilibrium behavior: for instance, along any disequilibrium trajectory, either the number of whites or the number of blacks in the neighborhood changes monotonically; the other number changes direction at most once. Finally, by providing an explicit model of the evolutionary process, we are able to obtain a more theoretically satisfactory treatment of the policy issues raised in Schelling's paper, and to look at a much broader array of preferences and modeling settings than Schelling was able to consider.

SECOND ESSAY: An Evolutionary Model of Segregation and Inequality

Abstract: Empirical studies on segregation and inequality show that racial composition and wealth levels of neighborhoods change over time, and that declines in group inequality have not reduced extreme levels of segregation in major urban cities. I extend the first essay by allowing agents to have preferences not only over the racial composition of the neighborhood but also over the wealth level of the neighborhood. Since my model employs explicitly specified evolutionary dynamics it is able to track the racial composition and wealth level of the neighborhood over time, and thus it is able to explain these empirical observations.

THIRD ESSAY: Stochastic Evolution with Samples of Random Payoffs (with William H. Sandholm)

Abstract: We study the long-run strategic behavior of a population of individuals who are repeatedly matched to play a two-player normal form game in which payoffs are subject to idiosyncratic shocks. Using large deviation and Freidlin-Wentzel techniques, we show that in a two-strategy coordination game, if the distribution of the difference of the shocks to first and second strategies is symmetric, the risk dominant equilibrium is selected in the long-run, but that if the distribution of this difference is asymmetric, the risk dominant equilibrium need not be selected. Furthermore, we construct examples of three-strategy games in which different symmetric noise distributions generate different long-run behaviors.

SOFTWARE: Dynamo: Phase Diagrams for Evolutionary Dynamics (with William H. Sandholm)

Dynamo is a suite of easy-to-use computer programs for generating phase diagrams, vector fields, and other graphics related to evolutionary dynamics from game theory. The most commonly studied dynamics are already built in, making it easy to generate pictures related to them. Furthermore, since *Dynamo* is fully programmable, it allows producing pictures of arbitrary combinations of games and dynamics with little effort. The software has proved a useful tool for both research and teaching in evolutionary game theory.

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Dissertation Title: Essays on the Dynamics of the Movie Industry

Abstract Summary: I investigate the empirical implications of the dynamics of the U.S. movie industry. I focus on the over-time substitution between theatrical movie exhibitions and their video/dvd rental counterparts. The first essay develops a new structural demand model which explicitly incorporates the dynamic substitution and the resulting dynamic selection of consumers. I separately identify the sources of substitution between the two versions of movies and confirm the potential bias caused by ignoring the dynamic consumer selections. In the second essay, the 'time consistency' problem of movie distributors associated with setting video windows (the time interval between a theatrical movie release and its rental release) is analyzed under a strategic environment in which repeated interactions occur not only between distributors and consumers, but also among multiple distributors. I find how much additional consumer surplus is exploited by distributors' window setting behavior by performing a counterfactual experiment.

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Papers: "Estimating Movie Demand: Theatrical Exhibitions vs. Video Rentals"
               (Job Market Paper)
           "Movie Release Dynamics: Theatrical Exhibitions and Video Rentals"

Teaching Experience: Teaching Assistant, Principles of Macroeconomics
                        (Two semesters, Univ. of Wisconsin – Madison)

Research Experience: Project Assistant (Professor Rasmus Lentz)

Fields of Interest: Industrial Organization, Applied Microeconomics, Applied Econometrics

Essays on the Dynamics of the Movie Industry
Dissertation Abstract

Yangsoo Jin
University of Wisconsin – Madison

The essays in my dissertation study the empirical implications of the dynamics of the movie industry, focusing on the substitution between theatrical movie exhibitions and their video/dvd rental counterparts. Movies have the property of durable goods in the sense that consumers do not usually watch them more than once. This phenomenon raises some important issues in the empirical studies of movies that have not been seriously addressed in previous literature. The first essay performs a demand study explicitly accounting for durability. The second essay focuses on the related supply side issues.

The first essay examines the implication of the durable goods property of movies on the demand allocation between theatrical movie exhibitions and video/dvd rentals, focusing on the U.S. film industry. The durability causes selection among the consumers over the dynamic horizon. Consumers with relatively high willingness-to-pay go watch a film in the theaters and exit the market, while consumers with relatively low willingness-to-pay remain, waiting for its rental release. Accordingly, the composition of the consumers in the two markets changes overtime. This point, however, has not been explicitly taken into account in the empirical demand literature on movies, which may have led researchers to a misleading empirical inference. I construct a new structural demand model which combines the optimal stopping decisions of consumers with the well-known BLP-style aggregation technique. The model intensively uses information from data regarding the over-time change in the composition of the consumers. The estimation confirms that ignoring durability results in a biased inference. In addition, theatrical exhibitions of films are generally considered superior in quality to rentals, both in its intrinsic quality (e.g., screen size) and in the timing of its availability. These two sources of substitution are separately identified.

The second essay studies the welfare implications of film distributors' "video window" (the time interval between theatrical release and video/dvd release) setting behavior. Movie distributors who sequentially release a theatrical exhibition of a movie and its video/dvd rental counterpart face contradictory incentives, or the 'time consistency problem' of a durable good. They have an incentive for long-run segmentation of the theatrical market and the rental market which is allowed by consumers' belief (or reputation) about the length of the video windows. However, they also have an incentive to defect from the belief and offer shorter windows due to the short-run profitability from the rental market. Further, the multiplicity of distributors fortifies the short-run incentive to defect from the belief. Thus, the problem should be analyzed under the repeated strategic interactions not only between consumers and distributors but also among distributors. I develop an empirical structural model to address the strategic environment using a Markov Perfect Equilibrium framework. In the model, by choosing a video window for a movie in each period, distributors strategically invest in the industry-wide consumers' belief, which affects their profitability in the next period. Using the model, I examine how much additional consumer surplus is exploited via distributors' window setting behavior by implementing a counterfactual experiment benchmarked on the case where distributors do not open any video windows.

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Dissertation Title: "Three Essays on International Risk Sharing"

Abstract Summary: The first essay examines the incompleteness of asset markets caused
by asymmetric information in bilateral risk sharing contracts, in order
to understand the low degree of international risk sharing we see in the
data. The second essay investigates the possibility of a low degree of
international risk sharing when countries cannot commit to bilateral
risk sharing contracts. The third essay compares and reconciles the two
different approaches, asset-based and consumption-based, in
measuring the degree of international risk sharing.

References: Charles Engel (Major Professor) – cengel@ssc.wisc.edu
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Papers: "Consumption and Real Exchange Rates in an Economy with Private
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                  "Consumption and Real Exchange Rates in an Economy with Limited
                     Commitment," UW Madison, June 2006
                  "On the Properties of Various Estimators for Fiscal Reaction
                     Functions," with Oya Celasun, WP/06/162, IMF, June 2006
                  "Reconciliation of Two Different Approaches in the International Risk
                     Sharing Puzzle," UW Madison, July 2004
                  "The Impact of Aid Inflow on Output, Exports, and Imports of Aid-
                     Receiving Countries," with Alessandro Prati, Alessandro Rebuci,
                     and Thierry Tressel, IMF, in progress

Teaching Experience: Teaching Assistant (UW-Madison, 3 semesters):
                        - Principles of Macroeconomics (1), Money and Banking (2)

Research Experience: Dissertation Intern, Federal Reserve Board, International Finance Div.
                        Visiting Scholar, International Monetary Fund, Research Department
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Fields of Interest: Open Economy Macroeconomics, International Finance,
                        Macroeconomics and Monetary Economics

"Three Essays on International Risk Sharing"
Dissertation abstract

Joong Shik Kang
University of Wisconsin - Madison

Consumption and Real Exchange Rates in an Economy with Private Information

This paper studies frictions in a dynamic bilateral insurance contract in the form of private information and shows that the adverse incentives caused by informational asymmetries can prevent efficient risk sharing across countries even with a full set of contingent claims in an asset market. Two countries face the problem of designing a feasible trading mechanism which achieves Pareto efficiency subject to the incentive compatibility constraints that both should be given the incentives to reveal their true endowments. Under this mechanism, the country with a better endowment shock will experience more current period consumption and be given a higher continuation value from the next period, compared to the allocation under the risk sharing contract with full-commitment and symmetric information. While a higher current period consumption lowers the relative price through the standard intertemporal substitution channel, a relative increase of wealth which is captured by a higher continuation value raises the relative price. When this wealth effect is greater than the substitution effect, a country with a higher consumption growth rate will also experience a higher growth rate in price, as we observe in the data. The Backus-Smith puzzle is resolved.

