

**THE PHILLIPE MONASTER CENTER FOR ECONOMIC RESEARCH**

**ACTIVITY REPORT**

**1997/8**

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FOR ECONOMIC RESEARCH  
ACTIVITY REPORT  
1997/98**

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## I. MEMBERS OF THE MONASTER CENTER FOR ECONOMIC RESEARCH

### MEMBERS:

Department of Economics	Prof. Arie Arnon
Department of Economics	Prof. Tuvia Blumenthal
Department of the Management and Economics of	Dr. Dov Chernichovsky
	Health
Department of Economics	Prof. Ezra Einzy
Department of Economics	Prof. Mark Gradstein
Department of Economics	Prof. Oded Hochman
Department of Economics	Prof. Moshe Justman
Department of Economics	Dr. Todd Kaplan
Department of Economics	Dr. Yaakov Khazanov
Department of Economics	Dr. Adam Klug
Department of Economics	Prof. Israel Luski
Department of Industrial Engineering and Management	Prof. Abraham Mehrez
Department of Economics, Director of the Center	Prof. Uri Regev
Department of Economics	Dr. Bradley Ruffle
Department of Economics	Dr. Aner Sela
Department of Economics	Dr. Haim Shalit
Department of Economics	Dr. Oren Sussman
Department of Economics	Prof. Avia Spivak
Department of Economics, and presently Dean, Faculty of Humanities and Social Sciences	Prof. Jimmy Weinblatt
Department of Economics	Dr. David Wettstein
Chairman, Department of Economics	Prof. Ehud Zuscovitch

### STEERING COMMITTEE:

Prof. Ehud Zuscovitch  
 Prof. Uri Regev  
 Dr. David Wettstein

## II. SUMMARY OF ACTIVITIES

1997-98 was a particularly active period, especially in respect to issues concerning the Middle East crisis. The Center's large scale project on The Economics of Peace in the Middle East led by Center members, A. Arnon, I. Luski, A. Spivak, and J. Weinblatt ended, yielding a book entitled *The Palestinian Economy: Between Imposed Integration and Voluntary Separation* (Brill, Holland), as well as several working papers and journal articles. In addition, the Center sponsored a monthly seminar on the economic history of the Middle East jointly with the newly formed Department of Middle East Studies, bringing to Beer Sheva noted scholars from several universities. A. Arnon collaborated with the World Bank and MAS (The Palestinian Economic Research Center) in their report on the Palestinian economy. In addition, he joined the Harvard Project on Palestinian Refugees. A summary report on the findings as well as a chapter will appear in a forthcoming volume. In June, 1998, a two-day international conference on The Palestinian Economy After the 1994 Paris Protocol brought together experts to discuss the current state of Israeli-Palestinian economic relations.

The Monaster Center continues to maintain its commitment to applied research on other issues of central interest to Israeli society and economy. Still in progress is the program on Health Economics and Policy in a Stressed Society in collaboration with the University's Faculty of Health Sciences, led by Center member D. Chernichovsky together with an international steering committee. Center member A. Spivak's research on pensions figures prominently in the national debate on the future of the country's pension funds. Center members also participate actively in formulating industrial policy. J. Weinblatt (now serving his third year as Dean of the Faculty of Humanities and Social Sciences) conducts extensive research on social policy issues with the Center for Social Policy Studies in Jerusalem and has served on several national committees. M. Justman and A. Spivak prepared a report on unemployment for the Ministry of Labor. U. Regev still serves on the advisory committee of the Central Bureau of Statistics and continues his research on a regional cooperation project on environment and waste management in the Jordan Valley and the Gaza Strip. This is a cooperative effort between Israel, Jordan, the Palestinian Authority and the Center for Biological Control at Ben-Gurion University.

M. Justman and E. Zuscovitch are presently concluding a major research project awarded two years ago on the efficiency of subsidies to industrial R&D, on behalf of the Ministry of Finance and the Chief Scientist's Office of the Ministry of Industry and Trade. In addition, M. Justman and E. Zuscovitch edited a collective volume with M. Teubal (Hebrew University) and D. Foray (Ecole Centrale) on technological infrastructure policy. In 1996-97, E. Zuscovitch edited a special issue of *Economics of Innovation and New Technology* (together with P. Llerena) entitled "Innovation, Diversity and Organization from an Evolutionary Perspective," and a special issue of *Revue Internationale et Systemique* (jointly with M. Willinger) entitled "Patterns of Change: Learning, Diffusion and Transition." Prof. Zuscovitch continues his close scientific collaboration with colleagues at Louis Pasteur University (Strasbourg) and his research affiliation with the French National Center of Scientific Research (C.N.R.S). He also participates in the activities of the European Doctoral Program in the Economies of Technical Change (ETTC).

The applied work described above is complemented by theoretical research in mathematical economics and game theory by E. Einy, mechanism design by D. Wettstein, industrial organization by I. Luski, D. Wettstein, and T. Kaplan, urban economics by O. Hochman,

public choice by M. Gradstein, the political economy of education, inequality and growth by M. Gradstein and M. Justman, and financial theory by H. Shalit and O. Sussman. A. Klug continues his empirical research project on the business expectations of the railroad industry in the U.S. during the Great Depression and T. Blumenthal remains active in his work on Japan's economy. B. Ruffle is involved in research concerning the application of experimental methods for investigating the role of buyers in different market institutions.

This year we have added two new members to our staff: Dr. Yaakov Khazanov and Dr. Aner Sela. Dr. Khazanov specializes in macroeconomics. His current research is geared toward studying the impact of economic growth on nationalist movements. Dr. Sela's scientific interests concern auctions and industrial organization.

The Center has also made a significant contribution to the infrastructure of services that facilitates research activity. Together with the Economics Department it supports the computer network and other computer services in the Center.

Finally, I wish to thank our administrative coordinator, Ms. Ella Ginzburg, and our English secretary, Ms. Estelle Schulgasser, for their help in producing this report.

