ABSTRACTS OF WORKING PAPERS IN ECONOMICS

This section contains abstracts and complete bibliographic information for current working papers, listed alphabetically by primary author. Brief entries appear for secondary authors, cross-referenced to the primary author. For more recent as well as historical information, consult the AWPE DATABASE, available on magnetic media from Cambridge University Press. (Call 212-924-3900)

Abel, Andrew B.

PD May 1988. **TI** Consumption and Investment. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2580; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 022, 023, 315, 522. **KW** Permanent Income Hypothesis. Consumer Durables. Liquidity Constraints.

AB This paper presents an overview of current models of consumption and investment behavior. First, the stochastic implications of the permanent income model and empirical tests of these implications are discussed. Then the simple theoretical model is extended to include expenditure on consumer durables. In addition, the implications of liquidity constraints and the unpredictability of the rate of return on wealth are discussed. The overview of consumption behavior closes with a critical discussion of the Ricardian Equivalence Theorem. Investment behavior is analyzed using a dynamic optimization model of a firm facing costs of adjustment. This framework integrates the accelerator model, the neoclassical model and the q theory. The model is then used to analyze the interaction of corporate taxes, inflation and investment and also to analyze the effects of uncertainty on investment. The overview of investment concludes with a discussion of inventory investment.

PD June 1988. **TI** Fiscal Policy with Impure Intergenerational Altruism. **AU** Abel, Andrew; Bernheim, Douglas. **AA** Abel: University of Pennsylvania. Bernheim: Stanford. **SR** National Bureau of Economic Research Working Paper: 2613; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 321, 023. **KW** Fiscal Policy. Income Distribution. Ricardian Equivalence.

AB Recent work demonstrates that dynastic assumptions guarantee the irrelevance of all redistributional policies, distortionary taxes, and prices -- the neutrality of fiscal policy (Ricardian equivalence) is only the "tip of the iceberg." In this paper, we investigate the possibility of reinstating approximate Ricardian equivalence by introducing a small amount of friction in intergenerational links. If Ricardian equivalence depends upon significantly shorter chains of links than do these stronger neutrality results, then friction may dissipate the effects that generate strong neutrality, without significantly affecting the Ricardian result. Although this intuition turns out to be essentially correct, we show that models with small amounts of friction have other untenable implications. We conclude that the theoretical case for Ricardian equivalence remains tenuous.

PD June 1988. **TI** Stock Prices Under Time-Varying Dividend Risk: An Exact Solution in an Infinite Horizon General Equilibrium Model. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2621; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 311, 021, 026. **KW** General Equilibrium. Uncertainty. Asset Prices. Bonds.

AB The effects on asset prices of changes in risk are studied in a general equilibrium model in which the conditional risk evolves stochastically over time. The savings decisions of consumers take account of the fact that conditional risk is a serially correlated random variable. By restricting the specification of consumers' preferences and the stochastic specification of dividends, it is possible to obtain an exact solution for the prices of the aggregate stock and riskless one-period bonds. An increase in the conditional risk reduces the stock price if and only if the elasticity marginal utility is less than one.

Abowd, John M.

PD May 1988. **TI** Market Structure, Strike Activity, and Union Wage Settlements. **AU** Abowd, John M.; Tracy, Joseph S. **AA** Abowd: Cornell University. Tracy: Yale University. **SR** National Bureau of Economic Research Working Paper: 2595; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 54. **PR** $2.00. **JE** 832, 831, 824, 611. **KW** Unions. Collective Bargaining. Bargaining. Asymmetric Information. Strikes. Market Structure.

AB We attempt a synthesis of the industrial relations market structure hypothesis with the modern asymmetric information theory of wage and strike outcomes. The industrial relations literature contains a variety of arguments indicating that wage settlements should be positively related to the degree of product market sales concentration and the degree of product market coverage by the union. An asymmetric information bargaining model is specified that relates these same variables to strike probabilities as well as wage settlements. Our empirical analysis is conducted for the periods from 1970-1980 (strikes) and 1976-1980 (wages). We find that the relation between trade-adjusted sales concentration and wage settlements is positive at low levels of concentration but negative at high levels of concentration. The relation is always negative for strike probabilities. We also find that the relation between the trade-adjusted percent of the product market covered by the same union and the percentage covered by other union are positively related to both wage settlements and strike probabilities.

Acharya, Sankarshan

PD May 1988. **TI** Optimal Bank Reorganization Policies and the Pricing of Federal Deposit Insurance. **AU** Acharya, Sankarshan; Dreyfus, Jean Francois. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 462; New York University Salomon Brothers Center for the Study of Financial Institutions 90 Trinity Place, New York, NY 10006. **PG** 34. **PR** $4.00. **JE** 312, 314. **KW** Regulation. Regulatory Policy. Financial Institutions. Banking. Bank Failures.

AB This paper derives optimal dynamic regulatory policies for (1) timing the closure of ailing financial institutions, and (2) pricing federal deposit insurance premia. We show that with free entry into and competition within the banking industry, the optimal threshold assets-to-deposits ratio (below which a bank should be closed) is greater than or equal to 1. This optimal threshold assets-to-deposits ratio is specific to a bank and depends on (i) the transaction cost of reorganizing the bank in the event of its closure, (ii) the rate of net inflow of deposits into the bank, (iii) the rate of interest paid on the bank's deposits, (iv) the economy's equilibrium expected rate of return, and (v) the insurer's audit costs. The insurer's closure decision is independent of the specific probability distribution describing the asset value of the bank by the time of the next audit. The fair deposit insurance premium and the probability of closure of the bank at the time of the next audit, however, do depend on the distribution of the future asset value. The premium charged to the bank is not necessarily a monotonically increasing function of the riskiness of its investments. This premium is, however, a non-increasing function of the current assets-to-deposits ratio of the bank.

PD June 1988. **TI** Two-Stage Methods of Estimating Models of Selectivity with Binomial Choices. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 474; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 27. **PR** No Charge. **JE** 211, 212. **KW** Selectivity. Endogenous Switching. Binomial Models. Model Specification. Two-Stage Estimation.

AB This paper shows that a basic specification of the models of selectivity with binomial choices, cannot be guaranteed to hold if the two outcome equations are separately estimated (after correcting for selectivity bias) in the second stage of the (earlier) two-stage methods. Due to such separate estimation, there may also arise a difficulty in using the earlier two-stage framework for estimating intertemporal models of selectivity in which switching to outcomes is dynamic and contemporaneous correlation of errors is important. In this paper, we formulate only one equation to be estimated in the second stage, and avoid the difficulties in the earlier two-stage methods. The new method continues to have the essential character and usefulness of the endogenous switching models. This method is applicable for estimating models of selectivity with binomial choices for cross-sectional as well as panel data. This method is useful for estimating not only the common models, e.g. the ones in labor economics, but also numerous other models used to test the efficient market hypothesis and models in the rapidly growing literature of informational equilibria.

PD June 1988. **TI** Early Calls of Convertible Debt: New Evidence and Theory. **AU** Acharya, Sankarshan; Handa, Puneet. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 477; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 33. **PR** No Charge. **JE** 313, 311, 521. **KW** Stock Market. Convertible Debt. Private Information.

AB On analyzing all of the 230 convertible debt calls made during 1980-84, we found that 73 of them were called when out of money, i.e., when the conversion value was less than the call price. The median firm in this sample of 73, called when the conversion value was significantly less (by 48.5 per cent) than the call price. Refinancing did not seem to be a motive behind these out of money convertible debt calls. This finding presents an anomaly, given the perfect market prediction that a convertible debt should be optimally called as soon as (and not before) its conversion value exceeds or equals the call price. We attempt to offer a rational explanation for these anomalous early calls.

Adelman, Irma

TI The Effect of Trade Liberalization in Agriculture on the U.S. Economy: Projections to 1991. **AU** Robinson, Sherman; Kilkenny, Maureen; Adelman, Irma.

PD April 1988. **TI** Economic Development Then and Now. **AU** Adelman, Irma; Lohmoller, Jan B.; Morris, Cynthia T. **AA** Adelman: University of California at Berkeley. Lohmoller: Free University, Berlin. Morris: Smith College, Northampton, Massachusetts. **SR** University of California at Berkeley Department of Agricultural and Resource Economics Working Paper: 470; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 72. **PR** $14.40. **JE** 112, 121, 041. **KW** Economic Development. Modelling. Industrial Revolution. Simultaneous Equation.

AB What insights can the study of the consequences of the Industrial Revolution yield for contemporary development policy in developed and developing countries. In the nineteenth century, the industrialization of Western Europe, especially Great Britain, caused a dramatic expansion in international trade, capital movements, and international migration and severely upset the previous balance of economic and political power. Different countries adapted quite differently to the changed international environment and to the new technological and trade opportunities it provided. The historical model in this paper specifies a simultaneous equation regression model and uses latent variables to portray various economic institutions and facets of technological development. It posits a causal chain through which, on the average, exogenous initial conditions, political structures, and economic institutions affected patterns of long-run technological development, the structure of economic activity, economic growth and the diffusion of benefits from growth during the nineteenth and early twentieth centuries.

PD May 1988. **TI** Prometheus Unbound and Developing Countries. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 475; 207 Giannini Hall, University of California, Berkeley, CA, 94720. **PG** 42. **PR** $8.40. **JE** 121, 112. **KW** Economic Development. Economic History. Technology. Population. Developing Countries.

AB The present paper looks at the development experience of less developed countries in the last thirty years from the vantage point of economic history. It asks two major questions: Had we approached economic development in the 1950s from the perspective of the economic history of the diffusion of the British Industrial Revolution to the European continent and to overseas territories, what would have been a reasonable set of expectations for contemporary developing countries. Have there been any real surprises.

PD May 1988. **TI** Optimal Adjustment to Trade Shocks under Alternative Development Strategies. **AU** Adelman, Irma; Yeldan, Erinc. **AA** Adelman: University of California, Berkeley. Yeldan: University of Minnesota. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 473; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 45. **PR** $9.00. **JE** 421, 422, 431, 026, 112. **KW** Trade Shocks. Commercial Policy. Risk. Economic Development. Agriculture. General Equilibrium Model.

AB The present paper attempts to shed some light on these issues by modelling optimal adjustment to trade shocks in a single middle-income economy pursuing different development strategies. Using the methodology developed in Adelman and Sarris (1982) and Adelman, Sarris and Roland-Holst (1987), the techniques of stochastic control are applied to a CGE model of Turkey to compare the robustness of alternative development strategies to shocks like the 1979 oil shock. The use of policy instruments and the extent of deviation of state variables from their target values are compared under three different objective functions (growth; stabilization; or income distribution equalization) and three different development strategies (export expansion; agricultural development led industrialization; or import-substitution). We find that the results are sensitive to both development strategies and objectives. Nevertheless some interesting, strategy and objective specific, generalizations can be made.

Adler, Moshe

PD March 1988. **TI** The Quality Guaranteeing Price With a Turnover of Sellers. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 310; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 24. **PR** No Charge. **JE** 022, 026. **KW** Asymmetric Information. Reservation Price. Product Quality. Incentives.

AB This paper argues that the quality guaranteeing price in markets with asymmetric information increases with the probability that an entering seller will find a buyer. When this probability is high this price exceeds the buyer's reservation price and the market collapses. It is also shown that quality can be guaranteed by the existence of a sufficiently high cost of making first sale. However, consumers lack the incentives to enforce the creation of such a cost.

Aghion, Philippe

PD March 1988. **TI** Learning Through Price Experimentation by a Monopolist Facing Unknown Demand. **AU** Aghion, Philippe; Bolton, Patrick; Jullien, Bruno. **AA** Aghion: Massachusetts Institute of Technology. Bolton, Jullien: Harvard University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 491; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 44. **PR** No Charge. **JE** 026, 022. **KW** Learning. Adjustment Process. Information Process. Monopoly. Bayes' Rule. Subjective Probability.

AB This paper investigates the question of how much information firms can acquire about the demand for their product when they learn from experience (i.e., from data about past sales and prices). The main issues are whether firms will eventually learn everything about the demand curve and how learning considerations affect the pricing decisions of firms. It is shown that even when the demand is deterministic, strong conditions are required, such as continuity and quasi-concavity of the profit-function, to guarantee that a monopoly will eventually learn all the relevant information about demand.

Ainsworth, Martha

PD July 1988. **TI** Socioeconomic Determinants of Fertility in Cote D'Ivoire. **SR** Yale Economic Growth Center Discussion Paper: 557; Address: 27 Hillhouse Avenue, New Haven, CT 06520. **PG** 28 pp. **PR** $2.00. **JE** 921, 932, 912. **KW** Fertility. Household. Socioeconomic Status. Education. Women.

AB This paper estimates a reduced form equation of the socioeconomic determinants of fertility in Cote d'Ivoire. The number of children ever born is regressed on the mother's age and schooling, the location of the household, and household income variables. This equation is estimated using ordinary least squares (OLS), maximum likelihood Tobit, and a Poisson count model. The advantages and drawbacks of the different econometric models in modelling fertility are discussed. Data are from 1444 women interviewed by the 1985 Cote d'Ivoire Living Standards Survey. For the entire sample, female schooling has a depressing effect on fertility, while household income is associated with higher fertility. Among the subsample of rural women only the positive effect of household income is observed. The absence of a schooling effect among rural women is attributed in part to the low proportion of women with any schooling. When the sample is broken into three age cohorts, the negative effect of schooling on fertility is observed for the youngest and middle cohorts (ages 15-24 and 25-34, respectively), while the positive effect of income is observed for the middle and oldest cohorts (25-34 and 35+, respectively). This suggests that a fertility decline may be underway among young educated women.

Aiyagari, S. Rao

PD May 1988. **TI** Can There Be Short-Period Deterministic Cycles When People are Long Lived? **AA** Research Department, Federal Reserve Bank of Minneapolis. **SR** Federal Reserve Bank of Minneapolis Staff Report: 114; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55480. **PG** 31. **PR** No Charge. **JE** 131, 133, 111, 311, 023. **KW** Deterministic Cycles. Overlapping Generations. Intertemporal Elasticity of Substitution. Offer Curve. Nonmonetary Cycles. Monetary Cycles. Steady States.

AB This paper considers whether short-period deterministic cycles can exist in a class of stationary overlapping generations models with long(but finite-) lived agents. It shows that if agents discount the future positively, then as life spans get large, nonmonetary cycles will disappear. Further, neither constant monetary steady states nor stationary monetary cycles can exist. It also shows that if agents discount the future negatively, then there are robust examples in which constant monetary steady states as well as stationary monetary cycles (with undiminished amplitude) can occur no matter how long agents live.

Aizcorbe, Ana M.

PD March 1988. **TI** A Note on the Power of Nonparametric Tests. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Research and Evaluation. **SR** Bureau of Labor Statistics Working Paper: 177; Room 2127, 441 G Street NW, Washington, DC 20212. **PG** 11. **PR** No Charge. **JE** 022, 211. **KW** Revealed Preferences. Nonparametric. Power Function. Rationality.

AB Nonparametric tests of consumer behavior based on revealed preference theory represent a potentially useful tool for testing hypothesis of interest to applied economists. An interesting paper by Bronars (1987) provides a power function for each pairwise comparison of one such nonparametric test, the generalized axiom of revealed preference (GARP), when the data involves only two goods. This paper develops relatively simple algebraic expressions which may provide useful information regarding a data set's ability to reveal violations of rational behavior. Specifically, a lower bound for the power of nonparametric tests is defined. An empirical section applies this approach to several data sets which have been analyzed using nonparametric tests of revealed preference. It is found that these lower bounds are often useful in establishing the ability of the data to detect violations of rational decision making when the alternative hypothesis is random behavior. As such, the expressions developed here represent a useful alternative to the simulation approach considered by Bronars.

Aizenman, Joshua

PD May 1988. **TI** Debt and Conditionality Under Endogenous Terms of Trade Adjustment. **AU** Aizenman, Joshua; Borensztein, Eduardo R. **AA** Aizenman: The Hebrew University. Borensztein: International Monetary Fund. **SR** National Bureau of Economic Research Working Paper: 2582; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 433, 431, 441, 432. **KW** International Lending. Developing Countries. Terms of Trade. Credit Market.

AB The purpose of this study is to identify conditions under which renewed international lending will benefit both the developed and the developing countries. Our analysis will evaluate how the presence of terms of trade adjustment and distorted credit markets affect the conditions for the existence of beneficial lending. We demonstrate that in the presence of endogenous terms of trade adjustment, there are cases in which a competitive international banking system may not revitalize lending for investment purposes, even if such renewed lending is socially desirable. Renewed lending may require the appropriate conditionality, and the presence of endogenous terms of trade adjustment puts greater weight on investment conditionality.

PD July 1988. **TI** External Debt, Planning Horizon and Distorted Credit Markets. **AA** The Hebrew University. **SR** National Bureau of Economic Research Working Paper: 2662; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 321, 026. **KW** Fiscal Policy. Risk. Credit Market. Borrowing.

AB The purpose of this paper is to study the role of policies in the presence of country risk with overdiscounting by the policy maker. Overdiscounting may reflect political uncertainty, which makes the effective planning horizon of the centralized government shorter than that of the private sector. The consequence of overdiscounting is to shift the supply curve facing the economy leftwards. The role of optimal borrowing policies in the presence of country risk is to discourage borrowing for consumption purposes, encourage investment in openness, and discourage investment in activities that reduce openness. The effect of overdiscounting by the policy maker is to increase the values of the optimal policy instruments (i.e. to increase the magnitude of the borrowing taxes and subsidies). Increasing the relative importance of open activities can be viewed as a way to reduce the harmful consequences of overdiscounting. Overdiscounting may rationalize various conditionality clauses that will induce the economy to follow the desired credit market policies.

Alesina, Alberto

PD June 1988. **TI** External Debt, Capital Flight and Political Risk. **AU** Alesina, Alberto; Tabellini, Guido. **AA** Alesina: Carnegie-Mellon University. Tabellini: University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2610; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 321, 431, 441, 322. **KW** Developing Countries. General Equilibrium. Fiscal Policy. Government Debt. Political Regime.

AB This paper provides an explanation of the simultaneous occurrence of large accumulation of external debt, private capital outflow and relatively low domestic capital formation in developing countries. We consider a general equilibrium model in which two types of government with conflicting distributional goals randomly alternate in office. Uncertainty over the fiscal policies of future governments generates private capital flight and small domestic investment. This political uncertainty also provides the incentives for the current government to over-accumulate external debt. The model also predicts that left wing governments are more inclined to impose restrictions on capital outflows than right wing governments. Finally, we examine how political uncertainty affects the risk premium charged by lenders and how debt repudiation may occur after a change of political regime.

Allen, Linda

PD June 1988. **TI** Incentives to Engage in Bank Window Dressing: Manager vs. Stockholder Conflicts. **AU** Allen, Linda; Saunders, Anthony. **AA** Allen: Hofstra University. Saunders: New York University. **SR** New York University Salomon Brothers Center Working Paper: 471; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 18. **PR** No Charge. **JE** 312, 224. **KW** Moral Hazard. Commercial Banks. Balance Sheet.

AB Bank regulators, researchers and investors all rely heavily on the quarterly data provided by banks in their Call Reports. Given this dependence, it is surprising that more research has not been undertaken to ascertain the accuracy of these data. In particular, bank managers are keenly aware of the public scrutiny that reoccurs each quarter and the preoccupation with quarter-end results which can alter their decisions. This creates a moral hazard problem since bank managers' incentives conflict, at times, with the interests of shareholders, regulators and investors. The systematic adjustment of quarter-end decisions in order to "window dress" the bank's balance sheet is the subject of this paper.

Altman, Edward I.

PD May 1988. **TI** Analyzing Risks, Returns and Potential Interest in the U.S. High Yield Corporate Debt Market for Japanese Investors. **AU** Altman, Edward I.; Minowa, Yoshiki. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 461; New York University Salomon Brothers Center for the Study of Financial Institutions 90 Trinity Place, New York, NY 10006. **PG** 36. **PR** $4.00. **JE** 441, 313, 324. **KW** Bond Market. Bonds. Japan. International Investment. Securities.

AB The purpose of this paper is to analyze the potential involvement of Japanese investors in the high yield bond market and also to simulate Japanese investor performance in this relatively new sector. In Section II, we provide background data on the enormous investment pool of funds available from Japan and in the following section we discuss Japan's increasing appetite for foreign securities. Recent trends in the regulation of investment practices will be presented. Section IV concentrates on the Japanese financial institutions which are already investing abroad and are, or perhaps will be, investors in high yield bonds. Section V will address the added risk dimension common to foreign investors in all dollar denominated securities, namely currency or foreign exchange risk.

Arak, M.

TI Interest Rate Swaps: An Alternative Explanation. **AU** Estrella, Arturo; Arak, M.; Goodman, L.; Silver, A.

Arnott, Richard

PD July 1988. **TI** Dysfunctional Non-Market Institutions and the Market. **AU** Arnott, Richard; Stiglitz, Joseph. **AA** Arnott: Boston College. Stiglitz: Stanford University. **SR** National Bureau of Economic Research Working Paper: 2666; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 022, 024. **KW** Market Failures. Incentives. Moral Hazard. Insurance.

AB There is a widespread belief that when significant market failure occurs, there are strong incentives for non-market institutions to develop which go at least part of the way to remedying the deficiency. We demonstrate that this functionalist position is not in general valid. In particular, we examine a situation where insurance is characterized by moral hazard. We show that when market insurance is provided, supplementary mutual assistance between family and friends (unobservable to market insurers) - a form of non-market institution - will occur and may be harmful. This example suggests that non-market institutions can arise spontaneously even though they are dysfunctional.

Artis, Michael

PD April 1988. **TI** Exchange Rates and the EMS: Assessing the Track Record. **AU** Artis, Michael; Taylor, Mark P. **AA** Artis: University of Manchester. Taylor: University of Dundee. **SR** Centre for Economic Policy Research Discussion Paper: 250; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 30. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 431, 432, 133. **KW** European Monetary System. Exchange Rate. Capital Controls. Volatility. Stabilization. Credibility.

AB This paper attempts to provide some answers to a number of related questions. Has the European Monetary System reduced (real or nominal, bilateral or effective) exchange rate volatility? If so, has this been at the expense of increased interest rate volatility? How important have capital controls been for the operation of the EMS? Has the Exchange Rate Mechanism reduced the volatility of unanticipated exchange rate changes? Has the EMS been effective in making ERM currencies close substitutes? What have been the implications of the EMS for the longer-run stabilization of real exchange rates? Because of the uncertainty surrounding the statistical distributions of changes in asset prices in general and exchange rates in particular, an innovative theme of the paper is the use of nonparametric or semi-nonparametric econometric and statistical procedures wherever possible. An exception to this is in our analysis of shifts in the conditional variance of exchange rate changes, where we estimate autoregressive conditionally heteroskedastic (ARCH) parameterizations.

Asch, Peter

PD April 1988. **TI** Betting Bias in "Exotic" Bets. **AU** Asch, Peter; Quandt, Richard E. **AA** Asch: Rutgers University. Quandt: Princeton University. **SR** Princeton Financial Research Center Memorandum: 90; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 17. **PR** $3.00. **JE** 026. **KW** Racetrack Betting. Bias. Subjective Probability.

AB The evidence from racetrack betting is that the subjective probabilities to win expressed through the public's bets are good approximations to the objective probabilities on the whole, but that a betting bias exists in that favorites are underbet and long-shots overbet. We examine these questions for exactas and trifectas with the aid of a new database. The approximation of subjective to objective probabilities is good for exactas and no betting bias is evident. For trifectas the findings are more ambiguous and suggest that a taste for long-shots or a misperception of true probabilities may play a role.

Aumann, Robert J.

PD April 1988. **TI** Endogenous Formation of Links Between Players and of Coalitions: An Application of the Shapley Value. **AU** Aumann, Robert J.; Myerson, Roger B. **AA** Aumann: Mathematics Department, Hebrew University. Myerson: J.L. Kellogg Graduate School of Management Northwestern University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 524; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 30. **PR** $4.00. **JE** 026. **KW** Coalitional Game. Shapley Value. Cooperative Game. Subgame Perfect Equilibrium.

AB In a cooperative game, the structure of cooperation may be described as a graph in which the nodes are players and the links are between pairs of players who have agreed to cooperate. We suppose that the cooperation structure is endogenously determined by a procedure in which pairs of players sequentially decide whether to form links, and that the Myerson value can be used to evaluate what each player would get in each possible cooperation structure. We find subgame-perfect equilibria of the resulting link-formation game, for a number of interesting examples.

Back, Kerry

PD February 1988. **TI** Determinancy of Equilibrium with Financial Assets when Individual Risks are Not Spanned. **AA** Indiana University and University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-07; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 41. **PR** No Charge. **JE** 021, 213, 026. **KW** Incomplete Markets. Rational Expectations. Asymmetric Information. Equilibrium.

AB Asymmetries of information imply that markets will inevitably be incomplete. For example, insurance against fluctuations of personal tastes or future wage income is generally unavailable. However, these individual risks are likely to be experienced in a similar way by large numbers of agents and therefore contribute little to aggregate uncertainty. Contingencies with aggregate significance may be publicly observable and, if so, can potentially be spanned. This paper addresses the determinacy of equilibrium in a world in which all aggregate risks but not all individual risks are spanned. To simplify, I assume that there are actually no aggregate risks. I conjecture, but do not attempt to show, that the results extend to a world with aggregate risks which are fully spanned.

Bagwell, Kyle

PD April 1988. **TI** Dynamic Monopoly Power When Search is Costly. **AU** Bagwell, Kyle; Peters, Michael. **AA** Bagwell: Northwestern University. Peters: University of Toronto. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 772; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 46. **PR** No Charge. **JE** 022, 026. **KW** Search Theory. Monopoly. Resale Market. Dynamic Game.

AB In this paper, a repeated search model is studied to determine whether the repeat nature of sales can be used to limit the monopoly power that firms enjoy when search is costly. To make matters interesting, we assume that production costs exhibit decreasing returns to scale. After carefully characterizing the static game, we consider a dynamic game in which buyers and sellers are completely informed about their common history. Here, in any equilibrium that is stable against some randomness in buyers' search strategies, if buyers use symmetric strategies, then monopoly power is not limited. Next, we explore a dynamic game in which buyers and sellers have private histories. Punishment strategies are more difficult to implement here, and in fact monopoly power is unrestrained in any equilibrium in which buyers use strongly symmetric strategies. The full force of stability is not required. Our results give a dynamic equilibrium foundation to Diamond's theory of monopoly power, when production costs are rising with output.

TI The Role of Export Subsidies when Product Quality is Unknown. **AU** Staiger, Robert; Bagwell, Kyle.

PD July 1988. **TI** Private Cost Information and the Multinational Enterprise. **AU** Bagwell, Kyle; Staiger, Robert W. **AA** Bagwell: Northwestern University. Staiger: Stanford University. **SR** National Bureau of Economic Research Working Paper: 2657; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 423, 442. **KW** Firm Location. International Business. Multinational Firm.

AB This paper explores the informational role of plant location decisions for the multinational enterprise. When information about costs is incomplete, the location of a plant will be chosen not only for its impact on actual production costs, but also for its impact on the perception of costs as held by foreign rivals. We show that the latter consideration, which can arise only in the presence of asymmetric information about costs, may lead to a decision to multinationalize even though actual production costs are higher as a result. As such, the informational role of plant location decisions is a potentially important element in understanding the behavior of the multinational firm.

Baillie, Richard T.

PD April 1988. **TI** Further Results on Unit Roots and the Cointegrability of Daily Spot and Forward Exchange Rates. **AU** Baillie, Richard T.; Bollerslev, Tim. **AA** Baillie: Michigan State University. Bollerslev: Northwestern University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8715; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 26. **PR** No Charge. **JE** 431. **KW** Unit Roots. Co-integration. Exchange Rates.

AB The possible occurrence of unit roots in univariate and vector time series is investigated for seven daily spot and forward exchange rate series. The application of recent univariate tests by P. C. B. Phillips and P. Perron and a new multivariate test due to S. Johansen reveals strong evidence for the presence of a unit root in both univariate and multivariate representations. Furthermore, all seven spot and forward rates series appear to be cointegrated, that is, the forward premiums are stationary and one common unit root, or stochastic trend, is detectable in the multivariate models for the seven spot rates and the seven forward rates, respectively. This last result is consistent with the hypothesis of the seven exchange rates possessing one long-run relationship with the disequilibrium error around that relationship, partly accounting for subsequent changes in each exchange rate.

Balasko, Yves

PD March 1988. **TI** Market Participation and Sunspot Equilibria. **AU** Balasko, Yves; Cass, David; Shell, Karl. **AA** Balasko: University of Geneva. Cass: University of Pennsylvania. Shell: Cornell University. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-08; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 56. **PR** No Charge. **JE** 021. **KW** Sunspot. Equilibrium Allocation. Market Economy. General Equilibrium. Market Allocation.

AB This paper is devoted to a study of the properties of equilibrium in a sunspot model. Existence of sunspot equilibria is related to restrictions on market participation and to the extent of net trade from the initial endowments to the equilibrium allocations. The nature of the set of economies with sunspot equilibria is shown to depend on properties of the set of Pareto optima of a reduced economy (with non-sunspots). It is also shown that, in general, there exist no continuous transitions from non-sunspot to sunspot equilibria.

Baldwin, Richard

PD July 1988. **TI** Factor Market Barriers are Trade Barriers: Gains from Trade in 1992. **AA** Columbia University Business School. **SR** National Bureau of Economic Research Working Paper: 2656; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 423, 421, 441, 442, 411. **KW** Economic Integration. Trade Reform. Migration.

AB The European Community's economic integration by 1992 is predicted to have large economic benefits. According to traditional trade theory, the gains will come only with permanent resource migration and significant factor price changes (since in principle all trade barriers have already been removed). Yet, it seems unlikely that the 1992 reforms will be completed, if they do indeed result in factor movements large enough to substantially alter factor rewards. This paper presents a more optimistic view. It argues that factor market integration can result in economic gains, even without capital and labor migration. The basic argument is simple. For some types of goods, it is cheaper to conduct trade on an intra-firm basis, rather than an inter-firm basis (for instance roughly half of United States imports are intra-firm, Helleiner '1981(). In such industries, any factor market barrier that raises the cost of foreign control of local firms also raises the cost of intra-firm trade. Consequently, removing such barriers can lead to gains from trade. The I.O. trade literature points out that intra-firm trade requires direct foreign control which need not involve direct foreign investment (Helpman and Krugman '1985(). Therefore, 1992 can logically lead to gains from additional intra-firm trade, with little additional capital or labor migration.

Barham, Vicky

PD February 1988. **TI** Valuable Relationships and Credit in a Two Period Economy. **AU** Barham, Vicky; Chau, Fernando. **AA** CORE-Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8812; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 29. **PR** No Charge. **JE** 315, 522, 026. **KW** Extensive Game. Perfect Information. Credit Market.

AB The credit relationship between a lender and an investor is modelled as an extensive game with symmetric (perfect) information. In the presence of a frictionless second hand market for existing investment projects, and when the borrower is not too wealthy, only socially efficient investments can be financed by credit. If the second hand market for incomplete investment projects is not frictionless, then there is a "lock-in" effect. If deviations are punished in future contracting, then the moral hazard problem in the credit relationship can be solved. In certain circumstances, tranching the loan and "hassling" the firm can also ensure existence of a credit relationship.

Barro, Robert J.

PD May 1988. **TI** Interest-Rate Smoothing. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2581; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 131, 132. **KW** Monetary Policy. Interest Rates. Fluctuations. Forecasts. Central Bank.

AB The paper develops a model in which targeting of the nominal interest rate is a reasonable guide for monetary policy. Expected real interest rates and output are exogenous with respect to monetary variables, and the central bank ends up influencing nominal interest rates by altering expected inflation. In this model the monetary authority can come arbitrarily close in each period to its (time-varying) target for the nominal interest rate, even while holding down the forecast variance of the price level. The latter objective pins down the extent of monetary accommodation to shifts in the demand for money and other shocks, and thereby makes determinate the levels of money and prices at each date. Empirical evidence for the United States in the post-World War II period suggests that the model's predictions accord reasonably well with observed behavior for nominal interest rates, growth rates of the monetary base, and rates of inflation. Earlier periods, especially before World War I, provide an interesting contrast because interest-rate smoothing did not apply. The behavior of the monetary base and the price level at these times differed from the post-World War II experience in ways predicted by the theory.

PD May 1988. **TI** Government Spending in a Simple Model of Endogenous Growth. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2588; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 29. **PR** $2.00. **JE** 111, 023, 024, 133. **KW** Economic Growth. Government Sector. Public Goods. Income Tax.

AB I extend existing models of endogenous economic growth to incorporate a government sector. Production involves private capital (broadly defined) and public services. There is constant returns to scale in the two factors, but diminishing returns to each separately. Public services are financed by a flat-rate income tax.

Barzel, Yoram

PD June 1988. **TI** The Many Residuals of Economic Action and the Allocation of Claims Over Them. **AA** University of Washington. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 22-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 35. **PR** No Charge. **JE** 611, 616, 514, 511. **KW** Variability. Transaction Costs. Firm. Incentives. Monitoring.

AB The outcome of most transactions is subject to a variability which is in part random and is in part the result of the transactors' behavior. In order to maximize the value of their transactions, transactors, backed by guaranteeing-capital, allocate the bulk of the variability to that party which can most readily affect the outcome of the transaction. Additionally, those workers who are short of guaranteeing-capital can gain by collaborating with capital-rich individuals who would require the workers to become employees so that their incentive to produce faulty products would be reduced: employees must be supervised if they are to produce. The firm is defined by the extent of the guarantees its equity capital effects. Both the use of guaranteeing-capital and the supervision of a number of employees each of whom performs the same function, are subject to economies of scale. A firm assembles equity capital and employs similarly skilled factors who are short of capital; at the same time, the firm buys in the market those services which are guaranteed by their suppliers.

Ben, Zvi Shmuel

PD July 1988. **TI** Oligopoly in Segmented Markets. **AU** Ben, Zvi Shmuel; Helpman, Elhanan. **AA** Tel Aviv University. **SR** National Bureau of Economic Research Working Paper: 2665; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 022, 026, 615. **KW** Oligopoly. Cournot Equilibrium. Transportation Costs. Game Theory. Segmented Markets.

AB We propose a new solution concept for a game among oligopolists that simultaneously compete in several segmented markets. The motivation for this solution comes from international trade, but it also has applications in other areas. It is based on a three-stage extension of the two-stage Kreps-Scheinkman game. We show that two-way trade is not an equilibrium outcome and that there exist bounds on possible cross-market priced differentials that are defined by transport costs. Prices are the same when transport costs are zero. In fact, in the limiting case of zero transport costs the equilibrium coincides with a Cournot equilibrium in a single integrated market. In the presence of transport costs there may exist multiple equilibria.

Benavie, Arthur

PD May 1988. **TI** Optimal Monetary, Fiscal, and Exchange-Rate Policy with Wage Indexation. **AU** Benavie, Arthur; Froyen, Richard. **AA** University of North Carolina, Chapel Hill. **SR** University of North Carolina Working Paper Series: 88-3; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 41. **PR** No Charge. **JE** 431, 321, 311, 133. **KW** Stabilization. Monetary Policy. Fiscal Policy. Exchange Rate. Wage Indexation. Price Level.

AB This paper investigates the optimal setting and coordination of monetary and fiscal policy stabilizers as well as exchange rate intervention rules in an economy where we allow wages to be indexed to a general price level. We do this within a framework that does not invoke either purchasing power parity (PPP) or uncovered interest rate parity (UIP). Our analysis builds on and extends several strands of optimal stabilization policy literature as well as the literature on wage indexation.

Bera, Anil K.

PD May 1988. **TI** Nested and Non-Nested Procedures for Testing Linear and Log-Linear Regression Models. **AU** Bera, Anil K.; McAleer, Michael. **AA** Bera: University of Illinois. McAleer: Department of Statistics, Australian National University. **SR** Australian National University Working Paper in Economics and Econometrics: 162; Department of Economics, Australian National University, P.O. Box 4, Canberra A.C.T. 2601, AUSTRALIA. **PG** 21. **PR** No Charge. **JE** 211. **KW** Exact Test. Lagrange Multiplier Test. Non-Nested Models. Truncated Errors.

AB In this paper we examine some existing procedures for testing linear and log-linear regression models, especially with respect to the truncation of the disturbance term in the linear model. Some new computationally straightforward exact tests which treat the linear and log-linear regressions explicitly as non-nested models are derived. These tests are also generalized to take account of truncation in the errors of the linear model. An empirical example is provided to illustrate the use of the tests.

Berg, Andrew

PD June 1988. **TI** The Debt Crisis: Structural Explanations of Country Performance. **AU** Berg, Andrew; Sachs, Jeffrey. **AA** Berg: National Bureau of Economic Research. Sachs: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2607; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 421, 433, 443, 121. **KW** Developing Countries. Debt. Income Distribution.

AB This paper develops a cross-country statistical model of debt rescheduling, and the secondary market valuation of LDC debt, which links these variables to key structural characteristics of developing countries, such as the trade regime, the degree of income inequality, and the share of agriculture in GNP. Our most striking finding is that higher income inequality in a significant predictor of a higher probability of debt rescheduling in a cross-section of middle-income countries. We attribute this correlation to various difficulties of political management in economies with extreme inequality. We also find that outward-orientation of the trade regime is a significant predictor of a reduced probability of debt rescheduling.

Bernheim, Douglas

TI Fiscal Policy with Impure Intergenerational Altruism. **AU** Abel, Andrew; Bernheim, Douglas.

Bernstein, Jeffrey I.

PD April 1988. **TI** Investment, Depreciation and Capital Utilization. **AU** Bernstein, Jeffrey; Nadiri, M. Ishaq. **AA** Bernstein: Carleton University. Nadiri: National Bureau of Economic. **SR** National Bureau of Economic Research Working Paper: 2571; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 522, 511, 022, 313. **KW** Capital Utilization. Resource Allocation. Investment Theory.

AB The purpose of this paper is to analyze the determinants of capital durability and utilization and their interdependence with investment decisions. The approach is based on the view that the flow of undepreciated capital is an output to be used in future production. At each date capital and non-capital inputs are combined to produce current output and the capital inputs to be used for future production. Thus capital accumulation occurs in a joint product context as two kinds of output are produced, one type for current sale and one type for future production. Another issue investigated in this paper concerns the allocation of resources within a firm between installing and utilizing capital and labor training activities. Often this problem is ignored in the theory of investment, not only because depreciation is exogenous, but also due to the treatment of labor as a variable factor of production. However, it is well recognized that firms cannot costlessly adjust labor. Thus the second purpose of this paper is to analyze the intertemporal relationship between the durability of capital and the growth rate of labor.