Consumption and Real Exchange Rates in an Economy with Limited Commitment

Different from the common predictions of the standard international real business cycle literature, the bilateral real exchange rate is negatively correlated with the relative consumption of two countries, and their correlation pattern is also very different across different country pairs (Backus and Smith puzzle). The standard asset pricing theorems tell us that the frictions in an asset market can break the tight link between the real exchange rate and relative consumption. We develop a simple endowment economy in which the limited commitment in the risk sharing contract endogenously restricts the amount of tradable assets. The analytical solution shows that the relative price of consumption can be higher in the country that experiences a relative increase in consumption because the enforcement constraint binding pattern creates a wedge between the price and standard inter-temporal marginal rates of substitution. Our model simulations support this finding and generate the negative correlations we observe in the data. The asset pricing implications of this model in both domestic and international markets are also studied.

Reconciliation of Two Different Approaches in the International Risk Sharing Puzzle

Asset price data imply a high degree of international risk sharing as conventional consumption-based models have predicted. Since conventional consumption based models do not match these patterns, we adopt two different consumption-based models to generate these patterns, Campbell and Cochrane's (1999) habit formation utility function and Epstein and Zin's (1989) recursive utility function. A consumption-based model with the habit formation utility function successfully generates the predicted pattern of within-country consumption risk, but it does not generate the desired pattern of the covariance structure of discount factors across countries. A consumption-based model with the recursive utility function has the potential of generating the desired covariance patterns with plausible parameter values of risk preference and inter-temporal substitution. However, we find that it has a trade-off of over-amplifying the within-county consumption risk. We also find that the Backus-Smith puzzle is not simply a problem of stable consumption growths, but a problem of low covariance of the discount factors.

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Dissertation Title: "Empirical Analysis of Consumer and Firm Behavior in the Network Industry"

Abstract Summary: My dissertation empirically analyzes the consumer and firm behavior in the cellular phone service market, one of the recently grown network industries. The first paper develops an empirical framework to examine consumer's dynamic switching decision in the presence of the switching costs. The second paper evaluates the impact of the size of the tariff menu on firm profits and consumer welfare. The final paper studies the factors which affect the cellular service firms' pricing strategies, especially the entry and exit of new products.

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Papers: "A Structural Analysis for Consumer's Dynamic Switching Decision in the Cellular Service Industry" (Job Market Paper), UW-Madison, 2006
                           "The Effect of Number Portability on Switching Costs", UW-Madison, 2005

Teaching Experience: Teaching Assistant, UW-Madison (7 semesters): Principles of Microeconomics and Principles of Macroeconomics

Fields of Interest: Empirical Industrial Organization, Applied Microeconomics, Econometrics

Empirical Analysis of Consumer and Firm Behavior in the Network Industry
Dissertation Abstract

Jiyoung Kim
University of Wisconsin-Madison

My dissertation empirically analyzes the consumer and firm behavior in the cellular service market, one of the recently grown network industries.

The first paper develops an empirical framework to analyze consumer's dynamic switching decision for differentiated firms and plans. It first incorporates the sequential problem for quantity, plan and firm subscription choice in the presence of switching costs into a dynamic structural model. We allow for fully heterogeneous consumers and multiple switching possibilities across networks. Based on the BLP-style estimation methods, we combine a nested technique that uses parametric assumptions in the structural estimation algorithm. Estimation results reveal the following facts. Number portability reduces consumer switching costs by considerable amounts. Future expectations affect consumers' optimal timing of switching. More importantly, increase in the variety of optional plans and the plan qualities plays a great role in consumer switching decision. The product evolution has a bigger impact on switching decisions than lower switching costs.

The second paper examines the impact of the size of the tariff menu on firm profit and consumer welfare. As the market develops, firms tend to provide more optional plans. This paper considers differentiated cellular service providers in a competitive market. Heterogeneity across firms is a significant factor which determines firm's profitability since substitutability between networks affects existing consumer's switching decision and potential consumer's initial subscription decision. Estimation results of the model also allow us to investigate the foregone rents due to the multiple tariffs system.

The final paper studies what affects cellular service firms' pricing strategies, in particular the entry and exit of optional plans. Firms would form their expectation for future market characteristics, based on the current information for market environments and consumer distribution. Then they decide whether to introduce new plans, to maintain the same plans, or to stop some existing plans conditional on their predictions. We construct a two-period model of the product entry and exit for cellular service firms, and estimate the model using the data on the evolution of plans over time. It incorporates inter-dependence between plans within a firm as well as across firms. The results allow us to investigate the factors that determine firm's optimal decision on the product entry in the network industry.

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Dissertation Title: "Essays on Economic Behavior in the Games of Incomplete Information"

Abstract Summary: The first essay studies the competition effect on innovative activity. The competition effect depends on market conditions: with more firms in the market, the individual effort level increases in the booming market. The second essay studies private value auctions in which noisy signals about valuations are public. In contrast to the private signal case, first price auction generates higher expected revenue for the seller than second price auction. I also show that there is incentive for the bidders to make private signal public although that may decrease their expected surplus.

References: Larry Samuelson – larrysam@ssc.wisc.edu
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Papers: "Auctions with Public Information about Private Valuation",
                    (Job Market Paper) UW-Madison, Oct. 2006.
                "Collusion-proof Contract under Relative Performance Evaluation",
                    UW-Madison, Mar. 2005.
                "Innovative Activity and Competition Effect", UW-Madison, Jan. 2005.
                "Refund Policy and Charity Giving", In progress.

Teaching Experience: Teaching Assistant: Principles of Microeconomics, Principles of
                        Macroeconomics, UW-Madison (7 semesters)
                        Teaching Assistant: Advanced Game theory, Advanced International
                        Economics, Advanced Balance of Payment, Principles of Macroeconomics,
                        Seoul National University (4 semesters)

Fields of Interest: I.O., Applied Microeconomics.

Thesis Abstract

UNIVERSITY OF WISCONSIN-MADISON
Department of Economics

Jungwook Kim

Title: Essays on Economic Behavior in the Games of Incomplete Information

In Chapter 1, I study the competition effect on innovative activity. Contracting for research is often infeasible since research inputs are unobservable and research outcomes cannot be verified by a court. Sponsoring a research tournament can resolve these problems. A number of contestants compete to find the innovation of highest value to the tournament sponsor and the winner receives a pre-determined prize. The sponsor restricts the number of contestants to procure a high value of innovation. However, due to ambiguous competition effects, the effort level of individual contestants is not monotonic with respect to the size of the tournament pool. This result can be applied to the innovation race model. The competition effect depends on market conditions: with more firms in the market, the individual effort level increases when future reward is large. This result can explain the reason why theoretical and empirical literature has not agreed on the effect of competition to innovation.

In Chapter 2, I study multidimensional private value auctions. I consider parametric examples of symmetric two-bidder private value auctions in which each bidder observes her own private valuation as well as noisy signals about her and her opponent's private valuation. I demonstrate that the revenue equivalence breaks down when the seller observes the signals, while the revenue equivalence is restored under a random tie-breaking rule. Contrast to the private signal case, first price auction generates higher expected revenue for the seller than second price auction. I also show that there is incentive for the bidders to make private signal public although that may decrease their expected surplus.