Professor Uri Regev, Director  
Monaster Center for Economic

Research

### III. ACTIVITIES IN DETAIL

#### 1) Conferences and Workshops organized under the auspices of the Center and the Department of Economics

1. March 2-3, 1998: The Department of Economics and the Kreitman School of Advanced Graduate Studies (with the assistance of the Ministry of Science) held a special two-day conference in honor of **Professor Reinhard Selten** (University of Bonn), **Nobel Prize Laureate in Economics**. The subject of the conference was "Learning: Aspects of Rationality, Evolution and Experimentation." Prof. Selten presented the opening lecture: "Features of Experimentally Observed Bounded Rationality", and the renowned economist Prof. Israel Aumann from Hebrew University, Jerusalem, was the guest speaker at the dinner reception. Lecturers from leading universities in Israel and abroad gave the following presentations:

"Adaptive Procedures" (Sergiu Hart, Hebrew University).

"The Potential Generality of Descriptive Game Theoretic Models: Reinforcement Learning in Matrix and Perceptual Games" (Ido Erev, Technion; Alvin Roth, University of Pittsburgh; Yoella Bereby-Meyer, Ben-Gurion University; Joachim Meyer, Ben-Gurion University).

"Any Inspection is Manipulable" (Ehud Lehrer, Tel-Aviv University); "Games with Procedurally Rational Agents" (Ariel Rubinstein, Tel-Aviv University).

"Decision-Making: Weighting the Opinions of Other People" (Ilan Yaniv, Hebrew University).

"Some Experimental Results on Ultimatum Games" (Gary Borenstein and Shmuel Zamir, Hebrew University).

"The Self-Serving Bias, Beliefs about Rationality and Bayesian Updating" (Todd Kaplan and Bradley Ruffle, Ben-Gurion University).

"Can We Doubt Our Beliefs?" (Dov Samet, Tel-Aviv University).

"Case-Based Planning" (Itzhak Gilboa, Tel-Aviv University).

"Learning Rules and Optimization: A Lesson from Cuckoo-Host Coevolution" (Arnon Lotem, Tel-Aviv University).

"What Happens in a Mind During a Task Switch" (Nahshon Meiran, Ben-Gurion University).

"Artificial Intelligence and Economics" (Dov Monderer, Technion).

"Modeling People Who Model" (David Kreps, Tel-Aviv University).

"Learning in Auctions" (Aner Sela, Ben-Gurion University).

"The Evolution of Cooperation in a Simulated Inter-Group Conflict" (Ilan Fisher, Ben-Gurion University).

"How to Play any Mental Game" (Michael Ben-Or, Hebrew University).

2. On April 6, 1998 the department organized a special half-day workshop on "R&D Finance. The guest speaker was Prof. Sudipto Bhattacharya from the London School of Economics, who presented the opening lecture entitled "Bargaining and Sharing Innovative Knowledge."

3. The department sponsored a half-day workshop on "Incomplete-Markets Macroeconomics" on April 27, 1998. The guest speaker, Prof. Jean-Michel Grandmont from CNRS-CREST, spoke on "Market Psychology and Nonlinear Endogenous Cycles." Other talks were given by Dr. Oren Sussman from our department ("A Stabilized Model of Financially-Driven Business Cycles") and guest speakers Joseph Zeira from the Hebrew University ("Timing of Purchase and Aggregate Fluctuations") and Prof. Benjamin Eden from Haifa University ("The Real Effects of Reserve Requirements").

4. On May 26, 1998 the Department held a one-day workshop on topics on Industrial Organization. The following talks were presented:

Prof. Arthur Fishman (University of Haifa) and Prof. Rafael Rob (University of Pennsylvania):  
"A Model of Firm Growth and Industry Dynamics."

Dr. Todd Kaplan, Prof. Israel Luski and Dr. David Wettstein (Ben-Gurion University):  
"Innovative Activity and Sunk Cost."

Prof. Reiko Aoki (University of Auckland) and Prof. Yossi Spiegel (Tel-Aviv University):  
"The Impact of Public Disclosure of Patent Applications on Firms' Patenting and R&D"

Behavior."

Prof. Neil Gandal (Tel-Aviv University), Prof. Michael Kende (FCC) and Prof. Rafael Rob (Hebrew University and the University of Pennsylvania):  
 "The Dynamics of Technological Adoption in Hardware/Software Systems: The Case of Compact Disc Players."

Prof. Oz Shy (University of Haifa):  
 "Why 99 Cents?"

Prof. Moshe Kim and Prof. Doron Koiger (University of Haifa):  
 "The Empirical Manifestation of Switching Costs."

Prof. Sarit Markovich (Tel-Aviv University):  
 "Snowball - The Evolution of Dynamic Oligopolies with Network Externalities."

Prof. Chaim Fershtman (Tel-Aviv University) and Ariel Pakes (Yale University):  
 "Collusion and Price Wars."

Prof. Isabel Grillot (CORE), Prof. Oz Shy (University of Haifa) and Prof. Jacques Thisse (CORE):  
 "Price Competition when Consumer Behavior is Characterized by Conformity or Vanity."

5. On June 7, 1998, the Department held a one-day mini-symposium on Economics, Biology and Technology. Guest speakers included Prof. David Zilberman (University of California, Berkeley): "Biotechnology - A General Perspective"; Prof. Shoshana Arad (the Institutes for Applied Research, Ben-Gurion University): "Extraction of Valuable Chemicals from Algae"; Prof. Chaim Abir (Agan Makhteshim - Chemical Enterprises Ltd.): "Adoption of New Projects in the Industrial Sector"; and from our department Prof. Ehud Zuscovitch: "To Be or To Have: Survival Argument, Learning and Social Behavior from an Evolutionary Perspective"; and Uri Regev: "God's Utility Function: Are We Smarter than Bugs?"