PD April 1988. **TI** Rates of Return on Physical and R&D Capital and Structure of the Production Process: Cross Section and Time Series Evidence. **AU** Bernstein, Jeffrey I.; Nadiri, M. Ishaq. **AA** Bernstein: Carleton University. Nadiri: National Bureau of Economic Research., **SR** National Bureau of Economic Research Working Paper: 2570; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 621, 641, 522, 616,

022. **KW** Research and Development. Technology. Factors of Production. Adjustment Costs.
AB R&D investment is an outcome of a corporate plan and is influenced by the existing technology, by prices, by product demand characteristics, and by the legacy of past capital stock decisions. In this paper we focus on the determinants and interaction of labor, physical capital and R&D. In particular, we investigate three major issues. The first relates to the nature of the factor substitution possibilities between the three inputs in response to changes in input prices and estimate the own and cross price elasticities of the factors of production. The second problem pertains to the magnitude by which output expansion (or what may be considered the same thing, product demand growth) increases labor, physical, and R&D capital. Finally, we address the extent to which adjustment costs affect factor demands, and measure the magnitude of these costs for physical and R&D capital.

PD May 1988. **TI** Corporate Taxes and Incentives and the Structure of Production: A Selected Survey. **AU** Bernstein, Jeffrey I.; Nadiri, M. Ishaq. **AA** Bernstein: Carleton University. Nadiri: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2579; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 022, 321, 323, 514. **KW** Intertemporal Model. Tax Policy. Quasi-Fixed Factors. Production.
AB In this paper we develop a general intertemporal model of production, emphasizing the role of present and expected future corporate income taxes, credits and allowances along with costly adjustment and variable utilization of the quasi-fixed factors. Three specific issues are considered: 1) the direct and indirect effects of taxes operating through factor prices on the long-run input substitution, thus altering the structure of the production process; 2) the effects of tax policy changes on the rate and direction of technological change; and 3) the effects of tax policy on the intertemporal pattern of substitutions and complementarities among the inputs that arise due to presence of quasi-fixity of some inputs. The rates of utilization of the quasi-fixed factors are determined in the short-run in conjunction with the demands for the variable factors of production. Hence, utilization rates depend on product and factor prices and therefore on tax policy. We specialize the general model in order to highlight each of the three themes and their interaction with tax policy. We also discuss the various ways in which empirical implementation of the theoretical models and a brief summary of the empirical results in the literature is also provided. Lastly, we discuss some policy implications which emerge from the analysis and empirical results.

Besley, Tim

PD June 1988. **TI** Means Testing Versus Universal Provision in Poverty Alleviation Programmes. **AA** All Souls College and Institute of Economics and Statistics, Oxford. **SR** Oxford Applied Economics Discussion Paper: 46; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 28. **PR** No Charge. **JE** 914, 921, 911. **KW** Poverty. Welfare. Income Distribution.
AB This paper proposes an analytical framework for contrasting means testing and universal provision as mechanisms for poverty alleviation. Using a particular class of poverty indicators, we ask how high take up costs have to be as a proportion of the poverty line, before universal provision of benefits becomes preferred to means testing. We present some analytical results, followed by numerical simulations using a log-normal income distribution. These suggested that costs have to be rather high before universal provision is preferred giving some qualified support to means testing. A number of caveats to this result are however suggested.

Bhagwati, Jagdish N.

PD December 1987. **TI** The Theory of Political Economy, Economic Policy and Foreign Investment. **AA** Columbia University. **SR** Columbia International Economics Research Center Discussion Paper: 386; Department of Economics, Columbia University, New York, NY 10027. **PG** 24. **PR** $5.00. **JE** 441, 113, 321, 022. **KW** Foreign Investment. Political Economy. Economic Policy.
AB In this paper I consider recent developments in the analysis of foreign investment that reflect the new thinking in economic theory along the lines of political economy. In Section I, I provide an overview of the developments in the theory of political economy generally, focusing equally on its profound implications for the theory of economic policy. Section II turns then to the analysis of foreign investment in light of this overview, discussing how the analysis of foreign investment changes in light of political economy-theoretic considerations, drawing particularly on the new theory of quid pro quo foreign investment.

Bhatia, Kul B.

PD 1988. **TI** Foreign Trade and Income Distribution: The Case of Malaysia. **AA** University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8801C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 89. **PR** $4.00 Canadian each. **JE** 121.

Blackburn, McKinley

PD June 1988. **TI** Efficiency Wages, Inter-Industry Wage Differentials, and the Returns to Ability. **AU** Blackburn, McKinley; Neumark, David. **AA** University of South Carolina. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 32; Division of Research and Statistics, Federal Reserve Board, Washington, D.C. 20551. **PG** 40. **PR** No Charge. **JE** 824, 851, 821. **KW** Efficiency Wages. Heterogeneity. Human Capital. Wages. Labor Demand.
AB The empirical regularity that has most frequently been offered as evidence consistent with efficiency wage models is the existence of persistent inter-industry wage differentials in wage regressions estimated for individuals. A principal competing explanation of these differentials is that they are generated by differences across workers in unobserved ability. While fixed-effects wage equations have been estimated to account for this, the estimates may suffer from measurement error and endogeneity of the decision to change industries. Our paper takes an alternative, direct approach, by incorporating ability directly in a MIMIC model of earnings, with test scores serving as indicators of unobserved ability, and family background measures serving as causes. The models are estimated using data from the NLS (Young Men's cohort). The results indicate that neither inter-industry nor inter-occupation

wage differentials are attributable to differences in unobserved ability.

Blake, Andrew

TI Wealth Targets, Exchange Rate Targets and Macroeconomic Policy. **AU** Vines, David; Blake, Andrew; Weale, Martin.

Blanchard, Olivier Jean

PD May 1988. **TI** The Dynamic Effects of Aggregate Demand and Supply Disturbance. **AU** Blanchard, Olivier Jean; Quah, Danny. **AA** Massachusetts Institute of Technology and NBER. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 497; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 25. **PR** No Charge. **JE** 131, 133, 226. **KW** Permanent Shocks. Transitory Shocks. Unit Root. GNP. Unemployment.

AB We decompose the behavior of GNP and unemployment into the dynamic effects of two types of shocks: shocks that have a permanent effect on output and shocks that do not. We interpret the first as supply shocks, the second as demand shocks. We find that demand disturbances have a hump shaped effect on both output and unemployment; the effect peaks after a year and vanishes after two to three years. Up to a scale factor, the dynamic effect on unemployment of demand disturbances is a mirror image of that on output. The effect of supply disturbances on output increases steadily over time, to reach a peak after two years and a plateau after five years. "Favorable" supply disturbances may initially increase unemployment. This is followed by a decline in unemployment, with a slow return over time to its original value.

Blanchflower, David

PD May 1988. **TI** The Determination of White-Collar Pay. **AU** Blanchflower, David; Oswald, Andrew. **AA** Blanchflower: University of Surrey and London School of Economics. Oswald: London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 307; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 33. **PR** No Charge. **JE** 824, 917, 813. **KW** Wages. Discrimination. Unemployment. Occupation.

AB The determinants of white-collar pay are investigated using two large samples of British establishments. It is found that, just as for manual employees, wages are highest in large foreign-owned workplaces with low proportions of part-time and female workers. There is some evidence that pay is depressed by external unemployment but, subject to caveats, no strong evidence that it is affected by the establishment's financial performance or oligopoly power.

Blejer, Mario

PD July 1988. **TI** The Impact of Macroeconomic Policies on Income Distribution: An Empirical Study. **AU** Blejer, Mario; Guerrero, Isabel. **AA** Blejer: International Monetary Fund. Guerrero: The World Bank. **SR** International Monetary Fund Working Paper: WP/88/57; International Monetary Fund, Washington D.C. 20431. **PG** 19. **PR** No Charge. **JE** 914, 921, 225, 121. **KW** Income Distribution. Fiscal Policy. Consumer Economics. Households.

AB There has been a growing awareness of the income distribution dimension of macroeconomic policies. This paper presents a framework for studying this issue empirically, and considers the case of the Philippines using data available from integrated surveys of households. After developing and estimating an analytical model, it was found that underemployment, inflation, and government spending worsen income distribution, while productivity gains, the real interest rate, and the real exchange rate were found to be progressive instruments.

Bogart, William T.

PD April 1988. **TI** Manual for GOG. **AU** Bogart, William T.; Quandt, Richard E.; Shapiro, Carl. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 89; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 19. **PR** $3.00. **JE** 215, 214. **KW** Oligopoly. Network. Uncertainty.

AB The General Oligopoly Game (GOG) is an n-person interactive oligopoly game with uncertainty. Up to eight players can play the game simultaneously. Each player represents a firm. Firms know their own costs and receive uncertain information about demand conditions. Depending on the conditions set for the game, firms may or may not send messages to one another about their own costs and perceived demand conditions. In each "round" of a given game, firms have a preset amount of time available to make output decisions. After a certain number of such rounds, the game terminates and the present value of profits for each firm is computed. Section 2 presents the detailed specification of the game. Section 3 provides instructions concerning the specifics of how the game is played in practice.

Bognanno, Michael

TI Do Tournaments Have Incentive Effects. **AU** Ehrenberg, Ronald; Bognanno, Michael.

Bollerslev, Tim

TI Further Results on Unit Roots and the Cointegrability of Daily Spot and Forward Exchange Rates. **AU** Baillie, Richard T.; Bollerslev, Tim.

Bolster, Paul

PD July 1988. **TI** Tax Induced Trading: The Effect of the 1986 Tax Reform Act on Stock Market Activity. **AU** Bolster, Paul; Lindsey, Lawrence; Mitrusi, Andrew. **AA** Bolster: Northeastern University. Lindsey, Mitrusi: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2659; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 323, 311. **KW** Capital Gains. Tax Reform. Stock Market.

AB The abolition of the favorable tax treatment of long term capital gains forced investors to reassess traditional year-end trading strategies used to manage tax liabilities. This study compares with year-end trading behavior in previous years with that observed at the end of 1986. Traditional strategies involve selling both short and long term losers and holding short and long term winners. Our results affirm previous findings concerning tax induced trading at year-end. However, for 1986, we find that the anticipated tax code changes had a powerful effect on trading behavior. Compared to previous years, relative trading volume was considerably higher in December of 1986 for long term winners and lower for long term losers. Additional results indicate that traditional patterns of trading induced by short term capital gains and losses were also altered substantially in 1986.

Bolton, Patrick

TI Learning Through Price Experimentation by a Monopolist Facing Unknown Demand. **AU** Aghion, Philippe; Bolton, Patrick; Jullien, Bruno.

Bonnisseau, Jean Marc

PD February 1988. **TI** A Remark on the Existence of Equilibria in Economies with Increasing Returns. **AA** Universite Paris I Pantheon-Sorbonne. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8814; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 7. **PR** No Charge. **JE** 021, 213. **KW** General Equilibrium. Market Economy. Returns to Scale.

AB In this paper, we consider a general equilibrium model in which increasing returns to scale may appear. We provide an existence result in such economies which generalizes Theorem 3.4 of Bonnisseau-Cornet (1988) and the main result of Vohra (1988).

Boone, Peter

TI Japanese Structural Adjustment and the Balance of Payments. **AU** Sachs, Jeffrey; Boone, Peter.

Borensztein, Eduardo R.

TI Debt and Conditionality Under Endogenous Terms of Trade Adjustment. **AU** Aizenman, Joshua; Borensztein, Eduardo R.

Borjas, George J.

PD April 1988. **TI** Immigration and Self-Selection. **AA** University of California, Santa Barbara. **SR** National Bureau of Economic Research Working Paper: 2566; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 823, 841. **KW** Selectivity. Selection Bias. Migration. Immigration. Mobility.

AB Self-selection plays a dominant role in determining the size and composition of immigrant flows. The United States competes with other potential host countries in the "immigration market." Host countries vary in their "offers" of economic opportunities and also differ in the way they ration entry through their immigration policies. Potential immigrants compare the various opportunities and are non-randomly sorted by the immigration market among the various host countries. This paper presents a theoretical and empirical analysis of this marketplace. The theory of immigration presented in this paper describes the way in which immigrants are sorted among host countries in terms of both their observed and unobserved characteristics. The empirical analysis uses Census data from Australia, Canada, and the United States and shows that United States "competitiveness" in the immigration market has declined significantly in the postwar period.

Bos, Dieter

PD February 1988. **TI** Privatization, International Control, and Internal Regulation. **AU** Bos, Dieter; Peters, Wolfgang. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A 151; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 25. **PR** No Charge. **JE** 614, 612. **KW** Public Enterprises. Privatization. Internal Control. Regulation.

AB This paper develops a theory of the privatization of public enterprises. The relevant decisions are modelled as a three-stage process: internal control, internal regulation, and privatization. Privatization is a move from an overcontrolled public firm to an overcontrolled private firm. The firm never achieves the optimal extent of control because the necessary replacement of public by private managers does not only lead to the desired reduction of bureaucracy, but also to an undesired increase in profits. Moreover, the reduction of overbureaucratization is matched by a reduction in the quality of the supplied goods.

Bosanquet, Nick

PD July 1988. **TI** The Ghost of PAR? Public Expenditure Planning Beyond Plowden. **AA** University of York. **SR** Centre for Economic Policy Research Discussion Paper: 259; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 45. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 322, 324, 113. **KW** Public Expenditure. Social Investment. Demographic Cohorts. Planning Policy.

AB The current control system for public expenditure in the United Kingdom dates from the Plowden Report in 1961 and was developed for a public utilities model. This paper presents detailed evidence on changes in the composition of public expenditure. A new control system is proposed that is better suited to new patterns of public expenditure, in which social investment and transfer payments have become much more important. Information on expenditure could be presented in a new fashion, broken down according to client groups and covering the whole span of public initiative, including tax expenditures and regulation as well as public expenditure. It would also be possible to relate future public expenditure commitments to projections of income and economic activity on a cohort basis.

Bowles, Samuel

PD June 1988. **TI** Class Analysis Versus World System. Epitaph for a False Opposition. **AA** University of Massachusetts, Amherst. **SR** University of California at Berkeley Working Paper in Economics: 8877; IBER, 156 Barrows Hall University of California Berkeley, CA 94720. **PG** 26. **PR** $3.50. **JE** 051, 423, 421, 112. **KW** Imperialism. Exploitation. Marxian Theory. Capitalism. International Trade.

AB While international solidarity and support for national self-determination have occupied the political sentiments of the left, the theory of imperialism has remained the unwanted stepchild of Marxian economic theory. To be sure, attention has been given to the economic underpinnings of the expansionary diplomatic and military policies of the advanced capitalist countries; and illuminating studies of peripheral social formations have been produced. But international economic relationships have not been integrated into the most basic Marxian concepts used to understand the accumulation process of the economies of the capitalist center. The standard texts of Marxian economic theory treat imperialism and the globalization of production as a chapter extending a basic model from which these considerations are absent, rather than as an aspect of capitalism sufficiently fundamental to be present in the most abstract consideration of concepts such as surplus value, exploitation and labor values.

PD June 1988. **TI** Capitalist Technology: Endogenous Claim Enforcement and the Choice of Technique. **AA** University of Massachusetts, Amherst. **SR** University of California at Berkeley Working Paper in Economics: 8878; IBER, 156 Barrows Hall University of California Berkeley, CA 94720. **PG** 26. **PR** $3.50. **JE** 051, 621, 112. **KW** Technology. Institutions. Factor Ownership.
AB Technical evolution may still reflect the nature of social institutions, even in a perfectly competitive world, but the effects of social institutions operate exclusively via phenomena exogenous to the firm: the preferences of economic agents, the availability of applied scientific knowledge and the distribution of factor ownership amongst economic agents. Given these conditions external to the firm, the choice of technology is independent of relations of ownership either within the firm or between it and other economic agents: Paul Samuelson aptly remarks that "in a perfectly competitive model it really doesn't matter who hires whom: so let labor hire "capital"".

PD June 1988. **TI** Contested Exchange: Political Economy and Modern Economic Theory. **AU** Bowles, Samuel; Gintis, Herbert. **AA** Bowles: University of Massachusetts, Amherst and Ford Visiting Professor at the University of California at Berkeley. Gintis: University of Massachusetts, Amherst. **SR** University of California at Berkeley Working Papers in Economics: 8876; IBER, 156 Barrows Hall, University of California, Berkeley, CA 94720. **PG** 12. **PR** $3.50. **JE** 036, 051, 025, 024. **KW** Contested Exchange. Political Economy. Economic Power. Capitalist Economy.
AB Concerns of class and power, which have occupied a major position in the thought of Marxists, institutionalists, and historians, thus find no echo in modern liberal orthodoxy. Indeed, in recent years we have seen the flowering, a social theory which makes politics and the state co-extensive. This is evident in the identification of the public sphere of society with relations of citizens to the state and the private sphere with familial and contractual relationships; the former are deemed political and the just realm of democratic claims, while the latter are seen as lying beyond the limits of political discourse. Thus what is transparent to the unschooled -- that the capitalist economy confers power upon those who occupy leading positions in the business world -- is denied by the sophisticated.

PD June 1988. **TI** Labor Discipline and Aggregate Demand: A Macroeconomic Model. **AU** Bowles, Samuel; Boyer, Robert. **AA** Bowles: University of California, Berkeley and the University of Massachusetts, Amherst. Boyer: University of Massachusetts, Amherst and the Mathematique Appliquees a la Planificaiton, Paris. **SR** University of California at Berkeley Working Paper in Economics: 8875; IBER, 156 Barrows Hall, University of California Berkeley, CA 94720. **PG** 14. **PR** $3.50. **JE** 821, 833, 023. **KW** Aggregate Demand. Income Distribution. Labor Discipline.
AB In this essay (and a series of related papers) we integrate the two absences in the neoclassical theory: the Keynes-inspired analysis of aggregate demand and the Marx-inspired analysis of the problem of labor discipline. Our model expresses a very simple underlying logic: the distribution of income is a key determinant of aggregate demand through its effects on savings and investment; the distribution of income is in turn the outcome of a class conflict over work and pay in which the balance of class forces is dependent on the level of employment and hence on the level of aggregate demand. Through its effect on the bargaining power of workers and employers, the level of government redistributive expenditure will influence both the distribution of private incomes and, independently of this, the level of aggregate demand; it will be modeled explicitly and generated endogenously. As we will see, taking account of the effect of the wage on both aggregate demand and the endogenous determination output per labor hour, the level of employment may respond either positively or negatively to changes in the wage rate, giving rise to what we term a wage-led or profit-led employment regime, respectively.

Boyer, Robert

TI Labor Discipline and Aggregate Demand: A Macroeconomic Model. **AU** Bowles, Samuel; Boyer, Robert.

Bresnahan, Timothy F.

TI Short-Run Supply with Capacity Constraints. **AU** Suslow, Valerie Y.; Bresnahan, Timothy F.

Brown, D. J.

PD June 1988. **TI** Spanning, Valuation and Options. **AU** Brown, D. J.; Ross, S. A. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 873; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven CT 06520. **PG** 20. **PR** $2.00. **JE** 313, 213, 311. **KW** Securities. Portfolios. Assets. Arbitrage. Marketed Assets.
AB We model the space of marketed assets as a Riesz space of commodities. In this setting, two alternative characterizations are given of the space of continuous options on a bounded asset, s, with limited liability. The first characterization represents every continuous option on s as the uniform limit of portfolios of calls on s. The second characterization represents an option as a continuous sum (or integral) of Arrow-Debreu securities, with respect to s. The pricing implications of these representations are explored. In particular, the Breeden-Litzenberger pricing formula is shown to be a direct consequence of the integral representation theorem.

Browning, Martin J.

PD March 1988. **TI** Consumption and Income Taxation. **AU** Browning, Martin J.; Burbidge, John B. **AA** Browning: McMaster University, Visiting UCL. Burbidge: McMaster University, Visiting UCL and IFS. **SR** University College London Discussion Paper: 88-10; Department of Economics, University College London, Gower Street, London WC1E 6BT. **PG** 31. **PR** pounds sterling 1.50. **JE** 323, 821, 921. **KW** Taxation. Interest Income. Consumption. Tax Reform. Life Cycle Hypothesis.
AB Anyone familiar with the ambiguities in the older optimal tax literature must find the contemporary fixation with the superiority of consumption over income taxation somewhat disconcerting. This paper contends that the recent tax literature has become mired in questions of optimal debt policy, to such an extent that one cannot take a position on tax reform, without

simultaneously adopting a position on whether or not the United States saves too little or too much, and some important issues have thus been obscured. We show that straightforward modifications of the standard life-cycle model to incorporate liquidity constraints and a human capital decision can lead to an interest income tax being superior to a consumption tax. More importantly, perhaps, the paper draws attention to the standard assumption, which runs through much of the theoretical and empirical literature on the life-cycle model, that the expected marginal utility of wealth is constant over the life cycle. If this assumption is incorrect, an optimal tax system should arrange for higher tax rates in those stages of the life cycle when the marginal utility of wealth is lower.

Buiter, Willem H.

PD April 1988. **TI** Can Public Spending Cuts Be Inflationary? **AA** London School of Economics. **SR** Centre for Economic Policy Research Discussion Paper: 225; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 55. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 134, 322, 321, 311. **KW** Inflation. Public Sector Investment. Seigniorage. Laffer Curve. Budget Deficit. Public Spending.

AB The paper uses a 'demand for seigniorage revenue' and 'supply of seigniorage revenue' approach to determine the consequences of cuts in public spending for the rate of inflation. Monetary financing is viewed as the residual financing mode, with tax rates and public debt/GDP ratios held constant. In a small open economy with an exogenous real interest rate, cuts in public consumption spending will lower the inflation rate in the revenue-efficient region of the seigniorage Laffer curve. When there are cuts in public sector capital formation, the inflation rate can rise even in the seigniorage-efficient region. This will be the case if the expenditure effect (which reduces the deficit one-for-one) is more than offset by direct and indirect revenue effects (which raise the deficit) and by the adverse money demand effect. When the real interest rate is endogenous, the scope for inflation-increasing public spending cuts in enhanced.

PD May 1988. **TI** Some Thoughts on the Role of Fiscal Policy in Stabilization and Structural Adjustment in Developing Countries. **AA** Yale University. **SR** National Bureau of Economic Research Working Paper: 2603; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 321, 112, 121, 322, 431. **KW** Fiscal Policy. Structural Adjustment. Resource Allocation. Developing Countries. Public Sector. Debt Crisis.

AB The paper analyzes the role of fiscal policy in the restoration of internal and external macroeconomic equilibrium and in achieving structural adjustment i.e. major changes in the patterns of sectoral and intertemporal resource allocation. The focus is on developing and new industrial countries in need of both stabilization and structural adjustment. The external transfer problem and the associated internal fiscal and real resource transfer problems are analyzed with special emphasis on possible causes for the breakdown of the internal and external transfer processes. The concepts of national and public sector solvency are used to evaluate the mutual consistency and feasibility of fiscal, financial and monetary plans. Special attention is devoted to the links between the fiscal deficit and inflation and to the inflation tax.

PD May 1988. **TI** Debt Neutrality, Redistribution and Consumer Heterogeneity: A Survey and Some Extensions. **AA** Yale University. **SR** National Bureau of Economic Research Working Paper: 2578; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 022, 323. **KW** Heterogeneous Consumer. Overlapping Generations Model. Debt. Bequest. Uncertainty.

AB For an economic system not to exhibit debt neutrality it must be true that changes in the time profile of lump-sum taxes redistributes resources between heterogeneous consumers. OLG models have age heterogeneity because of a positive birth rate. Unless a bequest motive or child-to-parent gift motive is operative, a positive birth rate is sufficient for absence if debt neutrality. Uncertain lifetimes are neither necessary nor sufficient for absence of debt neutrality, with or without efficient life insurance markets. Heterogeneous survival probabilities are a sufficient condition. Heterogeneous time preference rates or elasticities of marginal utility does not destroy debt neutrality, since with common survival rates, changes in the pattern over time of lump-sum taxes do not redistribute resources. Any representative agent model, regardless of the scope and severity of capital market imperfections, will exhibit debt neutrality.

PD June 1988. **TI** Some Thoughts on the Role of Fiscal Policy in Stabilisation and Structural Adjustment in Developing Countries. **AA** Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 312; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 66. **PR** No Charge. **JE** 133, 321, 311, 111, 121. **KW** Fiscal Policy. Stabilization. Structural Adjustment. Resource Allocation.

AB The paper analyzes the role of fiscal policy in the restoration of internal and external macroeconomic equilibrium and in achieving structural adjustment i.e. major changes in the patterns of sectoral and intertemporal resource allocation. The focus is on developing and new industrial countries in need of both stabilization and structural adjustment. The external transfer problem and the associated internal fiscal and real resource transfer problems are analyzed with special emphasis on possible causes for the breakdown of the internal and external transfer processes. The concepts of national and public sector solvency are used to evaluate the mutual consistency and feasibility of fiscal, financial and monetary plans. Special attention is devoted to the links between the fiscal deficit and inflation and to the inflation tax.

PD June 1988. **TI** A Viable Gold Standard Requires Flexible Monetary and Fiscal Policy. **AA** Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 306; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 33. **PR** No Charge. **JE** 431, 311, 321. **KW** Gold Standard. Balance of Payments. Speculation. Fiscal Deficit.

AB The paper studies an idealized gold standard in a two-country setting. Without flexible national domestic credit expansion (dce) policies which offset the effect of money demand shocks on international gold reserves, the gold standard collapses with certainty in finite time through a speculative selling attack against one of the currencies.

Various policies for postponing a collapse are considered. When a responsive dce policy eliminates the danger of a run on a country's reserves, the exogenous shocks disturbing the system which previously were reflected in reserve flows, now show up in the behavior of the public debt. Unless the primary (non-interest) government deficit is permitted to respond to these shocks, the public debt is likely to rise (or fall) to unsustainable levels. For the idealized gold standard analyzed in the paper, viability can be achieved only through the active and flexible use of monetary and fiscal policy.

PD July 1988. **TI** Debt Neutrality, Redistribution and Consumer Heterogeneity: A Survey and Some Extensions and Debt Neutrality, Professor Vickrey and Henry George's "Single Tax.". **AA** Yale University, National Bureau of Economic Research, CEPR and Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 315; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 68. **PR** No Charge. **JE** 321, 022, 023. **KW** Debt Neutrality. Overlapping Generations Model. Taxation. Bequests. Redistribution. Heterogeneity.

AB For an economic system not to exhibit debt neutrality it must be true that changes in the time profile of lump-sum taxes redistributes resources between heterogeneous consumers. OLG models have age heterogeneity because of a positive birth rate. Unless a bequest motive or child-to-parent gift motive is operative, a positive birth rate is sufficient for absence of debt neutrality. Uncertain lifetimes are neither necessary nor sufficient for absence of debt neutrality, with or without efficient life insurance markets. Heterogeneous survival probabilities are a sufficient condition. Heterogeneous time preference rates or elasticities of marginal utility does not destroy debt neutrality, since with common survival rates, changes in the pattern over time of lump-sum taxes do not redistribute resources. Any representative agent model, regardless of the scope and severity of capital market imperfections, will exhibit debt neutrality.

PD August 1988. **TI** Debt Neutrality, Professor Vickrey and Henry George's "Single Tax". **AA** Yale University. **SR** National Bureau of Economic Research Working Paper: 2673; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 921, 023. **KW** Overlapping Generations. Insurance. Human Capital. Taxation. Public Spending.

AB In the overlapping generations model with uncertain lifetimes, efficient life insurance markets and no operative intergenerational gift and bequest motive, a positive birth rate has been shown to be sufficient and necessary for absence of debt neutrality: equilibrium prices and quantities are independent of the mix of government borrowing and lump-sum taxation, holding constant the path of exhaustive public spending. Implicit in this analysis has been the assumption that the lump-sum tax is a tax on the income from human capital. Postponing lump-sum taxes then makes it possible to shift (part of) the tax burden to future generations if the birth rate is positive. If instead the tax falls on the income from a non-human fixed factor ("land") whose ownership claims are priced efficiently, then, if all land is owned by generations currently alive, changes in the intertemporal pattern of taxation do not permit current generations to shift the tax burden to future generations. Taxes on the income from all "fully owned" non-human factors have this property, even those factors supplied elastically, but the latter will of course be subject to the familiar incentive or allocative effects of changes in (non-lump-sum) taxation.

Bulow, Jeremy

PD June 1988. **TI** Sovereign Debt Restructurings: Panacea or Pangloss? **AU** Bulow, Jeremy; Rogoff, Kenneth. **AA** Bulow: Stanford University. Rogoff: University of Wisconsin. **SR** National Bureau of Economic Research Working Paper: 2637; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 432, 443, 322. **KW** Developing Countries. Sovereign Debt. Debt. Debt Crisis.

AB The most widely proposed LDC debt plans are flawed by their failure to recognize the fundamental differences between corporate and sovereign debt. Consequently, many plans intended to help highly-indebted countries mainly aid their foreign creditors. This paper emphasizes the crucial distinction between marginal and average sovereign debt. This distinction provides the cornerstone for an understanding of debt buybacks, debt-equity swaps, and debt-for-debt swaps involving new classes of seniority. Highly indebted countries would benefit more from direct transfers than from the same resources spent on any of these financial engineering schemes.

Burbidge, John B.

TI Consumption and Income Taxation. **AU** Browning, Martin J.; Burbidge, John B.

Burbidge, Jonn B.

TI Consumption, Income and Retirement. **AU** Robb, A. Leslie; Burbidge, Jonn B.

Burdett, Kenneth

PD February 1988. **TI** Optimal Firm Size, Taxes, and Unemployment. **AU** Burdett, Kenneth; Wright, Randall. **AA** Burdett: Cornell University. Wright: University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-05; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 30. **PR** No Charge. **JE** 824, 832, 822. **KW** Contract Theory. Unemployment Insurance. Firm Size.

AB We analyze a model similar to the standard implicit contract model, but emphasize that the size of the firm (the number of workers under contract) is endogenous. Several well known predictions from contract theory are reversed. In particular, some results obtained by Feldstein concerning unemployment insurance do not hold when firm size is a choice variable. He concludes that an increase in experience rating reduces unemployment, while we show that it increases unemployment under reasonable conditions. We also contrast the effects of this and other policy changes on wages, employment, and hours per worker, with those derived in models where firm size is fixed.

Calvo, Guillermo

PD March 1987. **TI** Optimal Time-Consistent Fiscal Policy with Finite Lifetimes: Analysis and Extensions. **AU** Calvo, Guillermo; Obstfeld, Maurice. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for

Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-09; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 53. **PR** No Charge. **JE** 321, 024, 022, 023. **KW** Social Welfare. Government. Planning. Consumption. Government Spending.

AB Since the appearance of Diamond's seminal paper on national debt (1965), theoretical studies of government budgetary policies have focused increasingly on economies with heterogeneous agents. With the exception of Samuelson (1967, 1968), however, there have been almost no attempts to develop intertemporal welfare criteria that would determine the best use of fiscal tools in such economies. The standard optimal growth analysis developed by Cass (1965), Koopmans (1965), Ramsey (1928), and others appears inapplicable for this purpose. Its postulates seem to presuppose either a single infinitely-lived household or an economy peopled by a never-ending succession of finitely-lived, non-overlapping generations. In this paper we show how the Cass-Koopmans-Ramsey framework can be used to evaluate paths of aggregate consumption even in models where different generations coexist. Our basic model of the individual is Yaari's (1965) uncertain-lifetime model.

Cammarota, Mark T.

PD May 1988. **TI** The Impact of Unseasonable Weather on Housing Starts. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper Series: 86; Economic Activity Section, Federal Reserve Board, Washington, D.C. 20551. **PG** 16. **PR** No Charge. **JE** 932, 634, 931. **KW** Weather. Housing. Construction.

AB This study tests the effects of unseasonable weather on housing starts at the national and regional level. Goodman (1987) examined this issue and concluded that abnormal weather conditions have little or no effect on the pace of housing starts. The models presented in this study allow the impact of unseasonable weather on starts to vary over each month of the year whereas the specification in Goodman (1987) constrained these effects to vary between only the summer and winter. In addition, lagged weather deviations are included in the model to determine if unseasonable weather affects the demand for housing or merely the timing of housing starts. The results suggest that unseasonable weather does affect the pace of housing starts in the months of the first quarter. Oddly enough, however, the results indicate that the effects of weather on starts are not offset in following months.

Campbell, John Y.

PD April 1988. **TI** Interpreting Cointegrated Models. **AU** Campbell, John Y.; Shiller, Robert J. **AA** Campbell: Princeton University. Shiller: Yale University. **SR** National Bureau of Economic Research Working Paper: 2568; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 132, 211, 212. **KW** Co-integration. Error Correction Model. Forecasts.

AB Error-correction models for cointegrated economic variables are commonly interpreted as reflecting partial adjustment of one variable to another. We show that error-correction models may also arise because one variable forecasts another. Reduced-form estimates of error-correction models cannot be used to distinguish these interpretations. In an application, we show that the estimated coefficients in the Marsh-Merton '1987 error-correction model of dividend behavior in the stock market are roughly implied by a near-rational expectations model wherein dividends are persistent and prices are disturbed by some persistent random noise. Their results thus do not demonstrate partial adjustment or "smoothing" by managers, but may reflect little more than the persistence of dividends and the noisiness of prices.

Campos, Julia

PD June 1988. **TI** Econometric Modeling of Consumers' Expenditure in Venezuela. **AU** Campos, Julia; Ericsson, Neil R. **AA** Campos: Banco Central de Venezuela, Caracas, Venezuela. Ericsson: International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 325; International Finance Division, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 63. **PR** No Charge. **JE** 121, 212, 131, 132. **KW** Methodology. Expenditure. Venezuela. Expectations. Model Design.

AB Starting from a theoretical model with optimizing economic agents, we develop a highly parsimonious econometric model of consumers' expenditure on non-durables and services in Venezuela for 1970-85. Disposable income, liquidity, and inflation determine expenditure in an economically sensible fashion. The empirical model is robust and has constant, well-determined parameter estimates. In specifying it, econometric methodology plays a fundamental role, and we address issues of empirical model design and evaluation, co-integraton, exogeneity, policy analysis, and encompassing. Using the last concept, a large class of expectations and VAR models is found to be incompatible with the data. In particular, Hall's (1978) hypothesis (derived from the life cycle-permanent income hypothesis) that expenditure is a random walk and only predictable from its own past is firmly rejected. The empirical model provides a clear interpretation for why that is so.

Card, David

PD May 1988. **TI** Unexpected Inflation, Real Wages, and Employment Determination in Union Contracts. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 232; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 37. **PR** $1.50. **JE** 824, 831, 832. **KW** Employment. Wages. Unions. Efficiency. Contracts. Labor Demand.

AB This paper uses the explicit structure of long term union contracts to study the relation between employment and wages in firm-level area. A key aspect of these contracts is the predetermined nature of nominal wage rates. Observed real wages therefore contain an unanticipated component that reflects unexpected changes in prices and the degree of indexation in the contract. These unexpected real wage changes provide a basis for separating the causal relation between wages and employment from other endogenous sources of covariation between them. An empirical analysis is carried out using a large sample of union contracts from the Canadian manufacturing sector. There are two principle findings. First, controlling for industry-level demand conditions, there is no correlation between employment and contract wages, although there is a weak negative correlation with outside wages. Second, when the unexpected component of real wages is used as an instrumental variable for wages, employment is systematically negatively correlated with contract wages, and uncorrelated with outside wage rates. I conclude that the weak correlation between employment and wages is due to the endogenous determination of wages in the labor market. When this endogeneity is taken into account, firm-specific employment outcomes are consistent with a conventional model of employment demand.

Carraro, Carlo

PD July 1988. **TI** Can International Policy Coordination Really be Counterproductive. **AU** Carraro, Carlo; Giavazzi, Francesco. **AA** Carraro: Universita di Venezia. Giavazzi: Universita di Bologna. **SR** National Bureau of Economic Research Working Paper: 2669; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 411, 421, 422. **KW** International Policy. Policy Coordination. Incentives. Cooperation.

AB This paper shows that international policy coordination is not counterproductive in a world where the incentive to run beggar-thy-neighbor policies internationally arises from the inefficiency that characterizes, within each country, the interaction between policymakers and private agents. The domestic inefficiency arises from the presence of nominal contracts that give central banks the power to affect real variables. In this setting we show that international cooperation belongs to central banks' dominant strategy. The paper is motivated by a common and misleading interpretation of a paper by Rogoff '1985(, namely that international cooperation may be counterproductive in the presence of a domestic inefficiency.

Carroll, R. J.

PD November 1987. **TI** Symmetrized Nearest Neighbor Regression Estimates. **AU** Carroll, R. J.; Hardle, W. **AA** Carroll: Texas A&M University. Haardle: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-144; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-530 Bonn 1, DEUTSCHLAND. **PG** 7. **PR** No Charge. **JE** 211. **KW** Nonparametric Regression. Kernel Regression. Mean Squared Error. Bandwidth.

AB We consider univariate nonparametric regression. Two standard nonparametric regression function estimates are kernel estimates and nearest neighbor estimates. Mack (1981) noted that both methods can be defined with respect to a kernel or weighting function, and that for a given kernel and a suitable choice of bandwidth, the optimal mean squared error is the same asymptotically for kernel and nearest neighbor estimates. Yang (1981) defined a new type of nearest neighbor regression estimate using the empirical distribution function of the predictors to define the window over which to average. This has the effect of forcing the number of neighbors to be the same both above and below the value of the predictor of interest; we call these symmetrized nearest neighbor estimates. The estimate is a kernel regression estimate with "predictors" given by the empirical distribution function of the true predictors. We show that for estimating the regression function at a point, the optimum mean squared error of this estimate differs from that of the optimum mean squared error for kernel and ordinary nearest neighbor estimates. No estimate dominates the others. They are asymptotically equivalent with respect to mean squared error if one is estimating the regression function at a mode of the predictor.

Cass, David

TI Market Participation and Sunspot Equilibria. **AU** Balasko, Yves; Cass, David; Shell, Karl.

PD May 1988. **TI** Sunspot Equilibrium in an Overlapping-Generations Economy with an Idealized Contingent-Commodities Market. **AU** Cass, David; Shell, Karl. **AA** Cass: University of Pennsylvania. Shell: Cornell University. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-13; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 29. **PR** No Charge. **JE** 021, 022, 023, 111, 131. **KW** Competitive Equilibrium. Overlapping-Generations Model. Sunspots. Contingent Commodities.