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Dissertation Title: Three Essays on Public Health and Medical Programs

Abstract Summary: My dissertation examines effects of public health and medical programs on the targeted populations. My first essay focuses on the effect of National School Lunch Program on children's academic achievements. Bias due to endogeneity from the program participation decision is closed examined. My second essay studies recent Medicaid/SCHIP expansion and its effect on the marital status of the women whose children the program focuses. Unlike the previous works this study uses a panel data, which can separate the divorce decisions from the marriage decisions.

References: Barbara Wolfe (Major Professor) - bwolfe@wisc.edu
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Papers: Medicaid/SCHIP Expansion and Single Mother's Marriage Status, UW-
                      Madison, 2006, job market paper
                  The Effect of National School Lunch Program on Children's Academic
                      Achievements, UW-Madison 2005, working paper
                  Medicaid Nursing Home Coverage and Assets of the Elderly, UW-Madison,
                      work in progress

Teaching Experience: Econ 101 Principles of Microeconomics (9/2001 – 5/2003)
                       Econ 364 Survey in International Economics (9/2006-12/2006)

Research Experience: Project Assistant (Institute of Research on Poverty)
                       Analyst (Korea Information Society Development Institute)
                       Research Intern (United Nations Economic and Social Commission for Asia
                           and the Pacific)

Fields of Interest: Public Economics, Labor Economics, Applied Microeconomics

Three Essays on Public Health and Medical Programs
Dissertation Abstract

Juyoung Kim
University of Wisconsin-Madison

This dissertation consists of three essays exploring the effects of welfare programs in the areas of public health and medical services.

The first essay explores the effect of National School Lunch Program on children's academic achievements. The main difficulty in its estimation lies in the non-random nature of participation in the program, which causes endogeneity problem. In the previous literature, regression with sibling data is used to measure the effect of the school nutrition program on children's academic achievements. However, it is not quite free from endogeneity problem. This paper utilizes a welfare participation decision model to avoid this self-selection problem in measuring the academic benefits in question. The estimation procedure used in this essay is a modification of the two-stage sample selection procedure incorporating the welfare program participation decision.

The second essay investigates the effect of recent Medicaid expansion/SCHIP on the marriage status of women whose children have the welfare benefits from it. Medicaid/SCHIP expansion by the SCHIP law in 1997 in order to reduce the number of uninsured children in the United States is the single largest health care expansion for children since the enactment of Medicaid and its variations across states and over time provide an opportunity to examine its effect on women's marital status. The model shows that though its effect on marital status is ambiguous due to the combined "independence effect" and "stabilizing effect", an increase in a potential spouse's income has an unambiguous prediction. By using a panel data (Survey of Income and Program Participation) this paper investigates its impact on marital decisions and extends the previous literature by separating out divorce decisions from marriage decisions.

The third and final essay considers how Medicaid affects asset accumulation decisions by the elderly. Medicare covers the costs of a long-term nursing home stay and this coverage may create an incentive for the elderly to shift their consumption and saving decisions in order to qualify for Medicaid. Theoretical prediction is clear. Hubbard, Skinner, and Zeldes (1995) demonstrate with a life-cycle model that social welfare programs with means tests based on assets discourage savings by households close to the welfare eligibility threshold because of the decrease in precautionary savings motive. However, this is not much empirically tested. This paper uses data from the Asset and Health Dynamics of the Oldest Old and the Health Retirement Study for the empirical test.

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B.A., Biology and Economics, Williams College, 2001.
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Dissertation Title: "Three Essays in Public Economics"

Abstract Summary:
The first essay presents a theoretical model of competition among need-blind colleges and universities that implement early decision admissions. The second essay estimates the effect of charitable tax subsidies on religious attendance. The third essay adopts a life-cycle framework to estimate price and income elasticities of charitable giving.

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Papers:
"Are Charitable Giving and Religious Attendance Complements or Substitutes? The Role of Measurement Error," October 2006 (job market paper).
"Early Decision and Financial Aid Competition Among Need-Blind Colleges and Universities," March 2006.
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Teaching Experience:
Lecturer, University of Wisconsin–Madison, Labor Economics (undergraduate, one semester).
Teaching Assistant, University of Wisconsin–Madison, Principles of Microeconomics (one semester).
Teaching Assistant, Williams College, Econometrics (undergraduate, two semesters), Introduction to Economics (one semester).

Fields of Interest: Public Economics, Labor Economics, Applied Microeconomics.

THREE ESSAYS IN PUBLIC ECONOMICS
Dissertation Abstract

Matthew Kim
University of Wisconsin—Madison

My dissertation consists of three essays in public economics. The first paper is theoretical and examines higher education. The second and third papers are empirical and study charitable giving and tax subsidies.

The first essay presents a theoretical model of competition among need-blind colleges and universities that implement early decision admissions. Under need-blind admissions, an applicant's financial aid status cannot affect their likelihood of admission. In the model, a need-blind school can use early decision admissions as a screening mechanism to indirectly identify a student's ability-to-pay, while superficially maintaining a need-blind policy. As a result, in equilibrium, non-financial aid students are more likely to be admitted than financial aid students of comparable quality.

The second essay examines the effect of charitable tax subsidies on religious attendance. The economic justification for charitable tax subsidies depends on the positive externalities from charitable giving. However, if charitable giving and religious attendance are substitutes, the tax subsidies will cause a reduction in religious attendance. To the extent that religious attendance has positive externalities for society, this in turn will overstate the welfare benefit of the charitable deduction. Conversely, if the two are complements, the true welfare benefit will be understated. Using data from the Independent Sector Survey of Giving and Volunteering, I estimate a tax price elasticity for religious attendance of –0.4, which implies that charitable giving and religious attendance are complements. I resolve the difference between my estimate and a recent one by Gruber (2004) that implies that charitable giving and religious attendance are substitutes. While Gruber imputes itemization status, an important factor in calculating tax subsidies, I use survey-reported itemization status. This imputation creates a large amount of non-classical measurement error. I show that the measurement error is responsible for the disparate results: if I also impute itemization status, I obtain similar results as Gruber.

The third essay adopts a life-cycle framework to estimate price and income elasticities of charitable giving. While there exists a large literature that attempts to estimate these elasticities, Randolph (1995) argues that previous estimates do not distinguish between "transitory" and "permanent" effects. For example, he finds evidence of a large transitory price effect and small permanent price effect, which suggests that changes in the tax code affect only the timing, but not the level, of charitable giving. In contrast, Auten *et al.* (2002), employing a different identification strategy, present estimates that imply a relatively small transitory price effect and large permanent price effect. My work contributes to the charitable giving literature by providing new estimates of permanent and transitory elasticities. I distinguish these two effects by utilizing a Frisch demand approach in the novel setting of charitable giving. The model is estimated using data from the Consumer Expenditure Surveys 1980–2001. My preliminary results suggest estimates similar to those found by Randolph (1995).

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Dissertation Title: "Essays in Economic Geography"

Abstract Summary: My dissertation explores the policy implications of economic geography models when the mobile factor is skilled labor. In the first essay, I develop a dynamic model of location choice that is consistent with optimizing behavior of forward-looking agents in the presence of agglomeration forces and imperfect labor mobility. In the second essay, I re-examine international tax competition for mobile skilled workers within an economic geography framework. In my third essay, I intend to analyze labor market adjustment through labor market participation as opposed to migration.

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                       "Re-evaluating the Race to the Bottom," UW-Madison, 2005.
                       "Tax Competition in a 'Lumpy' World," UW-Madison, 2004.
                       "Developing Age- and Gender-Specific Population Estimates by Zip Code for the State of Wisconsin, 1980-2000," with Paul Peppard and Patrick Remington, UW-Madison, 2003.