6. On June 24-25, 1998, with the collaboration of the Monaster Center, the Department of Economics, and the Herzog Center for Middle East Studies, an international two-day conference was held at the University on "The Palestinian Economy After the Paris Protocol." A. Arnon chaired the steering committee which organized the conference. More than one-hundred Israeli, Palestinian and international experts participated. The following sessions and lectures were presented:

**"The Economic Links Between Israelis and Palestinians: Closures, Trade and the Labor Market"** – R. Shaban: "Economic Analysis of Border Closure"; A. Spivak: "The Gaza Port, Incomplete Contracts and the Case for Economic Sovereignty."

**"The Public Sector, Foreign Aid and Economic Development"** – H. Shunnar: "A Comparison of Economic Indicators for the Palestinian Economy"; O. Hamed: "Investment and Finance under Uncertain Political Environment"; E. Sagi: "The Economic Implications of Large Scale Donations."

**"Cooperation as a Necessity: Environment, Health and Education"** – U. Regev and J. Safi: "Regional Cooperation in Pest Management: An Economic Perspective"; R. Pundik: "Durable Models of Israeli-Palestinian Cooperation: Dialogue and Capacity Building"; D. Yariv: "The Present Status of the MENA Bank."



**"Regional Economic Relations and the Industrial Zones"** – M. El-Jafari: "Macroeconomic Policies to Promote Employment in the West Bank and Gaza"; M. Justman: "Industrial Zones"; J. Press: "The State of the Industrial Zones."

**"An Assessment of the Paris Agreement"** – A. Arnon: "Expectations vs. Realization of the Protocol: Labor Flows, Private Investment and Infrastructure"; N. Kanafani: "Implementation of Trade-Related Articles in the Paris Protocol"; J. Saba: "The State of the Palestinian Economy and the Donor Response."

## 2) Guests of the Center and the Department of Economics

Support from the Center allows us to invite economists from abroad:

Prof. Paulo Viera Da Cunha, World Bank	11/97
Prof. David Zilberman, University of California, Berkeley	11/97
Dr. Jason Shachat, University of California, San Diego	12/97
Dr. Jonathan Shalev, Catholique de Louvain University	12/97
Dr. Edward James Seiler, Chicago University	12/97
Dr. Seth Weissman, Columbia University	1/98
Prof. Isaac Rischall, University of Wisconsin	1/98
Prof. Reinhard Selten, University of Bonn	2/98
Prof. Pietro Reichlin, Dipartimento di Scienze Economiche, Roma, Italy	3/98
Prof. Martin Weitzman, Harvard University	3/98
Prof. Michael Haliassos, University of Cyprus	3.98
Prof. Guillaume Cheikbossian, Columbia University	4/98
Prof. Jacques-Francois Thisse, CORE, Universite Catholique de Belgium and CERAS, Ecole Nationale des Ponts et Chaussees, Paris	5/98 Louvain,
Prof. Jeffrey Callen, New York University	6.98
Prof. Arnold Heertje, University of Amsterdam	6.98

## 3) Seminar Lectures Presented by Guests from Israel and Abroad

Prof. Moshe Kim, Haifa University "Branch-Banking in Dynamic Oligopoly"	6.11.97
Prof. David Zilberman, University of California, Berkeley "Economic Perspectives of Biotechnological Development"	10.11.97
Dr. Bradley Ruffle, Ben-Gurion University "Do Buyers Always Act as Passive Price-Takers? Demand Withholding in Experimental Posted-Offer"	17.11.97
Prof. Benjamin Eden, Haifa University "Inflation Target and the Friedman Rule"	20.11.97

Prof. Paulo Viera Da Cunha, World Bank "Financial Crisis in Mexico"	27.11.97
Dr. Jason Shachat, University of California, San Diego "Unobserved Heterogeneity and Equilibrium: An Experimental Study of Bayesian" and Adaptive Learning in Normal Form Games"	4.12.97
Dr. Jonathan Shalev, Catholique de Louvain University "Voting for Voters: A Model of Electoral Evolution"	11.12.97
Dr. Edward James Seiler, University of Chicago "Transfers, Remittances and Borrowing in Village India"	25.12.97
Dr. Eyal Brill, Hebrew University (Rehovot) "Lerner Index, Bargaining Power and Rent-Seeking Economies of Scale: Implementation to the U.S. Sugar Industry"	1.1.98
Dr. Aviad Heifetz, Tel-Aviv University, The Eitan Berglas School of "Informational Smallness in Rational Expectations Equilibria"	8.1.98 Economics
Prof. Rafi Melnick, Hebrew University "Inflation and Disinflation by Steps in Israel"	15.1.98
Prof. Yaakov Bergman, School of Business, Hebrew University "The Strategic Sequential Bargaining Model is Generically Incompatible Cooperative Bargaining Theories"	22.1.98 with the
Dr. Seth Weissman, Columbia University "From Roman to American Express: Price Matching and How Rationing Improves Welfare"	22.1.98 Refunds
Prof. Isaac Rischall, University of Wisconsin "The Effect of Migration on Earnings and Welfare Benefit Receipt"	26.1.98
Prof. Moshe Justman, Ben-Gurion University "Industrial Revolution, Political Transition and the Subsequent Decline in Inequality in Nineteenth-Century Britain"	29.1.98
Prof. Reinhard Selten, University of Bonn "Learning Direction Theory"	26.2.98
Prof. Martin Weitzman, Harvard University "Recombinant Growth"	18.3.98
Prof. Pietro Reichlin, Dipartimento di Scienze Economiche, Roma, Italy	19.3.98