AB We analyze a highly idealized infinite-horizon, overlapping-generations economy in which trading in a full spectrum of contingent commodities takes place before the beginning of economic time. We postulate that participation in the market is unrestricted. Hence, each individual is able to insure against all economic risks, even those which are resolved before his birthdate. We construct an example which possesses a sunspot, nonmonetary equilibrium. It Pareto dominates the nonsunspot, nonmonetary equilibrium, but it is Pareto dominated by a nonsunspot, monetary equilibrium. In earlier work, we have established that restricted market participation is a source of sunspot equilibria. Since market restrictions are assumed away in the present paper, our example establishes that the "double infinity" of consumers and dated commodities (along with the overlapping structure of generations) is another, logically separate source of sunspot equilibria.

Cave, J. K.

PD February 1988. **TI** Multiple Damages in Private Antitrust Suits. **AA** The Rand Corporation. **SR** Rand Paper: 7411; The Rand Corporation, 1700 Main Street, PO Box 2138, Santa Monica, CA 90406-2138. **PG** 9. **PR** No Charge. **JE** 916. **KW** Antitrust. Multiple Damages.

AB Stephen Salant's analysis of multiple damages for private antitrust suits ("Treble Damage Awards in Private Lawsuits for Price Fixing," 'Journal of Political Economy, December 1987) is generalized. The neutrality result that multiple damages do not affect production is shown to hold for a wide range of expected penalty and cost functions, provided indemnification is complete and consumers expect penalties to be a multiple of quantity purchased. If consumers receive less than the cartel pays, neutrality is much less likely.

Chaloupka, Frank

PD July 1988. **TI** The Demand for Cigarettes and Restrictions on Smoking in the Workplace. **AU** Chaloupka, Frank; Saffer, Henry. **AA** Chaloupka: University of Illinois. Saffer: Kean College. **SR** National Bureau of Economic Research Working Paper: 2663; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 913, 931. **KW** Clean Air. Smoking. Cigarettes. Workplace. Environment.

AB The purpose of this paper is to empirically test the effect that restrictive clean air laws have on the level of smoking. Restrictive clean air laws refers to the laws which prohibit smoking in private workplaces as well as in public places. The data employed in this study consist of a time series of cross sections of the fifty states of the United States, and Washington, D.C., over the time period from 1975 through 1985. Since states where sentiment is strongly against cigarettes are more likely to pass a clean air law, endogeneity between cigarette demand and the clean air law is a problem. A two step estimation model is used to control for endogeneity. Both a single equation and a two equation model of cigarette demand were estimated. The single equation results indicate that a clean air law has a significant negative effect on cigarette demand. However, the two equation model indicates that cigarette demand has a significant negative effect on the probability of passing a clean air law.

Chander, Parkash

PD May 1988. **TI** The Optimal Product-Mix for a Monopolist in the Presence of Congestion Effect: A Model and Some Results. **AU** Chander, Parkash; Leruth, Luc. **AA** Chander: California Institute of Technology and Indian Statistical Institute. Leruth: CEME, Universite Libre de Bruxelles. **SR** Caltech Social Science Working Paper: 673; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 11. **PR** No Charge. **JE** 022, 616, 611, 511. **KW** Congestion. Monopoly. Differentiated Products. Product Quality. Heterogeneity.

AB The paper develops a model of product differentiation in which the quality of a product may be negatively affected by the number of consumers buying it, as it is the case for any good affected by congestion. It is shown that for any positive degree of heterogeneity among the consumers, a monopolist will always find it more profitable to differentiate, i.e., to sell more than one quality of the product at different prices.

PD June 1988. **TI** Incentives and a Process Converging to the Core of a Public Goods Economy. **AA** California Institute of Technology and Indian Statistical Institute. **SR** Caltech Social Science Working Paper: 677; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 18. **PR** No Charge. **JE** 021, 022, 024. **KW** Core. Incentives. General Equilibrium. Efficient Allocation.

AB The paper considers economies involving one public good, one private good, and constant returns to scale. It is shown that the process proposed earlier in Chander (1983, 1987a, and 1987b) always converges to an allocation which is in the core of the economy. This is then interpreted as an incentive property of the process and it is shown that there exists no process which always converges to the core and in which truthtelling constitutes a dominance equilibrium of the "local incentive game".

Chatterjee, Satyajit

PD June 1988. **TI** Multiplicity of Equilibria and Fluctuations in an Imperfectly Competitive Economy with Entry and Exit. **AU** Chatterjee, Satyajit; Cooper, Russell. **AA** Chatterjee: University of Iowa. Cooper: National Fellow, Hoover Institution and University of Iowa. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-25; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 44. **PR** No Charge. **JE** 023, 131, 611, 133, 024. **KW** Externalities. Entry. Imperfect Competition. Business Cycle.

AB In this paper, we study the macroeconomic implications of entry and exit of firms in an imperfectly competitive economy. Entry and exit occurs over the course of the business cycle yet most macroeconomic models with imperfectly competitive markets assume that the number of firms in the economy is given. We focus on two effects of entry and exit. First, there may exist multiple equilibria stemming from strategic interactions in the participation decisions of potential entrants. Equilibria with both low and high rates of market participation may exist. In the former output and employment are lower than in the latter and these equilibria are Pareto-ranked. Second, we investigate the effects of entry and exit on the response of the economy to demand shocks. We find that entry and exit will reduce the sensitivity of prices to disturbances and hence magnify the effect of shocks on equilibrium quantities.

Chau, Fernando

TI Valuable Relationships and Credit in a Two Period Economy. **AU** Barham, Vicky; Chau, Fernando.

Cho, Jang Ok

PD May 1988. **TI** Employment and Hours Over the Business Cycle. **AU** Cho, Jang Ok; Cooley, Thomas F. **AA** University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 132; Department of Economics, University of Rochester, Rochester, NY 14627. **PR** No Charge. **JE** 133, 131, 821, 023. **KW** Business Cycle. Employment. Representative Agent. Dynamic Model.

AB Approximately one quarter of the adjustment in total hours of employment over the business cycle represents adjustments in hours while the remainder is explained by changes in employment. Real Business Cycle theories based on representative agent models have abstracted from these facts by characterizing agents as either continuously adjusting their hours or making only labor force participation decisions about jobs with indivisible hours. In this paper we extend the representative agent framework in a way that is more in the spirit of the modern labor supply literature; workers decide on both participation and hours. The special feature of our model is that agents are assumed to have a fixed cost associated with labor supply that may depend on individual or aggregate variables, in our example the employment rate. In particular the cost of participating in the labor force is assumed to be an increasing function of the employment rate.

Chvatal, V.

PD July 1987. **TI** On Cutting-Plane Proofs in Combinatorial Optimization. **AU** Chvatal, V.; Cook, W.; Hartmann, M. **AA** Chvatal: Rutgers University. Cook: University of Bonn. Hartmann: Cornell University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 87452-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 39. **PR** No Charge. **JE** 213. **KW** Cutting-Plane Technique. Polyhedron. Stable Set Problem. Linear Inequalities.

AB Gomory's cutting-plane technique can be viewed as a recursive procedure for proving the validity of linear inequalities over the set of all integer vectors in a prescribed polyhedron. The number of rounds of cutting planes needed to obtain all valid linear inequalities is known as the rank of the polyhedron. We prove that polyhedra featured in popular formulations of the stable set problem, the set-covering problem, the set-partitioning problem, the knapsack problem, the bipartite subgraph problem, the maximum-cut problem, the acyclic subdigraph problem, the asymetric traveling salesman problem, and the traveling salesman problem have arbitrarily high rank. In particular, we prove conjectures of Barahona, Grotschel, and Mahjoub; Chvatal; Grotschel and Pulleyblank; and Junger.

Clotfelter, Charles T.

PD April 1988. **TI** Is There A Regional Bias in Federal Tax Subsidy Rates for Giving? **AU** Clotfelter, Charles T.; Feenberg, Dan. **AA** Clotfelter: Duke University. Feenberg: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2564; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 921. **KW** Charity. Taxes. Subsidy.

AB This study examines regional variation in average subsidy rates for charitable donations. Because the tax incentive for contributions is embodied in an itemized deduction, the subsidy rate for an individual depends on the taxpayer's itemization status and marginal tax rate. It is well known that this subsidy rate rises with income. On a regional level, one would expect that subsidy rates would be higher in wealthier regions. What is not clear is the extent of such variation or whether subsidy rates vary systematically independent of income. In order to examine the various sources of variation, we decompose subsidy rates. We find significant variation in subsidy rates independent of income, in what appears to be an unintended regional bias in the federal policy toward charitable giving. If most contributions remain in the state or region of the donor, this bias will tend to affect the regional development of the nonprofit sector.

Cochrane, John H.

PD July 1988. **TI** A Test of Consumption Insurance. **AA** University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2642; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 921. **KW** Insurance. Consumption Growth.

AB Are individuals effectively insured against idiosyncratic shocks to income or wealth by either formal or informal mechanisms. This paper shows that under perfect insurance, marginal utility should grow at the same rate for all consumers, and that the distribution of measured consumption growth rates should be independent of variables that are exogenous to the individual consumer when we allow for measurement error in consumption and for variation in preferences. This proposition is tested by cross sectional regressions of individual consumption growth on a variety of variables that should not be correlated with it under perfect insurance, including illness, being fired from a job, etc.

Cohen, Daniel

PD June 1988. **TI** The European Monetary System and the Franc-Mark Asymmetry. **AU** Cohen, Daniel; Melitz, Jacques; Oudiz, Gilles. **AA** Cohen: CEPREMAP. Melitz: INSEE. Oudiz: Ecole Polytechnique, Paris. **SR** Centre for Economic Policy Research Discussion Paper: 245; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 15. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 431, 432. **KW** European Monetary System. Monetary Discipline. International Cooperation. Fiscal Policy.

AB What purpose does the European Monetary System serve? Who benefits from it? Is it a Deutschmark zone? Or could one argue that, despite the asymmetrical positions of France and Germany, the System does serve a certain collective interest? An attempt to answer these questions reveals a basic paradox in the System: the operation of the EMS tends to undermine its own raison d'etre. In its present form, the EMS relies on superior monetary discipline in Germany, but this breeds monetary discipline elsewhere and therefore lessens the need of other members to lean on Germany for this advantage. The EMS will therefore need to evolve if it is to remain viable. The lines of possible evolution include a movement towards monetary union. The consequences for fiscal policy are particularly important.

Coleman, Wilbur John II

PD May 1988. **TI** Money, Interest, and Capital in a Cash-in-Advance Economy. **AA** Division of International Finance, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 323; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 43. **PR** No Charge. **JE** 111, 311, 023. **KW** Monetary Policy. Capital. Cash-in-Advance. Consumption.

AB A cash-in-advance constraint on consumption is incorporated into a standard model of consumption and capital accumulation. Monetary policy consists of lump-sum cash transfers. Methods are developed for establishing the existence and uniqueness of an equilibrium, and for explicitly constructing this equilibrium. The model economy's dependence on monetary policy is explored.

Collins, Susan M.

PD May 1988. **TI** South Korea's Experience with External Debt. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2598; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 49. **PR** $2.00. **JE** 121, 112, 431. **KW** South Korea. Economic Policy. Debt.

AB This paper examines South Korea's macroeconomic performance and experience with external debt during 1960-1986. Most of Korea's debt was accumulated during three periods: 1966-69, 1974-75 and 1979-81. Each involved an initial phase of economic difficulty and a slowdown in growth, followed by an impressive recovery. The paper reviews the economic and political developments during each cycle in some detail. Of particular interest are the shifts in economic policy as domestic authorities responded to external and internal developments. The paper is part of a larger study of the Korean experience.

PD May 1988. **TI** Inflation and the EMS. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2599; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 432, 431, 134. **KW** European Monetary System. Exchange Rates. Inflation.

AB Since the European Monetary System was instituted in March 1979, there has been a dramatic reduction in the inflation rates of member countries. This development is widely attributed to the EMS itself. The purpose of this paper is to argue that the theoretical and empirical basis for such a claim is far from conclusive. On the theoretical side, the paper develops a model which highlights two issues. First, changes in the "rules" of the exchange rate system need not coincide with changes in expectations about Central Bank behavior. In fact, expectations in France do not seem to have changed until policy makers "got tough" in 1982-83. Second, different researchers have made quite different assumptions about exactly what "rules" the EMS imposes. The paper shows that how the system works matters in terms of the effect joining will have on inflation. On the empirical side, the paper shows that effects which have been attributed to the EMS are in large part due to the global deflation since 1979 and to the fact that EMS members had relatively low inflation before 1979.

TI External Debt and Macroeconomic Performance in South Korea: A Summary. **AU** Park, Won Am; Collins, Susan M.

Conway, Roger K.

TI The Stochastic Coefficients Approach to Econometric Modeling, Part II: Description and Motivation. **AU** Swamy, P. A. V. B.; Conway, Roger K.; Leblanc, Michael R.

Cook, W.

TI On Cutting-Plane Proofs in Combinatorial Optimization. **AU** Chvatal, V.; Cook, W.; Hartmann, M.

Cooley, Thomas F.

TI Employment and Hours Over the Business Cycle. **AU** Cho, Jang Ok; Cooley, Thomas F.

Cooper, Russell

TI Multiplicity of Equilibria and Fluctuations in an Imperfectly Competitive Economy with Entry and Exit. **AU** Chatterjee, Satyajit; Cooper, Russell.

Courchene, Thomas J.

PD 1988. **TI** The Free Trade Agreement: Reflections of a Market Nationalist. **AA** University of Western Ontario and York University. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8806C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 69. **PR** $4.00. **JE** 421.

Crafts, N. F. R.

PD June 1988. **TI** Duration of Marriage, Fertility, and Female Employment Opportunities in England and Wales in 1911. **AA** University of Leeds. **SR** Centre for Economic Policy Research Discussion Paper: 252; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 16. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 044, 841, 921. **KW** Birth Control. Fertility. Marriage. Family Planning.

AB Data from the 1911 Census of England and Wales are examined for evidence of family limitation early in marriage. It is shown that a substantial number of couples used birth control for 'spacing' as well as 'stopping' fertility. Moreover 'spacing' of births appears to have been more widespread in districts in which female employment opportunities were relatively good. In general the results obtained do not fit with the 'Princeton' view of the European fertility transition, with its stress on parity-specific family limitation spreading in response to improvements in contraceptive information and technology.

Craine, Roger

PD April 1988. **TI** Asset Values and Economic Fundamentals. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8870; IBER, 156 Barrows Hall University of California Berkeley, CA 94720. **PG** 40. **PR** $3.50. **JE** 131, 313. **KW** Competitive Equilibrium. Dynamic Programming. Co-integration. Real Business Cycle. Asset Prices.

AB This paper examines the theoretical and observed co-movements of financial variables and the economic fundamentals. I use a real business cycle model to define the *economic fundamentals*, but most of the results apply to less precisely specified macroeconomic models. The data are not consistent with the theoretical prediction of a tight linkage between asset values and the economic fundamentals. The data easily reject the most stringent, and least reasonable, hypothesis that Tobin's q always equals one. Vector autoregressions show none of the strong short-run feedback from real to financial variables predicted by the theory. And co-integration tests cannot reject the least stringent null hypothesis of no long-run equilibrium relationship.

PD June 1988. **TI** Risky Business: The Allocation of Capital. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8873; IBER, 156 Barrows Hall, University of California Berkeley, CA 94720. **PG** 31. **PR** $3.50. **JE** 021, 026, 313, 522. **KW** Risk. Expected Return. Capital Allocation. General Equilibrium. Asset Pricing Model.

AB This paper examines the effect of risk on the allocation of capital in a general equilibrium model. In models of the firm a mean-preserving spread in the price of output increases the expected value of profits and frequently the firm's demand for capital. These results seem to contradict the conventional wisdom from financial asset pricing models where an increase in an asset's risk decreases the demand for that asset. This paper presents a resolution to the apparent contradiction. In general equilibrium an increase in exogenous risk (a mean-preserving spread in the state of nature) usually increases expected output in that technology (the result from the theory of the firm) but it may also increase the risk of that technology (the results from finance). An increase in exogenous risk reallocates capital toward less risky businesses.

Cukierman, Alex

PD May 1988. **TI** Monetary Policy and Institutions in Israel. Past, Present and Future. **AU** Cukierman, Alex; Sokoler, Meir. **AA** Cukierman: Tel-Aviv University. Sokoler: Bank of Israel. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 17-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 125. **PR** No Charge. **JE** 311, 314, 133. **KW** Monetary Policy. Monetary Institution. Israel. Monetary Reform.

AB This paper takes a detailed look at the institutions of monetary policy in Israel, at the goals and limitations of this policy and at the role of the institutions in the creation of mechanisms that produce automatic monetary accommodation. It also reviews ongoing reforms of those institutions and evaluates the likelihood that such reforms will loosen the circle of accommodation.

da, Costa Werlang Sergio Ribeiro

TI On Aumann's Notion of Common Knowledge -- An Alternative Approach. **AU** Tan, Tommy Chin Chiu; da, Costa Werlang Sergio Ribeiro.

TI Uncertainty Aversion and the Optimal Choice of Portfolio. **AU** Dow, James; da, Costa Werlang Sergio Ribeiro.

Danthine, Jean Pierre

PD March 1988. **TI** Efficiency Wages and the Real Business Cycle. **AU** Danthine, Jean Pierre; Donaldson, John B. **AA** Danthine: University of Lausanne and Columbia University. Donaldson: Columbia University. **SR** Universite de Lausanne Cahiers de Recherches Economiques: 8803; Departement d'econometrie et d'economie politique, Universite de Lausanne BFSH - Dorignv, CH-1015 Lausanne / SWITZERLAND. **PG** 51. **PR** No Charge. **JE** 023, 111, 133, 821, 131. **KW** Efficiency Wages. Business Cycle. Non-Walrasian Equilibrium. Unemployment.

AB In the spirit of Kydland-Prescott (1982), this paper provides a test of the ability of efficiency wage considerations to account for the observed dynamics of macroeconomic aggregates. We focus exclusively on the "shirking" and "gift exchange" motivations for efficiency wages. The main thrust of this work is to open the "Real Business Cycle" methodology to non-Walrasian considerations and, reciprocally, to submit some non-Walrasian models to the discipline of the Real Business Cycle approach. In so doing we construct the first RBC model with involuntary unemployment and a suboptimal equilibrium path. We also show the promise and the difficulty of resolving the business cycle puzzle by appealing to quantity rationing in the labor market.

PD April 1988. **TI** Modelisation Des Fluctuations Conjoncturelles: Une Approche Nouvelle. **AA** Universite de Lausanne. **SR** Universite de Lausanne Cahiers de Recherches Economiques: 8804; Departement d'econometrie et d'economie politique, Universite de Lausanne BFSH - Dorignv, CH-1015 Lausanne / SWITZERLAND. **PG** 35. **PR** No Charge. **JE** 133, 131, 111, 821, 023. **KW** Real Business Cycle. Efficiency Wages. Fluctuations. Stochastic Growth Model. Employment.

AB This paper proposes a selective survey of the Real Business Cycle (RBC) literature. In the first part, the empirical definition of business cycle phenomena and in particular the problems raised by the identification of cyclical movements from the raw data are addressed. The neoclassical stochastic growth model is then cast as the cornerstone of the theoretical construction underlying this literature. Its strengths and weaknesses are evaluated and used to motivate the later developments. Three solutions to the "Business Cycle puzzle" -- the excessive variability of employment relative to productivity -- are then reviewed. They involve modifying preferences, in order to allow for more intertemporal substitutability of labor, consumption opportunities, in order to take account of indivisibilities in labor arrangements, or technology, so as to integrate efficiency wage considerations into the model. Throughout, emphasis is laid on methodological issues and the prospects of the Real Business Cycle approach. (IN FRENCH).

Davidson, Carl

PD April 1988. **TI** Multiple Free Trade Equilibria in a Model of Frictional Unemployment. **AU** Davidson, Carl; Martin, Lawrence; Matusz, Steven. **AA** Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8716; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 46. **PR** No Charge. **JE** 411, 421. **KW** Job Search. Unemployment. International Trade. Multiple Equilibrium.

AB We modify the factor endowment model of international trade to account for search generated unemployment in one of the two sectors. We show that trading opportunities between identical countries may result in multiple equilibria, even though both countries possess unique autarkic equilibria. Positive trade can be a stable outcome, even when both countries possess identical factor endowments. We compare welfare levels between countries both before and after trade, and examine the effect of trade on unemployment. Welfare is generally different between the two countries, and may be higher or lower with trade than without. Unemployment is not correlated with welfare.

Deneckere, Raymond

PD March 1988. **TI** Price Leadership. **AU** Deneckere, Raymond; Kovenock, Dan. **AA** Deneckere: Northwestern University. Kovenock: Purdue University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 773; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 30. **PR** No Charge. **JE** 022, 026, 641. **KW** Price Leadership. Duopoly. Capacity Constraints. Stackleberg Model.

AB This paper analyzes duopolistic price leadership games in which firms have capacity constraints. We provide a complete characterization of price leader equilibria under quite general assumptions on demand and for arbitrary capacities. We show that when capacities are in the range where a simultaneous move price setting game (with residual demand specified a la Levitan-Shubik and Kreps-Scheinkman) yields a mixed strategy solution the large capacity firm is indifferent between being a leader, a follower, or moving simultaneously. The small capacity firm, while indifferent between being a leader and moving simultaneously, strictly prefers to be a follower. This motivates the discussion of several games of timing with ex-post inflexible prices in which the high capacity firm becomes an endogenously determined price leader. We thus provide a game theoretic model of dominant firm price leadership.

Denton, Nancy A.

PD May 1988. **TI** Residential Segregation of Blacks, Hispanics, and Asians by Socioeconomic Status and Generation. **AU** Denton, Nancy A.; Massey, Douglas S. **AA** Denton: Population Research Center/NORC. Massey: NORC and University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 88-2; Economics Research Center/NORC, 6030 South Ellis, Chicago, IL 60637. **PG** 30. **PR** $2.00; send requests to Librarian, NORC. **JE** 917,

914, 931, 921. **KW** Segregation. Minorities. Socioeconomic Status. Urban Economics.
AB This article considers the effect of socioeconomic status on the segregation of blacks, Hispanics, and Asians in 60 United States metropolitan areas. The index of dissimilarity is computed to determine the level of segregation of each group from non-Hispanic whites within categories of education, income, and occupation. The index is also computed separately for immigrants and natives among Hispanics and Asians. Results show that blacks are highly segregated from non-Hispanic whites at all socioeconomic levels. Hispanic and Asian segregation is not only lower at all levels of SES, but declines markedly from low to high socioeconomic status. For Asians and Hispanics, segregation falls from the immigrant to the native generation. Results indicate that barriers to integration persist for blacks in American society, but that processes of integration and assimilation continue for Hispanics and Asians.

Deolalikar, Anil

TI Technology, Production and Technology Purchase in Indian Industry: An Econometric Analysis. **AU** Evenson, Robert; Deolalikar, Anil.

DeRosa, Dean

PD July 1988. **TI** Agricultural Trade and Protection in Asia. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/63; International Monetary Fund, Washington D.C. 20431. **PG** 30. **PR** No Charge. **JE** 713, 422, 421, 323. **KW** Imports. Agriculture. Tariffs. Protectionism. Trade.
AB The study reveals agricultural import restrictions are widely applied in Asia, but that Japan and Korea impose lower average tariffs and nontariff barriers with less frequency than most Asian countries. It also finds several low and middle-income countries enforce relatively low protection for basic foodstuffs, while high-income countries tend to impose relatively high protection for foods. Finally, commodity patterns of trade and protection suggest scope exists for successful reciprocal negotiations to liberalize agricultural trade mainly between low and middle-income Asian countries. Though similar gains might be achieved by unilateral liberalization, reciprocal negotiations are more feasible politically and, on a most-favored-nation basis, would imply greater trade expansion.

Desai, Padma

PD February 1988. **TI** Grain Yield Variability under Socialism Versus Capitalism: Evidence from Recent Soviet Performance. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 378; Department of Economics, Columbia University, New York, NY 10027. **PG** 26. **PR** $5.00. **JE** 711, 713, 715, 053. **KW** Agriculture. Russia. Wheat. Agricultural Policy.
AB Grain yield variability is an issue of importance in assessing the performance and prospects of the Soviet grain economy. More importantly, it is relevant in analysing the broad question of whether grain yields (as well as acreage and outputs) are generally more variable under socialism than under capitalism. Again, for a proper assessment of the issue, it is necessary to remove from observed yields the component that reflects weather fluctuations so that the variability in such weather-adjusted yields can, in turn, be related to changes in policy and agrotechnology on the one hand and "systemic" factors on the other. In this paper, I undertake this task and show that the variability of weather-adjusted Soviet grain yield had risen during the period 1968-82 of the Brezhnev leadership. Such an outcome has important implications. Thus, increased yield variability can, ceteris paribus, raise the need to maintain grain inventories and lead to higher grain imports toward this end.

Diamond, Peter

PD April 1988. **TI** Stochastic Credit in Search Equilibrium, II. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 493; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 29. **PR** No Charge. **JE** 022, 023, 213. **KW** Search. Credit. Barter. Trading.
AB This paper starts with a barter-search model with lumpy commodities. The introduction of credit (without financial intermediaries) is analyzed as a way of increasing trading opportunities. It is assumed that traders use probabilistic trade to enhance the incentive to repay debt. Simulations are done of comparative steady states as the efficiency of the trade process varies. No multiple equilibria are found. Analysis of the equilibrium with no production and no trade shows that the introduction of credit can move the economy out of this equilibrium.

Diewert, W. E.

PD September 1987. **TI** On Tax Reform. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-30; #997-1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PG** 37. **PR** **JE** 323, 024. **KW** Taxes. Tax Reform. Welfare. Efficiency. Canada.
AB My specific topic is tax reform in Canada, but I believe that the proposals for reform that will be suggested here have a more general application to many market economies. Three criteria which may be used to evaluate the tax system of a country are: (i) efficiency, (ii) simplicity, and (iii) fairness. A tax system is inefficient if it is possible to raise the required tax revenue in some other manner which increases the welfare of at least one household without decreasing the welfare of any other household. Simplicity is self-explanatory. However, fairness is a concept which is not easy to characterize and so the reader will have to decide whether the tax reform proposals made in this paper are fair.

Dixit, Avinash

PD May 1988. **TI** Entry and Exit Decisions Under Uncertainty. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 91; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 44. **PR** $3.00. **JE** 521, 522, 313. **KW** Sunk Costs. Brownian Motion. Entry. Option Pricing. Random Walk.
AB Consider a firm that must pay lump sum costs of entry and exit. The output price follows a random walk. The optimal decisions are found by thinking of an idle firm and an active firm as assets that are call options on each other. The solution is a pair of trigger prices for entry and exit. The entry trigger exceeds the variable cost plus the interest on the entry cost, and the exit trigger is less than the variable cost minus the interest

on the exit cost. These gaps produce "hysteresis." Numerical solutions are obtained for several parameter values, and hysteresis is found to be significant even with small sunk costs.

Dollar, David

PD July 1988. **TI** Economic Reform and Allocative Efficiency in China's State-Owned Industry. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 490; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 19. **PR** $2.50; checks payable to University of California at Regents. **JE** 124, 616, 825. **KW** Economic Reform. China. Industrial Reform. Efficient Allocation. Productivity.

AB This empirical study of China's state-owned industry demonstrates that during the period of industrial reform total factor productivity has been increasing rapidly in 20 enterprises surveyed by the World Bank. This productivity performance stands in sharp contrast to the prereform period, during which Chinese industry was notorious for its stagnant total factor productivity. There is also evidence that allocative efficiency improved markedly between 1978 and 1982. Furthermore, efficiency gains across firms have a strong, positive correlation with the share of enterprise profits retained by workers and management, suggesting that the introduction of material incentives has been an important source of these productivity gains.

Donaldson, John B.

TI Efficiency Wages and the Real Business Cycle. **AU** Danthine, Jean Pierre; Donaldson, John B.

Dooley, Michael

PD July 1988. **TI** The Currency Composition of Foreign Exchange Reserves. **AU** Dooley, Michael; Lizondo, Jose Saul; Mathieson, Donald. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/61; International Monetary Fund, Washington D.C. 20431. **PG** 42. **PR** No Charge. **JE** 431, 432. **KW** Exchange Reserves. Developing Countries. Exchange Rate. Currency. Foreign Assets.

AB This study examines the determinants of the currency composition of foreign exchange reserves for both industrial and developing countries. During the period from 1976-85, our empirical results indicate that the currency composition of reserves has been influenced by each country's exchange rate arrangements, its trade flows with reserve currency countries, and the currency of denomination of its debt-service payments. The evidence is consistent with the view that managing the currency composition of a country's net foreign asset position is done more cheaply by altering the currency of denomination of assets and liabilities that are not held as reserve assets.

Dow, James

PD May 1987. **TI** Search Decisions with Limited Memory. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-07; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 32. **PR** No Charge. **JE** 022. **KW** Decision Theory. Consumer Theory. Search. Rationality. Information.

AB This paper concerns the decision problem of a consumer with limited ability to remember useful information who searches to find the lowest price for goods. The purpose of this model is to describe the decision problem of an agent whose decision-making ability, or rationality, is limited but who is aware of this limitation and makes the best decision possible given that constraint. Of particular importance is the hypothesis that the information that is remembered is itself a choice variable, so that the decision problem includes decisions about the methods used to carry out a decision rule. This paper will focus primarily on this part of the decision. The model of search which I consider is chosen with this emphasis in mind.

PD May 1987. **TI** Almost Competitive Price Dispersion with Buyer Search. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-08; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 25. **PR** No Charge. **JE** 022. **KW** Search Theory. Bertrand Equilibrium. Price Equilibria. Monopoly.

AB The purpose of this paper is to investigate price equilibria of markets where buyers incur small search costs in becoming informed of the prices charged by sellers. Simple models of such markets display an intractable feature, namely that their equilibria entail monopoly pricing for arbitrarily small search costs. Without search costs however, the Bertrand equilibrium is for prices to equal marginal costs.

PD February 1988. **TI** Uncertainty Aversion and the Optimal Choice of Portfolio. **AU** Dow, James; da, Costa Werlang Sergio Ribeiro. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-04; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 25. **PR** No Charge. **JE** 311, 313, 026, 022. **KW** Decision Making. Portfolio. Uncertainty. Expected Utility.

AB In this paper we apply the theory of decision making with expected utility and non-additive priors to the choice of optimal portfolio. This theory describes the behavior of a rational agent who is averse to pure 'uncertainty' (as well as, possibly, to 'risk'). We study the agent's optimal allocation of wealth between a safe and an uncertain asset. We show that there is a range of prices at which the agent neither buys not sells short the uncertain asset. In contrast the standard theory of expected utility predicts that there is exactly one such price. We also provide a definition of an increase in uncertainty aversion and show that it causes the range of prices to increase.

Dowrick, Steve

PD February 1988. **TI** The Relative Profitability of Bargaining Over Employment and/or Wages. **AA** Research School of Social Sciences, Australian National University. **SR** Australian National University Working Paper in Economics and Econometrics: 161; Department of Economics, Australian National University, P.O. Box 4, Canberra, A.C.T., 2601, AUSTRALIA. **PG** 18. **PR** No Charge. **JE** 832, 831, 833. **KW** Bargaining. Unions. Profits.

AB Whether employers and unions may wish to bargain over employment levels as well as wages is usually considered as a question of union preferences and of efficiency. If, however, preferences, threat points and bargaining strengths are taken as given, employers may earn higher profits when bargaining is restricted to the labor demand curve, since the threat of job losses will inhibit union wage pressure. The paper examines a range of sufficient conditions for profits to be increased by the exclusion of jobs from the bargaining agenda.

Dreyfus, Jean Francois

TI Optimal Bank Reorganization Policies and the Pricing of Federal Deposit Insurance. **AU** Acharya, Sankarshan; Dreyfus, Jean Francois.

PD June 1988. **TI** Shareholder Heterogeneity, Differentiated Tendering, and Takeover Contests. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 476; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 39. **PR** No Charge. **JE** 611, 514, 522. **KW** Takeover. Competition. Auction Theory.

AB We study the optimal bid design problem faced by a competitive takeover bidder when target equityholders may value bids in differentiated fashion due to taxes, transaction costs, and other market imperfections whose extent varies across shareholders. While shareholders may thus react heterogeneously to a given bid, bidders may affect this response through their choice of bid structure (means of payment). Further, shareholders may trade with "arbitrageurs", who are marginal traders with respect to the relevant market imperfections and value all bids at market value. We characterize the optimally designed bid resulting from the takeover auction, for a broad specification of the source of heterogeneity within the shareholder population. The resulting framework allows for a richer study of those phenomena where the exact number of tendered shares is of relevance, as compared with models where the equilibrium tendering behavior on the part of target shareholders is necessarily characterized by all-or-none tendering. In particular, we consider the impact of supermajority provisions and fair price amendments on the structure and level of optimal bids.

Dubin, Jeffrey A.

PD June 1988. **TI** The Distributional Effects of the Federal Energy Tax Act. **AU** Dubin, Jeffrey A.; Henson, Steven E. **AA** Dubin: Caltech. Henson: Western Washington University. **SR** Caltech Social Science Working Paper: 674; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PR** No Charge. **JE** 723, 722, 932, 323. **KW** Tax Credit. Tobit Model. Energy. Conservation. Households.

AB This paper examines the distributional consequences of the tax credits implemented by the Federal Energy Tax Act of 1978. The distributional effects are of interest both for their own sake, and because they have implications for the cost-effectiveness of the credits. If rates of return to conservation are higher for individuals who consume less housing, as earlier evidence suggests, then conservation incentive programs can achieve larger benefits for a given cost if they are distributionally more progressive. We explain the amount of credit claimed by taxpayers using a tobit model, in which credits claimed are a function of variables that affect the net benefit of weatherization. We estimate the model using data from the 1979 Taxpayer Compliance Measurement Program conducted by the Internal Revenue Service. We find that credits claimed are significantly higher where winters are more severe, where energy prices are high or rising rapidly, and where individuals have higher incomes and spend more on housing. Progressivity indices based on Lorenz-Gini measures of inequality reveal that the tax credits were somewhat regressive, even holding climate and energy prices constant. This suggests that the credits may have been ineffectively targeted. In addition, we find no evidence that the credits had a measurable incentive effect, suggesting that they have largely provided windfall gains to households who would have insulated anyway.

Duca, John V.

PD January 1988. **TI** Mortgage Rationing in the Post Disintermediation Era: Does FHA Make a Difference? **AU** Duca, John V.; Rosenthal, Stuart S. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper Series: 83; Economic Activity Section, Federal Reserve Board, Washington, D.C. 20551. **PG** 24. **PR** No Charge. **JE** 315, 932, 322, 321, 921. **KW** Credit Rationing. Mortgage Market. Housing. Credit Constraints.

AB Recent theoretical models of credit rationing suggest that mortgages are rationed on the basis of default risk despite the development of secondary mortgage markets and the deregulation of deposit rates. We test this hypothesis using aggregate time series data on FHA and conventional mortgage originations. FHA loans are more expensive for borrowers but provide federal guarantees which protect lenders against default losses. For this reason, FHA loans should be subject to easier credit constraints than conventional mortgages, and the FHA share of mortgage originations should increase with ex ante default risk. Default risk is proxied by a bond rate quality spread consistent with previous studies. Our results imply that default risk induced mortgage rationing persists in the post disintermediation era, but that FHA programs help offset the overall impact of rationing on housing markets.

Dumas, Bernard

PD April 1988. **TI** Pricing Physical Assets Internationally. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2569; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 411, 423, 431, 023. **KW** Martingale. Market Efficiency. Adjustment Costs. Physical Capital.

AB Transferring physical capital and transferring production and sales activities from one country to the other typically entails large adjustment costs. The model of this paper features two homogeneous stocks of physical capital located in two different countries separated by an 'ocean'. The two physical stocks are optimally invested in a random production process yielding real returns, consumed by local residents, or transferred abroad. Retrofitting, transferring and re-building capital equipment, and increasing production and sales abroad either takes time (during which capital is idle) or consumes real resources. As a result, the price of capital-consumption goods located in one place is not equal to that of goods located in the other place. The stochastic process for this deviation from the Law of One Price (LOP) is obtained. By construction, this process is compatible with financial market efficiency and with the possibility of (costly) trade in commodities. Whereas empirical studies have found no evidence against the hypothesis that LOP deviations follow a martingale, the theoretical process which I find, exhibits mean reversion (as well as a fair degree of conditional heteroskedasticity) when investors are risk averse.

Dutta, Jayasri

PD January 1988. **TI** Credit Constraints and Investment Finance: Empirical Evidence from Greece. **AU** Dutta, Jayasri; Polemarchakis, Heraklis. **AA** Dutta: Barnard College, Columbia University. Polemarchakis: Graduate School of Business, Columbia University and KETTE, Centre for Planning and Economics Research, Athens. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-18; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 33. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 521, 522, 315, 313, 112. **KW** Credit Constraints. Retained Earnings. Investment. Business Finance. Borrowing. Financial Reform.

AB A firm which faces a borrowing constraint uses retained earnings as an additional source of investment finance. The division of profits between dividend payment and retained earnings is then determined by intertemporal optimization. Once this is the case, an increase in available credit does not translate one-for-one to increases in investment outlay. Further, an increase in the interest rate may lead to reduction in investment in spite of the greater availability of credit; this is due to the effect of the cost of borrowing on corporate savings. Empirical analysis for the private manufacturing sector in Greece, for the period 1964-1986, supports these conclusions. This questions the effectiveness of simple interest rate liberalization alone as a vehicle for promoting investment; and focuses on issues important in the design of financial reforms.

Dutta, Prajit K.

PD March 1988. **TI** Budget Allocation Under Sequential Uncertainty. **AA** AT&T Bell Laboratories and Columbia University. **SR** Columbia International Economics Research Center Discussion Paper: 389; Department of Economics, Columbia University, New York, NY 10027. **PG** 33. **PR** $5.00. **JE** 022, 024. **KW** Budget Constraint. Resource Allocation. Intertemporal Allocation.

AB A budget of known size has to be allocated between different time periods or different stages of a project. At each period or stage either of two outcomes, success or failure, can result. The probability of success at any period is determined by the current allocation from the budget. The returns from the allocation process can be modelled in a number of different ways. The allocation problem is interesting if the resource is useful in the sense that at any period, an increase in the allocation increases the probability of success. Then the intertemporal trade-off results from the fact that increases in the current allocation increases the probability of getting to the next period or stage but diminishes the size of the remaining budget. One can then ask questions as: Is the budget spread evenly or is there, for example, greater allocation in the initial periods. Is the budget exhausted before the end of the decision horizon. What is the effect of varying the budget size. How do the results change when probability of success functions depend on current allocations and current period.

Dybvig, Philip H.

PD February 1988. **TI** Increases in Risk Aversion and Portfolio Choice in a Complete Market. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 859; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 12. **PR** No Charge. **JE** 313, 311. **KW** Investments. Portfolio Theory. Stochastic Dominance. Risk Aversion. Complete Markets.