Teaching Experience: Lecturer, UW-Whitewater (one semester): Business Statistics I
                       Teaching Assistant, UW-Madison (three semesters):
                         International Trade and Finance, Economics of Growth, Principles of Macroeconomics
                       Teaching Assistant, Swarthmore College (one semester):
                         Introduction to Economics

Fields of Interest: International Trade and Finance, Industrial Organization

Essays in Economic Geography
Mina Kim
University of Wisconsin - Madison

My dissertation explores the policy implications of the new economic geography (NEG) literature, which finds that deepening economic integration leads to an agglomeration, or the concentration of economic activity in one region. Despite intense and sustained interest in this subject from policymakers, until recently the NEG literature has mostly ignored policy analyses.

My first essay, "Economic Geography and Imperfect Labor Mobility," introduces costly migration into an economic geography framework, relaxing the usual assumption that labor mobility is frictionless. I develop a dynamic model of location choice that is both consistent with forward-looking behavior and amenable to welfare analyses. Then simulations are used to examine the welfare implications of goods and factor market integration within the context of European Union enlargement.

Specifically, forward-looking skilled workers have the option to relocate each period, while unskilled workers are immobile. A decision to move involves a time-varying adjustment cost with a common and an idiosyncratic component. Due to the common component, a worker must receive a better than usual benefit to justify moving, holding him in his current location. The idiosyncratic component takes into account non-market factors that lessen the importance of prices, variety, and wages for the mobile worker, fostering dispersion (or disagglomeration). Each period, a fraction of skilled workers waits to relocate because the cost of moving is too high, and the net allocation of mobile workers adjusts gradually to the new long-run net allocation. Therefore, mobile workers react instantly to any anticipated policy change so as to avoid the situation when the cost might be too high in a later period. Moreover, due to the presence of agglomeration forces, the aggregate decisions of other mobile workers at each moment are important in determining how each skilled worker responds to a policy change.

My second essay, "Re-evaluating the Race to the Bottom," presents a model of international tax competition for mobile labor in the presence of agglomeration forces. Traditionally, the tax competition focuses on mobile capital. However, recent evidence suggests that tax competition occurs for mobile labor as well as mobile capital, particularly for highly skilled labor in industries such as technology and finance. In my model, absent taxes, the lowering of trade costs below a threshold causes sudden mass migration of skilled labor out of one country into the other. With taxation, governments are equipped with a tool to control or suspend the occurrence of such relocation. Unlike the existing literature, I assume that governments are engaged in self-interested behavior. In particular, the objective of each government is to maintain the loyalty of the voter base (unskilled labor). I find that the extent of tax competition is attenuated when the outcome is one of dispersion; although subsidy levels to unskilled workers are bid upwards, the subsidy war is less fierce than implied by a race-to-the-bottom scenario. Moreover, the subsidy war leads to an efficient spatial allocation. Agglomeration, on the other hand, can be an inefficient outcome; tax competition could lead to too much concentration when trade costs are low. In this case, fiscal coordination may be necessary to improve upon the tax competition outcome.

In my final essay, I intend to allow for the possibility of unemployment in an economic geography framework. Since unemployment has been largely ignored in the NEG literature, my first question is, "Do the results of the standard literature extend to settings in which unemployment is modeled?" For instance, the impact of a negative location-specific shock may be different if adjustment occurs through a fall in labor force participation as opposed to out-migration. Second, I intend to ask, "What are the implications for the European Union's policy on the free movement of labor? Is a transition period justified on economic grounds?" The ability to integrate a search model into the economic geography framework allows for such extensions in specifying the adjustment process of mobile workers, while preserving tractability.

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                      B.A., Economics, Korea University, 1999

Dissertation Title: Return to Private School and Education-Related Policy

Abstract Summary: My dissertation studies the effects of Catholic secondary schooling and an early education program. The first essay shows that attending Catholic high school significantly increases years of schooling and earnings in the labor market. I further investigate the source of Catholic school effects using the school quality variables that I collected for this study and find that most of the Catholic school effects are explained by teacher quality, measured by the percentage of teachers who have graduate degrees. The second essay evaluates an early childhood development program, Head Start. Using the nationally representative data of Early Childhood Longitudinal Study, I pay particular attention to measurement error in program participation reports and selection into the program. After taking account of measurement error and selection bias, I find that black children make moderate progress from kindergarten through third grade whereas white and Hispanic children do not reveal any gain.

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                      "Head Start, Four Years After the Program," UW-Madison

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                      Microeconomics, Macroeconomics and Statistics
                      Teaching Assistant, Korea University: Econometrics (graduate course),
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Research Experience: Project Assistant, (Rob Meyer) Wisconsin Center for Education Research
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Fields of Interest: Public Economics, Labor Economics and Econometrics

Return to Private School and Education-Related Policy
Dissertation Abstract

Young-Joo Kim
University of Wisconsin – Madison

My dissertation examines the effectiveness of Catholic schools and an early childhood development program, Head Start.

The first essay studies the effects of attending Catholic schools on labor market outcomes, and identifies factors that contribute to their success. Previous research suggests Catholic schools are more effective than public schools, raising test scores, high school completion rates, and rates of college entrance. Yet, although economic outcomes are considered as a key measure of the success of school, there is scanty evidence on the effects of attending Catholic schools on earnings. Furthermore, little is known about what makes Catholic schools more productive, mainly due to the lack of appropriate data for Catholic schools. Using data from the Wisconsin Longitudinal Study, Wisconsin public school data and the unique school quality data for Catholic schools that I collected for this study, I find that Catholic schooling has large and significant effects on wages and earnings. In order to take account of selection into Catholic schools, instrumental variables are constructed and used. The empirical results first extend previous findings by showing that attending Catholic schools significantly increases the total years of schooling as well as raising the probability of high school graduation and matriculation. Next, I show that Catholic schooling has significant and large effects on mid-career earnings, even after controlling for years of schooling. Finally I attempt to identify the source of these large Catholic school effects using school quality variables and find that most of the Catholic school effects are explained by teacher quality. Among teacher quality variables that are considered in this study, I find that teacher's education measured as the percentage of teachers who have graduate degrees matters the most.

My second essay examines the early childhood education program, Head Start. The Head Start program is a federally funded preschool program for economically disadvantaged children. When evaluating Head Start's effects, I pay particular attention to measurement error in reported program participation and selection bias into the program. Since Head Start is an application-based program, we need to account for selection into program for valid program evaluation, given the absence of experimental data. Using the nationally representative data of Early Childhood Longitudinal Study, I first find that there is a large measurement error in parental reports of Head Start attendance. Only fifty three percent of the sample who answered yes for Head Start attendance of their child reported correctly and were matched with Head Start centers, but this large measurement error has not been considered in previous studies. To control for selection into Head Start, the program effects are estimated based on the propensity score matching by comparing children who have attended Head Start with their peers who have not participated but are otherwise identical. After I control the measurement error and selection into the program, I find that only black children gain from the program. More specifically, black children make moderate and persistent progress toward the third grades after Head Start, whereas white and Hispanic children do not have any gain from Head Start for the four years of first schooling after the program.

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Dissertation Title: Essays in Evolutionary Game Theory

Abstract Summary: In the first chapter of my dissertation, I undertake a dynamic analysis
                        of the stability of dispersed price equilibrium in a finite strategy
                        approximation of the Burdett and Judd (1983) model. I find that in the
                        most general form of the model, the dispersed equilibria are unstable
                        under perturbed best response dynamics. In the second chapter,
                        I extend the analysis to the original infinite strategy games by
                        defining infinite dimensional perturbed best response dynamics.
                        Stability issues in this context are still an open question. For the third
                        chapter, I include a paper co-authored with William Sandholm and
                        Emin Dokumaci in which we introduce a new evolutionary dynamic
                        called the *projection dynamic*.