"Adverse Selection of Investment Projects and the Business Cycle"	
Prof. Michael Haliassos, University of Cyprus	26.3.98
"Non-Expected Utility, Saving and Portfolios"	
Prof. Guillaume Cheikbossian, Columbia University	2.4.98
"Seigniorage, Delegation and Common Currency"	
Dr. Uri Gneezy, Haifa University	23.4.98
"Recurrent Price Competition and Information Feedback: An Experimental Study"	
Dr. Yishay Yafeh, Hebrew University	7.5.98
"Institutions, Economic Growth, and Country Risk: Evidence from Japanese Government Debt in the Meiji Period"	
Prof. Moshe Justman, Ben-Gurion University	14.5.98
"Schumpeterian Waves of Growth: A General Equilibrium Analysis"	
Prof. Jacques-Francois Thisse, CORE, Universite Catholique de Louvain, Belgium and CERAS, Ecole Nationale des Ponts et Chaussees, Paris	18.5.98
"Cities and Economic Agglomerations"	
Dr. Bradley Ruffle, Ben-Gurion University	28.5.98
"Unwrapping the Deadweight Loss of Gift Giving"	
Prof. Jeffrey Callen, New York University	4.6.98
"Just-in-Time: A Cross-Sectional Plant Analysis"	
Prof. Arnold Heertje, University of Amsterdam	10.6.98
"Technical Change and Social Welfare"	
Mr. Gal Hochman, Tel-Aviv University	11.6.98
"Privatization and Governance During a Transitional Phase: The Russian Case"	
Dr. Adam Klug, Ben-Gurion University	18.6.98
"Suez and Sterling, 1956"	

#### 4) Research Contracts and Fellowships

On behalf of France Telecom, Ehud Zuscovitch completed his collaboration in a research project on networks. The study resulted in a book to be published by Springer-Verlag. Also recently completed was a research project on R&D awarded by the Ministry of Finance and the Chief Scientist of the Ministry of Industry and Trade to Prof. Zuscovitch and Prof. Justman. The study assessed Israel's R&D expenditure on the macro level in terms of competitiveness, contribution to growth, employment, and international trade. A report on the

results is forthcoming. At present, Prof. Zuscovitch participates in a European research program recently initiated by the European Union regarding the codification of knowledge in relation to technological innovation. In addition, Prof. Zuscovitch serves as a member of a small team of international experts involved in evaluating the different characteristics and performances of TSER (targeted socioeconomic research) on behalf of DGXII of the European Commission.

Bradley Ruffle received a grant from the Russell Sage Foundation's Small Grants Program in Behavioral Economics for his research study "Buyer Behavior in Experimental Markets" and Oren Sussman was awarded the title of TMR Fellow at the London Business School.

Uri Regev continues his joint work with J. Margalit and Jamal Safi, head of the Environmental Research Institute in Gaza, on a project on regional cooperation. Moshe Justman and Jimmy Weinblatt completed a research project on "Special Industrial Zones on the Israel-Gaza Line" for the Ministry of Industry and Trade.

### **5) Cooperation with Other Institutions in Israel and Abroad**

Many of the members of the Center collaborate on a regular basis with investigators from various research centers and academic institutions in Israel and abroad.

Arie Arnon has a joint appointment with the Research Department in the Bank of Israel. Avia Spivak is Director of Bank Otzar Hahayal and also collaborates with the Bank of Israel in his research on Israel's pension systems. Also, since 1997 he is Chairman of the Finance Ministry Committee on the Licensing and Training of Insurance Agents. Prof. Spivak is presently on sabbatical leave at the Department of Finance and Economics, Faculty of Management at Rutgers University. Oded Hochman and Bradley Ruffle collaborate with David Pines from Tel-Aviv University on regional and urban economics. Prof. Hochman is also collaborating with Prof. Gordon Rausser from the University of California at Berkeley on zoning and pollution research.

Ehud Zuscovitch does collaborative research with the Jerusalem Institute for Israeli Studies in the areas of technological innovation, infrastructure, and growth in Israel; with BETA at Louis Pasteur University of Strasbourg; and with the European Network in the economics of technology and innovation and its affiliated European institutes (MERIT - Limburg University in the Netherlands, the Department of Economics of the University of Rome and SPRU - University of Sussex). Ezra Einy is presently spending four months at the Department of Economics at the Universidad Carlos III de Madrid as a teaching and research professor. Oren Sussman is engaged in joint research with Javier Suarez (CEMFI Madrid), Julian Franks (London Business School), and Colin Mayer (Oxford University).

Uri Regev spent the summer of 1997 at the University of California, Berkeley in the Center for Sustainable Development. At present, Prof. Regev continues his cooperation with P. Rieder at the Federal Institute of Technology (ETH) in Zurich on the effects of human capital on demand for crop protection. An outcome of their collaboration was a visit by their Ph.D. student to the Center whose dissertation has just been successfully completed.

Jimmy Weinblatt, Avia Spivak and Arie Arnon ended their project with the Economic Cooperation Foundation and the Truman Institute at the Hebrew University on the economics

of peace in the Middle East. This project yielded a book entitled *The Palestinian Economy: Between Imposed Integration and Voluntary Separation*, currently in press. Jimmy Weinblatt also collaborates with the Center for Social Policy Studies in Jerusalem on social policy. Moshe Justman is engaged in joint research with a colleague at CORE, Louvain-la-Neuve, Belgium. He is also part of a large team preparing a development plan for the Beer Sheva metropolitan area.

The Monaster Center has also joined with the Universities of Athens, Bristol, Cyprus and the Hebrew University in a special training project under the European Community's Med-Campus program. We aim to extend our participation in this program in a new collaboration with the Middle East Technical University of Ankara, and the Universities of Liverpool, Picardie and Montpellier.

#### **IV. PARTICIPATION OF MEMBERS OF THE CENTER IN CONFERENCES**

##### **Arie Arnon**

"The Links Between the Israeli and Palestinian Economies," Mediterranean Development Forum (MDF), Economic Development, The World Bank, Marrakech, Morocco, May 1997.

"Free (and Not So Free) Banking Theories Among the Classics or Classical Forerunners of Free Banking and Why They Have Been Neglected," Annual Conference of the European Society for the History of Economic Thought (ESHET), Marseilles, February 1997.

##### **Ezra Einy**

"The Asymptotic Nucleolus of Large Monopolistic Market Games," International Conference on Game Theory and Economic Theory, SUNY Stony Brook, July 1998.

