

V. Winter Workshop in Economics

Friday, December 23, 2011
Koç University

Program

9:00-9:30 Coffee & Tea

9:30-10:30 Mehmet Soytaş – University of Pittsburgh
Estimating the Returns to Parental Time Investment in Children Using a Life-cycle Dynastic Model
(Joint with George-Levi Gayle, Limor Golan)
Discussant: Kerem Coşar – University of Chicago

10:30-11:30 Serdar Özkan – Federal Reserve Board
Income Inequality and Health Care Expenditures over the Life Cycle
Discussant: Thomas Crossley – Koç University

11:30-11:45 Coffee Break

11:45-12:45 Kadir Atalay - University of Sydney
Euler Equation Estimation on Micro Data
(Joint with Şule Alan and Thomas F. Crossley)
Discussant: Soner Başkaya – Central Bank of the Republic of Turkey

12:45-13:45 Lunch at Faculty Club

13:45-14:45 Alp Şimşek – Harvard University
Speculation and Risk Sharing with New Financial Assets
Discussant: M. Fatih Ekinci – Central Bank of the Republic of Turkey

14:45-15:45 Umut Dur – University of Texas
Teacher Assignment Problem
(Joint with Onur Kesten)
Discussant: Özgür Yılmaz – Koç University

15:45-16:00 Coffee Break

16:00-17:00 Kerem Coşar – University of Chicago
Borders, Geography, and Oligopoly: Evidence from the Wind Turbine Industry
(Joint with Paul L. E. Grieco, Felix Tintelnot)
Discussant: Ayşe Pehlivan – Bilkent University

17:00-18:00 Borağan Aruoba – University of Maryland - College Park
Homework in Monetary Economics: Inflation, Home Production and the Production of Homes
(Joint with Morris A. Davis, Randall Wright)
Discussant: Ahmet Akyol – York University

Abstracts

Estimating the Returns to Parental Time Investment in Children Using a Life-cycle Dynastic Model

Mehmet Soytaş – University of Pittsburgh

(Joint with George-Levi Gayle, Limor Golan)

Abstract: In this paper we developed and estimated a model of dynastic households in which altruistic individuals choose fertility, labor supply, and time investment in children sequentially, using data on two generations from the PSID. We then use the estimates to quantify the quality-quantity trade-offs and the return to parental time investment in children. We find that both fathers and mothers time investment increases children's outcomes, however, the overall return to fathers' time investment is only 60% that of mothers' time investment. We also find evidence for significant quality-quantity trade-offs. While we find no significant race differences in the returns to paternal time investment, blacks have a higher return to maternal time investment than whites. Our results suggest that the observed gaps in parental investment between blacks and whites are driven to a large extent by the fact that there are more single mothers among blacks and the opportunity costs of time for single mothers are higher than the costs of married mothers. We also find that the returns to maternal time investment are significantly higher for boys. This implies that mothers act in a compensatory manner, favoring low ability children in the family. Since girls already have a higher likelihood of achieving a high level of education than boys, mothers seem to invest more time in boys than in girls as the number of children increases.

Income Inequality and Health Care Expenditures over the Life Cycle

Serdar Özkan – Federal Reserve Board

Abstract: This paper studies differences in the lifetime profile of health care usage between low- and high-income groups. Using data from the Medical Expenditure Panel Survey (MEPS) I find that early in life the rich spend significantly more on health care, whereas midway through life until very old age the medical spending of the poor dramatically exceeds that of the rich. In addition, the distribution of the poor's medical expenditures has fatter left and right tails. To account for these facts, I develop and estimate a life-cycle model of two distinct types of health capital: preventive and physical. Physical health capital determines survival probabilities, whereas preventive health capital governs the distribution of shocks to physical health capital, thereby controlling the expected lifetime. Moreover, I incorporate important features of the US health care system such as private health insurance, Medicaid, and Medicare. In the model, optimal expected lifetime is longer for the rich which can only be achieved by larger investment in preventive health capital. Therefore, as they age, their health shocks grow milder compared to the poor, and in turn they incur lower curative medical expenditures. Public insurance in old age amplifies this mechanism by hampering the incentives of the poor to invest in preventive health capital. I use the model to examine a counterfactual economy with universal health insurance in which 75% of the preventive medical spending is reimbursed on top of the existing coverage. My results suggest that policies encouraging the use of health care by the poor early in life have significant welfare gains, even when fully accounting for the increase in taxes required to pay for them.

Euler Equation Estimation on Micro Data

Kadir Atalay - University of Sydney

(Joint with Sule Alan, Thomas F. Crosley)

Abstract: First order conditions from the dynamic optimization problems of consumers and firms are important tools in empirical macroeconomics. When estimated on micro-data these equations are typically linearized so standard IV or GMM methods can be employed to deal with the measurement error that is endemic to survey data. However, it has recently been argued that the approximation bias induced by linearization may be worse than the problems that linearization is intended to solve. This paper explores this issue in the context of consumption Euler equations. These equations form the basis of estimates of key macroeconomic parameters: the elasticity of intertemporal substitution (EIS) and relative prudence. We show that the severity of the approximation bias induced by log-linearization of an Euler equation is strongly related to the concavity of the underlying policy rules. To do this, we (i) numerically solve and simulate 6 different life-cycle models, (ii) develop a simple non-parametric statistic to summarize the effective curvature of the consumption function (iii) show that the validity and relevance of conventional instruments depend on the degree of the effective curvature. We also highlight an important trade-off between instrument validity and relevance. Higher-order approximations minimize validity problems but exacerbate weak instrument problems.