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Papers: "The Dynamic Instability of Dispersed Price Equilibrium" (Job Market
                        Paper).
                         "The Projection Dynamic, the Replicator Dynamic, and the Geometry of
                        Population Games" (joint with William Sandholm and Emin Dokumaci)

Teaching Experience: TA for Economics 101 (Introductory Microeconomics), Economics 301
                        (Intermediate Microeconomics), Economics 302 (Intermediate
                        Macroeconomics), and Economics 310 (Probability and Statistics).

Fields of Interest: Microeconomic Theory, Industrial Organization.

Essays in Evolutionary Game Theory
Dissertation Abstract

Ratul Lahkar
University of Wisconsin-Madison

The focus of my dissertation is evolution and learning in games. Many situations of economic or social interaction involve the interaction of a large number of agents. We model such situations as population games and the process of social change is studied using evolutionary dynamics. The primary interest is in seeing whether such dynamic processes will lead society towards Nash equilibrium, i.e., whether a Nash equilibrium is stable under these dynamics.

In the first chapter of my dissertation, I have concentrated on applying the evolutionary theory to a substantive economic problem. I take up a celebrated model from the Industrial Organization literature-the model of price dispersion due to Burdett and Judd (1983). In this model, the phenomenon of price dispersion emerges as a mixed Nash equilibrium. I construct a finite strategy approximation of the model and consider the question whether these mixed equilibria are stable in an evolutionary sense. I consider evolution under a particular class of dynamics called perturbed best response dynamics. My conclusions are generally negative. I find that in the most general version of the model, these equilibria are unstable. This provides us reason to be skeptical of the validity of these equilibria as long run social states. These conclusions have been obtained using a finite strategy approximation because attempting evolutionary analysis with the original infinite strategy model leads to a host of technical complications.

For the second chapter, I extend the evolutionary analysis to the original infinite strategy model. This part of my dissertation is still in progress. Thus far, I have obtained certain technical results. I have constructed infinite dimensional perturbed best response dynamics. I have also shown that at least the prototype of this class of dynamics, the logit dynamic, is well defined in the original Burdett and Judd model. The issue of stability of equilibrium in this context is still an open question.

For the third chapter, I plan to include a paper I have co-authored with William Sandholm and Emin Dokumaci. In it, we introduce a new evolutionary dynamic called the projection dynamic. We analyze the geometry of population games and investigate the relationship between the replicator dynamic and the projection dynamic.

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Dissertation Title: "Three Essays on the Dynamics of Family Interaction"

Abstract Summary: The first essay presents a structural model of intra-household expenditure allocation. The second essay is an empirical, and primarily descriptive, essay studying the efficacy of child welfare expenditures on maltreatment outcomes and potential sources of bias in estimating the statistical etiology of child abuse. The third essay presents a theoretical model of a repeated public goods game easily interpretable as a marriage market.

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Papers: "Intra-Household Expenditure Allocation: A Complete Demand Systems Approach," UW-Madison, 2006. (Job market paper)
"*Can* Buy me Love: The Effect of Child Welfare Expenditures on Maltreatment Outcomes," UW-Madison, 2005.
"Waiting Around for a Subgame-Perfect Spouse: A Stochastic Public Goods Game," UW-Madison, 2006.

Teaching Experience: Teaching Assistant: Introductory Macroeconomics, Intermediate Macroeconomics, Economic Statistics, Microeconomic Policy Analysis (graduate course)
Winner of departmental teaching fellowship award: 2003, 2005 and 2006

Research Experience: Project Assistant: Professor Scott Taylor (2004)

Fields of Interest: Public Economics, Applied Microeconomics, Game Theory, Econometrics

Three Essays on the Dynamics of Family Interaction
Dissertation Abstract

Michael Malcolm
University of Wisconsin-Madison

I study three issues in public finance related to the economics of family interactions. The first essay presents a structural model of intra-household expenditure allocation. The second essay is an empirical, and primarily descriptive, essay studying the efficacy of child welfare expenditures on maltreatment outcomes and potential sources of bias in estimating the statistical etiology of child abuse. The third essay presents a theoretical model of a repeated public goods game easily interpretable as a marriage market.

Intra-household expenditure allocation: A complete demand systems approach
I study the issue of bargaining and distribution of resources within households via a structural model of household demand, using 14 years of the continuous-sample Family Expenditure Survey from the UK. I focus specifically on allocation to children versus adults using assignable goods. My study differs from earlier analyses in two important respects. First, I specify a complete demand system for effectively all household expenditures, which allows me to study not only the effect of marginal increases in income, but also fully-specified substitution effects across goods. I show that there is substantial bias if one estimates a demand function only over a subset of goods. Second, I use prices as the identifying instrument, and in doing so develop a GMM-based technique for estimating the demand functions that does not require any assumptions on the orthogonality of income and preferences.

Can buy me love: The effect of child welfare expenditures on maltreatment outcomes
I consider the effect of child welfare expenditures on two child abuse maltreatment measures: victimization rates and fatality rates, using a state-level panel. Much of the identification rests on recent exogenous changes in child welfare spending induced by the recession, and substantial state-level variation in response to various changes in federal funding streams. The main purpose is policy analysis, and the central finding is that child welfare spending has a highly significant effect on both maltreatment outcomes. Further, the results suggest well-documented effects of aggregate economic variables on maltreatment are likely overstated if one fails to control for relevant local policy variables. Policies that simply raise income might not have as pronounced an effect as suggested by Paxson and Waldfogel (2003). The paper is also original in controlling for measures of social attitudes separately from economic measures.

Waiting around for a subgame perfect spouse: A stochastic public goods game
I model an infinitely repeated public goods game where, in each period, players have an opportunity to quit the game and begin again with a new partner, albeit with costs associated with quitting. However, different matches induce a different level of utility associated with the cooperative outcome. I first study a stationary model, where the match quality is independent over each match. I then locate equilibria of a dynamic model where the match quality induced by specific individuals is correlated across time, and so the quality of the unmatched pool changes each period. Cooperative equilibria are sustainable because of the risk that future matches will be of low quality. I show that players with intermediate patience levels are most likely to enter into lasting matches: players who are too impatient overvalue potential deviations from a cooperative equilibrium, but players who are too patient continue to wait for very high draws from the match distribution. The model is readily interpretable as a model of marriage markets.

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Dissertation Title: "Three Essays in International Macroeconomics and Finance"

Abstract Summary: My dissertation examines the role of frictions in open economies. My first essay uses a two-country DSGE model to examine the influence of *asymmetric (private) information* about fundamentals on the exchange rate and terms of trade. I pit my theoretical predictions against the short-comings of models with frictions on either the goods market (price stickiness) or the assets market (incompleteness and costs of intermediation). I find notable improvements across all second-order moments (volatility, persistence, cross-correlations). My second essay studies the extent to which a Central Bank seeks to stabilize the nominal exchange rate as a monetary policy goal. I apply Bayesian methods and conclude that there is little evidence of *exchange rate targeting*. My third essay explores the impact of learning about unobservable stock price fundamentals on the market price of risk and portfolio allocations. In this context, differences in the accuracy of estimated fundamentals across countries are an important factor in explaining the *portfolio home bias*.

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Papers: "A Monetary Model of the Exchange Rate with Asymmetric Information", (Job Market Paper), UW-Madison, September 2006
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"Partial Observations of Returns, Portfolio Choices and the Home Bias Puzzle", UW-Madison, March 2005

Teaching Experience: Teaching Assistant, 711 Economic Theory – Microeconomics, UW-Madison (Graduate-level course under Prof. William A. Brock)

Research Experience: WAGE Project Assistant, Center for World Affairs and the Global Economy, UW-Madison (Prof. Menzie Chinn and Charles Engel)
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Fields of Interest: International Macro and Finance, Monetary Economics, Applied Econometrics.