"Equivalence of Value and Competitive Allocations in Large Exchange Economies with Differential Information," Workshop on Non-Atomic Games, SUNY Stony Brook, July 1998.

##### **Mark Gradstein**

AEA Meetings, January 1997.

##### **Oded Hochman**

International Regional Science Association Meetings (with D. Pines), Sante Fe, New Mexico, November 1998.

##### **Moshe Justman**

"Industrial Zones on the Israel-Gaza Line," Conference on the Palestinian Economy after the Paris Protocols, Ben-Gurion University, Beer Sheva, Israel, 1998

"Schumpeterian Waves of Growth: A General Equilibrium Analysis," Royal Economic Society, Warwick University, 1998.

"The Democratization of Elites and the Decline in Inequality in Modern Economic Growth: An Integrative Analysis" (with M. Gradstein), Conference on Elites, Minorities and Economic Growth, Bar-Ilan University, Ramat-Gan, June 1997.

"Schumpeterian Waves of Technology-Led Growth," 3rd Annual Technion Economic Workshop, Haifa, May 1997.

"Technological Infrastructure Policy in an Integrated World Economy," CEPR Conference on Government Policy in an Integrated World Economy, Bar-Ilan University, Ramat-Gan, April 1997.

### **Todd Kaplan**

"Innovative Activity and Sunk Costs," (with I. Luski and D. Wettstein), 1) 25<sup>th</sup> Annual EARIE Conference (August 1998), Copenhagen, Denmark; 2) International Conference in Game Theory (July 1998), Stony Brook, N.Y; 3) 12<sup>th</sup> Italian Conference on Game Theory and Applications (June 1998) Genova, Italy; 4) Third Spanish Meeting on Game Theory (June 1998) Barcelona, Spain.

"The Strategic Use of Seller Information in Private Value Auctions(Plenary)," 12<sup>th</sup> Italian Conference on Game Theory and Applications (June 1998) Genova, Italy

"Government Policy towards Multinational Corporations," International Conference on Entrepreneur and Entrepreneurship at the Dawn of the 21<sup>st</sup> Century (May 1998) Athens, Greece.

### **Adam Klug**

"Elites and the Economics of Radicalism, Evidence from Oldham, 1840-1852," International Interdisciplinary Workshop on Elites and Economic Growth, Bar-Ilan University, June 1997.

"Expectations and the Depression: Evidence from the Railroad Shippers' Forecasts," World Cliometrics Conference, Munich, July 1997.

### **Israel Luski**

"R&D Activity in a General Equilibrium Setting: A Lindahl Perspective," Public Choice Society and Economic Science Meetings, New Orleans, Louisiana, March 1998.

"Government Policy Towards Multi-National Enterprises" (with T. Kaplan and D. Wettstein), International Conference on Entrepreneur and Entrepreneurship at the Dawn of the 21<sup>st</sup> Century, Athens, Greece, May 1998.

"Sunk Research Investments in Patent Races" (with T. Kaplan and D. Wettstein), presented at the 1) Third Spanish Meeting on Game Theory in Barcelona, Spain, June 1998; 2) the International Conference on Game Theory, Stony Brook, New York, July 1998; 3) 25<sup>th</sup> Annual Conference of the European Association for Research in Industrial Economics, Copenhagen, Denmark, August 1998.

### **Uri Regev**

"Humans and Animals: How Do They Interact?" Western Economic Association, 72nd Annual Conference, July 1997. Organizer of session: The Economics of Humans and Other

Species.  
**Bradley Ruffle**

"Unwrapping the Deadweight Loss of Gift Giving" (with Orit Tykocinski), Economic Science Association meetings, May 1998.

**Haim Shalit**

"Estimating Beta," 1) International Symposium on Forecasting, Edinburgh, June 1998;  
 2) French Finance Association Conference, Lille, July 1998.

**Oren Sussman**

European Summer Symposium on Financial Markets, Gerzensee, Switzerland, July 1997.

"Information and Learning, Financial Intermediates and the Macroeconomy," Alghero-Sardegna, September 1997.

**David Wettstein**

"Innovative Activity and Sunk Costs" (with T. Kaplan and I. Luski), 1) 12th Conference on Game Theory and Applications, Genova, Italy, 1997; 2) International Conference on Game Theory, Stony Brook, New York, 1998; 3) Third Spanish Meeting on Game Theory in Barcelona, Spain.

"R&D Activity in a General Equilibrium Setting: A Lindahl Perspective" (with I. Luski), Public Choice Society Meetings in New Orleans.

**Ehud Zuscovitch**

"Evolutionary Product Differentiation and Market Development Processes from a Long-Run Perspective," Workshop on Escaping Satiation - Increasing Product Variety Preference Change and the Demand Side of Economic Growth, Max Planck Institute, Jena, December 1997.

"The Limited Transferability of Technological Knowledge" (with X. Yin), 1997 meeting of the European Economic Association, Toulouse, August-September, 1997.

**V. SCIENTIFIC PUBLICATIONS, 1997-8** (names of Center members appear in capital letters)

ARNON, A. and WEINBLATT, J. (1998) "Linder's Hypothesis Revisited: Income Similarity Effects for Low Income Countries," *Applied Economics Letters*, forthcoming.

ARNON, A. with LUSKI, I. SPIVAK, A. and WEINBLATT, J., (1997) *The Palestinian Economy: Between Imposed Integration and Voluntary Separation*. E.J. Brill, The Netherlands.

ARNON, A. (1997) "Thomas Tooke, The Currency Principle and the 1844 Bank Act," Introductory Essay to Tooke's "An Inquiry into the Currency Principle," re-issued in 'Klassiker der Nationalökonomie' series, B. Schefold, ed., Dusseldorf, Germany: Verlag Wirtschaft und Finanzen.

ARNON, A. (1997) "Macroeconomic Implications of Feasible Agreements Concerning the Palestinian Refugees." Chapter in a forthcoming volume to be edited by G. Borjas and D. Rodrik for the 'Harvard Project on Palestinian Refugees,' Kennedy School of Government, Institute for Social and Economic Policy in the Middle East, Harvard University.