AB This note examines the effect of changes in risk aversion on the optimal portfolio choice in a complete market. It is shown that an agent who is less risk averse in the Pratt '1964 sense than another will choose a portfolio whose payoff is distributed as the other's payoff plus a nonnegative random variable plus conditional-mean-zero noise. The proof of the result uses simple first order conditions and basic results from stochastic dominance.

PD February 1988. **TI** Nonnegative Wealth, Absence of Arbitrage, and Feasible Consumption Plans. **AU** Dybvig, Philip H.; Huang, Chi fu. **AA** Dybvig: Yale University. Huang: Massachusetts Institute of Technology. **SR** Yale Cowles Foundation Discussion Paper: 860; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 20. **PR** No Charge. **JE** 313, 311. **KW** Investments. Free Lunch. Arbitrage. Option Pricing. Continuous Time.

AB A restriction to nonnegative wealth is sufficient to preclude all arbitrage opportunities in financial models that have risk neutral probabilities that are valid for all simple strategies. Imposing nonnegative wealth does not constrain agents from making the choice they would make under the standard integrability condition. This conclusion does not depend on whether the markets are complete.

PD July 1988. **TI** Capital Structure and Dividend Irrelevance with Asymetric Information. **AU** Dybvig, Philip; Zender, Jaime. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 878; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven CT 06520. **PG** 36. **PR** $2.00. **JE** 313, 311, 522. **KW** Capital Structure. Dividends. Asymmetric Information. Signalling Theory. Investment.

AB The Modigliani and Miller propositions on the irrelevancy of capital structure and dividends are shown to be valid in a large class of models with asymmetric information. The main assumption is that managerial compensation is chosen optimally. This differs from most recent papers on this topic, which impose by fiat a suboptimal contract. Even when imperfections internal to the firm preclude optimal investment, there is a separation between incentives and financing. We also show that making prices reflect idiosyncratic information more accurately does not make investors better off, thus negating the motivation of many of the signalling models.

Dym, Steven

PD May 1988. **TI** Stated vs. Equilibrium Price-Earning Ratios: A Note. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 464; New York University Salomon Brothers Center for the Study of Financial Institutions 90 Trinity Place, New York, NY 10006. **PG** 10. **PR** $4.00. **JE** 226, 514. **KW** Earnings.

Wages. Cyclical. Growth Path. Equilibrium. Long-run Growth.
AB The cyclical nature of earnings often causes actual earnings to be off their equilibrium growth path. Stated Price-Earnings ratios then do not reflect the firm's long-run growth prospects. Therefore, comparing firms' long-run growth potential based on their respective P-E ratios is only correct when they are at similar points in their respective earnings cycles. Further, for a firm off its long-run earnings growth path, the stated P-E ratio does not measure the stock price's responsiveness to interest rate changes.

Dymski, Gary A.

PD April 1988. **TI** Misleading Signalling, Bank Lending, and the Latin American Debt Crisis: Theory and Evidence. **AU** Dymski, Gary A.; Pastor, Manuel Jr. **AA** Pastor: Occidental College. Dymski: University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8812; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 39. **PR** No Charge. **JE** 433, 431, 321, 311. **KW** Developing Countries. Moral Hazard. Debtor Nation. Signalling. Coercion. Commercial Banks. Latin America.
AB This paper develops a new model of the determinants of bank lending to sovereign LDC borrowers. We formulate the LDC-lender relationship as one in which moral hazard and noise play fundamental roles. Moral hazard arises because the borrower government's ability to pay depends ultimately on its ability to suppress real wages and the wage share of income: even if income targets are not met, the "borrower" can honor its commitments by redistributing income. An indication of willingness to take such action is a "coercive signal." Implicit in coercive signalling is the borrower's expectation that redistribution will not damage economic productivity. A coercive signal is misleading when the magnitude of feedback effects on work effort and social stability is misrepresented. A signal may not be detected as misleading both because income realizations are noisy and because of unexamined prior assumptions about the effect of social structure on economic behavior. We investigate our model econometrically using evidence from Latin America. ng to.

Eaton, Jonathan

PD August 1988. **TI** The Firm and Worker Loyalty. **AA** University of Virginia and National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-30; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 41. **PR** No Charge. **JE** 824, 825, 833, 611, 022. **KW** Deferred Compensation. Monitoring. Moral Hazard. Incentive Compatibility. Job Tenure. Credibility.
AB Empirical analysis has revealed two striking differences in United States and Japanese employment practices: Job tenure in Japan is longer, and wages rise faster with duration of employment. These characteristics may reflect compensation schemes that tie workers' incentives more closely to the long-term interests of the firm by deferring compensation until a time when it can be related more closely to the workers' previous effort. For deferred compensation to succeed in eliciting greater effort on behalf of the firm requires that the promise of later compensation for current effort be credible. If firms fulfil promises to pay deferred compensation in order to maintain their ability to defer compensation for workers hired subsequently then entry cannot occur to the point at which a marginal worker has zero net value. The constraint that the firm can offer only compensation schemes that will subsequently be in its interest to fulfil will in some circumstances imply that less effort can be elicited than would be the case if commitment to a scheme were perfect. This constraint will reduce effort more the higher the discount rate facing workers and firms. The lower cost of capital in Japan may therefore provide one explanation for the high levels of labor productivity achieved by Japanese firms.

PD August 1988. **TI** Intertemporal Price Competition. **AU** Eaton, Jonathan; . Engers, Maxim. **AA** Eaton: University of Virginia and National Fellow, Hoover Institution. Engers: University of Virginia. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-31; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 60. **PR** No Charge. **JE** 022, 611. **KW** Price Competition. Dynamic Oligopoly. Differentiated Products. Collusion. Markov Perfect Equilibrium.
AB This paper develops a model of alternating price competition between firms selling differentiated products to nonhomogeneous consumers. Introducing an arbitrarily small degree of price sluggishness can allow firms to set quite collusive prices even though each firm's price depends only upon its rival's current price. We find two types of equilibria. In one, which we call "disciplined equilibria," the steady-state price is enforced by the implicit threat to respond to a price cut with further price cutting. In the other, which we call "spontaneous equilibria," no such threat is needed. We find that consumers in the smaller market tend to pay a higher price, as do consumers in the market served by the more efficient firm. The price supported by a disciplined equilibrium is greater the less differentiated are the products.

Ebert, Udo

PD February 1988. **TI** Consumer's Welfare and Price Uncertainty. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-168; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 30. **PR** No Charge. **JE** 024, 022, 026. **KW** Risk Aversion. Welfare. Uncertainty.
AB This paper deals only with one side of the market, namely the consumer's welfare. The article is concerned with some theoretical problems of the evaluation of welfare gains or losses. At the beginning the case of price certainty is discussed. The main part of the paper investigates welfare measures under price uncertainty. It is demonstrated that the usual indicators as the expected equivalent and compensating variation and the expected Marshallian consumer's surplus are reliable only in very few situations. Until now it is well known (cf. Helms (1984, 1985)) that they are valid measures if the corresponding cardinal utility function has certain properties. The new important result is the insight that these measures are only valid if the underlying preference ordering satisfies certain restrictions. In general they are invalid. Therefore these indicators cannot be used in theoretical or applied studies.

PD March 1988. **TI** Optimal Income Taxation: On the Case of Two-Dimensional Populations. **AA** University of Bonn. **SR** *Universitat Bonn Sonderforschungsbereich 303 -* Discussion Paper: A-169; Sonderforschungsbereich 303 an der

Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 29. **PR** No Charge. **JE** 323, 022. **KW** Income Tax. Mirrlees Model. Principal-Agent Model.

AB This paper deals with the problem of optimal income taxation for a two-dimensional population. Some conditions on the preference orderings and the utility functions are provided which allow us to transform the problem and to describe some properties of its solution. The limitations of the method employed are discussed. Of course these results are also important for other applications of the general principal-agent problem which underlies our analysis.

Ehrenberg, Ronald

PD August 1988. **TI** Econometric Analysis of the Empirical Consequences of Comparable Worth: What Have We Learned. **AA** Cornell University. **SR** National Bureau of Economic Research Working Paper: 2672; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 826, 813, 823, 821. **KW** Comparable Worth. Wage Differential. Women. Labor Supply.

AB This paper presents a survey of the small, but growing, empirical literature by economists on the consequences of comparable worth. It discusses in turn studies of comparable worth's effects (or potential effects) on the male/female earnings gap, on female employment, on female labor supply and occupational mobility, and on women and their families as a group. The survey is critical in nature and areas in which further research is needed are indicated.

Ehrenberg, Ronald G.

PD May 1988. **TI** An Economic Analysis of the Market for Law School Students. **AA** Cornell University. **SR** National Bureau of Economic Research Working Paper: 2602; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 912, 812. **KW** Lawyers. Law School. Benefit-Cost Analysis. Education.

AB This study utilizes data from a number of sources to estimate how lawyers' starting salaries relate to their ability, the quality of law school they attended, and whether the law school was a private institution. Based upon this analysis, a benefit-cost analysis is conducted of the value of attending a high-quality private institution. Analyses are also done of how the financial attractiveness of law vis-a-vis other careers has changed in recent years and a conceptual framework discussed for law schools to use in allocating their financial aid resources.

PD June 1988. **TI** Advance Notice Provisions in Plant Closing Legislation: Do They Matter? **AU** Ehrenberg, Ronald; Jakubson, George H. **AA** Cornell University. **SR** National Bureau of Economic Research Working Paper: 2611; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 822, 832, 833. **KW** Plant Shutdowns. Layoffs. Collective Bargaining. Public Policy. Unemployment.

AB This paper evaluates the cases for and against plant closing legislation. In spite of the growth of legislative efforts in the area, there has been surprisingly little effort devoted to analyzing what the effects are of existing plant closing legislation, of provisions in privately negotiated collective bargaining agreements that provide for advance notice in case of plant shutdowns and/or layoffs, and of voluntary employer provision of advance notice. The paper summarizes the results of previous research, and our own empirical analyses that used the January 1984 Bureau of Labor Statistics Survey of Displaced Workers, on the effects of advance notice on displaced workers' durations of nonemployment and post-displacement earnings. Based upon these findings, implications for public policy are drawn.

PD June 1988. **TI** Do Tournaments Have Incentive Effects. **AU** Ehrenberg, Ronald; Bognanno, Michael. **AA** Cornell University. **SR** National Bureau of Economic Research Working Paper: 2638; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 512, 514, 511, 611. **KW** Tournaments. Compensation. Prizes. Competition.

AB Much attention has been devoted to studying models of tournament or situations in which an individual's payment depends only on his output or rank, relative to other competitors. Such models are of more than academic interest as they may well describe the compensation structures applicable to many corporate executives and professors, to sales people whose bonuses depend on their relative outputs, and to the more obvious example of professional sports tournaments. Academic interest derives from the fact that under certain sets of assumptions tournaments have desirable normative properties because of the incentive structures they provide.

Ehrlich, Edna E.

PD October 1987. **TI** United States Capital Flows to China. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 8705; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 26. **PR** No Charge. **JE** 441, 423, 432, 442. **KW** China. Foreign Exchange. Foreign Debt. Bond Issues. Capital Flow.

AB China has been a conservative borrower; end-1985 foreign debt totaled only $20 Billion. Slightly over half was to banks. Of this, United States bank claims accounted for only 5 1/2 per cent, almost all short-term trade finance. Japanese bank claims totaled much more and were longer term. However, United States banks also lent significant amounts to Chinese bank branches outside China. Bank credit was held down by regulatory considerations, foreign competition, hard Chinese bargaining. Banks have helped capital flow to China by providing consultation services to United States businesses considering investment there. In 1987 the first United States bank loan syndication occurred for China. In addition, China's foreign bond issues in third countries have been brought to market mostly by United States financial institutions. Settlement in 1987 of suit brought by United States holders of old Imperial government bonds paves way for new bond issues in the United States. A new channel for attracting foreign funds could occur during the 1990s, when there might be enough successful enterprises in China to warrant establishment of a closed-end China fund. Such funds are very successful in a few other countries. Certain necessary conditions exist in China. However, financial market and other important hurdles would have to be overcome. Government commitment to increasingly market-oriented economy is required.

Eichengreen, Barry
TI Savings Promotion, Investment Promotion, and International Competitiveness. **AU** Goulder, Lawrence; Eichengreen, Barry.

Einy, Ezra
PD January 1988. **TI** On Non-Atomic Weighted Majority Games. **AU** Einy, Ezra; Neyman, Abraham. **AA** Einy: CORE. Neyman: The Hebrew University of Jerusalem. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8803; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 11. **PR** No Charge. **JE** 026, 024, 213. **KW** Majority Games. Coalition. Simple Games.

AB We present some characterizations for the class of non-atomic weighted majority games which are defined on a measurable space (I,C). The characterizations are done within the class of all monotonic simple games which are upper semicontinuous on C and continuous at I with respect to the N A-topology on C.

PD February 1988. **TI** On Preference Relations Which Satisfy Weak Independence Property. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8810; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 10. **PR** No Charge. **JE** 022, 213. **KW** Preference Relations. Independence Property.

AB We prove some representation results for two classes of preference relations on a convex subset of a topological vector space: continuous preferences which satisfy weak independence property with respect to convex combinations, and continuous preferences which are consistent with respect to translations.

Engers, Maxim
TI Intertemporal Price Competition. **AU** Eaton, Jonathan; Engers, Maxim.

Engle, Charles
TI Asset Pricing with a Factor ARCH Covariance Structure: Empirical Estimates for Treasury Bills. **AU** Rothschild, Michael; Engle, Charles.

Engle, Robert F.
PD April 1988. **TI** Meteor Showers or Heat Waves? Heteroskedastic Intra-daily Volatility in the Foreign Exchange Market. **AU** Engle, Robert F.; Ito, Takatoshi; Lin, Wen Ling. **AA** Engle: University of California, San Diego & NBER. Ito: University of Minnesota & NBER. Lin: University of California-San Diego. **SR** University of Minnesota Center for Economic Research Discussion Paper: 246; Department of Economics, 1035 Management and Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 28. **PR** No Charge. **JE** 313, 431, 212. **KW** Efficiency. Exchange Rate. Foreign Exchange. Vector Autoregression. Asset Prices. ARCH Model.

AB This paper defines and tests a form of market efficiency called market dexterity which requires that asset prices adjust instantaneously and completely in response to new information. Examining the behavior of the yen/dollar exchange rate while each of the major markets are open it is possible to test for informational effects from one market to the next. Assuming that news has only country specific autocorrelation such as a heat wave, any intra-daily volatility spillovers (meteor showers) become evidence against market dexterity. ARCH models are employed to model heteroskedasticity across intra-daily market segments. Statistical tests lead to the rejection of the heat wave and therefore the market dexterity hypothesis. Using a volatility type of vector autoregression we examine the impact of news in one market on the time path of volatility in other markets.

PD June 1988. **TI** Meteor Showers or Heat Waves? Heteroskedastic Intra-Daily Volatility in the Foreign Exchange Market. **AU** Engle, Robert F.; Lin, Wen Ling; Ito, Takatoshi. **AA** Engle, Lin: University of California, San Diego. Ito: University of Minnesota. **SR** National Bureau of Economic Research Working Paper: 2609; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 313, 311. **KW** Market Efficiency. Asset Prices. Exchange Rates. ARCH. Information.

AB See Engle above.

Ericsson, Neil R.
TI Econometric Modeling of Consumers' Expenditure in Venezuela. **AU** Campos, Julia; Ericsson, Neil R.

Estrella, Arturo
PD March 1988. **TI** Interest Rate Swaps: An Alternative Explanation. **AU** Estrella, Arturo; Arak, M.; Goodman, L.; Silver, A. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 8811; 33 Liberty St., Rm. 901, NY, NY 10045. **PR** No Charge. **JE** 313, 315, 311. **KW** Interest Rate Swaps. Innovations. Interest Rates. Credit.

AB This paper argues that interest rate swaps have been a popular innovation because they allow for market completion. Prior to the swap market, there was no instrument that allowed a firm to achieve a fixed base interest rate and a floating credit spread. Fixed rate instruments provide a fixed interest rate and a fixed credit spread. Floating rate notes allow a floating interest rate and a fixed credit spread. Short term funding provides a floating interest rate and a floating credit spread. A combination of short term funding and a swap, in which the borrower receives floating and pays fixed, allows for the borrower to achieve a fixed base interest rate and a floating credit spread. This paper develops the market completion argument more fully, and then develops conditions under which a borrower would prefer the previously unattainable combination.

Evenson, Robert
PD July 1988. **TI** Technology, Production and Technology Purchase in Indian Industry: An Econometric Analysis. **AU** Evenson, Robert; Deolalikar, Anil. **SR** Yale Economic Growth Center Discussion Paper: 556; 27 Hillhouse Avenue; New Haven, CT 06520. **PG** 31 pp. **PR** $2.00. **JE** 621, 121. **KW** Technology. Incentives. India. Developing Countries.

AB Industrial firms in low income countries face somewhat different incentives for investment in R&D than do firms in industrialized countries. In particular, they are at a competitive disadvantage with respect to selling technology upstream in the industrialized countries. Technology supplied from upstream industrial firms provides them with a strong incentive to purchase technology in various forms as opposed to engaging in their own R&D. In this study an econometric analysis of the decisions of Indian firms to invest in their own R&D and to purchase technology (through licensing agreements) is undertaken. These decisions are treated as being jointly determined by characteristics of Indian industries, Indian prices, and the supply of purchasable foreign technology. The study finds that industrial structure, firm size, and public and private ownership influence the mix of own R&D and technology purchase. The pool of purchasable foreign technology induces both increased adaptive R&D and technology purchase by Indian firms.

Falkingham, Jane

TI Intergenerational Transfers and Public Expenditure on the Elderly in Modern Britain. **AU** Johnson, Paul; Falkingham, Jane.

Farrell, Joseph

PD July 1988. **TI** Cheap Talk, Neologisms and Bargaining. **AU** Farrell, Joseph; Gibbons, Robert. **AA** Gibbons: Massachusetts Institute of Technology and NBER. Farrell: University of California, Berkeley. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 500; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 16. **PR** No Charge. **JE** 026, 022. **KW** Cheap Talk. Signalling. Communication. Incentives. Bargaining.

AB This paper shows that in some bargaining games, cheap talk must matter: the unique neologism-proof equilibrium involves informative talk. A simple tradeoff makes both equilibrium talk and neologisms credible: by saying that he is interested in trading, the buyer encourages the seller to continue to bargain but receives poorer terms of trade if trade occurs. All types of both parties are (weakly) better off in the neologism-proof equilibrium than in the equilibrium without talk. Thus, cheap talk before bargaining will happen and is socially desirable.

Feenberg, Daniel

TI Is There A Regional Bias in Federal Tax Subsidy Rates for Giving? **AU** Clotfelter, Charles T.; Feenberg, Dan.

PD July 1988. **TI** A Note on Revenue Forecasting During the Dukakis Administrations. **AU** Feenberg, Daniel; Rosen, Harvey. **AA** Feenberg: National Bureau of Economic Research. Rosen: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2667; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 324. **KW** Forecasting. State Government.

AB Critics of Governor Michael Dukakis have suggested that this year's $400 million overestimate of tax revenues in Massachusetts casts doubt on his putative managerial skills. In this paper, we carefully examine the entire Dukakis forecasting record. We find that the 1988 experience was "unusual" in the sense that on average, revenue forecasts produced by his administration have been too low rather than too high. In addition, we find that there is no significant difference between the quality of the Dukakis forecasts and those of his predecessors in Massachusetts. Hence, those who seek to discover anything extraordinarily positive or negative about Dukakis' managerial capabilities should shift their attention to skills other than revenue forecasting.

Feenstra, Robert C.

TI Optimal Exclusion and Relocation of Workers in Oversubscribed Industries. **AU** Lewis, Tracy R.; Ware, Roger; Feenstra, Robert C.

TI Eliminating Price Supports: A Political Economy Perspective. **AU** Lewis, Tracy R.; Feenstra, Robert C.; Ware, Roger.

PD July 1988. **TI** Auctioning U.S. Import Quotas and Foreign Response. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 318; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 22. **PR** No Charge. **JE** 422, 421, 021. **KW** Auction. Tariff. Quota. General Equilibrium. Free Trade. Simulation.

AB In this paper we quantify the potential revenue available to the United States from auctioning import quotas, and the resulting drop in foreign producer surplus relative to free trade. Estimates of auction revenue are in the range of $3.7-5.15 billion for 1986 or 1987. Using simulation results from computable partial or general equilibrium models, we find that this revenue gain would be at the expense of a larger drop in foreign producer surplus. Ignoring textiles and apparel, the potential auction revenue is $1.3-2.15 billion, and the foreign loss is $0.5-0.7 billion relative to free trade. In this situation, foreign retaliation seems likely. As an alternative to auction quotas we propose a system of tariff-quotas, which are designed to keep supplier countries welfare equal to that in free trade. We calculate that the tariff-quotas could raise $0.67-1.55 billion in revenue for the United States. While this amount is less than available through auction quotas, it could still fund a significant program of worker adjustment, and would mitigate the foreign response.

Fershtman, Chaim

PD May 1988. **TI** Dynamic Voluntary Provision of Public Goods. **AU** Fershtman, Chaim; Nitzan, Shmuel. **AA** Fershtman: Tel-Aviv University. Nitzan: Bar-Ilan University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 21-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 29. **PR** No Charge. **JE** 022, 024, 025. **KW** Free Rider Problem. Voluntary Contributions. Public Goods. Dynamic Games.

AB This paper is concerned with dynamic strategic games of voluntary contributions to the supply of public goods. Our analysis focuses on the possible effect on the free riding problem of players being able to observe others' contributions in interim stages of the extended multiperiod game. It turns out that when contributions are made sequentially yet benefit is obtained at the terminal stage of the game, the free riding problem is unaffected. However, in a continuous setting with flow benefits, the free riding problem is aggrevated when observation of and dependence on others' contributions is allowed.

Fishelson, Gideon

PD May 1988. **TI** The Demand for Soccer Bets Israel 1983-1987. **AU** Fishelson, Gideon; Roth, David. **AA** Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 15-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 12. **PR** No Charge. **JE** 026, 212.

KW Prizes. Soccer. Demand Elasticities. Betting.
AB In this article we present the estimated coefficients of the variables determining the demand for soccer bets in Israel. It turns out that at the mean values of the variables the elasticities of demand, measured by bets (columns) are in the range 0.03 to 0.95 with respect to total prizes, in the range -0.11 to 0.54 w.r.t. first prize and in the range -1.1 to -0.98 w.r.t. the price per bet. That of total prizes and of first prize indicate that the prizes policy might be non-optimal. We furthermore suggest that the criteria should be the net returns. Thus, assuming organizational cost to be fixed with regard to the price, the optimum might have been reached with regard to the prizes: an increase of the first prize, while maintaining and reducing total prizes should be reconsidered.

Fixler, Dennis J.

PD February 1988. **TI** A Commercial Bank Output Index. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Prices and Living Conditions. **SR** Bureau of Labor Statistics Working Paper: 179; 441 G Street Northwest, Washington D.C. 20009 Room 2127. **PG** 40 + appendix. **PR** No Charge. **JE** 312, 227. **KW** Banks. Output Price Index. Commercial Banks. Financial Services.
AB Commercial banks play two vital roles in the economy: they are financial intermediaries as well as the hub of the payment system. Consequently, banks are currently a major provider of financial services and the movement to deregulate banks portends an even greater role for them in the provision of financial services. Despite the importance of commercial banking an output price index has not been developed primarily because there is no universally accepted measure of bank output that could serve as a basis for such an index. The output measurement issue is complicated by the absence of a standard way of distinguishing financial inputs from financial outputs in a bank's operation. This paper develops a commercial bank output price index that is grounded in the economic theory of financial firms and resolves the input-output classification issue through an application of the user cost of money, a cost that captures the transaction charges now common to bank statements. The derived index is superlative, nonparametric and of the Tornqvist type. The index also accounts for the characteristics of bank financial output and thereby can respond to both changes in quality and changes in variety.

Forges, Francoise

PD February 1988. **TI** Infinitely Repeated Games with Incomplete Information. **AA** Fonds National de la Recherche Scientifique. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8806; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 17. **PR** No Charge. **JE** 026. **KW** Repeated Games. Incomplete Information. Signalling Games. Zero-Sum Games.
AB Recent results on infinitely repeatedly games with incomplete information are surveyed. They concern non-zero-sum games with lack of information on one side and "standard" signalling matrices (informing the players of each other's moves after every stage) and zero-sum games with more delicate information and signalling patterns.

PD February 1988. **TI** Repeated Games of Incomplete Information: Non-Zero-Sum. **AA** University Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8805; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 26. **PR** No Charge. **JE** 026, 213. **KW** Repeated Games. Incomplete Information. Nash Equilibrium.
AB In two-person non-zero-sum infinitely repeated games of incomplete information, one case has chiefly been studied: one of the players has full information and the actions of the players are announced after every stage. The paper surveys the available results in this model, which consist of characterizations of Nash equilibria and of extensions of this solution concept, like correlated and communication equilibria.

Frankel, Jeffrey A.

PD April 1988. **TI** Factors Determining the Flow of Capital from Japan to the United States. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8872; IBER, 156 Barrows Hall University of California Berkeley, CA 94720. **PG** 26. **PR** $3.50. **JE** 441, 431. **KW** Japan. Capital Flows. Exchange Rate. International Investment.
AB This note examines briefly six factors determining the large net capital flow from Japan to the United States in the 1980s: (1) the large Japanese pool of available savings, (2) rates of return in each country, (3) Japanese financial liberalization, (4) country risk and safe-haven factors, (5) expected changes in the yen/dollar exchange rate, and (6) diversification of exchange risk.

TI Forward Discount Bias: Is it an Exchange Risk Premium.
AU Froot, Kenneth A.; Frankel, Jeffrey A.

Freeman, Richard B.

PD April 1988. **TI** The Impact of New Unionization on Wages and Working Conditions: A Longitudinal Study of Establishments Under NLRB Elections. **AU** Freeman, Richard B.; Kleiner, Morris M. **AA** Freeman: National Bureau of Ecoonomic Research. Kleiner: University of Minnesota. **SR** National Bureau of Economic Research Working Paper: 2563; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 831, 833. **KW** Unions. Labor Policy.
AB This study investigates the impact of union organization on the wages and labor practices of establishments newly organized in the 1980s using a research design in which establishments are 'paired' with their closest nonunion competitor. There are two major findings. First, unionism had only a modest effect on wages in the newly organized plants, which contrasts sharply with the huge union wage impact found in cross-section comparisons of union and nonunion individuals on Current Population Survey and related data tapes. Second, in contrast to its modest impact on wages, new unionization substantially altered several personnel practices, creating grievance systems, greater seniority protection, and job bidding and posting. That newly organized establishments adopt union working conditions but grant only modest increases in wages suggests that "collective voice" rather than monopoly wage gains is the key to understanding what unionism does in the economy.

French, Mark

PD July 1988. **TI** Efficiency and Equity of a Gasoline Tax Increase. **AA** Board of Governors of the Federal Reserve. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 33; Division of

Research and Statistics, Federal Reserve Board, Washington, D.C. 20551. **PG** 33. **PR** No Charge. **JE** 722, 721, 323, 024. **KW** Taxes. Gasoline. Fuel. Pollution. Consumer Welfare.

AB This paper measures the efficiency and equity of an increase in the federal gasoline tax. Such an increase is shown to be a relatively efficient source of additional federal revenues. Near-term deadweight losses in consumer welfare would be small, the tax rise would reduce price distortions related to pollution and congestion, and near-term income losses related to macroeconomic rigidities would be comparable to losses from alternative revenue-raising options. An increase in the gasoline tax would involve some inequities. It would not affect equally all people with the same earning power, and it would not take less from those people with less ability to pay. The extent of this inequity could be reduced with income tax credits for increased gas tax payments by low-income taxpayers.

Frenkel, Jacob

PD July 1988. **TI** The International Monetary System: Developments and Prospects. **AU** Frenkel, Jacob; Goldstein, Morris. **AA** International Monetary Fund. **SR** National Bureau of Economic Research Working Paper: 2648; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 432, 431, 423, 411. **KW** Exchange Rates. International Monetary System. World Economy.

AB This paper addresses several fundamental issues raised by recent developments in the world economy and considers their implications for the design and functioning of the international monetary system. We do not make any proposals. The four issues examined in the paper are: (1) Can the exchange rate regime do much to discipline fiscal policy?; (2) What are the extent and costs of reduced monetary independence under greater fixity of exchange rates?; (3) How can the equilibrium exchange rate best be determined?; and (4) Does a well functioning international monetary system require a clearly defined set of rules, an acknowledged leader, and an explicit anchor.

PD July 1988. **TI** Exchange-Rate Management Viewed as Tax Policies. **AU** Frenkel, Jacob; Razin, Assaf. **AA** Frenkel: International Monetary Fund. Razin: Tel Aviv University. **SR** National Bureau of Economic Research Working Paper: 2653; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 323, 321, 422, 411. **KW** Tax Policy. Exchange Rates. Borrowing. Subsidy. Fiscal Policy.

AB The paper develops an analytical framework which demonstrates that the various forms of exchange rate management are equivalent to corresponding tax policies. To highlight the salient issues, we consider two specific categories of exchange rate policies. The first is a dual exchange rate regime, which separates exchange rates for commercial and for financial transactions, and the second is a unified exchange rate system in which the country unilaterally pegs its exchange rate at the same rate for all transactions. We show that the dual exchange rate policies can be usefully cast as distortionary taxes on international borrowing, and a unified pegged exchange rate policies can be usefully cast as lump-sum tax cum subsidy policies. The equivalence between the various characteristics of exchange rate management and tax management suggests that exchange rate analysis could be usefully incorporated into the broader framework of the analysis of fiscal policies. A two-country model of the world economy is used to demonstrate the international transmission mechanism of these policies.

PD July 1988. **TI** International Coordination of Economic Policies: Scope, Methods and Effects. **AU** Frenkel, Jacob; Goldstein, Morris; Masson, Paul. **AA** International Monetary Fund. **SR** National Bureau of Economic Research Working Paper: 2670; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 421, 422, 212. **KW** International Policy. Cooperation. Policy Coordination. Model Simulation.

AB This paper discusses the scope, methods, the effects of international coordination of economic policies. In addressing the scope for and of coordination, the analysis covers the rationale for coordination, barriers to coordination, the range and specificity of policies to be coordinated, the frequency of coordination, and the size of the coordinating group. Turning to the methods of coordination, the emphasis is on the broad issues of rules versus discretion, single-indicator versus multi-indicator approaches, and hegemonic versus more symmetric systems.

PD July 1988. **TI** International Effects of Tax Reforms. **AU** Frenkel, Jacob; Razin, Assaf. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/62; International Monetary Fund, Washington D.C. 20431. **PG** 27. **PR** No Charge. **JE** 323, 431, 411. **KW** Open Economy Model. Tax Reform. Balance of Payments. World Economy.

AB This paper highlights the significance of open-economy considerations in the analysis of tax reforms. It focuses on domestic and international consequences of revenue-neutral conversion between income and value-added tax systems. The principal result is that the direction of changes in key macroeconomic variables consequent on such tax conversions depends critically on the current account position. For example, a conversion from an income to a value-added tax system lowers the world interest rate if the country adopting the reform runs a surplus in the current account of its balance of payments, and vice versa.

Freund, James L.

TI Measuring Household Saving: Recent Experience from the Flow of Funds Perspective. **AU** Wilson, John F.; Freund, James L.; Yohn, Frederick O. Jr; Lederer, Walther.

Friedman, Benjamin

PD July 1988. **TI** Targets and Instruments of Monetary Policy. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2668; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311. **KW** Central Bank. Monetary Policy. Open Market. Federal Reserve.

AB The notion of targets and instruments is basic to the conceptual framework that economists have used to bring economic analysis to bear on practical issues of how central banks can and/or should conduct monetary policy. This paper surveys the literature of targets and instruments of monetary policy, focusing primarily on the progression of analytical developments during the past two decades. The two issues that have been most central to this entire line of research are the "instrument problem" -- what price or quantity the central bank should fix directly through its open market operations -- and the "intermediate target problem" -- what role (if any) the central bank should assign to variables that it cannot set directly but over which it can exert substantial influence (the most obvious example, of course, being the money stock).

Friedman, James W.

PD February 1988. **TI** A Modified Folk Theorem for Time-Dependent Supergames. **AA** University of North Carolina at Chapel Hill. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8809; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 35. **PR** No Charge. **JE** 026, 213. **KW** Folk Theorem. Cooperative Game. Repeated Games. Supergames. Time-Dependent.

AB Folk theorems pertain to the attainment of cooperative outcomes (i.e., payoff vectors) in repeated games that are supported by noncooperative equilibrium strategies. A repeated game consists of the repeated play of a particular game; that is, the individual repetitions are structurally independent -- associated with each repetition are payoffs that depend only on the actions taken in that period. In a time-dependent supergame, the payoff of each period depends upon the actions of both the present period and those of one or more previous periods. This formulation includes an interesting class of games in which the current period payoff depends upon the current period actions the current value of a state variable. The purpose of the present paper is to extend results on folk theorems, particularly the work due to Abreu (1983) and Fudenberg and Maskin (1986), to time-dependent supergames. Two particular features of the model are that discounting is assumed and mixed strategies are not considered. The former is because discounting seems to me natural for human beings who are taking actions over time. The latter is because the applications that I envision are ones in which mixed strategies do not seem appropriate.

Froot, Kenneth A.

PD May 1988. **TI** On the Consistency of Short-Run and Long-Run Exchange Rate Expectations. **AU** Froot, Kenneth A.; Ito, Takatoshi. **AA** Froot: Massachusetts Institute of Technology. Ito: University of Minnesota. **SR** National Bureau of Economic Research Working Paper: 2577; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 132, 131. **KW** Exchange Rate. Expectations. Forecasts. Rationality.

AB This paper examines whether short-term exchange rate expectations move "too much" by comparing them with long-term expectations. We develop a set of nonlinear restrictions linking expectations at different forecast horizons. The restrictions impose consistency, a property weaker than rationality. We use exchange rate survey data to measure expectations and then test whether consistency holds. The data show that a current, positive exchange rate shock leads agents to expect a higher long-run future spot rate when iterating forward their short-term expectations than when thinking directly about the long run. In this sense short-horizon expectations may overreact to current exchange rate changes.

PD June 1988. **TI** Forward Discount Bias: Is it an Exchange Risk Premium. **AU** Froot, Kenneth A.; Frankel, Jeffrey A. **AA** Froot: Sloan School of Management, Massachusetts Institute of Technology. Frankel: University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8874; IBER, 156 Barrows Hall, University of California Berkeley, CA 94720. **PG** 24. **PR** $3.50. **JE** 431, 441. **KW** Forward Exchange. Exchange Rate. Risk Premium. Rational Expectations. Survey Data.

AB A common finding is that the forward discount is a biased predictor of future exchange rate changes. We use survey data on exchange rate expectations to decompose the bias into portions attributable to the risk premium and expectational errors. None of the bias in our sample reflects the risk premium. We also reject the claim that the risk premium is more variable than expected depreciation. Investors would do better if they reduced fractionally the magnitude of expected depreciation. This is the same result that many authors have found with forward market data, but not it cannot be attributed to risk.

Froyen, Richard

TI Optimal Monetary, Fiscal, and Exchange-Rate Policy with Wage Indexation. **AU** Benavie, Arthur; Froyen, Richard.

Fudenberg, Drew

PD March 1988. **TI** Reputation, Unobserved Strategies, and Active Supermartingales. **AU** Fudenberg, Drew; Levine, David. **AA** Fudenberg: Massachusetts Institute of Technology. Levine: University of California at Los Angeles. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 490; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 22. **PR** No Charge. **JE** 022, 026, 213. **KW** Reputation. Commitment. Martingales. Repeated Game. Moral Hazard.

AB We consider a game in which a single long-run player faces a sequence of short-run opponents, each of whom plays only once, but is informed of the outcomes of play in each previous period. These outcomes may not reveal the long-run player's past choices, either because the long-run player's action is subject to moral hazard, or because the long-run player has chosen to play a mixed strategy. We further assume that the short-run players are uncertain of the long-run player's payoff function, and model this uncertainty with a probability distribution over the "types" of the long-run player. We focus on "commitment types" who play the same stage-game strategy in every period of play. Our main result is that the long-run player's payoff in any Nash equilibrium is bounded below by an amount that converges, as the discount factor tends to one, to the most he could get by commiting himself to any of the strategies for which the corresponding commitment type has positive probability.

PD April 1988. **TI** Moral Hazard and Renegotiation in Agency Contracts. **AU** Fudenberg, Drew; Tirole, Jean. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 494; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 59. **PR** No Charge. **JE** 021, 022, 026. **KW** Moral Hazard. Renegotiation. Contracts. Principal-Agent Theory.

AB We consider the problem of designing a contract between a risk-averse agent and a risk-neutral principal when the agent's action is subject to moral hazard and the principal is free to propose a new contract after the agent has chosen his effort level but before the corresponding outcome is revealed. In this setting any optimal contract is equivalent to one that is

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"renegotiation-proof". A renegotiation-proof contract that induces the agent to choose high effort levels by promising a higher payment following good outcomes must also induce the agent to choose lower effort levels with sufficiently high probability that the contract would not be renegotiated. We show that for a range of utility functions for the agent, including exponential and logarithmic forms, the cost-minimizing renegotiation-proof contract for a given distribution of efforts is the same as the cost-minimizing contract for that distribution under commitment. Thus, the force of the renegotiation-proof constraint is not to change the way that given distributions are implemented, but rather to change which distributions are feasible.

PD May 1988. **TI** Perfect Bayesian and Sequential Equilibria: A Clarifying Note. **AU** Fudenberg, Drew; Tirole, Jean. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 496; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 21. **PR** No Charge. **JE** 026, 022. **KW** Sequential Equilibrium. Equilibrium Refinements. Bayesian Equilibrium. Multistage Game.

AB We introduce a new and more restrictive notion of perfect Bayesian equilibrium (PBE). A PBE is a specification of strategies and beliefs such that (P) at each stage the strategies form a Bayesian equilibrium for the continuation game, given the specified beliefs, and (B) beliefs are updated from period to period in accordance with Bayes rule whenever possible, and also satisfy a "no-signaling-what-you-don't-know" condition that for all players i and j, the conditional distribution over i's type given j's type and the observed history is independent of player j's actions. This condition can be verified without constructing the sequences of beliefs required to show that an equilibrium is sequential. PBE is equivalent to sequential equilibrium in multistage games provided that each player has only two possible types; the concepts differ when the number of types per player is larger.