Three Essays in International Macroeconomics and Finance
Dissertation Abstract

Enrique Martinez-Garcia
University of Wisconsin – Madison

My dissertation examines the role of frictions in open economies arising from a structure of incomplete (or limited) information. It consists of three essays concerning information aggregation on fundamentals from public and asymmetric private sources, learning and estimation through Bayesian updating, and signal extraction from exogenous and endogenous variables.

The first chapter investigates the influence of *asymmetric (private) information* about monetary (and other) fundamentals on the bilateral exchange rate and terms of trade. Despite the plethora of papers examining the persistence and volatility of the real exchange rate, the Backus-Smith puzzle and other well-known anomalies, there is little attention paid to the strong restriction of the *common-information-set* assumption embedded in almost all open economy macro models of the exchange rate. I use a linearized version of a monetary, two-country DSGE model to examine the information diffusion process that takes place whenever different types of agents privately observe distinct subsets of realizations on the exogenous fundamentals, and all information (including on endogenous variables) becomes public with a delay. I pit my theoretical predictions against the short-comings of models with frictions on either the goods market (price stickiness) or the assets market (incompleteness and costs of intermediation). I find notable improvements across all second-order moments (volatility, persistence, cross-correlations) that contribute conceptually and quantitatively to explain some puzzling empirical facts in international macroeconomics. For instance, the model is able to: (a) explain the excess volatility and high persistence of exchange rates (and, to some extent, terms of trade), (b) match more closely the pervasive lack of *international risk-sharing* observed in the data and the disconnect between exchange rates and monetary fundamentals, and (c) fit the second-order moments of consumption and CPI prices (although not always of terms of trade).

The second chapter develops a framework to measure the effects of nominal exchange rate stability through monetary policy. I estimate a linearized version of an asymmetric two-country DSGE model using Bayesian methods. I study an extended *Taylor-type interest rate rule* wherever the Central Bank reacts in response to output, inflation and nominal exchange rate fluctuations. Therefore, monetary policy opens up a new channel for the transmission of foreign shocks into the domestic business cycle. The main result is that the Central Banks of selected developed countries have not specifically targeted the nominal exchange rate in the post-Bretton Woods period. I also find evidence that monetary policy does not contribute significantly to the domestic business cycle. In fact, exogenous TFP and foreign nominal interest rate shocks appear to be the two dominant forces in explaining the volatility of exchange rates, terms of trade and other endogenous variables.

The final chapter looks at a partial equilibrium portfolio choice problem in the presence of unobservable stock price fundamentals. Unlike the standard models in the finance literature, the small investor's problem is to maximize his expected utility whenever the underlying fundamentals are not publicly available. I conjecture that the stock price drift is a function of unobservable fundamentals, but stock prices themselves are observable. Hence, the benefits of financial diversification must be balanced against the costs associated with forecasting the drift based on the historical series of stock prices (and other signals). I show that the impact of learning and forecasting is potentially large, and it affects both the market price of risk and the portfolio allocations. In this context, differences in the accuracy of the estimated drift across countries are an important factor in rationalizing the *portfolio home bias puzzle*.

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Dissertation Title: "Essays in International Macroeconomics"

Abstract Summary: My dissertation develops structural frameworks for certain policy and empirical issues. The first essay evaluates the impact and transmission channels of unbalanced fiscal policies in an open-economy environment using a two-country general equilibrium model with non-Ricardian features. The second part of the dissertation attempts to address shortcomings of existing theoretical models in matching empirical evidence on correlation of relative consumption and real exchange rates. Dynamics of net foreign asset positions, pricing decisions, and monetary policy reactions are shown to affect predictions of the theory. Implications of the models are analyzed using numerical simulations and econometric techniques.

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"International Effects of Fiscal Policies," UW-Madison, August 2003
"Bootstrap Correction of Small Sample Bias in a Monetary Model of Exchange Rate," UW-Madison, May 2003
"The Sufficiency of Retirement Savings: A Comparison of Two Cohorts of Retired Workers at the Time of Retirement," with R. Haveman, K. Holden, B. Wolfe, forthcoming, July 2006

Teaching Experience: Teaching Assistant: Principles of Macroeconomics (3 semesters, 1 as Head TA), Intermediate Macroeconomics (1 semester)

Research Experience: Summer Intern (Research Department, International Monetary Fund)
Project Assistant (UW-Madison School of Business, La Follette School of Public Affairs)

Fields of Interest: International Finance, Open Economy Macroeconomics, Applied Econometrics

"Essays in International Finance"

Andrei Romanov
University of Wisconsin-Madison

Dissertation Abstract

Recent developments in the area of new open economy macroeconomics allowed researchers to derive strict microfoundations to policy issues which involve integrated economies. In this dissertation I extend application of the framework to aspects of fiscal policy, as well as address one of empirical anomalies challenging the theory, namely the Backus-Smith puzzle.

In the first essay, an open economy general equilibrium model with non-Ricardian features is developed. Departures from Ricardian equivalence are introduced in the form of overlapping generations as in Blanchard (1985). By moving to an open economy context, fiscal policies are allowed to operate via additional channels, including terms of trade effects and the real exchange rate. This also allows for evaluation of international transmission of fiscal shocks.

On the one hand, a number of factors are identified that result in stronger reaction of private consumption to government debt accumulation compared to traditional real business cycle models, namely the length of agents' planning horizons, as well as openness characteristics. While not critical for the transmission of shocks, nominal rigidities contribute to the short-run sensitivity of consumption. On the other hand, moving towards a more open setup decreases the size of fiscal multipliers. This could be an important aspect neglected in more Keynesian-style closed economy models, which exhibit excessive reaction of output to fiscal shocks. The open economy setup leads to negative effects on the current account and net exports in the short to medium run, consistent with empirical evidence. Finally, implications of alternative fiscal policies in an open economy setting are considered.

The paper lays down a framework further extended in Botman, Laxton, Muir and Romanov (2006), which considers distortionary labor and corporate income taxes as well as limited asset market participation. It is shown that a permanent increase in government debt following a cut in the income taxes may produce significant crowding-out effects.

In the second part I turn to one of empirical anomalies in open economy macroeconomics. It goes back to the 1993 paper by Backus and Smith where they found generally negative correlation between real exchange rate and consumption in the data. This presented a puzzle since theoretically, under assumption of perfect risk sharing, one would expect these two variables to be perfectly correlated. In addition, a substantial heterogeneity in the data can be observed, both in the cross-section and in the time series.

I consider a stochastic dynamic general equilibrium model with financial markets frictions and nominal rigidities either in local or producer currency. Monetary authorities employ interest rate rules, which allows for varying flexibility of exchange rate regimes. A combination of market incompleteness and financial markets imperfections is critical in achieving a reduction in the correlation. Results of numerical simulations also indicate substantial dependence of observed correlation on firms' pricing decisions and the extent to which exchange rates are managed. With the dynamics of net foreign assets being the primary channel which alters the paths of the relative consumption and the real exchange rate, price rigidities augment wealth effects associated with the extent of current account imbalances.
Testing the model is considered using maximum likelihood methods following Bergin (2003) and Ireland (2004) in order to identify relative contributions of different channels.

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Dissertation Title: *Essays on Dynamic Policy Analysis*
Abstract Summary: My dissertation examines macroeconomic policies in a range of
                      dynamic environments. My first essay studies the informational
                      properties of equilibrium aggregate prices and the design of monetary
                      policy in a model with heterogeneously informed monopolistic
                      competitive firms. My second essay develops some new methods to
                      analyze frequency specific tradeoffs faced by a policy maker that
                      controls fluctuations in aggregate variables and cares about the
                      temporal delivery of volatility. My third essay studies the relevance of
                      alternative trend-cycle decomposition methods of output in the
                      evaluation of optimal monetary policies under model uncertainty.