ARNON, A. (1997) "The Links Between the Israeli and Palestinian Economies Since 1967: Between Imposed Integration and Voluntary Separation," in: H. Gordon, ed., *Looking Back at the Six Day War*, Westport: Greenwood.

CHERNICHOVSKY, D., Kirsanova, T., Potapchik, E., and Sosenskaya, E. (1998) "Growing Regional Inequalities in Health Resources in Russia, and its Potential Impact on the Population's Health," in M.L. Barer, T.E. Getzen, and G.I. Stoddart, G.I., eds., *Health, Health Care and Health Economics; Perspective of Distribution*, J. Wiley & Sons, New York, pp. 253-270.

CHERNICHOVSKY, D. (1998) "Health System Reforms in Industrialized Economies; An Emerging Paradigm," in R. Stewart, ed., *Management of Health Care*, Ashgate: Dartmouth, pp. 143-178.

CHERNICHOVSKY, D. (1998) "Private Finance, Supplementary Insurance, and Reform in the Israel's Healthcare System; Perils and Prospects." *Social Security*, Special Edition, Vol. 5, pp. 29-48.

CHERNICHOVSKY, D. and Potapchik, E. (1998) "Genuine Federalism in the Russian Health Care System: Changing Roles of Government," *Journal of Health Policy, Politics and Law*, in press.

EINY, E. Monderer, D. and Moreno, D. (1998) "The Least Core, Kernel, and Bargaining Sets of Large Games," *Economic Theory* 11:585-602.

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**VI. WORKING PAPER SERIES 1995/96/97 AND  
ABSTRACTS OF RECENT WORKING PAPERS  
(issued from the Monaster Center for Economic Research)**

**Discussion Paper Series 1996**

R. Ferreira and E. Zuscovitch, "Jack of All Trades or Master of One? The Specialization-Flexibility Trade-off."	96-1
O. Hochman, "More on Scale Economies and Cities."	96-2
C. Nadav, "The Measurement of Aggregate Human Capital."	96-3
C. Nadav, "Convergence in Nutrition Clubs."	96-4
M. Gradstein and M. Justman, "The Political Economy of Mixed Public and	96-5

	Private Schooling."	
A. Arnon,	"Free and Not So Free Banking Theories Among the Classics."	96-6
I. Luski and D. Wettstein,	"R&D Activity in a General Equilibrium Setting: A Lindahlian Perspective."	96-7
U. Regev, A.P. Gutierrez, S.J. Schreiber and D. Zilbermann,	"Bio-Economic Foundations of Renewable Resource Exploitation."	96-8
B. Angehrn, U. Regev and P. Rieder,	"Input-Demand of Human Capital in Plant Protection."	96-9
E. Einy, R. Holzman, D. Monderer and B. Shitovitz,	"Core Equivalence for Infinite Convex Games."	96-10
A. Klug and C. Nadav,	"The Fed Versus the New Deal: John H. Williams Depression of 1937."	96-11 and the
M. Hammida and C. Nadav,	"Effect of Off-Farm Labor on Farm's Production Marketing Decisions Under Uncertainty."	96-12 and
H. Shalit,	"Finding Better Securities While Holding Portfolios."	96-13
M. Justman,	"Growth through Innovation: A Schumpeterian Perspective."	96-14
E. Einy, D. Monderer and D. Moreno,	"The Least Core, Kernel, and Sets of Large Games."	96-15 Bargaining
X. Yin and E. Zuscovitch,	"Economic Consequences of Limited Technology Transferability."	96-16
O. Hochman,	"Zoning as a Control of Pollution in a Spatial Environment."	96-17

#### **Discussion Paper Series 1997**

M. Gradstein and M. Justman,	"Democratic Choice of an Education System: Implications for Growth and Income Distribution."	97-1
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T. Kaplan and D. Wettstein, "Mixed-Strategy Equilibria with Constant>Returns-to-Scale under Bertrand Competition."	97-4
A. Klug, "Progress and Paradox in International Economics."	97-5
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A. Klug and C. Nadav, "On the Predictive Power of the Term Structure During the 1930s."	97-8
E. Einy, D. Moreno and B. Shitovitz, "The Core of a Class of Non-Atomic Games which Arise in Economic Applications."	97-9
A. Klug and C. Nadav, "Elites and the Economics of Radicalism: Evidence from Oldham, 1842-1852."	97-10
E. Einy, R. Holzman and D. Monderer, "On the Least Core and the Mas-Bargaining Set."	97-11 Colell
E. Einy, D. Moreno and B. Shitovitz, "The Asymptotic Nucleolus of Large Monopolistic Games."	97-12
A. Klug and G.W. Smith, "Suez and Sterling, 1956."	97-13
M. Justman, "Schumpeterian Waves of Disequilibrium Growth: A General Equilibrium Analysis."	97-14
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M. Justman, "Technological Infrastructure Policy in an Integrated World Economy: National Support, International Coordination."	97-17

- I. Luski and D. Wettstein, "Wage Competition in the Labor Market: Equilibria and the Impact of Minimum Wage Laws." 97-18

**Discussion Paper Series 1998**

- H. Shalit and S. Yitzhaki, "Estimating Beta." 98-1
- D. Perez-Castrillo and D. Wettstein, "Implementation of Bargaining Sets via Simple Mechanisms." 98-2
- B. Ruffle and O. Tykocinski, "Unwrapping the Deadweight Loss of Gift Giving." 98-3
- E. Einy and B. Shitovitz, "Equivalence of Value and Competitive Allocations in Large Economies with Differential Information." 98-4
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- A. Arnon and A. Spivak, "Economic Aspects of the Oslo Peace Process: The Disappointing Consequences of an Incomplete Agreement." 98-9

**ABSTRACTS OF WORKING PAPERS** (issued since the previous report)

**ESTIMATING BETA**

H. Shalit and S. Yitzhaki

Discussion Paper No. 98-1

This paper presents evidence that Ordinary Least Squares estimators of beta coefficients of major firms are highly sensitive to extreme observations of market returns. This sensitivity is rooted in the inconsistency of the quadratic loss function with financial theory. By introducing considerations of risk aversion into the estimation procedure, one can overcome this lack of robustness and improve the reliability of results using alternative estimators derived from Gini measures of variability.