PD July 1988. **TI** Nash and Perfect Equilibria of Discounted Repeated Games. **AU** Fudenberg, Drew; Maskin, Eric. **AA** Fudenberg: Massachusetts Institute of Technology. Maskin: Harvard University and St. John's College. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 499; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 23. **PR** No Charge. **JE** 026. **KW** Repeated Games. Perfect Equilibrium. Folk Theorem.

AB The "perfect Folk Theorem" for discounted repeated games establishes that the sets of Nash and subgame-perfect equilibrium payoffs are equal in the limit as the discount factor delta tends to one. We provide conditions under which the two sets coincide before the limit is reached. That is, we show how to compute inf (delta) such that the Nash and perfect equilibrium payoffs of the delta-discounted game are identical for all delta > inf (delta).

Gabszewicz, Jean J.

PD February 1988. **TI** Cores in Imperfectly Competitive Economies. **AU** Gabszewicz, Jean J.; Shitovitz, Benyamin. **AA** Haifa University. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8808; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 31. **PR** No Charge. **JE** 021. **KW** Economic Survey. Exchange Economies. General Equilibrium.

AB This article is a survey of research contributions about the core of "mixed" exchange models embodying a continuum of traders and atoms.

Gagnon, Joseph E.

PD May 1988. **TI** Adjustment Costs and International Trade Dynamics. **AA** Division of International Finance, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 321; Division of International Finance Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 25. **PR** No Charge. **JE** 411, 431, 421. **KW** Adjustment Costs. Rational Expectations. Trade. Elasticities. Imperfect Competition.

AB This paper develops a model of trader behavior that is characterized by quadratic adjustment costs, imperfect competition, and rational expectations. The model is fitted to data on aggregate trade flows between the United States and three of its largest trading partners. Tests against alternative specifications confirm the importance of imperfect competition and adjustment costs. The hypothesis of rational expectations cannot be rejected. The estimated price elasticities of trade flows are generally in the range reported by previous researchers, but the activity elasticities are significantly higher.

Gale, William G.

PD June 1988. **TI** Economic Effects of Federal Credit Programs. **AA** University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 483; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 45. **PR** $2.50; checks payable to University of California at Regents. **JE** 321, 323, 325, 315. **KW** Credit Subsidy. Credit Rationing. Federal Credit.

AB Since 1980, more than one-third of all non-federal borrowing has been directly subsidized by the federal government. This paper presents numerical estimates of the effects of federal credit programs. The results indicate that credit subsidies have important effects on the allocation of credit, and may raise aggregate investment. The proper focus of analysis, however, is the welfare impact of such policies. The efficiency costs of lending programs are shown to be large. Even programs for groups that would not have received funds without public assistance require the existence of external benefits to raise welfare, because program costs are high. In addition, most of the direct welfare gains of current policies accrue to borrowers who would have received funds without public assistance. High program costs and the inframarginal nature of credit programs combine to create government costs in excess of 50 cents per dollar of incremental targeted lending. Interactions among programs can indirectly eliminate much or all of the original direct gain provided by a credit subsidy; these effects are particularly noticeable if the supply of funds is inelastic or borrowers are rationed. Policy reforms are also considered.

Garner, Thesia I.

PD June 1988. **TI** Gift-Giving Behavior: An Economic Perspective. **AU** Garner, Thesia I.; Wagner, Janet.

AA United States Department of Labor, Bureau of Labor Statistics, Office of Prices and Living Conditions. **SR** Bureau of Labor Statistics Working Paper: 180; 441 G Street Northwest, Washington, D.C. 20212 Room 2127. **PG** 23 + tables. **PR** No Charge. **JE** 921, 914, 212. **KW** Engel Curves. Gifts. United States Consumer Expenditures Survey. Luxury Goods.

AB The purpose of this paper is to explore the economic aspects of gift-giving by modelling two dimensions of the process: the choice to give and the level of expenditures to be spent. Engel curve analysis is used to identify the socioeconomic characteristics of households (consumer units) related to expenditures for gifts given to individuals, households, and organizations outside the consumer unit. Total expenditures for gifts and expenditures for a selected product category, infants' clothing, are analyzed. Data are from the Quarterly Interview component of the United States Consumer Expenditure Survey for 1984 and 1985. The results suggest that gifts, when evaluated as a total group, are luxuries for the household. Both the probability of gift-giving and the level of expenditures for total gifts are affected by socioeconomic variables including income, family size, stage in the family life cycle, ethnicity and education of the reference person, and degree of urbanization. Gifts of infants' clothing are necessities for giving households.

Gary, Bobo Robert

PD February 1988. **TI** Informative Advertising and Competition: A Non-Cooperative Approach. **AU** Gary, Bobo Robert; Michel, Philippe. **AA** Gary-Bobo: Universite Catholique de Louvain. Michel: Universite de Paris I Pantheon-Sorbonne. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8811; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 32. **PR** No Charge. **JE** 021, 611, 531. **KW** General Equilibrium. Advertising. Imperfect Competition.

AB The properties of informative advertising are studied in the context of an imperfectly competitive general equilibrium model of the Cournot-Walras type. Competitive conditions are created using the "replication technique." It is shown that individually optimal advertising expenditures are zero if the number of agents is large enough in the economy. In other words, even in approximately competitive economies, the advertising phenomenon cannot be observed.

Gaston, Noel

PD February 1988. **TI** The Effects of Productivity Risk on the Expected Utility and Sectoral Allocation of Workers. **AU** Gaston, Noel; Wright, Randall. **AA** Gaston: University of New South Wales. Wright: University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-02; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 29. **PR** No Charge. **JE** 824, 821, 826, 812, 813. **KW** Employment. Risk Aversion. Wages. Risk. Unemployment Insurance. Mobility.

AB The question we ask is, if workers are mobile across sectors, and therefore ex ante expected utility must be equated between safe and risky employers, how will employment, hours, wages and profits depend on risk. As was the case when we examined the effect on expected utility while keeping expected profit constant, certain results are sensitive to assumptions concerning the curvature of the production function. Finally, we analyze the impact of public unemployment insurance (UI) on the allocation of workers between safe and risky sectors. The provision of public UI that is not perfectly experience rated is shown to increase the number of workers in risky occupations and decrease the number in safe occupations in general equilibrium. Depending on how the UI benefits are provided, hours per worker, consumption, and wages may or may not also be affected.

Gavin, Michael

PD January 1988. **TI** Income Effects of Structural Adjustment to Terms of Trade Disturbance Asymmetries in the Laursen-Meltzer Relation. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 375; Department of Economics, Columbia University, New York, NY 10027. **PG** 24. **PR** $5.00. **JE** 431, 112, 131, 133. **KW** Structural Adjustment. External Shocks. Terms of Trade. Current Account.

AB It takes time for an economy to adjust to changed circumstances; no reasonable economist or policymaker would dispute this fact. Indeed, the sluggish pace of economic adjustment provides a major rationale for important policy interventions such as World Bank "Structural Adjustment" lending programs. However, the fact that economies adjust gradually has not played an important role in theoretical investigations of optimal current account and real exchange rate dynamics. In this paper I discuss some implications of sluggish "structural adjustment" to external shocks, focusing on the current account implications of permanent terms of trade disturbances.

PD March 1988. **TI** Tariffs and the Current Account: On the Macroeconomics of Commercial Policy. **AA** Columbia University. **SR** Columbia International Economics Research Center Discussion Paper: 390; Department of Economics, Columbia University, New York, NY 10027. **PG** 22. **PR** $5.00. **JE** 422, 431, 323, 226, 221. **KW** Protectionism. Tarriffs. Factors of Production. Current Account.

AB A politically influential rationale for protectionist commercial policies is their putative impact on the current account. However, modern theories of the current account which recognize the intertemporal dimension of external deficits have been used to cast doubt upon the efficacy of a permanent tariff as a means of affecting the current account. The purpose of this paper is to point out one channel through which the current account may be affected by a permanent tariff. This channel emphasizes the differential effects of a tariff on income in the short- versus the long-run when some factors of production are slow to adjust between sectors. When this sluggishness of adjustment is important, the adverse effect of a tariff on national income is greater in the long run than in the short run. If consumers are forward-looking utility maximizers, they will consume according to permanent income which, being a weighted average of current and expected future income, is lower than actual income at the moment the tariff is imposed. Thus, immediately after imposition of the tariff, consumption will be lower than income, and the current account will move into surplus.

Gertler, Mark

PD April 1988. **TI** Financial Structure and Aggregate Economic Activity: An Overview. **AA** University of Wisconsin. **SR** National Bureau of Economic Research Working Paper: 2559; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 310, 112. **KW** Literature Survey. Financial System. Economic Behavior.

AB This paper surveys literature which explores the possible links between the financial system and aggregate economic behavior. The survey is in two parts: the first reviews the traditional work and the second discusses new research.

Giavazzi, Francesco

TI Can International Policy Coordination Really be Counterproductive. **AU** Carraro, Carlo; Giavazzi, Francesco.

Gibbons, Robert

TI Cheap Talk, Neologisms and Bargaining. **AU** Farrell, Joseph; Gibbons, Robert.

Gintis, Herbert

TI Contested Exchange: Political Economy and Modern Economic Theory. **AU** Bowles, Samuel; Gintis, Herbert.

Giovannini, Alberto

PD May 1988. **TI** The Time-Variation of Risk and Return in the Foreign Exchange and Stock Markets. **AU** Giovannini, Alberto; Jorion, Philippe. **AA** Giovannini: National Bureau of Economic Research. Jorion: Columbia University. **SR** National Bureau of Economic Research Working Paper: 2573; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 311. **KW** CAPM. Stock Market. Risk Premia. Conditional Moments.

AB Recent empirical work indicates that, in a variety of financial markets, both conditional expectations and conditional variances of returns are time-varying. The purpose of this paper is to determine whether these joint fluctuations of conditional first and second moments are consistent with the Sharpe-Lintner-Mossin capital-asset-pricing model. We test the mean-variance model under several different assumptions about the time-variation of conditional second moments of returns, using weekly data from July 1974 to December 1986, that include returns on a portfolio composed of dollar, Deutsche mark, Sterling, and Swiss franc assets, together with the United States stock market. The model is estimated constraining risk premia to depend on the time-varying conditional covariance matrix of the residuals of the expected returns equations. The results indicate that estimated conditional variances cannot explain the observed time-variation of risk premia. Furthermore, the constraints imposed by the static CAPM are always rejected.

Goldstein, Morris

TI The International Monetary System: Developments and Prospects. **AU** Frenkel, Jacob; Goldstein, Morris.

TI International Coordination of Economic Policies: Scope, Methods and Effects. **AU** Frenkel, Jacob; Goldstein, Morris; Masson, Paul.

Gonul, Fusun

PD June 1988. **TI** Dynamic Labor Force Participation Decisions of Males in the Presence of Layoffs and Uncertain Job Offers. **AA** University of California at Davis, University of Chicago and NORC. **SR** Economics Research Center/NORC Discussion Paper: 88-6; Economics Research Center/NORC, 6030 South Ellis, Chicago, IL 60637. **PG** 36. **PR** $2.00; send requests to Librarian, NORC. **JE** 821, 214, 212, 023, 022. **KW** Monte Carlo. Dynamic Programming. Employment. Leisure.

AB This paper presents a utility maximization model of workers who make decisions to work or not over a lifetime. When they work they earn wag e income, when they do not work they have leisure time but earn no income. The objective is to maximize the presented discounted value of utility arising from the participation decisions. In addition to duration dependence introduced through time-variant job offer and layoff probabilities, state dependence enters the model by the existence of a different risk while working, namely, the dismissal risk, than the one while not working, namely, the possibility of no job offers. The method used in solving and estimating this problem is to embed a dynamic programming algorithm within a maximum likelihood routine. The data are from the National Longitudinal Surveys of Labor Market Experience (NLS) youth cohort. Given the structural parameter estimates, experiments are performed to ascertain the impact of changes in forcing variables on unemployment and employment duration.

Goodman, L.

TI Interest Rate Swaps: An Alternative Explanation. **AU** Estrella, Arturo; Arak, M.; Goodman, L.; Silver, A.

Gordon, Robert J.

PD May 1988. **TI** United States Inflation, Labor's Share, and the Natural Rate of Unemployment. **AA** Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2585; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 34. **PR** $2.00. **JE** 133, 134, 131. **KW** Unemployment. Stabilization Policy. Phillips' Curve. Inflation.

AB The Phillips' curve was initially formulated as a relationship between the rate of wage change and unemployment, yet what matters for stabilization policy is the rate of inflation, not the rate of wage change. This paper provides new estimates of Phillips' curves for both prices and wages extending over the full 1954-87 period and several sub-periods. The most striking result in the paper is that wage changes do not contribute statistically to the explanation of inflation. Deviations in the growth of labor cost from the path of inflation cause changes in labor's income share, and changes in the profit share in the opposite direction, but do not feed back to the inflation rate. Additional findings are that the United States natural unemployment is still 6 percent, with no decline in the 1980s in response to the reversal of the demographic shifts that had raised the natural rate in the 1960s and 1970s. The United States inflation process is stable, with no evidence of structural shifts over the 1954-87 period. But the wage process is not stable: low rates of wage change in 1981-87 cannot be accurately predicted by wage equations estimated through 1980. Rather than representing a "new regime", wage behavior in the 1980s is the outcome of a longer-term process. The 1980s have witnessed a substantial decline in labor's income share that partly reverses the even larger increase in labor's share that occurred between 1965 and 1978.

Goulder, Lawrence

PD June 1988. **TI** Savings Promotion, Investment Promotion, and International Competitiveness. **AU** Goulder, Lawrence; Eichengreen, Barry. **AA** Goulder: Harvard University. Eichengreen: University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2635; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 411, 431, 323, 421. **KW** Simulation Model. Open Economy. Capital Account. Tax Policy.

AB In an open economy, savings- and investment-promoting policies may have very different effects on the capital account and on the viability of export-oriented and import-competing industries. The nature of the effects is often ambiguous in analytical models. This paper employs a simulation model that combines a detailed treatment of industry interactions, attention to adjustment dynamics, and an integrated treatment of current and capital account transactions to investigate these effects in both the short and long run. We focus on the different effects of savings- and investment-promoting United States tax policies on the viability of U.S. export industries. We compare results under the assumption of no international capital mobility (and no international asset transactions) with those under the assumption of full international mobility (which assumes no barriers to or costs of such transactions). Within the case of capital mobility, we consider the importance of the degree of international asset substitutability -- the extent to which individuals respond to differences in anticipated rates of return by altering their portfolios.

Grammatikos, Theoharry

PD June 1988. **TI** The Effects of the 1986 Tax Reform Act on the Profitability and Risk of Commercial Banks. **AU** Grammatikos, Theoharry; Yourougou, Pierre. **AA** Grammatikos: University of Wisconsin-Madison. Yourougou: Laval University. **SR** New York University Salomon Brothers Center Working Paper: 478; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 26. **PR** No Charge. **JE** 312, 323, 311. **KW** Tax Reform. Taxes. Commercial Banking. Bank Stocks.

AB This paper examines the reaction of bank stocks around the announcements of the 1986 Tax Reform Act. The results weakly support the hypothesis of negative wealth effects but indicates a rather strong evidence that bank risk has increased during the period characterized with these announcements. These findings suggest that banks are expected to largely mitigate the negative effects of the tax reform on their cash flows by readjusting their portfolios of assets and liabilities towards higher risk/higher expected return position. The results further indicate that the major effects of the new Act on bank risk and return are related to provisions regarding the investment in non-taxable securities and the treatment of loan loss reserves.

Greenwald, Bruce

TI Pareto Inefficiency of Market Economies: Search and Efficiency Wage Models. **AU** Stiglitz, Joseph; Greenwald, Bruce.

Greenwood, Jeremy

PD 1987. **TI** On Modelling the Natural Rate of Unemployment with Indivisible Labor. **AU** Greenwood, Jeremy; Huffman, Gregory W. **AA** University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8719C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PR** $4.00. **JE** 824, 821. **KW** Employment. Wages.

PD 1988. **TI** Investment, Capacity Utilization and the Real Business Cycle. **AU** Greenwood, Jeremy; Hercowitz, Zvi; Huffman, Gregory. **AA** University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8802C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 41. **PR** $4.00 Canadian each. **JE** 641, 131, 133, 522. **KW** Economic Capacity. Business Investment. Business Cycle.

Griliches, Zvi

PD June 1988. **TI** Hedonic Price Indexes and the Measurement of Capital and Productivity: Some Historical Reflections. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2634; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 825, 621, 227, 641. **KW** Hedonic Prices. Technology. Productivity.

AB The paper describes the background for my original "hedonics" paper (Griliches 1961) and discusses some of the issues raised by the subsequent literature on this range of topics. It goes on to consider some of the implications of this work for the measurement of capital services and connects it to the Jorgenson-Griliches (1967) paper on the "explanation of productivity change." It reviews the criticisms made against that paper, especially the use of a utilization adjustment, and finds itself, perhaps unsurprisingly, still in sympathy with its major thrust. It also cautions against interpreting the recent slowdown in the growth of total factor productivity as implying, necessarily, a parallel slowdown in the technological potential of the economy.

Grossman, Sanford J.

PD March 1988. **TI** Liquidity and Market Structure. **AU** Grossman, Sanford J.; Miller, Merton H. **AA** Grossman: Princeton University. Miller: University of Chicago. **SR** Princeton Financial Research Center Memorandum: 88; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 39. **PR** $3.00. **JE** 611, 521, 522. **KW** Market Liquidity. Market Structure. Liquidity.

AB Market liquidity is modelled as being determined by the demand and supply of immediacy. Exogenous liquidity events coupled with the risk of delayed trade create a demand for immediacy. Market makers supply immediacy by their continuous presence, and willingness to bear risk during the time period between the arrival of final buyers and sellers. In the long run the number of market makers adjusts to equate the supply and demand for immediacy. This determine the equilibrium level of liquidity in the market. The lower is the autocorrelation in rates of return, the higher is the equilibrium level of liquidity.

PD May 1988. **TI** Optimal Dynamic Hedging. **AU** Grossman, Sanford J.; Vila, Jean Luc. **AA** Grossman: Princeton University. Vila: New York University. **SR** Princeton Financial Research Center Memorandum: 93; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 45. **PR** $3.00. **JE** 521, 522, 313. **KW** Liability Flow. Put Options. Portfolio. Hedging. Dynamic Model.
AB A standard dynamic hedging problem involves an institution choosing its portfolio subject to the constraint that it meet a prespecified liability flow. If markets are complete then this can be accomplished by the purchase of put options (or their equivalent). If markets can be completed by the use of a dynamic trading strategy, then the solution will involve synthesizing put options. However, when the above constraint is combined with the constraint that borrowing is not permitted, then the dynamic trading strategy which synthesizes the relevant options can become infeasible. Herein, we find the optimal hedging strategy for an institution with the above constraints.

PD May 1988. **TI** Portfolio Insurance in Complete Markets: A Note. **AU** Grossman, Sanford J.; Vila, Jean Luc. **AA** Grossman: Princeton University. Vila: New York University. **SR** Princeton Financial Research Center Memorandum: 94; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 16. **PR** $3.00. **JE** 522, 313. **KW** Risky Assets. Hedging. Portfolio.
AB This note presents an elementary derivation of the optimal investment strategy of an investor who wants to assure that his investment in risky assets does not lead his wealth to fall below a predetermined floor.

PD July 1988. **TI** Liquidity and Market Structure. **AU** Grossman, Sanford; Miller, Merton H. **AA** Grossman: Princeton University. Miller: University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2641; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 311. **KW** Liquidity. Capital Market. Risk.
AB Market liquidity is modelled as being determined by the demand and supply of immediacy. Exogenous liquidity events coupled with the risk of delayed trade create a demand for immediacy. Market makers supply immediacy by their continuous presence, and willingness to bear risk during the time period between the arrival of final buyers and sellers. In the long run the number of market makers adjusts to equate the supply and demand for immediacy. This determine the equilibrium level of liquidity in the market. The lower is the autocorrelation in rates of return, the higher is the equilibrium level of liquidity.

Guerrero, Isabel

TI The Impact of Macroeconomic Policies on Income Distribution: An Empirical Study. **AU** Blejer, Mario; Guerrero, Isabel.

Hall, Robert E.

PD May 1988. **TI** A Non-Competitive, Equilibrium Model of Fluctuations. **AA** Stanford University. **SR** National Bureau of Economic Research Working Paper: 2576; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 134, 821. **KW** Fluctuations. Labor Supply. Labor Demand. Real Business Cycle.
AB An equilibrium model of fluctuations has two components: an elastic labor supply schedule and a source of shifts of the labor demand schedule. In the real business cycle model, shifts of labor demand follow from vibrations in the production function. In the model of this paper, shifts of labor demand are the result of changes in preferences. Total real GNP falls when demand shifts away from goods produced by sectors with market power and toward competitive sectors. The observed cyclical stability of relative prices is consistent with such demand shifts.

Hallett, Andrew Hughes

PD July 1988. **TI** Decentralized Policies and Efficient Trade-offs: An Essay on the Costs of Uncoordinated Fiscal and Monetary Policies. **AU** Hallett, Andrew Hughes; Petit, Maria Luisa. **AA** Hallett: University of Newcastle-Upon-Tyne. Petit: Universita degli Studi di Roma. **SR** Centre for Economic Policy Research Discussion Paper: 251; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 36. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 311, 321, 133, 026, 022. **KW** Differential Games. Continuous-Time Models. Italy. Agency Coordination. Monetary Policy. Fiscal Policy.
AB In many countries two decision-making institutions, the government and the central bank, manage fiscal and monetary policy separately. Such decentralization can lead to a change in the optimal inflation-output trade-off. In fact lack of cooperation can result in a change in the position of the trade-off curve, or a reversal in the slope of this trade-off, or even the total absence of any exploitable trade-off. In this paper the techniques of differential game theory are used to calculate the efficient inflation-output trade-off within a continuous-time econometric model of the Italian economy, in order to examine the differences in the 'policy possibility frontiers' which arise as the result of cooperative and of noncooperative decision-making. The results show that the outcomes obtained in the case of noncooperation are inferior to those under cooperation, and also impose a policy conflict which would not otherwise be present. Moreover the range of policy choices open to the policy-makers is reduced under noncooperation. The results indicate that efficiency gains are not the only reason for coordinating fiscal and monetary policies.

Hamermesh, Daniel S.

PD May 1988. **TI** Labor Demand and the Structure of Adjustment Costs. **AA** Michigan State University. **SR** National Bureau of Economic Research Working Paper: 2572; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 631, 616, 824, 133. **KW** Adjustment Costs. Labor Demand.
AB This study examines the nature of the costs that firms face in adjusting labor demand in response to shocks induced by changes in output demand and prices. Empirical work on monthly plant-level time-series data shows that adjustment proceeds in jumps. Employment is unchanged in response to small demand shocks, but moves instantaneously to a new long-run equilibrium if the shocks are large. Results in the

large literature that assumes smooth adjustment are due to aggregation of this inherently nonlinear relation over subunits experiencing different shocks. The finding has implications for cyclical changes in productivity and for examining the effects of policies such as severance pay, layoff and plant-closing restrictions, and mandatory listing of job vacancies, all of which change the cost of adjusting employment.

PD June 1988. **TI** Data Difficulties in Labor Economics. **AA** Michigan State University. **SR** National Bureau of Economic Research Working Paper: 2622; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 35. **PR** $2.00. **JE** 229, 212. **KW** Labor Economics. Micro Data.
AB This essay sets out a framework for evaluating empirical work in terms of the ability of the data to provide adequate parameter estimates and hypothesis tests about the true underlying structure. Problems of aggregation, representativeness and structural change are discussed in detail. These criteria are applied to evaluate studies of labor supply, labor demand, local labor markets and union goals. Empirical work in labor supply has made the greatest strides because of the appropriateness of the data to answer questions of interest. Studies in the other areas have not made so much progress will not until the same resources are devoted to collecting longitudinal microeconomic data on firms as have been spent on collecting longitudinal household data.

Handa, Puneet

TI Early Calls of Convertible Debt: New Evidence and Theory. **AU** Acharya, Sankarshan; Handa, Puneet.

Hansen, Bruce E.

TI Statistical Inference in Instrumental Variables Regression with I(1) Processes. **AU** Phillips, Peter C. B.; Hansen, Bruce E.

Hanushek, Eric A.

PD March 1988. **TI** What Can Be Done With Bad School Performance Data? **AU** Hanushek, Eric A.; Taylor, Lori. **AA** University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 126; Department of Economics, University of Rochester, Rochester, NY 14627. **PR** No Charge. **JE** 912. **KW** Achievement. Student Performance. Test Score. School. Education.
AB Evaluation of the efficacy of school policies requires measures of student performance across schools and states, but the available data can be very misleading. Especially at the state level, nonrepresentative data such as aggregate SAT scores provide very biased measures of school quality differences -- even when statistical adjustments for demographic differences and varying participation rates are employed. This paper documents and estimates the magnitude of such biases by reproducing various common estimators of school quality within a common data base (High School and Beyond). Direct estimates of achievement growth, or value-added, are shown to be far superior to any alternative correction that is commonly employed.

Hardle, W.

TI Symmetrized Nearest Neighbor Regression Estimates. **AU** Carroll, R. J.; Hardle, W.

PD January 1988. **TI** Bandwidth Choice for Density Derivatives. **AU** Hardle, W.; Marron, J. S. **AA** Hardle: University of Bonn. Marron: University of North Carolina. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-157; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-530 Bonn 1, DEUTSCHLAND. **PG** 14. **PR** No Charge. **JE** 211, 212. **KW** Kernel Regression. Cross Validation. Asymptotic Theory. Bandwidth.
AB An adaptation of least squares cross-validation is proposed for bandwidth choice in the kernel estimation of the derivatives of a probability density. The practicality of the method is demonstrated by an example. Theoretical justification is provided by an asymptotic optimality result.

PD July 1988. **TI** Bandwidth Choice for Density Derivatives. **AU** Hardle, W.; Marron, J. S.; Wand, M. P. **AA** Hardle: University of Bonn. Marron, Wand: University of North Carolina. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-182; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** No Charge. **JE** 211, 214. **KW** Kernel Estimation. Cross-validation. Bandwidth.
AB An adaptation of least squares cross-validation is proposed for bandwidth choice in the kernel estimation of the derivatives of a probability density. The practicality of the method is demonstrated by an example and a simulation study. Theoretical justification is provided by an asymptotic optimality result.

Hardouvelis, Gikas A.

PD February 1988. **TI** Monetary Policy Games, Inflationary Bias and Openness. **AA** Barnard College, Columbia University and Federal Reserve Bank of New York. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-17; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 28. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 311, 314, 026, 134. **KW** Inflationary Bias. Openness. Central Bank. Aggregate Supply. Federal Reserve. Noncooperative Games.
AB When the central bank has higher output objectives than those of wage setters, the noncooperative Nash equilibrium contains an inflationary b ias, which is higher, the flatter the economy's aggregate supply curve. Openness from the input side flattens the economy's aggregate supply curve, but openness from the output side does not matter.

Harmon, Richard L.

PD May 1988. **TI** The Simultaneous Equations Model With Conditional Autoregressive Heteroskedasticity: The SEM-GARCH Model. **AA** Division of International Finance, Board of Governors of the Federal Reserve Board and Georgetown University. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 322; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 62. **PR** No Charge. **JE** 211. **KW** Simultaneous Equations. Asymptotic Distributions. GARCH. Full Information. Maximum Likelihood.
AB In this paper I generalize the standard simultaneous equations model by allowing the innovations of the structural equations to exhibit Generalized Autoregressive Conditional

Heteroskedasticity (GARCH). I refer to this new specification as the SEM-GARCH model. I develop two estimation strategies: LIM-GARCH, a limited information estimator, and FIM-GARCH, a full information estimator. I show that these estimators are consistent and asymptotically normal. Following Weiss (1986) I show that when the errors in the SEM-GARCH process are incorrectly assumed to be conditionally normal the likelihood function is still maximized at the true parameters, given certain regularity conditions. This results in the asymptotic variance-covariance matrix being more complex than the usual inverse of the information matrix.

Harrigan, James

TI Export Instability and Growth. **AU** Ozler, Sule; Harrigan, James.

Harrigan, Kathryn Rudie

PD January 1988. **TI** Implications of Technological Advances in Information Systems for Multinational Corporate Strategic Decision Making. **AA** Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-20; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 30. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 422, 442, 611, 441, 621. **KW** Corporate Strategy. Technological Change. Multinational Corporations. Information Systems.

AB Technological advances in information systems allow global firms to reduce their total costs by using lowest-cost suppliers, lowest-cost production facilities, and lowest-cost systems of logistics. As global firms reconfigure their organizations to exploit these opportunities, they will change their traditional trading relationships due to (1) changes in coordination of value-creating activities among geographically-distant facilities, (2) changes in capital asset locations, (3) changes in buyer-supplier relationships, and (4) changes in the use of strategic alliances to supplement firms' internal capabilities.

PD February 1988. **TI** Strategies for Declining Sectors. **AA** Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-21; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 15. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 514, 611, 511. **KW** Corporate Strategy. Declining Industries. Restructuring.

AB How might firms in declining sectors survive, grow, and even exploit competitors' reluctance to take necessary actions in restructuring their divisions? This framework suggests whether a firm can be the industry's "last iceman" or whether it should quickly divest its troubled division to allow more committed managers to pursue the benefits of the endgame.

Harris, Jeffrey

PD April 1988. **TI** The Incubation Period for Human Immunodeficiency Virus (HIV). **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 492; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 18. **PR** No Charge. **JE** 913. **KW** AIDS. Survival Curve. Nonparametric Statistics. Weiball Distribution.

AB I combine data from three different cohorts of HIV-infected persons (homosexual men, adult hemophiliacs, and transfusion recipients) to produce an overall statistical description of HIV incubation. The annual incidence of AIDS rises from an estimated 0.4% in the year immediately following HIV infection to about 12% after the 5th anniversary of infection. From 6 to 8 years after HIV infection, the estimated annual incidence is in the range of 10-13%. By 8 years after infection, the cumulative proportion with AIDS is an estimated 41%, with a 68 percent confidence interval of 36% to 46%. We cannot say with confidence that the incidence of HIV continues to rise after 5 years, though the incidence does not appear to fall. Still, the available data are consistent with a "two-stage" Weibull model with rising incidence in which the cumulative proportion with AIDS equals 1 - exp -(.09t)(.09t) at t years from initial HIV infection. In such a model, the proportion with AIDS would reach 50% by 9.25 years.

Harrison, Glenn W.

PD May 1988. **TI** An Experimental Evaluation of Weakest-Link/Best-Shot Models of Public Goods. **AU** Harrison, Glenn W.; Hirshleifer, Jack. **AA** Harrison: University of New Mexico. Hirshleifer: University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 473; Department of Economics, University of California at Los Angeles, 405 Hilgard Ave., Los Angeles, CA 90024. **PG** 40. **PR** $2.50; checks payable to University of California Regents. **JE** 215, 022, 024. **KW** Public goods. Experimental Economics. Free Rider Problem.

AB In the supply of public goods, far less free-riding actually occurs than standard theory predicts. As one explanation, the social composition function (SCF) which aggregates individual contributions into an available social total may not always take the SUMMATION form. Theoretical considerations indicate that free-riding should be least for an SCF of the WEAKEST LINK type but greatest for the BEST SHOT type. Using a Sequential protocol, our experiments strongly confirmed theoretical anticipations under all three types of SCF. Even under the more onerous Sealed-bid (simultaneous play) protocol, the experimental subjects were able to make some partial progress toward the theoretical ideal.

Hart, Oliver

PD May 1988. **TI** Property Rights and the Nature of the Firm. **AU** Hart, Oliver; Moore, John. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 495; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 55. **PR** No Charge. **JE** 022, 833. **KW** Property Rights. Contracts. Firm. Ownership.

AB The paper provides a framework for addressing the question of when transactions should be carried out within the firm and when through the market. Following Grossman and Hart (1986), we identify a firm with the assets which its owners control: ownership confers the right to decide how the assets are to be used in events unspecified in an initial contract. We study how changes in ownership affect non-owners of assets, such as employees. We show that a party 1 will put more weight on a party 2's objectives if 1 is an employee of 2 (i.e. 1

works with assets that 2 owns), than if 1 is an employee of some other party 3, or if 1 is an independent contractor providing 2 with a service. We use these ideas to give a partial characterization of an optimal control structure. Our framework is broad enough to encompass more general control structures than simple ownership: for example, partnerships, and worker and consumer cooperatives, all emerge as special cases.

Hartmann, M.

TI On Cutting-Plane Proofs in Combinatorial Optimization. **AU** Chvatal, V.; Cook, W.; Hartmann, M.

Hasbrouck, Joel

PD June 1988. **TI** Measuring the 'Noise' in Security Transaction Prices. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 475; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 26. **PR** No Charge. **JE** 313, 311. **KW** Random Walk. White Noise. Market Efficiency. Stock Market. Stock Prices.

AB This paper uses existing statistical techniques to explore the resolution of security transaction prices into random walk and stationary components. The stationary component impounds the effects of market microstructure imperfections and is termed the 'noise'. Its variance is a useful summary measure of the extent to which the efficient price and the transaction price deviate. Based solely on knowledge of the observed return autocorrelations, this variance is not econometrically identified. It is possible to compute, however, a lower bound for this variance which is valid under minimal statistical and economic assumptions. Based on an analysis of transaction data, a lower bound for the standard deviation of the noise is .375 per cent of the price for a representative NYSE stock. For a low market value subsample, however, this lower bound standard deviation is .861 per cent of the stock price.

Hay, Donald A.

PD June 1988. **TI** Firms as Portfolios: A Study of Unquoted U.K. Kingdom Companies. **AU** Hay, Donald A.; Louri, Helen. **AA** Hay: Jesus College, Oxford. Louri: Athens School of Economics. **SR** Oxford Applied Economics Discussion Paper: 47; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 38. **PR** No Charge. **JE** 521, 522, 224. **KW** Portfolio Theory. Balance Sheet. Investment.

AB This paper adapts a mean-variance portfolio framework to model the balance sheet behavior of unquoted companies with respect to choice items such as fixed investment, investment in stocks, trade credit, and borrowing. Econometric results for a sample of 39 United Kingdom firms are consistent with many of the restrictions implied by portfolio theory, in particular that these balance sheet items are jointly determined.

Helliwell, John F.

PD August 1987. **TI** Comparative Macroeconomics of Stagflation. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-28; #997 1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PG** 40. **PR** **JE** 131, 134, 023. **KW** Stagflation. Macroeconomics. Fluctuations.

AB Stagflation, the combination of stagnation with inflation, was the hallmark of OECD economic performance in the late 1970s and early 1980s. For the OECD as a whole "both unemployment and inflation averaged about double their rates of the 1960s". (Michael Bruno and Jeffrey Sachs (1985, p. 3)) Table 1, containing some key indicators for each of the seven major countries of the OECD, shows that stagflation was universal among the major economies during the period 1973 to 1982. Since 1982, inflation rates have fallen substantially in all of these countries, while unemployment has generally remained stubbornly high, or even increased. As inflation rates have fallen, the emphasis of recent studies has shifted from the initial causes of stagflation to the causes of the slow growth of output and of employment, with attention divided between the determinants of productivity growth and the effects of real wages on the demand for labor.

PD July 1988. **TI** The Effects of Fiscal Policy on International Imbalances: Japan and the United States. **AA** University of British Columbia. **SR** National Bureau of Economic Research Working Paper: 2650; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 321. **KW** Current Account. Fiscal Policy. Exchange Rates.

AB Evidence from three multicountry models is used to assess the current account effects of United States and Japanese fiscal policies. Asymmetries in the effects of U.S. and Japanese policies are analyzed in some detail, and attributed to differences in country size, in trade patterns (which have only a small effect) and in the extent to which induced changes in real exchange rates switch demand from domestic to foreign output. Fiscal policy has substantial current account effects in the models. For example, switching $50 billion of sustained government spending from the United States to Japan would, in the third year, improve the U.S. current account by $24 billion and worsen that of Japan by $20 billion. Induced changes in nominal exchange rates are found to play a relatively small role in determining the effects of fiscal policy on the nominal current account.

Hellwig, Martin

PD February 1988. **TI** Kredit rationierung und Kredit sicher-heiten bei asymmetrischer Information der fau des monopolmarktes. **AA** University of Basel. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-167; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 44. **PR** No Charge. **JE** 026, 313, 315. **KW** Credit Markets. Monopoly. Credit Risk. Incomplete Information.

Helpman, Elhanan

PD May 1988. **TI** Growth, Technological Progress, and Trade. **AA** Tel-Aviv University. **SR** National Bureau of Economic Research Working Paper: 2592; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 34. **PR** $2.00. **JE** 111, 411, 621, 133. **KW** Economic Growth. Dynamic Trade. Product Cycles. Economies of Scale.

AB Recent developments in the theory of economic growth and dynamic trade theory are reviewed and interpreted. These include growth based on economies of scale, trade with product development, and product cycles. It is argued that there is need for more work in this area in order to understand the relationship between trade and growth.

TI Oligopoly in Segmented Markets. **AU** Ben, Zvi Shmuel; Helpman, Elhanan.

Hendershott, Patric H.

PD July 1988. **TI** The Impact of the Agencies on Conventional Fixed-Rate Mortgage Yields. **AU** Hendershott, Patric H.; Shilling, James D. **AA** Hendershott: The Ohio State University. Shilling: Louisiana State University. **SR** National Bureau of Economic Research Working Paper: 2646; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 315, 312. **KW** Mortgages. Loan Rate. Commercial Banks.

AB Between the early 1980s and 1986, the share of new conforming (under $153,000 in 1986) conventional fixed-rate mortgages (FRMs) that went into Fannie Mae and Freddie Mac mortgage pools increased from under 5 percent to over 50 percent. Our analysis indicates that the loan rate depends on the loan-to-value ratio, the loan size, and, in 1986, whether the loan is far above, just above, or below the conforming loan limit. Rates on loans far above the conforming loan limit exceed those on otherwise comparable loans below the limit by 30 basis points and those on loans destined to exceed the limit within a year by 15 basis points. That is, the expanded agency securitization of conforming FRMs has significantly lowered the rates on both conforming loans and loans somewhat above the conforming limit (27 percent of nonconforming loans in 1986) relative to what they would otherwise have been. The effects of a 30 basis point lower FRM rate are many: households are more likely to choose FRMs than ARMs, to decide to own rather than rent, and to own larger houses. Moreover, traditional mortgage portfolio lenders will have fewer ARMs to purchase and will earn lower returns on FRM investments.

Henson, Steven E.

TI The Distributional Effects of the Federal Energy Tax Act. **AU** Dubin, Jeffrey A.; Henson, Steven E.