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Papers: "Incomplete Information, Informative Pricing and Monetary Policy" –
                  Job Market Paper, October 2006
               "Design Limits and Dynamic Policy Analysis" with W. Brock and S.
                  Durlauf – January 2006
               "Non-linearities in Growth: from Evidence to Policy" with E. Cohen-
                  Cole and S. Durlauf – R&R *Journal of Economic Growth* – August
                  2005
               "Is the Original Taylor Rule Enough? Evaluating Monetary Policy with
                  Model Uncertainty" with W. Brock, S. Durlauf and J. Nason –
                  October 2006
               "Trend Uncertainty and the Evaluation of Monetary Policy" with W.
                  Brock, S. Durlauf and J. Nason – in progress

Teaching Experience: International Economics, Fall 2002, Instructor: Maria Muniagurria
                       Italian 101, Spring 2002
Research Experience: *Visiting Scholar* – Federal Reserve Bank of Atlanta, June 2006
                       Research Fellow – Ente for Monetary, Banking and Financial Studies –
                          "Luigi Einaudi" (Bank of Italy), Rome, May-August 2006
Fields of Interest: *Macroeconomics, Monetary Economics, Time Series Analysis*

Essays on Dynamic Policy Analysis
Dissertation Abstract

Giacomo Rondina
University of Wisconsin, Madison

Chapter 1: "Incomplete Information, Informative Pricing and Monetary Policy"

In this chapter I study the equilibrium dynamics of aggregate prices and real output in an environment of heterogeneous information where monetary prices plays a key informational role of the type originated by Hayek. I focus on the supply side of a stylized economy where Dixit-Stiglitz monopolistic firms set their pricing strategies under incomplete information over the state of the economy. I show that, if the strategic complementarities across firms are strong enough, the aggregate price in equilibrium is not able to reveal the underlying state of the economy. In particular, the aggregate price dynamics tends to exhibit a persistent component that is solely related to the aggregation of the signal extraction problem faced by individual firms. Existing microfounded models of the aggregate supply in monetary economies ensure persistence in the aggregate price via exogenous constraints on individual prices updates (e.g. Calvo-pricing or Taylor-staggered contracts) or assuming the existence of adjustment costs (e.g. menu costs). My model offers an alternative information-driven explanation based on the idea that firms formulate predictions conditional on observing their own marginal cost structure and the history of aggregate prices. I then study the issues faced by a monetary authority that controls the aggregate nominal demand and tries to implement an optimal path for real output in this non-standard informational environment.

Chapter 2: "Design Limits and Dynamic Policy Analysis" (with William A. Brock and Steven N. Durlauf)

In this chapter I characterize the frequency domain properties of linear systems with feedback control rules. The goal of the analysis is to derive restrictions on how feedback rules shape the frequency by frequency fluctuations that underlie the time series of the state variables. These tradeoffs are known in the control literature as design limits or Bode integral constraints. The great bulk of the work in control theory focuses on single-input single-output (SISO) systems. One methodological contribution of this paper is that I derive frequency tradeoffs for multiple-input multiple-output (MIMO) systems in discrete time. A second methodological contribution is that I study these tradeoffs when expectations of future state variables affect current values, a property that is natural in economic models. I extend existing results in the control literature to account for discrete time bivariate systems with rational expectations. The basic methods of this chapter provide ways to understand how fluctuations at different frequencies are subject to tradeoffs via the choice of a feedback rule. Application is made to the evaluation of monetary policy rules.

Chapter 3: "Trend Uncertainty and Optimal Monetary Policy" (with William A. Brock, Steven N. Durlauf and James M. Nason)

Despite years of research, there is still no consensus among macroeconomists on the appropriate way to decompose aggregate data into trend and cycle. This chapter explores the role of alternative trend specifications in the evaluation of monetary policy rules. Unlike previous studies, which have focused on how a particular detrending procedure affects the behavior of time series, I am interested in understanding how uncertainty about the appropriate way to conceptualize a trend affects policy outcomes. The approach taken in evaluating how trend specification matters engages ideas from the new literature on model uncertainty. In this approach, a policymaker evaluates alternative policies making expected loss calculations that explicitly account for lack of prior knowledge of the correct model of the economy. Since there is no correct model, a model space is specified which contains the policymaker's alternatives to the correct model. This approach is important for policy making as it allows to evaluate how, for a given economic environment, choice of trend-cycle decomposition matter for monetary policy evaluation.

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Dissertation Title: "Essays in Applied Microeconomic Theory"

Abstract Summary: My dissertation studies markets for expert services, markets in which
only firms can accurately observe the quality of the service, which thus
cannot be contracted upon; firms have a myopic incentive to shirk in
such markets. The first essay considers a model in which reputational
concerns compel expert firms to put forth effort, and finds that as the
market becomes increasingly competitive these reputational concerns are
magnified, causing competitive firms to put forth relatively more effort
than isolated firms. The second essay considers markets with both
competent experts and inept quacks and in endogenizing this type choice
finds that all such markets have at least some quacks.

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Papers: "Competition Breeds Impatient Customers under Asymmetric
Information," (job market paper), UW-Madison, October 2006
"Experts and Quacks," UW-Madison, July 2006

Teaching Experience: Lecturer: Intermediate Microeconomic Theory (1 semester)
Teaching Assistant: Introductory Microeconomics (1 semester, head TA)
Intermediate Macroeconomic Theory (2 semesters)
Statistics: Measurement in Economics (2 semesters)

Fields of Interest: Micro Theory, Applied Microeconomics, Industrial Organization

Essays in Applied Microeconomic Theory
Dissertation Abstract

Jeremy A. Sandford
University of Wisconsin – Madison

My dissertation consists of three essays in applied microeconomic theory; two have been completed to date. Both of these study markets for expert services, markets in which the firms providing a service have more information about their customer's needs and the ensuing transactions than do their customers.

Competition Breeds Impatient Customers under Asymmetric Information
Expert firms have at least a short-run incentive to shirk in providing service to their customers if effort is costly. Customers cannot observe the effort put forth in each period by firms, instead observing only a payoff-relevant, non-contractible signal which is correlated with firm effort. The first essay considers a setting in which firms repeatedly serve customers. This repeated interaction gives rise to reputational concerns for the firms; match quality is heterogeneous, and so a customer experiencing a string of bad signals will conclude that her matched firm is a poor match, and switch to a new provider. Firms who are thought a good match by customers will be retained. Customers try out different firms in the market during probationary periods of endogenous length until they find a firm they believe to be a good match. How patient and forgiving of bad signals customers are in making this assessment turns out to depend crucially on how many firms there are serving the market, i.e. how competitive the market is. The more competitive the market, the less forgiving a customer will be. Firms wish to retain as many probationary customers as possible, and so exert themselves relatively more in serving impatient customers relative to patient, forgiving customers. Increased competition thus makes for relatively more impatient customers, which in turn increases the effort firms play in equilibrium, and makes customers better off.

Experts and Quacks
The second essay considers a model wherein both competent experts and incompetent quacks serve a population of customers. Here, the type choice of firms is endogenous; those firms making a investment at the inception of a customer match will be experts, those who forgo this investment will be quacks, with experts and quacks *ex ante* indistinguishable to the customer. The threat of customer turnover motivates firms to invest in relationships with customers, but this threat erodes as the proportion of experts increases and customers become increasingly sure that any given firm is, in fact, an expert; having too many experts makes it too easy for quacks to imitate experts, and thus destroys the incentive of new firms to invest in their own expertise. We have the result that any such market will see at least some quacks in equilibrium

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                      University of Michigan – Ann Arbor, 2001, *cum laude*
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Dissertation Title: "Three Essays on Domestic and International Mergers and
                       Acquisitions"

Abstract Summary: My dissertation examines the incentives of domestic and foreign
                     mergers and acquisitions. In the first essay, I develop a model of
                     cooperative domestic and international merger, showing that the extent
                     of competition in the input sector is a key determinant of downstream
                     merger behavior. In the second essay, I examine the domestic and
                     foreign acquisition behavior of heterogeneous firms, deriving a new
                     relationship between investment via acquisitions and productivity. In
                     the third essay, I confirm the equilibrium predictions of the second
                     essay using nonparametric techniques, where the primary result is that
                     mid-productivity firms are the most likely to acquire in the acquisition
                     market, and that firms acquiring cross-border are more productive than
                     those acquiring at home.