## **IMPLEMENTATION OF BARGAINING SETS VIA SIMPLE MECHANISMS**

D. Perez-Castrillo and D. Wettstein

Discussion Paper No. 98-2

We propose two simple mechanisms that implement two bargaining sets in super-additive environments. The first bargaining set is a close variation of the one proposed by Zhou (1994), and the second is the Pareto optimal payoffs of the Mas-Colell (1989) bargaining set.

We adopt a simple framework in which the cooperative outcomes are realized as non-cooperative subgame perfect equilibria in pure strategies of a two-stage game played by an auxiliary set of individuals competing over the cooperative agents.

## **UNWRAPPING THE DEADWEIGHT LOSS OF GIFT GIVING**

B. Ruffle and O. Tykocinski

Discussion Paper No. 98-3

Two previous studies which measure the welfare impact of Christmas gift giving reach opposite conclusions: Waldfogel's (1993) survey finds that gift giving is welfare-reducing, while Solnick and Hemenway (1996) indicate that it is welfare-improving. We use a series of controlled experiments to show that the findings of both studies are artifacts of the survey methods used. In particular, the different questions used to elicit gift valuation are sufficient to account for the opposite findings. Contrary to Solnick and Hemenway, gifts to economists are shown to have a greater welfare yield than those to non-economists.

## **EQUIVALENCE OF VALUE AND COMPETITIVE ALLOCATIONS IN LARGE EXCHANGE ECONOMIES WITH DIFFERENTIAL INFORMATION**

E. Einy and B. Shitovitz

Discussion Paper No. 98-4

We consider a pure exchange economy under uncertainty with a continuum of agents and differential information. We show that under appropriate assumptions the set of Aumann-Shapley value allocations in such an economy coincides with the set of Radner competitive equilibrium allocations.

**EXAMINING GOD'S UTILITY FUNCTION: WHY NATURE KNOWS HOW TO  
MANAGE RENEWABLE RESOURCES BUT HUMANS MIGHT NOT**

A.P. Gutierrez, U. Regev and D. Zilberman

Discussion Paper No. 98-5

The analysis attempts to unify ecological and economic theory. Analogies between the resource acquisition and allocation strategies of all organisms (plant or animal) in nature and modern humans are developed, and a general objective function "maximizing" individual utility of consumption is formulated. The objective function includes as constraints the physiologically-based population dynamics model of species in a food chain. The model applies to all trophic levels including human harvesting of a resource species (see Regev et al. 1997). The model asks how harvesting of renewable resources by top consumers differs between humans and all other organisms, and it is used to examine issues of sustainability of natural and human economies.

In nature, strategies are genetically based and changes on an evolutionary time scale. In human economics, strategies are decision-rule based and may occur on extremely short time horizons. Both systems are driven by expected uncertainty -- the discount rate in economics is analogous to expected mortality rates in biology. In economics, the discount rates may depend on forces that may have nothing to do with the renewable resource to be managed. In nature, however, the expected mortality rate reflects the requirements of organisms in the environment that must manage sustainability. In both systems, consumption reflects the level of uncertainty and does not contribute directly to growth. We posit that consumption in biology is used for reproductive surplus and other strategies designed to meet expected environmental hazards in ways that increase individual fitness (analogous to profit) and adaptedness (i.e., firm stability). Fitness is the relative contribution to the genetics of future generations and adaptedness is minimizing the probability of extinction. In human economics, consumption is used for hedonistic purposes. Sensitivity analyses were used to examine how changes in the hazard rate, physiological and behavioral parameters, and environmental degradation affect the abundance of consumer and resource at steady state.

**AN ECONOMIC RATIONALE FOR PUBLIC EDUCATION:  
THE VALUE OF COMMITMENT**

M. Gradstein

Discussion Paper No. 98-6

This paper suggests another explanation for the widespread phenomenon of uniform public financing: It is viewed here as a way for the government to precommit itself to restraints on future income redistribution. Such precommitment is likely to enhance accumulation of human capital, hence economic growth, and is shown under certain circumstances to constitute a preferred choice for a majority of the voters.



## **OPTIMAL TAXATION AND FISCAL CONSTITUTION**

**M. Gradstein**

Discussion Paper No. 98-7

Assuming a world with excessive taxes, the focus of this paper is political mechanisms that ensure efficiency enhancing restraints on taxes. In particular, it is shown that supermajority requirements to approve tax increases, as currently used in some US states, is the means of attaining this objective. Their relationship to another such mechanism prevalent in earlier centuries, that of franchise restrictions, is discussed.

## **THE EFFECT OF INCOME DISTRIBUTION ON THE PUBLIC/PRIVATE MIX OF EDUCATIONAL SERVICES: A THEORETICAL MODEL AND EVIDENCE FROM THE U.S.**

**D. Cohen-Zada and M. Justman**

Discussion Paper No. 98-8

This paper explains the diversity across localities with respect to their public/private mix of educational services. It expands Epple and Romano's (1996) model and locates the theoretical relationship between income equality and this mix. We found a quadratic link between the percentage of total enrollment in public rather than private schools and income equality. At low levels of income equality, public enrollment falls with income equality and at high levels it rises. We also apply this model to U.S. data. The results were found to be significant, robust, and consistent with our hypothesis.