Hercowitz, Zvi

TI Investment, Capacity Utilization and the Real Business Cycle. **AU** Greenwood, Jeremy; Hercowitz, Zvi; Huffman, Gregory.

Herrington, Douglas J.

PD June 1988. **TI** The Effect of Private Information on Wage Settlements and Strike Activity. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 231; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 32. **PR** $1.50. **JE** 832, 833, 831. **KW** Strikes. Wage Determination. Private Information. Manufacturing Sector. Collective Bargaining.

AB This paper provides an empirical test of the predictions of a standard private information model of labor strike activity using firm-specific sales data and wage and strike data from 1124 collective bargaining agreements made in the United States manufacturing sector. The implications of the private information model are tested directly by using the error in forecasted sales as a proxy for the private information on profitability held by the firm, and the variance of the forecast error in sales as a proxy for the union's ex ante uncertainty. In support of the model, strike incidence and unconditional duration are negatively correlated with the forecast error and positively correlated with the variance of the forecast error. Furthermore, the variance of the forecast error is systematically related to the stage of settlement of collective bargaining agreements. Contrary to the predictions of the model, there is no evidence that wages are correlated with the forecast error in sales in those bargaining agreements which involve a strike.

Heymann, David

PD July 1988. **TI** Input Controls in the Public Sector: What Does Economic Theory Offer. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/59; International Monetary Fund, Washington D.C. 20431. **PG** 38. **PR** No Charge. **JE** 822, 322, 321. **KW** Public Sector. Government Policy. Bureaucracy. Moral Hazard. Government Employees.

AB This paper reviews the economic literature on bureaucratic behavior, the theory of the firm, and agency theory and its application to the public sector, to determine whether any lessons can be drawn regarding how far governments should go in delegating control over inputs to public sector managers. Against a background survey of country practices, the paper concludes that input controls are one of a number of ways of dealing with the agency problem of trying to ensure that bureaucrats act in the interests of the government. Other methods can be, and have been, used for dealing with moral hazard-type agency problems, but features of current budgetary systems make it more difficult to deal with inputs that have implications for future resource use.

Hildenbrand, Werner

PD March 1988. **TI** The Demand Theory of the Weak Axioms of Revealed Preference. **AU** Hildenbrand, Werner; Jerison, Michael. **AA** Hildenbrand: University of Bonn. Jerison: Suny, Albany. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-163; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 6. **PR** No Charge. **JE** 021, 022. **KW** Revealed Preference. Slutzky Substitution Matrix. Demand Function.

AB If an individual demand function f satisfies the Weak Axiom of Revealed Preference then the Slutsky substitution matrix of f is negative semidefinite. This is well-known since Samuelson formulated the Weak Axiom of Revealed Preference in 1938. The converse implication is not true. However, a slightly weaker axiom, referred to here as the Weak Axiom (first formulated by Hicks, 1956, is in fact equivalent to the negative semidefiniteness of the Slutsky substitution matrix. This was shown by Kihlstrom, Mas-Colell and Sonnenschein (1976). Since characterizations of these revealed preference axioms are fundamental for demand theory, it is of interest to have available complete statements and simple proofs.

Hillier, Grant H.

PD March 1988. **TI** On the Interpretation of Exact Results for Structural Equation Estimators. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 6/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 29. **PR** No Charge. **JE** 211. **KW** Direction Estimator. LIML. OLS. Rank Condition.

Structural Equation. TSLS. Unit Sphere. Normalized Equation.
AB In an unnormalized structural equation only the direction of the coefficient vector is determined. An estimator for the coefficients in the normalized equation defines an estimator for the direction of the coefficient vector in the unnormalized equation, and the density of the former induces a density for the latter. Though complex, the induced densities of the direction estimators are much more revealing about the properties of the estimators than their counterparts for the normalized case. The results help to explain other evidence of the superiority of the limited information maximum likelihood estimator.

Hirsch, M. D.

PD May 1988. **TI** A Geometric Approach to a Class of Fixed Point Theorems. **AU** Hirsch, M. D.; Magill, M.; Mas, Colell A. **AA** Hirsch: University of California, Berkeley. Magill: University of Southern California. Mas-Colell: Harvard University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 527; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 19. **PR** $4.00. **JE** 021, 213. **KW** Existence Theorem. Fixed Point Theorem. Incomplete Markets.
AB This paper gives a simple geometric proof of a fixed point theorem of Husseini-Lasry-Magill which is the key step in proving the existence of equilibrium with incomplete markets.

Hirshleifer, Jack

TI An Experimental Evaluation of Weakest-Link/Best-Shot Models of Public Goods. **AU** Harrison, Glenn W.; Hirshleifer, Jack.

PD July 1988. **TI** Conflict and Rent-Seeking: Ratio vs. Difference Models. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 491; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 11. **PR** $2.50; checks payable to University of California at Regents. **JE** 114. **KW** Rent. Cournot Equilibrium. Defense. War.
AB The rent-seeking competitions studied by economists fall within a much broader category of conflict interactions that also includes, for example, military combats, election campaigns, industrial disputes, lawsuits, and sibling rivalries. In the rent-seeking literature, each party's success p(i) (which can be interpreted either as the probability of victory or as the proportion of the prize won) has been taken to be a function of the ratio of the respective resource commitments. Alternatively, however, p(i) may instead be a function of the difference between the parties' commitments to the contest. The Contest Success Function (CSF) for the difference form is a logistic curve in which increasing returns apply up to an inflection point at equal resource commitments, as is consistent with military experience. A crucial flaw of the traditional ratio model is that neither one-sided submission nor two-sided peace between the parties can ever occur as a Cournot equilibrium. In contrast, both of these outcomes are entirely consistent with a model in which success is a function of the difference between the parties' resource commitments.

Holtz, Eakin Douglas

PD March 1988. **TI** Will They Know Me When I'm Gone. An Epitaph for Federal General Revenue Sharing. **AU** Holtz, Eakin Douglas; McGuire, Therese. **AA** Holtz-Eakin: Columbia University. McGuire: SUNY, Stony Brook and Princeton University. **SR** Columbia International Economics Research Center Discussion Paper: 385; Department of Economics, Columbia University, New York, NY 10027. **PG** 37. **PR** $5.00. **JE** 322, 324. **KW** Local Governments. Government Spending.
AB Federal general revenue sharing (GRS), which began with the passage of the State and Local Fiscal Assistance Act in 1972, met its demise at the conclusion of fiscal year 1986. What will happen to local government finances as a result of the annual loss of this $4.6 billion program. To what extent will the lost aid be replaced by increased aid, result in reduced services, or both. One objective of this paper is to provide estimates of the likely response of local governments to the elimination of GRS. Understanding the local government response has important policy implications as calls for some new aid program have already begun. The National Association of Counties has endorsed a targeted revenue sharing program funded at roughly a quarter of the old program. Alternatively, local governments may look to states for additional aid. Indeed, Connecticut has established a property tax relief fund, Ohio has proposed changing state aid formulae, Idaho has devoted a fraction of sales taxes to local governments, and Illinois has permitted counties to impose a sales tax.

PD March 1988. **TI** Municipal Construction Spending: An Empirical Examination. **AU** Holtz, Eakin Douglas; Rosen, Harvey. **AA** Holtz-Eakin: Columbia University. Rosen: Princeton University. **SR** Columbia International Economics Research Center Discussion Paper: 384; Department of Economics, Columbia University, New York, NY 10027. **PG** 42. **PR** $5.00. **JE** 324, 322. **KW** Capital Investment. Government Spending. Local Governments.
AB Indeed, the decline in the flow of real infrastructure spending by states and localities during the 1970s is well documented. For the United States as a whole, total construction spending by state and local governments fell in real terms by roughly 15.4 percent between 1970 and 1980. This overall decline is mirrored in the experience of the 167 municipal governments that are the subject of this study. However, there is no consensus about the causes of this decline or its implications. Some analysts interpret reduced capital spending as a sensible reaction to changing economic and demographic conditions. Others view the decline with alarm and seek to "blame", for example, the macroeconomy, myopic state and local officials, or changes in the municipal bond market. In this paper we utilize panel data on municipal governments' construction spending during the 1970s in order to investigate a variety of proposed explanations for the decline in capital expenditures.

Holzer, Harry

PD July 1988. **TI** Structural/Frictional and Demand-Deficient Unemployment in Local Labor Markets. **AA** Michigan State University. **SR** National Bureau of Economic Research Working Paper: 2652; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 826, 941. **KW** Unemployment. Labor Markets. Job Vacancy.

Demographics. Regional Economics.
AB This paper uses data on unemployment rates and job vacancy rates to measure structural/frictional and demand-deficient components of unemployment rate differences across local labor markets. Data on occupational and industrial distributions of unemployed workers and vacant jobs, as well as on local wages, recent sales growth, Unemployment Insurance, and demographics are then used to help account for these components of unemployment across local areas.

Hoque, Asraul

PD July 1988. **TI** Efficiency of OLS Relative to C-O for Trended x and Positive Autocorrelation Coefficient. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 11/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 15. **PR** No Charge. **JE** 211. **KW** Autocorrelation. Explanatory Variables. Cochrane-Orcutt Procedure. Efficiency. Trending. Independent Variables.
AB It is well known that the OLS estimator, though unbiased, is inefficient in the presence of autocorrelated disturbances. Further, it is also widely accepted that C-O (Cochrane-Orcutt) estimator is more efficient than OLS estimator. However, Kadiyala (1968) and Maeshiro (1976, 1978) have argued that OLS is more efficient than C-O when the independent variable is trended and the autocorrelation coefficient is positive. We re-examine this issue and show that C-O is more efficient than OLS for the model without an intercept term.

PD July 1988. **TI** Indirect Rational Expectations and Estimation in a Single Equation Macro Model. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 10/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 16. **PR** No Charge. **JE** 212, 023. **KW** Rational Expectations. Random Coefficient. Adaptive Expectation. Policy Evaluation.
AB This paper makes an attempt to introduce rational expectations ideas in a single equation through a random coefficient technique. In fact, the ideas behind adaptive expectations and rational expectations have been combined here and viewed as complementary rather than substitute to each other. We also make an attempt to provide an answer to Lucas's valid criticism of econometric policy evaluation in the presence of rational expectations.

Horne, Jocelyn

PD July 1988. **TI** Criteria of External Sustainability. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/60; International Monetary Fund, Washington D.C. 20431. **PG** 21. **PR** No Charge. **JE** 432, 431, 311, 321. **KW** Surveillance. Government Policy. Political Economy. Expectations.
AB This paper analyzes the main conceptual issues that arise in assessing external sustainability with a view toward developing operational criteria for the purposes of multilateral surveillance. The main contribution of the analysis is to show how conditional forecasts of external imbalance may be generated in a consistent way that explicitly incorporates a mechanism for achieving sustainability. An index of external unsustainability is also derived that reflects the probability of future changes in policies expected by private agents over time.

Houpt, James V.

PD May 1988. **TI** International Trends for U.S. Banks and Banking Markets. **AA** Board of Governors of the Federal Reserve. **SR** Board of Governors of the Federal Reserve System Staff Studies Paper: 156; Staff Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 47. **PR** No Charge. **JE** 432, 433, 312. **KW** International Banking. Institutions. Banks.
AB This study focuses on the institutional structures through which banking organizations have grown as they have sought to achieve their business objectives. While it should help the reader understand the structure and trends in international banking, the paper does not evaluate specific institutions, forecast developments, or recommend courses of action. It principally documents and summarizes many of the significant developments in international banking, mostly since the early 1970s, and provides supporting data about these international activities that are not readily available from other sources. This study emphasizes the three phases previously outlined in discussing the international activities of United States banks and the United States activities of foreign banks. Discussing the central themes of such broad topics is difficult, however, without occasionally disgressing into areas in which other consequential events were occurring. Therefore, while considering the general phases, the paper discusses the organizational structure of international banking, the growth of international banking by United States banks, the role of foreign parties in United States banking markets, and the current market trends.

Hsiao, Cheng

PD April 1988. **TI** Consistent Estimation for Some Nonlinear Errors-in-Variables Models. **AA** University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8810; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 35. **PR** No Charge. **JE** 211. **KW** Minimum Distance Estimator. Instrumental Variable. Measurement Error. Identification. Consistency.
AB The issues of identification and estimation of nonlinear errors-in-variables models are explored. The deficiencies of conventional definition of identification are discussed and alternative definition in terms of observed samples is suggested. The consistency and asymptotic normality of minimum distance estimators are studied. To simplify the computation, a two step estimation procedure is also suggested, in which a consistent estimate of a subset of parameters is first obtained and treated as if they were known in the second step estimation of the rest of parameters. Conditions for the consistency of this two step estimator and its asymptotic variance-covariance matrix are also derived.

Huang, Chi fu

TI Nonnegative Wealth, Absence of Arbitrage, and Feasible Consumption Plans. **AU** Dybvig, Philip H.; Huang, Chi fu.

Huffman, Gregory W.

TI On Modelling the Natural Rate of Unemployment with Indivisible Labor. **AU** Greenwood, Jeremy; Huffman, Gregory W.

TI Investment, Capacity Utilization and the Real Business Cycle. **AU** Greenwood, Jeremy; Hercowitz, Zvi; Huffman, Gregory.

Hulten, Charles

PD February 1988. **TI** Energy, Obsolescence, and the Productivity Slowdown. **AU** Hulten, Charles; Robertson, James W.; Wykoff, Frank. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology. **SR** Bureau of Labor Statistics Working Papers: 176; 441 G Street Northwest Washington, D.C. 20212 Room 2127. **PG** 29 + appendix. **PR** No Charge. **JE** 825, 723, 630. **KW** Productivity. OPEC. Energy Crisis. Capital Stock. Technological Change. Energy Prices.

AB Output per worker in the United States business sector grew at an average annual rate of 3.0 per cent from 1948 to 1973. From 1973 to 1984, however, this annual rate plunged to 1.1 per cent. This is the widely publicized "productivity slowdown" that has attracted so much attention from economic researchers. A prime suspect is the rapid and unexpected rise in energy prices imposed by the Oil Producing Export Countries cartel in 1973 and again in 1979. While there is still a debate over when the productivity slowdown started, few doubt that the sharpest decline occurred after 1973. The coincidence of this decline in most industrialized countries with the energy crisis is an obvious clue. In this paper we examine a leading energy-related hypothesis, advanced by Martin N. Baily, which holds that the rise in energy prices accelerated the rate of obsolescence of the United States stock of physical capital.

Hylleberg, Svend

PD July 1988. **TI** Cointegration and Error Correction Mechanisms. **AU** Hylleberg, Svend; Mizon, Grayham E. **AA** Hylleberg: Economics Institute, Aarhus University. Mizon: Southampton University. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8811; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 21. **PR** No Charge. **JE** 211, 212. **KW** Cointegration. Nonstationarity. Error Correction Models.

AB This paper is concerned with modelling joint processes involving nonstationary (in particular integrated) economic time series variables. The Smith-McMillan-Yoo lemma for polynomial matrices is used as a framework in which to present and analyze the properties of alternative observationally equivalent parameterizations of an N dimensional system of integrated variables which has r cointegrating vectors.

Ilmakunnas, Seija

PD March 1988. **TI** A Model of Female Labour Supply in the Presence Hours Restrictions. **AU** Ilmakunnas, Seija; Pudney, Stephen. **AA** London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 305; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 40. **PR** No Charge. **JE** 824, 821. **KW** Discrete Choice Model. Labor Supply. Labor Constraints. Labor Elasticity.

AB We develop and estimate a discrete choice model of female labor supply in Finland, using a data set constructed by merging the 1980 Labor Force Survey and Housing and Population Census. This data set contains direct observations on the perceived incidence of quantity constraints in the labor market, and allows us to identify the effects of such constraints on observed labor supply behavior. Approximately one in five women appears to be seriously constrained in her choice of hours of work, and it is important to take account of this in estimating a labor supply relationship. Our estimated model of income-leisure preferences implies that the response of desired labor supply to variation in the wage is rather small, in comparison with most of the applied literature, with a typical elasticity in the region 0.5-0.7.

Inoue, Tohru

TI Testing Between Competing Models of Business Cycles: The Efficient Long-Term Contract Hypothesis Versus the Intertemporal Substitution Hypothesis. **AU** Osano, Hiroshi; Inoue, Tohru.

Ito, Takatoshi

TI Meteor Showers or Heat Waves? Heteroskedastic Intra-daily Volatility in the Foreign Exchange Market. **AU** Engle, Robert F.; Ito, Takatoshi; Lin, Wen Ling.

TI On the Consistency of Short-Run and Long-Run Exchange Rate Expectations. **AU** Froot, Kenneth A.; Ito, Takatoshi.

Iwai, Katsuhito

PD February 1988. **TI** The Evolution of Money -- A Search-Theoretic Foundation of Monetary Economics. **AA** University of Pennsylvania and University of Tokyo. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-03; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 75. **PR** No Charge. **JE** 311, 023. **KW** Medium of Exchange. Money. Barter. Monetary Economy. Search Theory.

AB It is not the intention of the present paper to add anything new to the already well-understood nature of money and monetary economy, except for its explicit modeling of the processes of barter and monetary exchanges within a formal search theory. Its major objective is rather to apply the method of search theory to demonstrate that the reason why money is able to surmount the requirement of double coincidence of wants lies at the deeper level in the fact that it is the product of a "bootstraps mechanism", or the fact that: Money is used as the universal medium of exchange simply because it is universally believed to be used as the universal medium of exchange by everybody else.

Jackman, Richard

PD June 1988. **TI** Does Long-Term Unemployment Reduce a Person's Chance of a Job? A Time-Series Test. **AU** Jackman, Richard; Layard, Richard. **AA** London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 309; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 26. **PR** No Charge. **JE** 824, 822. **KW** Unemployment. Unemployment Duration. Worker Heterogeneity. Labor Market.

AB Long-term unemployed are less likely to leave unemployment than short-term unemployed. To what extent is this due to an effect of duration and to what extent to heterogeneity? On reasonable assumptions, heterogeneity on its own (with no duration-dependence) would imply that if over time the exit rate of new entrants fell by a given multiple, the overall exit rate from unemployment should fall by the same multiple. However, over the last twenty years in the United Kingdom the overall exit rate has fallen by two-thirds relative to the fall in the exit rate of new entrants. Another test of 'pure heterogeneity', based on more general assumptions, also fails. Hence we explain the overall fall in exit rates from unemployment by the combined effect of: (i) a fall in the ratio of vacancies to unemployed, and (ii) a higher proportion of the unemployed being long-term unemployed, and hence demoralized and stigmatized in the eyes of employers.

Jain, Raj K.

PD May 1988. **TI** The Seasonal Adjustment Procedures for the Consumer Price Indexes: Some Empirical Results. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Prices and Living Conditions. **SR** Bureau of Labor Statistics Working Paper: 184; 441 G Street Northwest, Washington, D.C. 20212 Room 2127. **PG** 29. **PR** No Charge. **JE** 227, 211. **KW** Seasonal Adjustment. X-II ARIMA. Consumer Price Index. ARMA Model.

AB Beginning from January of 1986, the Consumer Price Indexes (CPI) are being seasonally adjusted by the X-11 ARIMA procedure. This modification of the X-11 procedure is introduced following an empirical investigation into three aspects of seasonal adjustment methodology as applied to several CPI series: the presence of seasonality in a CPI series, the choice of an ARIMA model to fit and forecast a CPI series, and the improvements made by the ARIMA modification in terms of revision and smoothness of the seasonally adjusted CPI series. This paper reports the results of the above investigation. In addition, a brief account is given of the BLS procedures relating to projected seasonal factors, seasonally adjusted aggregate series and revision of the seasonally adjusted series.

PD May 1988. **TI** An Infinite Polynomial Distributed Lag Model and Its Estimation. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Prices and Living Conditions. **SR** Bureau of Labor Statistics Working Paper: 185; 441 G Street Northwest, Washington, D.C. 20212 Room 2127. **PG** 25 + appendix. **PR** No Charge. **JE** 211, 212. **KW** Almon Lag. Infinite Polynomial Lag. Adaptive Expectations. Koyck Lag. Grid Search.

AB This paper presents a new distributed lag model called the Infinite Polynomial Lag Model. This model can estimate an infinite lag distribution and, like Almon's model, it is flexible enough to capture a wide range of shapes of the true lag distribution. The Koyck lag model and an aggregate Koyck lag model are special cases of this model. An economic rationale is provided for the proposed scheme. It is shown that the adaptive expectations of the 'market' representing aggregate behavior would generate a lag distribution of this type. A grid search method of estimation is developed to estimate the model.

TI Using a Consumer Price Index Database to Measure Inner-City Differences in Living Costs. **AU** Love, Douglas O.; Woodbury, Diane F.; Jain, Raj.

Jakubson, George H.

TI Advance Notice Provisions in Plant Closing Legislation: Do They Matter? **AU** Ehrenberg, Ronald; Jakubson, George H.

Jerison, David

PD March 1988. **TI** Approximate Slutsky Conditions. **AU** Jerison, David; Jerison, Michael. **AA** Jerison, D.: Massachusette Institute of Technology. Jerison, M.: SUNY, Albany. **SR** *Universitat Bonn Sonderforschungsbereich 303* - Discussion Paper: A-166; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 34. **PR** No Charge. **JE** 021, 022, 213. **KW** Slutsky Symmetry. Weak Axiom. Revealed Preferences.

AB We define measures of violations of Slutsky symmetry and negative semi-definiteness and relate them to measures of revealed preference inconsistencies exhibited by nonoptimizing demand behavior. The degree of Slutsky asymmetry is shown to restrict the rate at which real income can rise everywhere along a closed loop in income and price space. The largest eigenvalue of the guadratic form of the Slutsky matrix is used to bound violations of the weak axiom. The sizes of the violations of either Slutsky condition are used to bound the distance between the given demand function and approximating functions that satisfy that Slutsky condition exactly.

Jerison, Michael

TI Approximate Slutsky Conditions. **AU** Jerison, David; Jerison, Michael.

TI The Demand Theory of the Weak Axioms of Revealed Preference. **AU** Hildenbrand, Werner; Jerison, Michael.

Johnson, Alonzo

PD June 1988. **TI** Multiple Unit Double Auction User's Manual. **AU** Johnson, Alonzo; Lee, Hsing Yang; Plott, Charles R. **AA** Johnson: Southern University, Baton Rouge. Plott and Lee: California Institute of Technology. **SR** Caltech Social Science Working Paper: 676; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 11. **PR** No Charge. **JE** 011, 012, 215. **KW** Experimental Economic. Double Auction. Networking.

AB This manual is accompanied by a single diskette. The software package on the diskette contains the Multiple Unit Double Auction (MUDA) program. This program provides a mechanism for organized trading using networked PC systems. If the program is used, this manual should be referenced in any resulting publications. A suggested reference is as follows: Experiments were conducted using the networked Multiple Unit Double Auction Program developed at California Institute of Technology and Southern University of Louisiana; see A. Johnson, H. Y. Lee, and C. R. Plott, "Multiple Unit Double Auction User's Manual", Social Science Working Paper no. 676, Pasadena: California Institute of Technology, 1988. The package is capable of handling up to twenty markets with twenty subjects (participants). Each subject can have an initial amount of cash on hand and an initial number of units of inventory in each market. Parameters for an experiment can be implemented via a parameter file provided by the experimenter.

Johnson, Leland

PD February 1988. **TI** Telephone Assistance Programs for Low-Income Households: A Preliminary Assessment. **AA** The Rand Corporation. **SR** Rand Report: 3603; The Rand Corporation, 1700 Main Street P.O. Box 2138, Santa Monica CA 90406-2138. **PG** 83. **PR** No Charge. **JE** 911, 914, 635. **KW** Telephone. Utility Subsidy. Public Policy.

AB In response to rising local telephone rates in recent years, many states have introduced telephone assistance programs to enable households to retain service and to extend service to those without it. Typically, these programs offer a substantial discount for service to households with incomes below a given level or eligible for benefits under specified welfare programs. This report offers guidance in the design and evaluation of assistance programs by assessing evidence from ongoing programs. The study examines the experiences in eight states and the District of Columbia -- jurisdictions whose programs have histories long enough to draw upon. Two important conclusions emerge: (1) To most effectively promote universal service, a program would have characteristics different from one designed to ease financial hardship; and (2) although programs are justified in terms of promoting universal service, their design frequently includes characteristics that are more consistent with easing financial hardship. The author suggests that there must be mandatory reporting requirements to enable the early evaluation of these programs that is needed.

Johnson, Paul

PD July 1988. **TI** Intergenerational Transfers and Public Expenditure on the Elderly in Modern Britain. **AU** Johnson, Paul; Falkingham, Jane. **AA** London School of Economics. **SR** Centre for Economic Policy Research Discussion Paper: 254; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 27. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 841, 918, 914, 921. **KW** Britain. Elderly. Welfare State. Intergenerational Welfare.

AB Recent research in the United States and New Zealand has suggested that over the last two decades the age profile of well-being has shifted against children and in favor of the elderly population. This shift has occurred because welfare systems have become increasingly generous towards older people and increasingly restrictive towards families with dependent children. This paper considers whether similar trends can be identified for Britain. We examine measures of the age profile of poverty and of changes in the incomes of older people, but find they produce ambiguous results which do not address directly the issue of the intergenerational impact of the British welfare state. Direct measures of government expenditure on cash benefits to the retired population and on health and personal social service expenditure by age-group show that the British welfare system has been neutral between age-groups in recent years.

TI The Economic Consequences of Population Ageing in Advanced Societies. **AU** Scott, Peter; Johnson, Paul.

Jorgensen, Erika

PD June 1988. **TI** Default and Renegotiation of Latin American Foreign Bonds in the Interwar Period. **AU** Jorgensen, Erika; Sachs, Jeffrey. **AA** Jorgensen: National Bureau of Economic Research. Sachs: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2636; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 047, 121, 443, 322, 432. **KW** Latin America. Borrowing. Sovereign Debt. Debt Relief.

AB This paper examines the patterns of defaults, renegotiations, and final settlements on foreign borrowing of several Latin American governments in the interwar period. One goal of the paper is to provide a detailed historical account of the borrowing and renegotiation experience of five Latin borrowers (Argentina, Bolivia, Chile, Colombia, and Peru). Another goal is to provide a quantitative assessment of the amount of debt relief that was implicit in the negotiated settlements of the defaults that were reached in the 1930s and 1940s. In general, the pattern of default and renegotiation resulted in substantial, though not complete, debt relief, in the sense of reducing the present value of debt repayments from the sovereign borrower to the bondholders.

Jorion, Philippe

TI The Time-Variation of Risk and Return in the Foreign Exchange and Stock Markets. **AU** Giovannini, Alberto; Jorion, Philippe.

Jullien, Bruno

TI Learning Through Price Experimentation by a Monopolist Facing Unknown Demand. **AU** Aghion, Philippe; Bolton, Patrick; Jullien, Bruno.

Kahn, Shulamit

PD July 1988. **TI** The Effects of Hours Constraints on Labor Supply Estimates. **AU** Kahn, Shulamit; Lang, Kevin. **AA** Kahn: School of Management, Boston. Lang: Boston University. **SR** National Bureau of Economic Research Working Paper: 2647; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 821, 824. **KW** Labor Supply. Hours Constraint. Leisure.

AB Almost all labor supply models are estimated under the assumption that workers are free to choose their hours. However, theory, casual empiricism and survey data suggest that many workers are not free to vary the hours within a job. Consequently, labor supply estimates based on actual hours of work may be biased. Using Canadian data on desired hours of work, we find that using actual hours causes labor supply estimates to be biased upwards but the bias is small.

Kamel, Nawal

PD June 1988. **TI** External Debt Behavior Reconsidered. **AA** St. Anthony's College, Oxford. **SR** Oxford Applied Economics Discussion Paper: 48; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 44. **PR** No Charge. **JE** 443, 411, 431, 111. **KW** Debt Management. Solvency. Debt Relief.

AB The purpose of this paper is to give a more systematic and rigorous presentation than previous authors of the debt-growth mode used in the literature, bringing out some assumptions and restrictions which have been inadequately highlighted in the past. This approach yields three conclusions. First, the familiar theorem that solvency requires the export growth rate to exceed the rate of interest is in general incorrect. Secondly, the conditions for the debt/exports ratio to convergence to a fixed value are quite different from those for debt repayability. Thirdly, the debt/exports ratio is, in itself, a poor indicator of national solvency.

Kaminsky, Graciela L.

PD June 1988. **TI** Can A Time-Varying Risk Premium Explain Excess Returns in the Forward Market for Foreign Exchange. **AU** Kaminsky, Graciela L.; Peruga, Rodrigo. **AA** University of California, San Diego. **SR** University of California at San Diego Department of Economics Discussion Paper: 88-33; Department of Economics, D-008, University of California at San Diego, La Jolla, CA 92093. **PR** $2.00; checks payable to UC Regents. **JE** 431. **KW** Risk Premium. ARCH. Exchange Rates. Forward Market. Heteroskedasticity. Asset Pricing Model.

AB We investigate the existence of a time-varying risk premium in the foreign exchange market using the intertemporal asset pricing model. In this model the risk premium is due to consumption risk, which is measured by the covariance between returns and the marginal utility of money. We model this conditional covariance using the ARCH model introduced by Engle (1982). Results are presented for the British pound, the German mark, and the Japanese yen for the 1975-1985 period. We are able to show that for these forward contracts a time-varying risk premium is an important determinant of the expected returns. Nevertheless, tests of intertemporal asset pricing model restrictions show that the explicit analysis of switching exchange regimes or a more flexible specification of the model is needed.

Kane, Alex

PD July 1988. **TI** Performance Evaluation of Market Timers. **AU** Kane, Alex; Marks, Stephen Gary. **AA** Kane: University of California, San Diego. Marks: Boston University. **SR** National Bureau of Economic Research Working Paper: 2640; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 311. **KW** Portfolio Theory. Sharpe Measure. Finance. Capital Market.

AB Previous investigators have shown that the Sharpe measure of the performance of a managed portfolio may be flawed when the portfolio manager has market timing ability. We develop the exact conditions under which the Sharpe measure will completely and correctly order market timers according to ability. The derived conditions are necessary, sufficient, and observable. We compare them to empirical estimates of actual market conditions, and find that the circumstances which can lead to a failure of the Sharpe measure do in fact occur. We show, however, that such failures can be greatly reduced by more frequent sampling.

Kapur, Deep

PD April 1988. **TI** Informational Efficiency in a Developing Country Stock Market. **AA** R.S.P.S., Australian National University. **SR** Australian National University Working Paper in Economics and Econometrics: 159; Department of Economics, Australian National University, P.O. Box 4, Canberra A.C.T. 2601, AUSTRALIA. **PG** 18. **PR** No Charge. **JE** 132, 313. **KW** Forecasting. Informational Efficiency. Rational Expectations. Stock Market.

AB This paper uses survey data on stock price expectations to examine the informational efficiency of the Indian stock market. A dynamic model of the forecast error is estimated for 100 forecast series and the results show that informational efficiency is not a valid characterization of the expectations formation process amongst traders in the Indian stock market. Dynamic modelling makes it possible to distinguish between the sources of revealed informational inefficiencies and in general the forecast error is found to be correlated with both price and non-price information.

Karni, Edi

PD April 1988. **TI** Aggregate and Distributional Effects of Social Security. **AU** Karni, Edi; Zilcha, Itzhak. **AA** Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 13-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 32. **PR** No Charge. **JE** 918, 915, 111, 023. **KW** Overlapping Generations. Social Security. Income Distribution.

AB In a two-period overlapping generations economy with production, endogenous labor supply, and uncertain lifetime, we show that the introduction of a fair, fully-funded, social security program will reduce the aggregate levels of output, employment, capital and savings, and increase the inequality in the distribution of income. These conclusions apply to the entire non-stationary, competitive, equilibrium path taken by the economy following the institution of social security. In this analysis the social security system derives its revenues from a proportional social security tax on labor earnings of each generation and distributes its benefits uniformly to the surviving members of the same generation in the second period of their lifetime. Finally, intergenerational transfers in this economy are motivated by the "joy-of-giving.".

PD May 1988. **TI** Some Observations on the Nature of Risk Aversion. **AU** Karni, Edi; Safra, Zvi. **AA** Karni: Johns Hopkins University. Safra: Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 20-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 20. **PR** No Charge. **JE** 022, 026. **KW** Risk. Decision Theory. Expected Utility. Non-Expected Utility. Stochastic Dominance.

AB Some violations of the expected utility hypotheses were explicated by Machina (1982) in a more general framework using the notion of local utility function and postulating that: (a) each local utility function displays decreasing absolute risk aversion and (b) the measure of absolute risk aversion is everywhere nondecreasing with respect to shifts towards first-order stochastically dominating distributions. In this paper we show that the evidence produced in the course of testing the "preference reversal" phenomenon, in conjunction with the assumption that individuals are disinclined to participate in fair symmetric bets, lends support to Machina's hypotheses.

Karp, Larry S.

PD May 1988. **TI** Open-Loop and Feedback Models of Dynamic Oligopoly. **AU** Karp, Larry S.; Perloff, Jeffrey M. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 472; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 38. **PR** $7.60. **JE** 611, 514, 022. **KW** Oligopoly. Feedback Model. Dynamic Model.

AB Until recently, most theoretical and empirical dynamic oligopoly models have been open-loop, although such strategies are not subgame perfect. Subgame perfect feedback models are more difficult to use. By comparing the paths and the steady-state equilibria of families of open-loop to subgame perfect feedback dynamic oligopoly models, we show where open-loop models are the same as feedback models and where they deviate substantially.

Katz, Lawrence

PD May 1988. **TI** Unemployment Insurance, Recall Expectations and Unemployment Outcomes. **AU** Katz, Lawrence; Meyer, Bruce. **AA** Katz: Harvard University. Meyer: Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2594; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 56. **PR** $2.00. **JE** 822, 824, 821. **KW** Unemployment. Unemployment Insurance.

AB This paper shows the importance of explicitly accounting for the possibility of recalls when analyzing the determinants of unemployment spell durations and the effects of unemployment insurance (UI) on unemployment outcomes in the United States. These issues are examined using a unique sample of UI recipients from Missouri and Pennsylvania covering unemployment spells in the 1979-1981 period. We find that those expecting recall who are not recalled tend to have quite long unemployment spells. Furthermore, ex-ante temporary layoff spells (the spells of individuals' who initially expect to be recalled) may account for over 60 percent of the unemployment of UI recipients and appear to account for much more unemployment than ex-post temporary layoff spells (spells actually ending in recall). We estimate a competing risks model in which the finding of a new job and recall are treated as alternate routes of leaving unemployment. Our results using this approach show that the recall and new job exit probabilities have quite different time patterns and are often affected in opposite ways by explanatory variables. We also find that the probability of leaving unemployment (both through recalls and new job finding) increases greatly around the time that IU benefits lapse.

Kennan, John

PD April 1988. **TI** Equilibrium Interpretations of Employment and Real Wage Fluctuations. **AA** University of Iowa. National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-23; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 79. **PR** No Charge. **JE** 131, 133, 824, 631, 023. **KW** Business Cycle. Labor Market. Time-Series Models. Fluctuations. Manufacturing. Competitive Equilibrium.

AB The paper describes cyclical fluctuations in employment and real wages, using postwar monthly data for manufacturing industries in six countries. The main question is whether the data could have been generated by equilibrium models of the labor market. The data are summarized in terms of relative variability and correlation, and patterns of serial correlation. A competitive equilibrium model is used to provide a framework in which these statistics can be interpreted. A variation on this model is also presented, in which a central labor union acts as monopoly seller of labor.

PD June 1988. **TI** Simultaneous Equations Bias in Disaggregated Econometric Models. **AA** University of Iowa and National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-26; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 23. **PR** No Charge. **JE** 211, 212. **KW** Simultaneous Equations. Aggregation. Identification. Exogeneity.

AB In the theory of competitive markets agents act as if they do not affect prices. By analogy with the language of econometrics, agents may be said to take prices as "exogenously given", which suggests that prices are econometrically exogenous in behavioral equations for individual agents. This involves semantic confusion between two different meanings of the word "exogenous". Simultaneity problems cannot generally be dispelled by working with disaggregated data which describe a small piece of a large whole. In particular, nothing is gained by disaggregating the dependent variable in a regression equation, if the "micro" equation uses the same regressors as the "macro" equation. On the other hand it is shown that there may be substantial gains from disaggregation of the regressors.

Khan, Mohsin

PD July 1988. **TI** Growth-Oriented Adjustment Programs: A Conceptual Framework. **AU** Khan, Mohsin; Montiel, Peter. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/64; International Monetary Fund, Washington D.C. 20431. **PG** 28. **PR** No Charge. **JE** 121, 111, 133, 431. **KW** Economic Growth. Growth Model. Open Economy Model. Balance of Payments. Developing Countries. Government Policy.

AB This paper suggests a conceptual framework that can serve as a basis for the design of growth-oriented adjustment programs. The two building blocks of the model are the well-known monetary approach to the balance of payments, and a variant of the open-economy neoclassical growth model. The integrated model combines growth, inflation, and the balance of payments, and links these objectives to government policies and the availability of foreign financing. The principal advantage of the proposed framework is its simplicity, which enables it to be applied relatively easily to a variety of developing countries.

Kihlstrom, Richard E.

PD March 1988. **TI** Managerial Incentives in an Enterpreneurial Stock Market Model. **AU** Kihlstrom, Richard E.; Matthews, Steven A. **AA** Kihlstrom: University of Pennsylvania. Matthews: Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 769; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 49. **PR** No Charge. **JE** 313, 022, 024. **KW** Expectations. Trading. Moral Hazard. Portfolio. Rational Expectations.

AB A moral hazard problem arises when the shareholders of a firm are unable to observe the conduct of its manager. If the firm's shares are publicly traded, it is natural to ask whether market forces effectively deal with the problem. This paper provides a formal answer. We define a competitive rational expectations equilibrium, referred to as a "Competitive Expectations Equilibrium" (CEE), in which the contract relating the manager's compensation to the firm's profit is determined by the manager's own portfolio choices. We then ask whether the market-determined contract is efficient in the second best sense of the principal-agent literature as represented, for example, by Holmstrom '1979 and Grossman and Hart '1983.

Kilkenny, Maureen

TI The Effect of Trade Liberalization in Agriculture on the U.S. Economy: Projections to 1991. **AU** Robinson, Sherman; Kilkenny, Maureen; Adelman, Irma.

King, Ian P.

PD April 1988. **TI** Frictional and Long-Term Unemployment in a Spatially Separated Economy. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 713; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 36. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 821, 823, 824, 941. **KW** Unemployment. Stationary Equilibrium. Natural Rate Hypothesis.