References: Robert Staiger (Major Professor) – rstaiger@stanford.edu
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Papers: "Firm heterogeneity, acquisition incentives, and trade liberalization"
                    (2006)
                  "Equilibrium horizontal and vertical mergers in an international oligopoly"
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Teaching Experience: Teaching Assistant – 4 Semesters
                       Economics 102 – Principles of Macroeconomics
                       Economics 343 – Environmental Economics
                       Economics 467 – International Comparisons, Industrial Firms and
                                       Industrial Organizations
                       Recipient of the Ann Morris Ely Scholarship for Teaching (2004)

Fields of Interest: International Economics, Industrial Organization

Three Essays on Domestic and International Mergers and Acquisitions

Dissertation Abstract

Alan C. Spearot
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Industrial reallocation via mergers and acquisitions is a very common behavior among manufacturing firms. Both domestic and foreign acquisitions comprise a non-trivial share of total acquisitions. My dissertation consists of three essays focusing on domestic and foreign acquisition behavior under different assumptions over firm-level conduct and industry structure.

The first essay examines cooperative domestic and international merger behavior when both upstream and downstream firms have market power. The existing literature assumes a fixed organizational structure of upstream firms, which is endogenized in this essay. With this modification, the results of the model show that a strong rent-seeking party upstream may substitute for anti-competitive mergers downstream. As a result, and contrary to a setting with no input sector, the model supports international mergers under high trade costs. In addition, I show that as the input market becomes more competitive, domestic mergers become optimal under high trade costs. Thus, the extent of competition in the input sector is shown to be a key determinant of optimal downstream merger behavior.

The second essay develops a model of monopolistic competition allowing for acquisitions and firm heterogeneity. The model shows that acquisitions positively affect aggregate productivity by transferring capital from the least efficient firms to higher efficiency firms. However, and contrary to the existing literature, these acquiring firms are in a mid-range of productivity. The results of the model show that the most productive firms *do not* find domestic acquisitions profitable in either the closed or open economy, and *may not* find foreign acquisitions profitable in the open economy. The intuition for this result lies at the heart of the assumed demand-cost structure. An acquisition reduces variable costs and, subject to lower costs, firms have an incentive to increase production post-acquisition. However, the extent to which firms are willing to increase production is limited by the assumed linear demand function. Importantly, high productivity firms already produce near the upper-bound of what a monopolist is willing to sell, and thus earn very little from an acquisition. In equilibrium, mid-productivity firms, which aren't bound by the size of the market, bid up the acquisition price and make an acquisition unprofitable for the most productive firms. In an open economy setting, the model has provocative implications for the effects of trade liberalization. With this new framework, the domestic-foreign composition of the acquisition market is shown to be an important determinant in the effect of trade costs on aggregate productivity. Critically, if foreign acquisition behavior diminishes substantially in response to trade liberalization, aggregate productivity will worsen.

The third essay evaluates the equilibrium predictions of the second essay using a composite firm-level database. Nonparametric techniques are utilized to allow for an unspecified functional relationship between productivity and the decision to acquire. Using a recent 15-year sample of North American manufacturing firms from *Compustat*, this essay shows that mid-productivity firms tend to acquire the most in the acquisition market. Also using *Compustat*, I establish that firms that sell and exit tend to be on average less-productive. Finally, obtaining acquisition location data from *Thomson research*, I show that firms acquiring abroad tend to be more productive than those acquiring domestically.

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Dissertation Title: "Three Essays on Time Series Inference and Forecasting"

Abstract Summary: The first essay proposes minimum length robust semiparametric forecast intervals. The forecast intervals are based on a parametric forecasting model, while a nonparametric component corrects for the misspecifications in the model, a feature that is lacking in existing works. Simulations and empirical evidence on exchange rate and portfolio returns forecasting indicates that the forecast intervals work well. The second essay proposes a near point-optimal residual-based cointegration test with good size that uses stationary covariates to improve power. We apply the proposed test to PPP. The third essay investigates forecast evaluation of linear models when the objects of interest are forecast distributions or intervals. Applications to inflation forecasting are presented.

References: Prof. Bruce E. Hansen (Major Advisor): bhansen@ssc.wisc.edu
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Papers: "Robust Semiparametric Forecast Intervals," UW-Madison, Oct 2006 (job market paper).
                "A Residual-Based Cointegration Test with Stationary Covariates," UW-Madison, Oct 2004 (under revision).
                "Forecast Evaluations Based on Forecast Distributions and Intervals," UW- Madison, in progress.

Teaching Experience: 3 semesters as tutor (teaching assistant) at the University of Auckland: Principles of Microeconomics, undergrad Time Series.
                9 semesters as a teaching assistant at the University of Wisconsin-Madison: Principles of Micreconomics/Macroeconomics, Intermediate Microeconomics, Business and Economics Statistics, Survey of International Economics.

Fields of Interest: Econometric Theory, International Finance, Macroeconomics, Risk Management.

Three Essays on Time Series Inference and Forecasting

Jason Kin Ming Wu

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Abstract

The first essay introduces semiparametric forecast intervals that are based on point forecast models. Forecast intervals are important generalizations of point forecasts that incorporate uncertainty and probabilities of specific events. Our method possesses two appealing features. First, unlike existing forecast interval methods, the new forecast intervals possess nonparametric robustness to model misspecifications, while making good use of the information contained in the forecasting model. Second, the forecast intervals are minimum length for a given probability coverage. The first feature is important since, while forecasting models are useful approximations, hardly any model can be justified as correctly specified. The second feature automatically handles irregularities in distributions, providing tight predictions when the data have asymmetric or multimodal distributions that play an increasingly prominent role in economics and finance. We show that, under stationarity and mixing conditions, the estimated forecast distributions and intervals are consistent toward the population counterparts and are asymptotically normal. Monte Carlo simulations show that when the forecasting model is a fair approximation of the true data generating process, our method has significant gains over nonparametric forecast intervals. Robustness of the forecast intervals is shown via comparisons with existing methods that require correct specification. We present applications of the new forecast intervals to the Meese and Rogoff puzzle and Value-at-Risk estimation.

The second essay proposes a near point-optimal cointegration test that uses stationary covariates to improve power. We show the derivation of the Covariate Augmented Dickey-Fuller regression that uses Generalized Least Squares detrended data. The resulting t-test has good size properties, while the covariates improve power. The asymptotic power functions depend on the nuisance parameters that characterize the correlations between covariates and cointegrating variables and the local alternative at which the data is detrended. We show that, fixing all but one nuisance parameter, increasing the remaining parameter significantly improves the power of the tests. We also provide a guide to implementing the asymptotic tests when the nuisance parameters are unknown. Our test is applied to the Purchasing Power Parity.

The third essay considers linear forecasting model evaluation when the objects of interest are forecast distributions or intervals. Motivated by the fact that forecasting models are often derived from economic theory, we believe that predictive ability of models beyond point forecasts are important indicators of the quality of models. Unlike previous works on forecast densities and intervals evaluation, our method does not seek a "correct" model, rather it seeks the best approximating model from a group of candidate models. We consider two statistics, based on which the models are compared. First, a metric that encompasses relative coverage accuracy and interval lengths is developed. Second, a test statistic that compares the dependence of the forecast errors on the predictors across models is derived. The tests are applied to different models in inflation forecasting.