Speculation and Risk Sharing with New Financial Assets

Alp Şimşek – Harvard University

Abstract: While the traditional view of financial innovation emphasizes the risk sharing role of new financial assets, belief disagreements about these assets naturally lead to speculation, which represents a powerful economic force in the opposite direction. This paper investigates the effect of financial innovation on portfolio risks in an economy when both the risk sharing and the speculation forces are present. I consider this question in a standard mean-variance framework. Financial assets provide hedging services but they are also subject to speculation because traders do not necessarily agree about their payoffs. I define the average variance of traders' net worths as a measure of portfolio risks for this economy, and I decompose it into two components: the uninsurable variance, defined as the average variance that would obtain if there were no belief disagreements, and the speculative variance, defined as the residual variance that results from speculative trades based on belief disagreements. Financial innovation always decreases the uninsurable variance because new assets increase the possibilities for risk sharing. My main result shows that financial innovation also always increases the speculative variance. This is true even if traders completely agree about the payoffs of new assets. The intuition behind this result is the hedge-more/bet-more effect: Traders use new assets to hedge their bets on existing assets, which in turn enables them to place larger bets and take on greater risks. The net effect of financial innovation on portfolio risks depends on the quantitative strength of its effects on the uninsurable and the speculative variances. I consider a calibration of the model for new assets linked to national incomes of G7 countries, which were recommended by Athanasoulis and Shiller (2001) to facilitate risk sharing. For reasonable levels of belief disagreements, these assets would actually increase the average consumption risks of individuals in G7 countries. In addition, a profit seeking market maker would introduce a different subset of these assets than the ones proposed by Athanasoulis and Shiller (2001). The endogenous set of new assets would be directed towards increasing the opportunities for speculation rather than risk sharing.

Teacher Assignment Problem

Umut Dur – University of Texas

(Joint with Onur Kesten)

Abstract: We introduce a new class of matching problems that is a hybrid of Student Placement Problem (Balinski and Sonmez, 1999) and House Allocation Problem with Existing Tenants (Abdulkadiroglu and Sonmez, 1999). The assignment of teachers to the public schools in Turkey is a real life application of this problem. Each year more than 30,000 teachers are assigned via centralized mechanism. We analyze the mechanism in use, two step serial dictatorship, and show that the current mechanism fails to satisfy fairness, Pareto efficiency criteria. Moreover, under the current mechanism applicants are given high incentive to misreport their preferences. We characterize the subgame perfect Nash equilibria of the induced preference revelation game. We show that the set of Nash equilibrium outcomes of this revelation game is the set of stable matchings under the true preferences. Motivated by the deficiencies of the current mechanism we propose an alternative mechanism. As Guillen and Kesten (2011), we first update the priorities of applicants for schools in order to avoid violation of individual rationality. Then we apply agent optimal stable mechanism to the modified priorities and submitted preferences. This alternative mechanism is strategy proof, fair and its outcome Pareto dominates any other fair matchings. Moreover, it is the unique strategy-proof mechanism that respect improvements in test score among the fair ones.

Borders, Geography, and Oligopoly: Evidence from the Wind Turbine Industry

Kerem Coşar – University of Chicago

(Joint with Paul L. E. Grieco, Felix Tintelnot)

Abstract: Using a micro-level dataset of Danish and German wind turbine installations, we estimate a structural oligopoly model with cross-border trade and heterogeneous firms. Our approach allows us to separately identify border-related variable costs from distance-related variable costs, and to put bounds on fixed costs of exporting. We find that the variable border costs are large, equivalent to 400 kilometers (250 miles) in transport costs. Counterfactual analysis shows that the fixed costs are also important; removal of fixed border costs would increase German market share in Denmark from 2 to 12 percent. Our analysis illustrates how border frictions affect firm profits and consumer surplus on each side of the border. The results indicate that a complete elimination of border frictions would increase total welfare in the wind turbine industry by 5 percent in Denmark and 10 percent in Germany.

Homework in Monetary Economics: Inflation, Home Production and the Production of Homes

Borağan Aruoba – University of Maryland (Joint with Morris A. Davis, Randall Wright)

Abstract: We study the effects of inflation in a monetary model extended to incorporate both household production and endogenous investment in housing. As long as cash is used in market transactions, inflation is a tax on market activity, but not on home production. Inflation thus causes substitution out of market and into household activity, encouraging investment in household capital, including housing. We show analytically that through this channel, inflation increases the value of housing scaled by either nominal output or the money supply. We document these relationships in the data, and investigate how a calibrated model can account for the facts.