AB This paper separates the "natural" rate of unemployment into two components: frictional and long-term unemployment. A simple labor market model with spatial separation and Markov production shocks is presented. The existence of a stationary equilibrium is proved, and its properties are characterized. In this equilibrium, high productivity regions experience frictional unemployment but no long-term unemployment. The converse holds for low productivity regions. The precise amount of unemployment in each region is determined by its recent productive history. The model also describes the dynamics of population density in each location.

King, Maxwell L.

PD January 1988. **TI** Towards a Theory of Point Optimal Testing. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 4/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 50. **PR** No Charge. **JE** 211. **KW** Autocorrelation. Hypothesis Testing. Linear Regression Model. Most Powerful Test. Normality. Power Curve. Small Sample Properties.

AB This paper puts the case for the inclusion of point optimal tests in the econometrician's repertoire. They do not suit every testing situation but the current evidence, which is reviewed here, indicates that they can have extremely useful small-sample power properties. As well as being most powerful at a nominated point in the alternative hypothesis parameter space, they may also have optimum power at a number of other points and indeed be uniformly most powerful when such a test exists. Point optimal tests can also be used to trace out the maximum attainable power envelope for a given testing problem, thus providing a benchmark against which test procedures can be evaluated. In some cases, point optimal tests can be constructed from tests of a simple null hypothesis against a simple alternative. For a wide range of models of interest to econometricians, this paper shows how one can check whether a point optimal test can be constructed in this way. When it cannot, one may wish to consider approximately point optimal tests. As an illustration, the approach is applied to the non-nested problem of testing for AR(1) disturbances against MA(1) disturbances in the linear regression model.

PD July 1988. **TI** Testing for Fourth-Order Autocorrelation in Regression Disturbances When First-Order Autocorrelation is Present. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 8/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 28. **PR** No Charge. **JE** 211. **KW** Hypothesis Testing. Linear Regression. Small Sample Properties. Seasonality. Autoregressive Models.

AB This paper considers the problem of testing the null hypothesis of first-order autoregressive disturbances in the linear regression model against the alternative that the disturbances follow a joint first-order, simple-fourth-order autoregressive process. The class of approximate point optimal invariant tests are discussed and rules are given for choosing an appropriate member from this class of tests. The beneficial nature of these rules are illustrated by a limited empirical power comparison which shows the recommended test has good small sample power properties.

Kiyotaki, Nobuhiro

PD January 1988. **TI** On Money as a Medium of Exchange. **AU** Kiyotaki, Nobuhiro; Wright, Randall. **AA** Kiyotaki: University of Wisconsin. Wright: University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-01; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 41. **PR** No Charge. **JE** 021, 023. **KW** General Equilibrium. Medium of Exchange. Fiat Currency. Welfare. Money.

AB We study economies where individuals specialize in both consumption and production, and meet randomly over time in a way that implies trade must be bilateral and quid pro quo. Nash equilibria are characterized. We show that certain goods emerge endogenously as media of exchange, or commodity money, depending on both their intrinsic properties and extrinsic expectations. There are also equilibria with genuine fiat currency circulating as the general medium of exchange. We find that equilibria are not generally Pareto optimal, and that introducing fiat currency into a commodity money economy can, but does not necessarily, unambiguously improve welfare.

Kleiner, Morris M.

TI The Impact of New Unionization on Wages and Working Conditions: A Longitudinal Study of Establishments Under NLRB Elections. **AU** Freeman, Richard B.; Kleiner, Morris M.

Kletzer, Kenneth

PD June 1988. **TI** Sovereign Debt Renegotiation Under Asymmetric Information. **SR** Yale Economic Growth Center Discussion Paper: 555; 27 Hillhouse Avenue, New Haven, CT 06520. **PG** 46 pp. **PR** $2.00. **JE** 443, 432. **KW** Debtor Nation. Asymmetric Information. Debt. Contracts.

AB This paper analyzes equilibrium debt contracts under potential renegotiation in the presence of sovereign risk. A simple model of borrowing from abroad to smooth consumption with stochastic national income is studied. Borrowers can choose to repudiate their debt obligations but face sanctions for doing so. Under free entry in loan contracts, equilibrium debt renegotiations take the form of reductions in current debt-service obligations with a new equilibrium market debt-contract. Under symmetric information, net inflows of funds are never provided in a renegotiation to a recalcitrant debtor.

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This contradicts part of the rationale given by several authors for a strategy of "defensive lending" to problem debtors. Asymmetric information about some debtor characteristic is introduced, and renegotiation of existing debt-service obligations is shown to give rise to separating equilibria. Because of the presence of private information, new net inflows may occur along with significant increases in future debt obligations in the event of renegotiation. The implications of these results for the dynamics of debt-service obligations and several extensions of the simple model are discussed.

Kong, Paul

TI An Investigation Into the Power of Insiders in Wage Determination. **AU** Nickell, Stephen; Kong, Paul.

Kop, Yaakov

PD July 1988. **TI** Fiscal Restraint, Demographic Change and Social Services in Israel, 1985-87 and Application of the Methodology to Latin America. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/58; International Monetary Fund, Washington D.C. 20431. **PG** 42. **PR** No Charge. **JE** 322, 841, 121, 133, 911. **KW** Government Expenditure. Stabilization. Demographics. Israel.

AB The paper analyzes the development of government social expenditure during the economic stabilization period, with specific reference to the changing needs for such expenditure arising from the change in Israel's demographic structure. The results reveal a real cut in direct services. The implicit strategy applied a mere restraint, for some two to three years, with real erosion in services arising from the growth in the size of beneficiary groups. This strategy proved attainable, even though it took more time than an alternative shock-like strategy that would have had little, if any, chance of being implemented. A partial application to six Latin American countries shows that even though the increase of the elderly dependency ratio is more than offset by the declining child-dependency ratio, there will be an overall increase in dependency-related expenditure.

Korenman, Sanders

TI Does Marriage Really Make Men More Productive? **AU** Neumark, David; Korenman, Sanders.

Kovenock, Dan

TI Price Leadership. **AU** Deneckere, Raymond; Kovenock, Dan.

Krasa, Stefan

PD May 1988. **TI** Direct Financing, Intermediation and Credit Rationing. **AU** Krasa, Stefan; Kubitschek, Josef. **AA** Krasa: Graduate School of Business, Stanford University. Kubitschek: University of Vienna, Austria. **SR** Stanford Graduate School of Business Research Paper: 973; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 20. **PR** No Charge. **JE** 314, 315, 026. **KW** Financial Intermediatries. Credit Rationing. Asymmetric Information. Contracts.

AB The coexistence of direct financing and intermediation is shown in a model with asymmetrically informed borrowers and lenders. Using a game theoretic approach we first prove the existence of optimal contracts between (a) firms and intermediaries; (b) firms and direct investors; and (c) between intermediaries and depositors. With the possible exception of the contracts between firms and intermediaries, all optimal contracts are shown to be standard debt contracts. We prove the existence of a perfect equilibrium and classify all possible equilibrium payoffs. Finally we study credit rationing in our model.

Kravis, Irving B.

PD June 1988. **TI** Production and Trade in Services by U.S. Multinational Firms. **AU** Kravis, Irving B.; Lipsey, Robert E. **AA** Kravis: University of Pennsylvania. Lipsey: CUNY. **SR** National Bureau of Economic Research Working Paper: 2615; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 441, 635, 631, 423, 824. **KW** Foreign Investment. Service Industry. Labor Demand. International Investment.

AB Direct investment in foreign countries by United States goods industries represents a response to differences in labor costs to a much greater extent than the more rapidly growing investment by service industries. The latter seem to be less able to allocate different types of production to different areas of the world, probably because services are less tradable than goods; they must more often be produced where they are consumed or consumed where they are produced. Therefore, while direct investment abroad in goods industries represents an allocation of production that increases the demand for high-skill labor and for research and development input in the United States and decreases the demand for low-skill labor, direct investment in service industries, while it increases a firm's share of foreign markets, is likely to have little effect on the firm's demand for labor in the United States or on the composition of its labor force.

Krishna, Kala

PD June 1988. **TI** What Do Voluntary Export Restraints Do? **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2612; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 422, 411. **KW** Exports. Imperfect Competition. Bertrand Equilibrium. Free Trade.

AB This paper has two aims. First, to examine alternative ways of modelling VERS in imperfectly competitive markets. This is important, since the effects of VERS are sensitive to the models used. Second, to argue that the effects of VERS also depend on whether goods are complements or substitutes. This point is illustrated by extending the model of Krishna (1983) to allow complementary goods to be produced by domestic and foreign firms. If goods are substitutes, VERs set at free trade levels raise all profits, while if they are complements, the VERS have no effect. Thus tariffs and quotas are fundamentally non-equivalent under Bertrand duopoly when substitute goods are produced, but are equivalent when complementary goods are being produced. This is contrasted to the case of Stackelberg leadership. The importance of specifying the effects of any restriction on the payoff functions of agents and using this to analyze its effects on equilibrium of the game is emphasized.

Krugman, Paul R.

PD May 1988. **TI** Market-Based Debt-Reduction Schemes. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2587; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 41.

PR $2.00. **JE** 433, 443, 121. **KW** Developing Countries. Debtor Nation. Debt.

AB Recently much attention has been given to the idea of reducing the debt of developing countries through a "menu approach" of schemes that attempt to harness the discounts on debt in the secondary market. This paper, after reviewing the rationale for the orthodox strategy of concerted lending and the case for debt forgiveness, examines the logic behind several market-based debt reduction schemes. It shows that such schemes will ordinarily benefit both debtor and creditor only when the debtor is on the wrong side of the "debt relief Laffer curve" -- that is, where a reduction in nominal claims actually increases expected payment. This is, however, also the case in which unilateral debt forgiveness is in the interest of creditors in any case. The implication is that there is no magic in market-based debt reduction, as opposed to more straightforward approaches.

PD May 1988. **TI** Deindustrialization, Reindustrialization, and the Real Exchange Rate. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2586; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 30. **PR** $2.00. **JE** 431, 313, 522, 611, 411. **KW** Capital Flows. Market Economy. Exchange Rate. Resource Allocation.

AB This paper models an economy in which it is costly to move resources between the tradeable and nontradeable sectors. The economy is subject to capital flows that are unpredictable and are perceived as having only limited persistence. The model shows that both the fact that capital flows are perceived as temporary and uncertainty per se act to limit the responsiveness of resource reallocation to real exchange rate movements. In turn, this reluctance of factors to move widens the range of real exchange rate variation, so that larger movements of the real exchange rate are needed to accommodate transitory, unpredictable capital flows than would be required to accommodate persistent, predictable flows of the same magnitude. The model also shows that large capital inflows that lead to real exchange rate appreciation large enough to induce resource reallocation will typically be followed by a depreciation of the real exchange rate to below its original level.

Kubitschek, Josef

TI Direct Financing, Intermediation and Credit Rationing. **AU** Krasa, Stefan; Kubitschek, Josef.

Kumar, Kuldeep

PD July 1988. **TI** Some Recent Developments in Non-Linear Time Series Modelling. **AA** Indian Institute of Management. **SR** Monash Department of Econometrics and Operations Research Working Paper: 7/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 41. **PR** No Charge. **JE** 211. **KW** Time Series Analysis. Nonlinear Models. Bilinear Models. Autoregressive Models. Model Specification.

AB Most of the recent work in time series analysis has been done on the assumption that the structure of the series can be described by linear models such as Autoregressive (AR), Moving Average (MA) or mixed Autogressive-Moving Average (ARMA) models. However, there are occasions on which subject matter, theory or data suggests that linear models are unsatisfactory and hence it is desirable to look at nonlinear time series models. In the last decade several nonlinear time series models have appeared in literature, specifically, bilinear time series models, threshold AR models, exponential AR models, random coefficient AR models, exponential moving average models and other related models. In this paper we have reviewed various nonlinear time series models. We have also reviewed various tests of nonlinearities developed by various authors. Since the model specification is the most important step in any time series model building, we have discussed the problem of model specification in the context of bilinear and threshold models in detail.

Kumar, M. S.

TI Econometric Analysis of Aggregation in the Context of Linear Prediction Models. **AU** Pesaran, M. H.; Pierse, R. G.; Kumar, M. S.

Kuran, Timur

PD February 1988. **TI** Sparks and Prairie Fires: A Theory of Unanticipated Political Revolution. **AA** University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8808; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 37. **PR** No Charge. **JE** 041, 114, 025. **KW** Revolution. Political Change. Civil War. Conflict.

AB A feature shared by certain major revolutions is that they were not anticipated. Here is an explanation, which hinges on the observation that people who come to dislike their government are apt to hide their desire for change as long as the opposition seems weak. Because of this preference falsification, a government that appears unshakeable might see its support crumble following a slight surge in the opposition's apparent size, caused by events insignificant in and of themselves. Unlikely though the revolution may have appeared in foresight, it will in hindsight appear inevitable because its occurrence exposes a panoply of previously hidden conflicts.

PD April 1988. **TI** On the Notion of Economic Justice in Contemporary Islamic Thought. **AA** University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8814; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 39. **PR** No Charge. **JE** 036, 024, 045. **KW** Middle East. Islam. Economic Justice. Civilization.

AB This paper describes and evaluates the notion of economic justice that appears in the contemporary literature known as "Islamic economics." It argues that the injunctions the Islamic economists put forward as means of ensuring justice rest on a fanciful model of human civilization, and that they leave more room for interpretation than is acknowledged. The Islamic economists downplay the possibility of discord over interpretation, on the grounds that Islam features a powerful mechanism for producing consensus. The paper challenges this view on both empirical and logical grounds.

Kymlicka, B. B.

PD 1988. **TI** The Canada-US Free Trade Agreement: Reactions and Evaluations. **AU** Kymlicka, B. B.; Whalley, John; Wonnacott, Ronald I. **AA** University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8803C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 32. **PR** $4.00 Canadian each. **JE** 421, 422.

Laffont, Jean Jacques

PD May 1988. **TI** Repeated Auctions of Incentive Contracts, Investment and Bidding Parity with an Application to Takeovers. **AU** Laffont, Jean Jacques; Tirole, Jean. **AA** Laffont: GREMAO and California Institute of Technology. Tirole: Massachusetts Institute of Technology. **SR** Caltech Social Science Working Paper: 675; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 33. **PR** No Charge. **JE** 512, 612, 022, 613. **KW** Incentives. Bidding Parity. Auctions. Regulation. Monopoly. Takeover.

AB This paper considers a two-period model of natural monopoly and second sourcing. The incumbent supplier invests in the first period. After observing the incumbent's first-period performance, the buyer may breakout in the second. The investment may be transferable to the second source or not; and may be monetary or in human capital. The paper determines whether the incumbent should be favored at the reprocurement stage, and how the slope of his incentive scheme should evolve over time. It results from our analysis that the gains from second sourcing are not as high as one might hope. Last it reinterprets the second source as a raider, and the breakout as a takeover. It discusses the desirability of defensive tactics, and obtains a rich set of testable implications concerning the size of managerial stock options, the amount of defensive tactics, the firm's performance and the probability of a takeover.

Lang, Kevin

TI The Effects of Hours Constraints on Labor Supply Estimates. **AU** Kahn, Shulamit; Lang, Kevin.

Layard, Richard

TI Does Long-Term Unemployment Reduce a Person's Chance of a Job? A Time-Series Test. **AU** Jackman, Richard; Layard, Richard.

PD June 1988. **TI** Is Unemployment Lower if Unions Bargain Over Employment? **AU** Layard, Richard; Nickell, Stephen J. **AA** Layard: Centre for Labour Economics, London School of Economics. Nickell: University of Oxford. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 308; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 30. **PR** No Charge. **JE** 831, 023, 824, 832. **KW** Unemployment. Trade Unions. Wages. Bargaining.

AB We examine how the scope of bargaining affects the aggregate employment rate in an economy in which all firms are unionized and bargain with their own union. We show the following. If unions bargain over employment as well as wages, employment will be the same as if they bargain over wages only, provided the production function is Cobb-Douglas. It will be higher if the elasticity of substitution between labor and capital is smaller than unity. If we start from a fully competitive labor market and then move to one of efficient bargaining (over wages and employment), employment falls. This is so even if the marginal utility of income is constant, so that bargaining is 'strongly efficient'. These results contrast with the well-known partial equilibrium result that under efficient bargaining employment is higher than when bargaining is only over wages, and no less than in a competitive market.

Leblanc, Michael R.

TI The Stochastic Coefficients Approach to Econometric Modeling, Part II: Description and Motivation. **AU** Swamy, P. A. V. B.; Conway, Roger K.; Leblanc, Michael R.

Lederer, Walther

TI Measuring Household Saving: Recent Experience from the Flow of Funds Perspective. **AU** Wilson, John F.; Freund, James L.; Yohn, Frederick O. Jr; Lederer, Walther.

Lee, Hsing Yang

TI Multiple Unit Double Auction User's Manual. **AU** Johnson, Alonzo; Lee, Hsing Yang; Plott, Charles R.

Lee, Robert H.

PD March 1988. **TI** Externality Taxes and Compensation. **AA** University of North Carolina, Chapel Hill. **SR** University of North Carolina Working Paper Series: 88-2; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 26. **PR** No Charge. **JE** 021, 024. **KW** Externalities. Property Rights. General Equilibrium Model.

AB Pigovian taxes have long been seen by economists as a desirable way of dealing with externalities. Such a tax is to be levied on the agent generating the externality, is to depend on the amount of the externality, and is not to be used to compensate those affected by the externality. The emergence of a property rights approach to externalities has raised a troubling question about this tradition. Does optimality in fact require that public reallocation of property rights via a Pigovian tax not entail compensation to those whose property has been taken. The remainder of this paper makes these points rigorously, using a natural generalization of standard general equilibrium models with externalities. In each case the standard model represents a special case. The first extension brings property rights into the analysis. The next extension introduces location by treating externalities as local, rather than pure, public nuisances. The final extension makes explicit the possibility that individuals can reduce the damage caused by externalities.

Lehmann, Waffenschmidt Marco

PD May 1988. **TI** On the Equilibrium Price Set of a Continuous Perturbation of Exchange Economies. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-147; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 27. **PR** No Charge. **JE** 021, 022, 213. **KW** Excess Demand. Market Economy. Exchange Economics.

AB The decomposition result for market excess demand functions developed by H. Sonnenschein and advanced by G. Debreu struck the economic profession in the early seventies. Like all succeeding extensions of this result also A. Mas-Colell's equilibria preserving extension from 1977 refers to the static exchange model. Leaving the static approach recent research work by Mas-Colell and by the author has drawn attention to continuous perturbations of economies and has shown a certain general global structure property of their equilibrium sets. Generalizing Mas-Colell's equilibria preserving decomposition result from 1977 to continuous perturbations the present study shows that the addressed global structure property in fact is the only one which generally holds. This result throws new light on the graph of the equilibrium price correspondence. Particularly, it generalizes a central result on local subjectiveness of the equilibrium price correspondence by B. Allen (1981). Furthermore, our findings clarify the degree of indeterminateness of the exchange model on the 'kinetic' level which lies between comparative statics and dynamics.

Leininger, Wolfgang

PD January 1988. **TI** Patent Competition, Rent Dissipation and the Persistence of Monopoly: The Role of Research Budgets. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-153; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 40. **PR** No Charge. **JE** 611, 621, 026. **KW** Industrial Organization. Patent System. Market Entry. Auction Game. Innovations. Technology.

AB The present paper extends the analysis of the continuous dollar auction game to the general case of different valuations of the object (here: the patent) held by bidders (here: incumbent and entrant). We give a complete and explicit solution (subgame perfect equilibrium) that shows who wins and how the exact winning bid depends on the order of play and the budgets of the players. This allows an assessment of the role played by research budgets for patent races.

Leruth, Luc

TI The Optimal Product-Mix for a Monopolist in the Presence of Congestion Effect: A Model and Some Results. **AU** Chander, Parkash; Leruth, Luc.

Levine, David

TI Reputation, Unobserved Strategies, and Active Supermartingales. **AU** Fudenberg, Drew; Levine, David.

Lewis, Alain A.

PD April 1988. **TI** Some Aspects of Constructive Mathematics that are Relevant to the Foundations of Neoclassical Mathematical Economics and the Theory of Games. **AA** University of California, Irvine. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 526; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 27. **PR** $4.00. **JE** 213. **KW** Recursive Functions. Polynomial Hierarchy. Choice Functions.

AB In this brief note we discuss the possible implications of our theorem that non-trivial models of Walrasian general equilibrium are not recursively realizable in two directions: (1) the direction of adapting the framework of recursive analysis to the polynomially recursive real numbers; and (2) the direction of considering simpler algebraic structures as a basis for models in a totally effective theory of mathematical economics and the theory of games. The key device employed in our framework of inquiry is the equivalence within Church's Thesis between the effectively constructive functions or computable functions and the recursive functions. Thus we employ recursion theory as a means for fixing the meaning of "constructive" in a precise mathematical way.

Lewis, Tracy R.

PD April 1988. **TI** Optimal Exclusion and Relocation of Workers in Oversubscribed Industries. **AU** Lewis, Tracy R.; Ware, Roger; Feenstra, Robert C. **AA** Ware: University of California at Berkeley and University of Toronto. Lewis and Feenstra: University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 311; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 41. **PR** No Charge. **JE** 822, 826, 811, 022, 026. **KW** Asymmetric Information. Labor Mobility. Political Implementation. Government Programs. Public Policy.

AB This paper characterizes informationally and politically constrained government programs for eliminating overemployment and overproduction in certain industries. The issues which we examine in this model include (I) To what extent is it possible to reduce the size of oversubscribed industries in light of the information and political constraints that exist? (II) Which "type" of workers (as characterized by their skill levels and outside employment opportunities) remain in the industry? (III) Does the average skill level in the industry increase or decrease once the industry is reorganized? (IV) Which type of worker is harmed by the relocation program? Which coalitions of workers will oppose the reorganization?

PD April 1988. **TI** Monitoring Quality Provisions in Regulated Markets. **AU** Lewis, Tracy R.; Sappington, David E. M. **AA** Lewis: University of California at Davis. Sappington: Bell Communications Research. **SR** University of California at Davis Economics Department Working Paper: 312; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 24. **PR** No Charge. **JE** 612, 613. **KW** Asymmetric Information. Monopoly Regulation. Product Quality. Regulation.

AB We examine how a regulator will optimally induce the supply of quality from a regulated firm when the costs of supply are not known to the regulator. We show that when the quality of the regulated product is observable to the regulator, more quality will be induced, prices will be lower, and both consumers' surplus and profits will be higher then if quality is unobservable. Thus, both the regulator and firm strictly prefer that the regulator be able to monitor quality.

PD July 1988. **TI** Eliminating Price Supports: A Political Economy Perspective. **AU** Lewis, Tracy R.; Feenstra, Robert C.; Ware, Roger. **AA** Lewis and Feenstra: University of California at Davis. Ware: University of California at Berkeley and University of Toronto. **SR** University of California at Davis Economics Department Working Paper: 319; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 41. **PR** No Charge. **JE** 321, 422, 323, 822, 022. **KW** Price Controls. Political Economy. Government Programs. Coalition.

AB This paper characterizes informationally and politically constrained government programs for eliminating price supports. The issues which we examine in this model include (i) To what extent is it possible to reduce the size of oversubscribed industries in light of the information and political constraints that exist. Is a complete "decoupling of a worker's compensation from her output possible or desirable. (ii) which "type" of workers (as characterized by their skill levels and outside employment opportunities) remain in the industry. (iii) which type of worker is harmed by the relocation program and which coalitions of workers will oppose the reorganization.

Liang, Zou

PD 1988. **TI** Target Incentive System vs Price Incentive System. **AA** University Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8804; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 53. **PR** No Charge. **JE** 022, 026, 024, 113. **KW** Incentives. Principal-Agent Theory. Adverse Selection. Decentralized Planning.

AB The target incentive system and the price incentive system represent two common incentive structures for decentralized planning. This paper analyzes the comparative welfare implications of the two incentive systems in the context of a dynamic principal-agent relationship without intertemporal scheme commitment. It shows that with pure adverse selection the target incentive system can be strictly superior to the price incentive system in that the sequential equilibria under the former system entails higher expected organizational welfare.

Lichtenberg, Frank R.

PD February 1988. **TI** Crowding Out: The Impact of the Strategic Defense Initiative on U.S. Civilian R&D Investment and Industrial Competitiveness. **AA** Columbia University Graduate School of Business. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-19; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 29. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 621, 322, 114. **KW** Research and Development. Military Spending. Strategic Defense Initiative. Productivity Growth. Trade Balance. Competitiveness.

AB At a time when United States industrial competitiveness is at its lowest point in the modern era, the Reagan Administration is requesting unprecedented sums for research and development of the Strategic Defense Initiative. If funded at the levels requested, SDI will further weaken the United States competitive position by substantially reducing the amount of civilian R&D investment. Past military R&D has made a negligible contribution to United States economic performance, and the exotic character of SDI technology suggests that its contribution will be even smaller. Given the current state of the United States economy, the consequences of a policy which greatly undermines United States competitiveness are likely to be much more serious now than they would have been in the past.

Lin, Wen Ling

TI Meteor Showers or Heat Waves? Heteroskedastic Intra-daily Volatility in the Foreign Exchange Market. **AU** Engle, Robert F.; Ito, Takatoshi; Lin, Wen Ling.

Lindert, Peter H.

PD July 1988. **TI** Response to Debt Crisis: What is Different About the 1980s? **AA** University of California at Davis. **SR** University of California at Davis Research Program in Applied Macro and Macro Policy: 58; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 62. **PR** No Charge. **JE** 441, 443, 432. **KW** International Debt. Negotiations. Debtor Nations. Financial Intermediaries. Debt.

AB What is different about debt settlements in the 1980s is global official intervention, motived in large part by historically unprecedented exposure of top money-center banks to default risk. There are now two official policies, one for large debtor countries and one for small debtors. Large debtors are paying near-market interest rates even on official credits, while lesser debtors pay only concessionary rates. Regressions show that the difference is not explained away by debtors' income levels, conventional debt ratios or past default histories. The new policy regime has not yet succeeded in assuring private creditors the historical-average interest premium on risky foreign loans. While debt service in the 1980s has helped limit creditors' possible losses, they have been locked into reschedulings at a time when the alternative real interest rates on United States bonds has jumped. The prospects for creditors' returns have been further limited by the fact that, despite heavy negotiations, most debtor countries have not been making significant transfers back to creditors. The new institutions have failed to make any clear contribution to recovery in the debtor countries. Where the new policies have been most in force, the debtors have shown a slightly lower investment share, greater acceleration of inflation, and slightly slower growth.

Lindsey, Lawrence

TI Tax Induced Trading: The Effect of the 1986 Tax Reform Act on Stock Market Activity. **AU** Bolster, Paul; Lindsey, Lawrence; Mitrusi, Andrew.

Lipsey, Robert E.

TI Production and Trade in Services by U.S. Multinational Firms. **AU** Kravis, Irving B.; Lipsey, Robert E.

TI Interactions Between Domestic and Foreign Investment. **AU** Stevens, Guy V. G.; Lipsey, Robert E.

Lizondo, Jose Saul

TI The Currency Composition of Foreign Exchange Reserves. **AU** Dooley, Michael; Lizondo, Jose Saul; Mathieson, Donald.

Lo, Andrew W.

PD June 1988. **TI** The Size and Power of the Variance Ratio Test in Finite Samples: A Monte Carlo Investigation. **AU** Lo, Andrew W.; MacKinlay, A. Craig. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Technical Paper: 66; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 211. **KW** Finite Sample. Monte Carlo. Random Walk. Unit Root. Variance Ratio Test.

AB We examine the finite sample properties of the variance ratio test of the random walk hypothesis via Monte Carlo simulations under two null and three alternative hypotheses. These results are compared to the performance of the Dickey-Fuller t and the Box-Pierce Q statistics. Under the null hypothesis of a random walk with independent and identically distributed Gaussian increments, the empirical size of all three tests are comparable. Under a heteroskedastic random walk null, the variance ratio test is more reliable than either the Dickey-Fuller or Box-Pierce tests. We compute the power of these three tests against three alternatives of recent empirical interest: a stationary AR(1), the sum of this AR(1) and a random walk, and an integrated AR(1). By choosing the sampling frequency appropriately, the variance ratio test is shown to be as powerful as the Dickey-Fuller and Box-Pierce tests against the stationary alternative, and is more powerful than either of the two tests against the two unit-root alternatives.

Lohmoller, Jan B.

TI Economic Development Then and Now. **AU** Adelman, Irma; Lohmoller, Jan B.; Morris, Cynthia T.

Louri, Helen

TI Firms as Portfolios: A Study of Unquoted U.K. Kingdom Companies. **AU** Hay, Donald A.; Louri, Helen.

Love, Douglas O.

PD June 1988. **TI** Using a Consumer Price Index Database to Measure Inner-City Differences in Living Costs. **AU** Love, Douglas O.; Woodbury, Diane F.; Jain, Raj. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Prices and Living Conditions. **SR** Bureau of Labor Statistics Working Paper: 186; 441 G Street Northwest, Washington, DC 20212 Room 2127. **PG** 17 + appendices. **PR** No Charge. **JE** 227, 229, 211. **KW** Price Index. Food Prices. Sample Design. Consumer Prices.

AB This paper demonstrates the use of the United States consumer price database for estimating interarea price indexes for four categories of food items. Construction of these indexes demonstrates methods for overcoming various difficulties encountered when using price quotes resulting from a sampling design that was created for intertemporal price comparisons rather than cross sectional comparisons. Measures of the variances of the indexes are also provided. The methodology represents an alternative to the Country Product Dummy method (Summers, 1973) and other hedonic techniques when the objective is to measure inter-city differences in prices within a country. Our results indicate that interarea differences in food costs are similar to those implied by the Bureau of Labor Statistics average prices program.

Lucchetti, R.

PD May 1988. **TI** Lambda-Transfer and Harsanyi NTU Values: Individual Rationality, Stability and Degenerate Solutions. **AU** Lucchetti, R.; Patrone, F.; Tijs, S.; Torre, A. **AA** Lucchetti: Department of Mathematics, University of Milano, Italy, currently visiting University of California, Davis. Patrone: Department of Mathematics, University of Genoa. Tijs: Department of Mathematics, University of Nijmegen. Torre: Department of Mathematics, University of Pavia, Italy. **SR** University of California at Davis Economics Department Working Paper: 313; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 26. **PR** No Charge. **JE** 026, 213. **KW** NTU Value. Cooperative Games. Solution Concepts.

AB The paper deals with two solution concepts for cooperative NTU games: the Harsanyi and the Shapley values. Both values involve some comparison weights for the players, that can be seen as a rescaling factor of their utilities, where they are all positive. However zero weights can occur, in degenerate solutions. We analyze them, and we investigate individual rationality and stability of the values. Finally, an existence thereom for the Harsanyi value is given, emphasizing the nice behavior of this value, even in the degenerate case, with respect to the above mentioned properties.

MacKinlay, A. Craig

TI The Size and Power of the Variance Ratio Test in Finite Samples: A Monte Carlo Investigation. **AU** Lo, Andrew W.; MacKinlay, A. Craig.

Madan, Diliip B.

PD 1988. **TI** The Multinomial Option Pricing Model and Its Limits. **AU** Madan, Diliip B.; Milne, Frank. **AA** Madan: University of Sydney. Milne: Australian National University. **SR** Australian National University Working Paper in Economics and Econometrics: 160; Department of Economics, Australian National University, P.O. Box 4, Canberra A.C.T. 2601, AUSTRALIA. **PR** No Charge. **JE** 521, 313, 311. **KW** Option Pricing. Arbitrage. Securities.

AB The Cox, Ross Rubinstein binomial model is generalized to the multinomial case. Limits are investigated and shown to yield the Black-Scholes formula in the case of continuous sample paths, provided the number of securities equals the martingale multiplicity of the underlying tree. In the discontinuous case a Merton type formula follows, provided probabilities of jump are replaced by corresponding Arrow Debreu prices.

Madden, Paul

PD February 1988. **TI** Imperfect Competition and Fixprice Equilibria. **AU** Madden, Paul; Silvestre, Joaquim. **AA** Madden: University of Manchester. Silvestre: University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 309; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 58. **PR** No Charge. **JE** 021, 022. **KW** Imperfect Competition. Oligopoly. Fixprice Analysis. Disequilibrium. Quantity Constraints. Substitute Goods.

AB This paper brings together two traditions in microeconomics: the analysis of imperfectly competitive general equilibrium (as pioneered by Negishi) and the fixprice model, formalized by Baroo-Grossman (1976), Benassy (1975), Dreze (1975) and Younes (1975). We ask, what models of imperfect competition yield equilibria that satisfy the fixprice conditions? This analysis is carried out in two steps. First, we discuss conditions on the demand faced by an imperfect competitor that are sufficient for fixprice equilibria. It turns out that both direct and inverse substitutability (among the goods over which the imperfect competitor has market power) are sufficient conditions. Second, we apply these results to a series of imperfectly competitive models present in the literature.

Magill, M.

TI A Geometric Approach to a Class of Fixed Point Theorems. **AU** Hirsch, M. D.; Magill, M.; Mas, Colell A.

Mailath, George J.

PD June 1988. **TI** Workers Versus Firms: Bargaining Over A Firm's Value. **AU** Mailath, George; Postlewaite, Andrew. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-11;

University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 37. **PR** No Charge. **JE** 021, 022, 024, 514, 833. **KW** Bargaining. Human Capital. Takeovers. Mechanism Design. Networks. Compensation.

AB We introduce a distinction between a firm and its network of workers. In a competitive world, if networks are easily lured away, the workers must receive the entire value of their contribution to the firm. Some implications of this observation are explored. A model is analyzed in which workers are paid less as a group than their value, even in a competitive world. The workers are assumed to have a nonwage benefit for working at the current firm; this benefit is privately known. These privately known benefits make it impossible for the workers to agree on a division of their value should they leave the existing firm for a new enterprise. The result is that the workers may receive a total compensation which is less than their contribution to the firm. Furthermore, the proportion of the workers' value captured by the firm increases as the size of the network increases.

PD June 1988. **TI** Asymmetric Information Bargaining Problems With Many Agents. **AU** Mailath, George J.; Postlewaite, Andrew. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-10; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 33. **PR** No Charge. **JE** 025, 022, 026, 321. **KW** Mechanism Design. Bargaining. Private Information. Asymptotic Efficiency. Public Goods. Free Rider Problem. Common Knowledge. Principal-Agent Theory.

AB A yes/no decision must be made about some issue (such as the provision of an indivisible public good or whether the workers in a firm leave and form a cooperative venture). All agents must agree. Furthermore, the value (positive or negative) that an individual attaches to an affirmative decision is privately known to that individual. The impossibility of achieving ex post efficient decisions in this framework has been known since, at least, Myerson and Satterthwaite 'JET, 1983. An example with dependent values is first presented in which it is common knowledge that an affirmative decision should be made and yet, as the number of agents increases, the probability of such a decision goes to zero. It is then proved under very mild conditions that with independent types, as the number of agents increases, the probability of an affirmative decision goes to zero.

PD July 1988. **TI** Endogenous Sequencing of Firm Decisions. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-12; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 47. **PR** No Charge. **JE** 026, 611, 511, 514. **KW** Cournot Equilibrium. Stackelberg Equilibrium. Industrial Organization. Private Information. Signalling.

AB In a Stackelberg world of complete information, the leader earns larger profits than the follower, even if the two firms are otherwise identical. If the leader has superior information about the state of demand, then the requirements of equilibrium can result in the leader earning lower ex ante profits than the follower. In this paper I examine the implications of allowing the informed firm to choose between playing Stackelberg or Cournot, so that the informed firm need not move first. The sequencing of firm decisions is determined endogenously. A striking result emerges from the analysis of this game. The only equilibrium outcome (after applying a standard refinement) involves the informed firm moving first, regardless of its private information. That is, if a firm has superior information it will always decide to play Stackelberg.

Malkiel, Burton G.

PD May 1988. **TI** The Brady Commission Report. **AA** Yale School of Management. **SR** Princeton Financial Research Center Memorandum: 92; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 22. **PR** $3.00. **JE** 313. **KW** Brady Commission. Stock Market. Volatility.

AB The paper presents a critical review of the Brady Task Force Report, commissioned by President Reagan to determine why the stock market collapsed during October 1987 and what can be done to prevent a recurrence. Some of the recommended actions of the commission such as establishing better information and clearing systems seem clearly in the public interest. This review article points out, however, that the evidence does not support many of the other Brady recommendations. Specifically, cost-benefit analyses of the proposals regarding margins, consolidated regulation and circuit breakers do not support the commission's recommendations.

Manser, Marilyn E.

PD June 1988. **TI** Real Wages Over the Business Cycle: Estimates Using A Fixed-Weight Wage Index. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Research and Evaluation. **SR** Bureau of Labor Statistics Working Paper: 187; 441 G Street Northwest, Washington D.C. 20212 Room 2127. **PG** 11. **PR** No Charge. **JE** 824, 131, 212, 211. **KW** Work Force. Employment Cost Index. Business Cycle. Wage Index.

AB Recent studies have recognized that changes in the composition of the work force over the business cycle may cause spurious cyclical movement in estimates of wage changes. This note extends empirical evidence on this issue using a relatively new aggregate fixed-weight wage index series, the Employment Cost Index (ECI). The point estimates show a countercyclical relationship when lagged effects are included, but the estimate is not statistically different from zero. This result is robust to choice of a price index for deflation. Comparison of the results to other aggregate series reveals that failing to account for changes in industry composition imparts a procyclical bias, but the effect of failure to account for occupational shifts differs by major sector. Finally, the real wage/unemployment relationship is assessed for broad occupational and industry groups. The relationship is found to be significantly countercyclical for transportation and services, but not for the other groups considered.

Marks, Stephen Gary

TI Performance Evaluation of Market Timers. **AU** Kane, Alex; Marks, Stephen Gary.

Marquez, Jaime

PD June 1988. **TI** Income and Price Elasticities of

Foreign Trade Flows: Econometric Estimation and Analysis of the US Trade Deficit. **AA** Division of International Finance, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 324; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 117. **PR** No Charge. **JE** 411, 431, 421, 021, 111. **KW** International Trade. Elasticities. Trade Deficit. Bootstraping. Simulations. Growth.

AB This paper builds, estimates, and simulates a world trade model to provide a quantitative analysis of the behavior of the United States trade deficit. A key feature of this model is that international trade imbalances add up to zero. The analysis estimates income and price elasticities for bilateral import equations, tests for the properties of the error term, for parameter constancy, and for the choice of dynamic specification. The paper also re-examines the structural asymmetries in elasticities noted by Houthakker and Magee and tests whether the Marshall-Lerner condition holds. The reliability of the model as a whole is assessed with residual-based stochastic simulations. The paper finds that changes in relative prices account for the bulk of the deterioration of the United States trade account, that reliance on either foreign or domestic growth to eliminate the United States external imbalances entails significant changes in real income, and that the speed with which United States net exports respond to exchange rate changes is sensitive to minor changes in own-price elasticities.