## **ECONOMIC ASPECTS OF THE OSLO PEACE PROCESS: THE DISAPPOINTING CONSEQUENCES OF AN INCOMPLETE AGREEMENT**

**A. Arnon and A. Spivak**

Discussion Paper No. 98-9

In the Middle East, economic considerations tend to play second fiddle to politics, and the Protocol was no exception. By and large, the economic arrangements set out in the Protocol reflect Israel's demand that no borders - economic or otherwise - should be deliberated during the interim stage of negotiations. The only trade regime that can meet such a condition is a customs union; the agreement reached was not the result of an economic analysis of alternative trade arrangements but rather the result of politicians' decisions to put off (perhaps to avoid altogether) the need to agree on the demarcation of borders. In view of the ensuing political developments - violence between Israelis and Palestinians, difficulties in the

negotiations and then a new Israeli government with a different agenda - parts of the Protocol were not implemented and a series of borders closures interrupted the free movement of goods and labor. The resultant crises in the Palestinian economy calls for an urgent re-evaluation of these arrangements. Moreover, a better understanding of the reasons for the failure may help the parties avoid another round of disappointment.

## VII. RESEARCH SUMMARIES

The following is a brief summary of the research interests and activities of Center members for 1997/98:

### **Arie Arnon**

Prof. Arnon is still actively involved in research on Peace in the Middle East. He has also been working on another project entitled "Free (and not so free) Banking Theories." Prof. Arnon's research interests deal with the history of economic thought, macroeconomics, monetary economics and banking, the Israeli economy, privatization and the Arab economies.

### **Tuvia Blumenthal**

Prof. Blumenthal specializes in the Japanese economy and economic development. His current research projects are directed toward the Japanese education system, economic effects of the introduction of industrial robots, and Japanese management practices.

### **Dov Chernichovsky**

Dr. Chernichovsky conducts research on health economics with a particular focus on health policy in societies under social, political and economic stress. He works extensively with the Russian health system.

### **Ezra Einy**

Prof. Einy's research concentrates on values of games, large games, voting games, utility theory, inequality measures, and refinement of correlated equilibria. His current studies are centered on solution concepts of large games.

### **Mark Gradstein**

Prof. Gradstein's research interests are concerned with private versus public provision of public goods, as well as public growth promoting policies. His current project (jointly with M. Justman) focuses on growth promoting policies as implied by actual political mechanisms.

### **Oded Hochman**

Prof. Hochman's research interests center on urban and environmental economics, public economics, industrial organization and economic growth. His current research projects include urban location and pollution, marketing of quality differentiated products, efficient water pricing, uncertainty in water supply and its economic implications, and impact of income tax on sizes of cities.

**Moshe Justman**

Prof. Justman's research activities focus on three areas: theoretical analyses of the political economy of growth and income distribution, on which he cooperates with Mark Gradstein; technology policy and the economics of technical change on which he collaborates with Ehud Zuscovitch; and regional development in Israel and abroad on which he collaborates with an interdisciplinary planning group in Israel.

**Todd Kaplan**

Dr. Kaplan's research interests focus on mechanism design, debt contracts, experimental economics, and auctions.

**Yaakov Khazanov**

Dr. Khazanov does research on the impact of economic growth on nationalist movements.

**Adam Klug**

Dr. Klug's principal research interests concentrate on quantitative economic history, focusing on international monetary and trade issues and political economy.

**Israel Luski**

Prof. Luski's research interests deal with the areas of industrial organization, R&D, growth, productivity, technological change, technology diffusion, and wage policy. His present research projects focus on patent races, the economics of the Middle East, investment in the Palestinian economy for initiating a process of growth, government expenditure, government policy toward multinational enterprises, and demographic transition.

**Uri Regev**

Prof. Regev's research focuses on environmental implications of pest management policies which involve issues of environmental sustainability and the ability to maintain a quality life style in a world governed by a population explosion and increasing environmental pressures. Measurement of environmental amenities and mechanism design problems in regulation of economic activities that affect the environment are the subjects of a prospective Ph.D. project to be undertaken in the Center as part of the regional Jordanian Palestinian and Israeli cooperation project.

**Bradley Ruffle**

Dr. Ruffle's current research activities use experimental methods in the areas of bargaining theory, individual rationality, and industrial organization, particularly the role of buyers in different market institutions.

**Aner Sela**

Dr. Sela's research concerns game theory, learning, auction theory, and industrial organization.

**Haim Shalit**

Dr. Shalit's research is directed toward the use of the mean-Gini model and Conditional Stochastic Dominance in financial markets. His work on Marginal Conditional Stochastic Dominance (MCSD) constructs a portfolio of stocks that improves upon the market portfolio.

Dr. Shalit succeeded in developing a statistical procedure for MCSD that demonstrates the dominance of the new portfolio. In addition, his work on the mean-Gini model shows how the standard procedure of Ordinary Least Squares used to estimate systematic risk is not robust with respect to wide market fluctuations.

#### **Avia Spivak**

Prof. Spivak continues his research activities in two main fields of interest: the economics of peace in the Middle East and the economics of pensions and social insurance. He currently serves as chairman of the committee at the Ministry of Finance that is in charge of defining a new curriculum for insurance agents.

#### **Oren Sussman**

Dr. Sussman's main research interests focus on two topics: i) macroeconomics and finance and (ii) contract-standardization and institutional change.

#### **Jimmy Weinblatt**

Prof. Weinblatt's research efforts are devoted to pursuing various issues within the large scale project on the Economic Aspects of Peace in the Middle East: macroeconomic modeling, Israeli-Jordanian-Palestinian trade and the development of special industrial zones. Much of his time at present is taken up with his responsibilities as Dean of the Faculty of Humanities and Social Sciences.

#### **David Wettstein**

Dr. Wettstein's research interests focus on cost allocation, innovation and the patent system, bargaining sets, mechanism design and implementation.

#### **Ehud Zuscovitch**

The scope of Prof. Zuscovitch's research interests include economics of technological change, evolutionary economics, diffusion of innovations, innovations in complex systems, industrial learning and competitive strategy, and economic features of advanced technologies.

Prof. Zuscovitch also explores the implications of survival to evolutionary economics. In monetary theory, Prof. Zuscovitch focuses on the informational efficiency of the account function unit of money.