Marron, J. S.

TI Bandwidth Choice for Density Derivatives. **AU** Hardle, W.; Marron, J. S.

TI Bandwidth Choice for Density Derivatives. **AU** Hardle, W.; Marron, J. S.; Wand, M. P.

PD July 1988. **TI** Comments on a Data Based Bandwidth Selector. **AA** University of North Carolina, Chapel Hill. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-181; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 27. **PR** No Charge. **JE** 211, 214. **KW** Bandwidth Selection. Cross-validation. Kernel Estimation. Asymptotic Theory.

AB A recently proposed data based method for choosing the bandwidth of a kernel density estimator is considered. Intuitive and asymptotic reasons are given for why the bandwidth selected in this fashion is smaller than it should be. This conflicts with the results of a simulation study. The conflict is resolved through a deeper asymptotic analysis. Further simulation results investigate the issue of what sample sizes are required for the asymptotics to properly describe the situation. The analysis is extended to motivate a type of correction, which leads to the widely known least-squares cross-validation, hence providing a new derivation of the latter.

Martin, Lawrence

TI Multiple Free Trade Equilibria in a Model of Frictional Unemployment. **AU** Davidson, Carl; Martin, Lawrence; Matusz, Steven.

Mas, Colell A.

TI A Geometric Approach to a Class of Fixed Point Theorems. **AU** Hirsch, M. D.; Magill, M.; Mas, Colell A.

Maskin, Eric

TI Nash and Perfect Equilibria of Discounted Repeated Games. **AU** Fudenberg, Drew; Maskin, Eric.

Massey, Douglas S.

PD January 1988. **TI** Residential Segregation of Blacks in American Cities. **AA** NORC and University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 88-1; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 16. **PR** $2.00; send requests to Librarian, NORC. **JE** 917, 931, 932. **KW** Blacks. Housing. Discrimination. Segregation. Minorities.

AB The results that I report today reflect my best scientific judgment concerning patterns of residential segregation in 60 American metropolitan areas, which include the 50 largest urban areas in the United States plus 10 others with large concentrations of Hispanics. In my remarks, I focus on the situation of black Americans, making occasional references to Hispanics or Asians for comparative purposes. After discussing basic trends in segregation from 1970 to 1980, I discuss the uniqueness of black segregation compared to other minority groups. I then consider the process of suburbanization and its role in black segregation, and address the issue of whether black segregation might reasonably be attributed to socioeconomic factors. After considering the reasons for the persistence of high levels of black segregation, I consider its impact on black social and economic well-being.

TI Residential Segregation of Blacks, Hispanics, and Asians by Socioeconomic Status and Generation. **AU** Denton, Nancy A.; Massey, Douglas S.

Masson, Paul

TI International Coordination of Economic Policies: Scope, Methods and Effects. **AU** Frenkel, Jacob; Goldstein, Morris; Masson, Paul.

Mathieson, Donald

TI The Currency Composition of Foreign Exchange Reserves. **AU** Dooley, Michael; Lizondo, Jose Saul; Mathieson, Donald.

Matousek, Jiri

PD February 1988. **TI** On Polynomial Time Decidability of Induced-Minor-Closed Classes. **AU** Matousek, Jiri; Nesetril, Jaroslav; Thomas, Robin. **AA** University of Prag. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 87490-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 10. **PR** No Charge. **JE** 213. **KW** Minor-Closed. Bounded Algorithm. Linear Algorithm.

AB It follows from recent results of Robertson and Seymour that for any minor-closed class of graphs F (i.e. G element of F and H minor of G implies H element of F) there is a polynomially bounded algorithm for the membership problem of F. We investigate this property for a weaker notion of induced - minor - closed classes. There is a linear algorithm of the class F consists of series-parallel graphs (i.e. those which contain no subdimension of K(4)). However for induced minor-closed classes in general this problem may be NP-hard or even algorithmically undecidable.

Matthews, Steven A.

TI Managerial Incentives in an Enterpreneurial Stock Market Model. **AU** Kihlstrom, Richard E.; Matthews, Steven A.

Matusz, Steven

TI Multiple Free Trade Equilibria in a Model of Frictional Unemployment. **AU** Davidson, Carl; Martin, Lawrence; Matusz, Steven.

Maule, Christopher J.

PD April 1988. **TI** Canada's New Competition Policy. **AU** Maule, Christopher J.; Ross, Thomas W. **AA** Maule: Carleton University. Ross: Carleton University and Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-24; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 71. **PR** No Charge. **JE** 612, 611, 113. **KW** Antitrust Policy. Public Policy. Canada. Mergers. Competition. Industrial Organization.

AB The statutory basis of Canadian antitrust policy was substantially revised in 1986 with the passage of two new laws: the Competition Act and the Competition Tribunal Act. This paper summarizes and discusses many of the most significant changes in the Canadian law, which include the creation of a specialized court for antitrust matters, a new policy for mergers and the increased use of civil rather than criminal procedures in competition cases. The laws have an international flavor, drawing inspiration from the antitrust laws of many other countries, notably the United States, the United Kingdom, Sweden and the European Economic Community. They also reflect much of the new learning in the field of industrial organization, and so could provide a valuable example for other nations considering these kinds of reforms. There is concern, however, on at least three fronts: (i) the operationality of parts of the law, specifically those related to the statutory efficiency defense in merger cases, is questioned; (ii) whether the Competition Tribunal will live up to the promises made about its efficient blending of legal and economic expertise; and, finally, (iii) there is concern expressed about the invisibility of much of the enforcement of the new Acts.

Mayer, Thomas

PD June 1988. **TI** Monetarism in A World Without "Money.". **AA** University of California at Davis. **SR** University of California at Davis Research Program in Applied Macro and Macro Policy: 56; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 37. **PR** No Charge. **JE** 311. **KW** Monetarism. Financial Innovations. Velocity. Monetary Target. Quantity Theory. Monetary Growth.

AB Financial innovations and the resulting changes in velocity appear to have invalidated the quantity theory and destroyed the cases for monetary targeting and for a stable monetary growth rate rule. While not denying that monetarism has been weakened by financial innovations, this paper argues that the damage done to it is not all that great.

McAleer, Michael

TI Nested and Non-Nested Procedures for Testing Linear and Log-Linear Regression Models. **AU** Bera, Anil K.; McAleer, Michael.

McConnell, Sheena

PD January 1988. **TI** Strikes, Wages and Private Information. **AA** London School of Economics and Political Science. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 10; Department of Economics/Woodrow Wilson School of Public and International Affairs Princeton University, Princeton, NJ 08544. **PG** 49. **PR** No Charge. **JE** 833, 832, 831, 824. **KW** Private Information. Strikes. Unions. Wages. Negotiations.

AB Private information models of strikes suggest that the strike is used as an information revealing device by the union in the presence of asymmetrical information. A testable prediction of these models is that there is a concession schedule which maps out a negative relationship between wages and strikes. In this paper a concession schedule is estimated using a unique micro data set of about 3000 contracts over the period 1970-1981. Unlike previous wage determination studies, which use the percentage change in nominal wages as the dependent variable, this study uses the average expected real wage over the length of the contract as the dependent variable as this is the wage that is of interest to the negotiating parties. In order to estimate the concession schedule it is necessary to control for all observable variables which effect the level of wages and strike activity.

McGuire, Therese

TI Will They Know Me When I'm Gone. An Epitaph for Federal General Revenue Sharing. **AU** Holtz, Eakin Douglas; McGuire, Therese.

McKenzie, George W.

PD August 1988. **TI** The Economics of the Bis Bank Capital Adequacy Proposals. **AU** McKenzie, George W.; Thomas, Stephen H. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8813; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 46. **PR** No Charge. **JE** 312, 313, 314, 315. **KW** Bank Capital. Risk. Bank Regulations. Bank Portfolio.

AB This paper examines the bank capital adequacy regulations proposed by the BIS in December 1987 and July 1988. We explain the role of risk-adjusted assets and the various definitions of bank capital which have been considered. A number of contentious issues such as the role of unrealized equity gains as capital for Japanese banks are examined in detail. Alternative measures of bank portfolio risk are also considered against the background of the BIS proposals.

McLure, Jr Charles E.

PD April 1988. **TI** U.S. Tax Laws and Capital Flight from Latin America. **AA** Senior Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-21; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 80. **PR** No Charge. **JE** 323, 321, 441. **KW** Taxation. Capital Flight. Latin America. Tax Treaty. Interest Exemption. Tax Policy.

AB The interplay between the tax laws of the United States and those of the countries of Latin America creates inducements for capital flight. Prospect for solutions to this problem are not bright. The United States seems unlikely to reverse its policies. Little is to be gained from adoption of a residence-based approach by Latin American countries. A more radical but more promising approach would be a switch to consumption-based direct taxation in which interest income is neither taxed nor allowed as a deduction. This would reduce the attraction of favorable United States tax treatment by making equally attractive treatment available at home, but raises troublesome issues of equity, the treatment of foreign investment, and transition.

Meade, James

PD June 1988. **TI** Monetary Policy and Fiscal Policy: Impact Effects with a New Keynesian 'Assignment' of Weapons to Targets. **AU** Meade, James; Vines, David. **AA** Meade: University of Cambridge. Vines: University of Glasgow. **SR** Centre for Economic Policy Research Discussion Paper: 246; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 35. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 311, 321, 134, 822, 023. **KW** Monetary Policy. Fiscal Policy. National Wealth. Inflation.

AB This paper considers fiscal and monetary policy in a short-run static macroeconomic model. There are two objectives, control of inflation and control over the growth of national wealth, and a third outcome of importance, a high level of employment. There are two instruments, monetary policy (the short-term interest rate) and fiscal policy (the rate of income tax). The assignment problem considers whether fiscal policy should be used to control inflation, leaving monetary policy to affect the accumulation of wealth, or whether these roles should be reversed. We consider "pure" and "mixed" assignments. The analysis shows that the appropriate assignment will depend fundamentally on the relative strengths of demand-pull and cost-push factors in the determination of wages.

Melitz, Jacques

TI The European Monetary System and the Franc-Mark Asymmetry. **AU** Cohen, Daniel; Melitz, Jacques; Oudiz, Gilles.

Melton, William C.

PD June 1988. **TI** Federal Reserve Behavior Since 1980: A Financial Markets Perspective. **AU** Melton, William C.; Roley, V. Vance. **AA** Melton: IDS Financial Services, Inc. Roley: University of Washington. **SR** National Bureau of Economic Research Working Paper: 2608; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311. **KW** Central Bank. Monetary Policy. Credibility. Interest Rates.

AB The financial market's understanding of Federal Reserve behavior is used to examine recent changes in monetary policy. Changes in the level of interest rates in response to specific types of economic information are primarily considered. Differences in the volatility of interest rates across periods provide additional evidence on changes in monetary policy regimes. The results indicate that monetary policy changed several times since 1980 with respect to either the Federal Reserve's targets, its desire to achieve its targets, or its operating procedures. The different regimes correspond to Federal Reserve statements about changes in policy. In this context, then, the evidence suggests that policy was credible.

Metcalf, David

PD July 1988. **TI** Water Notes Dry Up. **AA** London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 314; Centre for Labour Economics, London School of Economics, Houghton Street, London, WC2A 2AE, UNITED KINGDOM. **PG** 63. **PR** No Charge. **JE** 833, 825. **KW** Labor Productivity. Labor Relations. Collective Bargaining. Industrial Relations.

AB In the last seven years labor productivity growth in manufacturing has averaged almost 6 per cent a year, more than double the rate achieved in the previous 20 years. The reformation in industrial relations is paramount in explaining this transformation in economic performance. The climate of industrial relations has been altered by fear, competition and decentralization of collective bargaining. The part played by legislation is more difficult to pin down. Only time will tell whether the changes are permanent, but there is no strong evidence that we are in a new era of cooperative industrial relations.

Meyer, Bruce

TI Unemployment Insurance, Recall Expectations and Unemployment Outcomes. **AU** Katz, Lawrence; Meyer, Bruce.

Michel, Philippe

TI Informative Advertising and Competition: A Non-Cooperative Approach. **AU** Gary, Bobo Robert; Michel, Philippe.

Middendorf, M.

PD April 1988. **TI** Routing Multiterminal Nets via Disjoint Connected T-Joins. **AU** Middendorf, M.; Pfeiffer, F. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88511-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** No Charge. **JE** 213. **KW** Multiterminal Net. Grid Graph. Polynomial Algorithm. Channel Routing. Time Algorithm.

AB We present a new approach to the problem of multicommodity multiterminal net routing in grid graphs. Given a complete rectlinear grid graph and sets T(i) of terminals on its boundary, the problem is to find pairwise edge-disjoint subgraphs (wires) connecting the terminal sets T(i). In our model the wires are required to be T(i)-joins (that is, to be in an extented sense eulerian). Whereas the general problem is proved to be NP-complete, we give polynomial time algorithms for some interesting cases (including channel routing).

Milanov, P. B.

PD December 1987. **TI** On the Threshold Independence Systems. **AA** Bulgarian Academy of Sciences. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 87487-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 14. **PR** No Charge. **JE** 213. **KW** Threshold Graphs. Separate Systems. Algorithms. Ceilings.

AB Using Chvatal-Hammer theorem we develope an algorithm constructing all threshold graphs together with their optimal separate systems (separate systems with minimal threshold). We also present two algorithms constructing uniform hypergraphs which are threshold in a "weak" sense and estimate the increase of the coefficients of their optimal separate systems. We also discuss how increasing of the coefficients depends from the number of ceilings.

Milbourne, Ross D.

PD February 1988. **TI** Disequilibrium Buffer Stock Models: A Survey. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 715; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 40. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 311, 133. **KW** Buffer Stock. Transmission Mechanism.

AB This survey evaluates the recent upsurge of buffer stock models. The paper describes the ideas common to most buffer stock models and divides them into 4 distinct types depending upon the sets of assumptions made, and the type of equilibrium concept used. The main empirical implications are given in terms of the implied short-run adjustment of variables and how this relates to the transmission mechanism. The paper also summarizes the main theoretical and empirical criticisms of each class of model. The conclusion is that whilst the disequilibrium inherent in the buffer stock approach is plausible, it has yet to be demonstrated that it is empirically valid or how to correctly test for its presence.

PD April 1988. **TI** How Informative are Preliminary Announcements of the Money Stock in Canada? **AU** Milbourne, Ross D.; Smith, Gregor W. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 716; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 36. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 132, 133, 311. **KW** Monetary Aggregates. Growth Rates. Forecasts.

AB We examine hypotheses about the relation between provisional estimates and final values of M1, M2, and M3 and their growth rates in Canada, using monthly data and multiple revisions. Preliminary values cannot be viewed as final values plus an error (revision) uncorrelated with these but they are approximately unbiased forecasts of final values. The second difference in short-term interest rates is a leading indicator of revisions in M1 growth rates and revisions exhibit significant seasonality; hence preliminary values are not completely rational forecasts.

PD June 1988. **TI** Does Paying Interest on Bank Reserves Improve Welfare? **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 718; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 22. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 311, 312. **KW** Required Reserves. Central Bank. Interest.

AB Most partial equilibrium analyses argue that the Central Bank should pay interest to the commercial banks on the reserves those banks are required to hold. This paper argues that such a proposal might not be welfare improving because in general equilibrium there is a tax burden that this payment creates. A simple model is presented and the crucial conditions upon whether, in general equilibrium, these interest payments are welfare improving, are derived. The conditions are slightly counterintuitive a nd casual empiricism suggests that such payments are probably not welfare improving.

PD November 1988. **TI** A Theorem Regarding Elasticities of the Transactions Demand for Money. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 714; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 8. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 311, 023, 022. **KW** Interest Elasticity. Income Elasticity. Money Demand.

AB This paper considers the class of inventory-theoretic transactions demand for money models and proves the following theorem: the sum of the income elasticity of money demand plus the absolute value of the interest elasticity is equal to unity. This result is often ignored in empirical simulation studies and Bayesian estimation.

Miller, Merton H.

TI Liquidity and Market Structure. **AU** Grossman, Sanford J.; Miller, Merton H.

TI Liquidity and Market Structure. **AU** Grossman, Sanford; Miller, Merton H.

Milne, Frank

TI The Multinomial Option Pricing Model and Its Limits. **AU** Madan, Diliip B.; Milne, Frank.

Minford, Patrick

PD April 1988. **TI** A Labour-Based Theory of International Trade. **SR** Centre for Economic Policy Research Discussion Paper: 237; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 42. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 431, 421, 411. **KW** International Trade. Skilled Labor. Labor Endowments. Exports.

AB This new model of international trade patterns is based on differing relative labor costs derived from differing endowments of skilled and unskilled labor, when labor is in elastic supply because of social support systems. All factors other than labor are assumed to be mobile across frontiers; constant returns to scale prevail. The model predicts that (1) high wage countries will export goods intensive in skilled labor (a hierarchy is proposed from "expensive", skilled-labor-intensive, and often new products or services, all the way to "cheap", unskilled-labor-intensive, often old products capable of mass manufacture); (2) wage equalization across borders for the same labor type can be frustrated by social support, notably for unskilled workers in high wage countries, who will be unemployed; (3) mercantilism has a pay-off in the form of lower unemployment. The theory is tested empirically in three ways. First, assuming unit value indices (uvis) are an index of "expensiveness", country uvis are regressed on country wages for SITC 3-digit groups in textiles, machinery, and electrical apparatus. Second, country net exports in expensive and cheap labor commodity groups are regressed on country wages. Finally, country net exports are regressed on an index of skilled-labor-intensiveness for high-wage, low-wage and intermediate-wage countries.

Minkler, Alanson P.

PD May 1988. **TI** Why Firms Franchise. **AA** University of California at Davis. **SR** University of

California at Davis Economics Department Working Paper: 314; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 39. **PR** No Charge. **JE** 611, 511, 514. **KW** Franchise. Vertical Integration. Shirking. Search Theory. Monitoring.
AB The purpose of this paper is to offer a new explanation for the existence of franchising. I argue that franchising exists because franchisees have superior knowledge about local markets, relative to the franchisor, and hence enjoy lower search costs. Franchisee discretion is a necessary condition for franchising. A series of models are introduced which formalize the franchisor's and franchisee's profit maximization problems. The major implications of the analysis are: increases in franchisor knowledge reduces the optimal number of franchisees; firms vertically integrate over time if the franchisor is able to learn from franchisees; franchisees search less and make fewer decisions over time; the franchise relationship exists even if monitoring is costless; and clustering leads to more, not less, franchising. A central theme of the paper is that franchising can exist even if there is no possibility of store operator shirking.

PD June 1988. **TI** Ownership and Vertical Integration in Franchising. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 315; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 14. **PR** No Charge. **JE** 611, 511, 514. **KW** Franchise. Vertical integration. Monitoring. Search Theory.
AB In this paper, hypotheses from monitoring and search explanations for franchising are discussed and tested using data obtained from a well known fast food chain. The results are favorable for the search explanation. As the franchisor learned about a market from franchisees, the firm choose to vertically integrate.

Minowa, Yoshiki

TI Analyzing Risks, Returns and Potential Interest in the U.S. High Yield Corporate Debt Market for Japanese Investors. **AU** Altman, Edward I.; Minowa, Yoshiki.

Mishkin, Frederic S.

PD March 1988. **TI** The Information in the Term Structure: Some Further Results. **AA** Graduate School of Business, Columbia University and National Bureau of Economic Research. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-26; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 14. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 313, 133, 311, 132. **KW** Term Structure. Interest Rates. Futures Market.
AB This paper provides some refinements and updating of Fama's (1984) evidence on the information in the term structure about future spot interest rate movements. First, it uses econometric techniques that properly correct standard errors for overlapping data and for conditional heteroskedasticity. Second, it makes use of a new data set that has some potential advantages over Fama's and which has more recent data. Overall, the results are in broad agreement with those of Fama. The term structure does help predict spot interest rate movements several months into the future. Indeed, updating Fama's results indicates that the forecast power of forward rates is generally higher during the October 1982 to June 1986 period than it was during the sample periods Fama examined.

PD May 1988. **TI** The Information in the Term Structure: Some Further Results. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 2575; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 132, 311. **KW** Term Structure. Futures Market. Interest Rates. Forecasts.
AB This paper provides some refinements and updating of Fama's (1984) evidence on the information in the term structure about future spot interest rate movements. First, it uses econometric techniques that properly correct standard errors for overlapping data and for conditional heteroskedasticity. Second, it makes use of a new data set that has some potential advantages over Fama's and which has more recent data. Overall, the results are in broad agreement with those of Fama. The term structure does help predict spot interest rate movements several months into the future. Indeed, updating Fama's results indicates that the forecast power of forward rates is generally higher during the October 1982 to June 1986 period than it was during the sample periods Fama examined.

Mitchell, Janet

PD January 1988. **TI** Perfect Equilibrium and Intergenerational Conflict in a Model of Cooperative Enterprise Growth. **AA** University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8806; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 27. **PR** No Charge. **JE** 614, 511, 053, 111. **KW** Overlapping Generations. Intergenerational Conflict. Cooperative Enterprise. Enterprise Growth. Capital Ownership. This paper employs an overlapping generations model to examine the hiring and investment decisions of a cooperative enterprise whose members do not possess full ownership rights to capital. The need to internally finance investment generates a conflict of interest between junior and senior workers; the latter will be reluctant to forego salaries to self finance investment if the returns are not fully realized before retirement. The resolution of this conflict determines the rate of growth of the firm. Solutions are presented under two extreme assumptions: complete decisionmaking power to the old and complete decisionmaking power to the young.

Mitra, Tapan

PD April 1987. **TI** Public Debt in the Overlapping Generations Model: A Characterization of Bonafide Tax-Transfer Policies. **AA** University of Pennsylvania and Cornell University. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-04; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 31. **PR** No Charge. **JE** 021, 024. **KW** Taxation. Transfers. General Equilibrium. Dynamic Model. Overlapping Generations.
AB The purpose of this paper is to study the "effectiveness" of tax-transfer policies in a dynamic general equilibrium model.

Mitrusi, Andrew

TI Tax Induced Trading: The Effect of the 1986 Tax Reform

Act on Stock Market Activity. **AU** Bolster, Paul; Lindsey, Lawrence; Mitrusi, Andrew.

Mizon, Grayham E.

TI Cointegration and Error Correction Mechanisms. **AU** Hylleberg, Svend; Mizon, Grayham E.

Molana, Hassan

TI North-South Growth and Terms of Trade: A Model on Kaldorian Lines. **AU** Vines, David A.; Molana, Hassan.

Montiel, Peter

TI Growth-Oriented Adjustment Programs: A Conceptual Framework. **AU** Khan, Mohsin; Montiel, Peter.

Moore, John

TI Property Rights and the Nature of the Firm. **AU** Hart, Oliver; Moore, John.

Morales, Juan Antonio

PD June 1988. **TI** Bolivia's Economic Crisis. **AU** Morales, Juan Antonio; Sachs, Jeffrey. **AA** Morales: Universidad Catolica Boliviana. Sachs: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2620; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 112. **KW** Economic Collapse. Bolivia. Hyperinflation. Economic Development.

AB By any standard, Bolivia's economic crisis in the 1980s has been extraordinary. Like its neighbors, Bolivia suffered from major external shocks, but the extent of economic collapse in the face of these shocks (including a hyperinflation during 1984-85) suggests that internal factors as well as external shocks have been critical to Bolivia's poor economic performance. One major theme of our work is that the recent economic crisis in Bolivia is a reflection of political and economic conflicts in Bolivian society that have undermined the development process throughout this century. While major reforms have been begun by the present government, many of the deepest problems in Bolivian society that contributed to the crisis remain unresolved.

Morris, Cynthia T.

TI Economic Development Then and Now. **AU** Adelman, Irma; Lohmoller, Jan B.; Morris, Cynthia T.

Moulton, Brent R.

PD April 1988. **TI** An Illustration of a Pitfall in Estimating the Effects of Aggregate Variables on Micro Units. **AA** Office of Prices and Living Conditions, United States Department of Labor; Bureau of Labor Statistics. **SR** Bureau of Labor Statistics Working Paper: 181; 441 G Street NW, Washington, D.C. 20009 Room 2127. **PG** 8 and tables. **PR** No Charge. **JE** 211, 229, 212. **KW** Standard Error. Grouped Populations. Linear Models. Variance Components. Spurious Regression. Aggregate Data. Micro Data.

AB Many economic researchers have attempted to measure the effect of aggregate market or public policy variables on micro units by merging aggregate data with micro observations by industry, occupation, or geographical location, then using multiple regression or similar statistical models to analyze the data. The methods are usually based upon the assumption of independent disturbances, which is typically not appropriate for data from grouped populations. Incorrectly using ordinary least squares can lead to standard errors that are seriously biased downward. This note illustrates the danger of spurious regression from this kind of misspecification, using as an example a wage regression estimated on data for individual workers that includes in the specification aggregate regressors for characteristics of geographical units.

Myerson, Roger B.

PD March 1988. **TI** Sustainable Matching Plans with Adverse Selection. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 767; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 53. **PR** No Charge. **JE** 022, 024, 026. **KW** Adverse Selection. Incentives. Market Clearing.

AB Economies with adverse selection are studied as matching problems. Feasible stationary matching plans are defined by market-clearing equations and informational incentive constraints. When the matching market is contestable, alternative matching systems are characterized by viable prospectus mappings. A feasible plan is sustainable if it can, with a suitably constructed waiting list, inhibit defections to all alternative matching systems. Competitively sustainable plans are shown to always exist, although they may be Pareto-dominated by other sustainable plans. Representatively sustainable plans are also defined, and are shown to always exist and be Pareto-efficient.

TI Endogenous Formation of Links Between Players and of Coalitions: An Application of the Shapley Value. **AU** Aumann, Robert J.; Myerson, Roger B.

Nabar, Prafulla G.

PD April 1988. **TI** Options Trading and Stock Price Volatility. **AU** Nabar, Prafulla G.; Park, Sang Yong. **AA** Nabar: Southern Methodist University. Park: New York University. **SR** New York University Salomon Brothers Center Working Paper: 460; New York University Salomon Brothers Center for the Study of Financial Institutions 90 Trinity Place, New York, NY 10006. **PG** 33. **PR** $4.00. **JE** 313. **KW** Options. Trading. Stock Market. Volatility. Selection Bias.

AB This paper examines empirically whether trading of options has an impact on the volatility of underlying stocks. Employing a log-linear market model in volatility to account for a market effect on stock volatility, we find evidence that the excess volatility of optioned stocks is on average negative and statistically significant from about the fourth month after inception of options trading. Furthermore, this reduction in volatility can not be attributed to a potential selection bias. This finding thus contradicts a popular belief that options trading increases stock volatility.

Nadiri, M. Ishaq

TI Investment, Depreciation and Capital Utilization. **AU** Bernstein, Jeffrey; Nadiri, M. Ishaq.

TI Rates of Return on Physical and R&D Capital and Structure of the Production Process: Cross Section and Time Series Evidence. **AU** Bernstein, Jeffrey I.; Nadiri, M. Ishaq.

TI Corporate Taxes and Incentives and the Structure of Production: A Selected Survey. **AU** Bernstein, Jeffrey I.; Nadiri, M. Ishaq.

Nagarajan, S.

PD May 1988. **TI** On the Efficiency of Takeovers. **AA** Columbia Business School. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-27; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 88. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 521, 611, 514, 026. **KW** Takeovers. Greenmail. Efficiency. Revelation Principle. Incomplete Information.

AB This paper examines the issue of the welfare efficiency of takeovers and resistance strategies such as greenmail and supermajority rules for a fairly large class of takeover games under incomplete information. Application of the well-known Revelation Principle reduces the problem to one of finding feasible efficient mechanisms in the space of all direct revelation mechanisms. It is shown that not all target firms can be taken over efficiently, especially the ones in which the incumbent controller has large holdings. Supermajority provisions may be efficient in some cases, where as the new issues of stock (IPOs) will always be inefficient. Greenmail premiums, the resulting fall in the stock price not withstanding, are not inconsistent with efficient takeovers. However, economy-wide payment of greenmail would reduce the set of firms which could be taken over efficiently. More surprisingly, raiders with low valuations can sometimes expect to receive large greenmail premiums.

Nakayama, Mikio

PD February 1988. **TI** A Strategic Form for a Convex Game. **AA** Toyama University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 765; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 12. **PR** No Charge. **JE** 026, 213. **KW** Convex Games. Sufficient Conditions. Strategic Form.

AB A strategic interpretation of a convex game is given by formulating a sufficient condition for a convex game to be derived from a strategic form. Two well-known examples of convex games are examined to see how the sufficient condition is satisfied.

Neary, Peter

PD 1987. **TI** Tariffs, Quotas and Voluntary Export Restraints With and Without Internationally Mobile Capital. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8717C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PR** $4.00. **JE** 421, 422.

Nelson, Julie A.

PD December 1987. **TI** Food Quantity Data in the U.S. Consumer Expenditure Survey: An Evaluation of Usefulness for Economic and Statistical Studies. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Prices and Living Conditions. **SR** Bureau of Labor Statistics Working Paper: 174; 441 G Street Northwest, Washington, D.C. 20212 Room 2127. **PG** 27 + tables. **PR** No Charge. **JE** 227, 229. **KW** Consumer Expenditure Survey. Data Quality. Food Quantity Data.

AB This paper presents an analysis of the quality of the food quantity data in the Diary portion of the continuing Consumer Expenditure Survey. Section II briefly reviews how the data is collected and processed. Section III describes how an attempt was made to recode the existing data into a standard format, and reveals how diary keepers responded (or failed to respond) to the quantity questions. Section IV describes the creation of a data set for a study relating household food purchases to household income, demographics and prices. Section V compares the distribution of price quotes from the Commodities and Services database (the source of price information for the Consumer Price Index).

PD December 1987. **TI** Individual Consumption Within the Household: A Study of Expenditures on Clothing. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Prices and Living Conditions. **SR** Bureau of Labor Statistics Working Paper: 175; 441 G Street Northwest, Washington, DC 20212 Room 2127. **PG** 14 + tables. **PR** No Charge. **JE** 921, 229. **KW** Clothing. Household Consumption. Consumer Economics.

AB Most studies of consumption behavior, including most studies of the consumption of clothing, investigate expenditures at the household level. The interview portion of the United States Expenditure Survey, however, collects data on purchases of clothing according to the member for whom the purchase is made. This data, available on the database which is internal to the Bureau of Labor Statistics, provides a rare opportunity for direct investigation of the distribution of consumption within the household. This paper uses multivariate regression analysis to study the factors influencing the level of annual expenditure on clothing for individuals and to generate predicted mean values of expenditure based on these observable factors. The results suggest that expenditure on clothing for girls is generally higher than for boys, and expenditure on clothing for mothers higher than that for fathers. Expenditure elasticities with respect to permanent income are estimated at being near unity for children, but greater than unity for adults.

Nesetril, Jaroslav

TI On Polynomial Time Decidability of Induced-Minor-Closed Classes. **AU** Matousek, Jiri; Nesetril, Jaroslav; Thomas, Robin.

Neumark, David

PD May 1988. **TI** Does Marriage Really Make Men More Productive? **AU** Neumark, David; Korenman, Sanders. **AA** Board of Governors of the Federal Reserve. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 29; Division of Research and Statistics, Federal Reserve Board, Washington, D.C. 20551. **PG** 59. **PR** No Charge. **JE** 825, 824, 917. **KW** Marriage. Productivity. Selectivity. Households. Discrimination.

AB Labor economists in the United States have long noted that married men earn substantially more per hour worked than men who are not currently married. These wage differentials persist when controls are introduced for education, race, region, age or work experience, and even occupation and industry. Typically, differentials are in the 10-40 percent range--roughly as large as race, firm-size, and union wage differentials, as well as differentials across industries, all of which have been extensively studied. While there is widespread agreement that cross-section marriage differentials exist and are sizable, there is much less agreement about their sources. One hypothesis is that earnings differentials result from productivity differentials: that is, marriage per se makes workers more productive. Another hypothesis attributes these differentials to employer discrimination in favor of married workers, and a third to selection into marriage on the basis of wages or ability. This paper attempts to empirically evaluate the productivity, discrimination and selection hypotheses. To distinguish between the selection hypothesis and the other two hypotheses we carry out both longitudinal (fixed-effects) and cross-section analyses of a sample drawn from the National Longitudinal Survey of Young Men for the years 1976, 1978, and 1980.

TI Efficiency Wages, Inter-Industry Wage Differentials, and the Returns to Ability. **AU** Blackburn, McKinley; Neumark, David.

Neyman, Abraham

TI On Non-Atomic Weighted Majority Games. **AU** Einy, Ezra; Neyman, Abraham.

PD February 1988. **TI** Uniqueness of the Shapley Value. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8813; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 3. **PR** No Charge. **JE** 026, 213. **KW** Game Theory. Cooperative Game. Coalition.

AB It is shown that the Shapley value of any given game v, is characterized by applying the value axioms-efficiency, symmetry, the null player axiom, and either additivity or strong positivity - to the additive group generated by the game v itself and its subgames.

Nickell, Stephen J.

TI Is Unemployment Lower if Unions Bargain Over Employment? **AU** Layard, Richard; Nickell, Stephen J.

PD June 1988. **TI** An Investigation Into the Power of Insiders in Wage Determination. **AU** Nickell, Stephen; Kong, Paul. **AA** Institute of Economics and Statistics, Oxford. **SR** Oxford Applied Economics Discussion Paper: 49; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 39. **PR** No Charge. **JE** 824, 831, 833, 611, 821. **KW** Wages. Employment. Unions. Insider Effects.

AB This paper is concerned with the role of insider forces in wage determination. Various union and non-union models of wage behavior are considered and they imply that wages are a convex combination of internal and external factors. Certain union models also imply a degree of hysteresis. Data on fourteen British production industries reveal i) that insider forces are important, ii) that their importance is directly related to both union power and the degree of monopoly in the product market, iii) that the state of the aggregate labor market is also important and iv) that hysteresis effects arising from insider power are only significant in a small minority of sectors.

Nitzan, Shmuel

TI Dynamic Voluntary Provision of Public Goods. **AU** Fershtman, Chaim; Nitzan, Shmuel.

Obstfeld, Maurice

TI Optimal Time-Consistent Fiscal Policy with Finite Lifetimes: Analysis and Extensions. **AU** Calvo, Guillermo; Obstfeld, Maurice.

OGrada, Cormac

PD June 1988. **TI** Did Tariffs Matter That Much? Ireland Since the 1920s. **AA** University College, Dublin. **SR** Centre for Economic Policy Research Discussion Paper: 242; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 17. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 044, 422, 112. **KW** Economic History. Commercial Policy. Ireland. Tariff.

AB The contrasting tariff regimes of Northern and Southern Ireland after 1932 must have influenced industrial structure and specialization. Can a comparison of Northern and Southern data from the 1960s, just before the South began to opt for trade liberalization again, 'reveal' the damage done by protection? Here it is argued, using a time-series approach, that it cannot.

Okuno, Fujiwara Masahiro

PD February 1987. **TI** Forward Induction and Equilibrium and Equilibrium Refinement. **AU** Okuno, Fujiwara Masahiro; Postlewaite, Andrew. **AA** Okuno-Fujiwara: University of Tokyo. Postlewaite: University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-01; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 36. **PR** No Charge. **JE** 026. **KW** Sequential Equilibrium. Incomplete Information. Signalling Game.

AB There are many economic problems which, modelled by games of incomplete information using sequential equilibrium as the solution concept, give rise to many (often infinitely many) sequential equilibria. Often many of these equilibria seem implausible because of the beliefs associated with some disequilibrium information sets (i.e., disequilibrium beliefs). Recently a number of papers have appeared proposing various refinements of the set of sequential equilibria based on tests of the plausibility of the disequilibrium beliefs. Some of these papers are restricted to signalling games; this paper will also be restricted to such games. The plan of this paper is as follows. In section 2, we present the formal model and present examples showing how our refinement differs from those of Cho-Kreps and Grossman-Perry. In section 3 we prove that the set of (pure strategy) sequential equilibria which satisfy our refinement test is non-empty for an important class of signalling games. We prove this by showing a particular equilibrium always satisfies our refinement test. Section 4 contains concluding remarks including the relationship between our refinement and other refinement notions based upon perturbation.

PD May 1987. **TI** Strategic Cost-Reduction Investment and Economic Welfare. **AU** Okuno, Fujiwara Masahiro; Suzumura, Kotaro. **AA** Okuno-Fujiwara: University of Tokyo. Suzumura: University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-05; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297.

PG 42. **PR** No Charge. **JE** 022, 024. **KW** Oligopoly. Social Welfare. Imperfect Competition. Entry. Investment.

AB Is there any intrinsic reason to expect that the oligopolistic competition will generate an excessive or insufficient commitment to cost-reduction investment in the aggregate. This question is a matter of great interest and subtly, around which many contributions appeared recently. The central issue has been that the strategic considerations may motivate oligopolistic competitors to overcommit themselves to cost-reduction investment in order to deter rival's entry and/or aggressiveness.

Oliner, Stephen D.

PD July 1988. **TI** Capital and the Slowdown of Growth in the United States: A Review. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper Series: 87; Economic Activity Section, Federal Reserve Board, Washington, D.C. 20551. **PG** 63. **PR** No Charge. **JE** 825, 226. **KW** Growth Accounting. Productivity. Capital.

AB The growth of labor productivity in the United States slowed markedly after 1965, as did the growth of aggregate output after 1973. This paper examines whether these slowdowns can be linked to a weakening growth of service flows from capital. We study this question from the viewpoint of conventional growth-accounting, and then cast a critical eye on the technique itself to see whether it accurately portrays capital's contribution to the growth slowdowns noted above. For the private business sector, standard growth-accounting exercises indicate that capital-related factors explain about one-third of the deceleration in both output and labor productivity during 1973-79, but essentially none of the slowdown in labor-productivity growth during 1965-73. Although we find little evidence of obvious bias in these estimates, they are subject to error for several reasons, which are discussed in some detail.

Osano, Hiroshi

PD March 1988. **TI** Testing Between Competing Models of Business Cycles: The Efficient Long-Term Contract Hypothesis Versus the Intertemporal Substitution Hypothesis. **AU** Osano, Hiroshi; Inoue, Tohru. **AA** Osano: Shiga University. Inoue: Yokohama National University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 768; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 40. **PR** No Charge. **JE** 824, 821, 833. **KW** Long-Term Contract. Intertemporal Substitution. Bargaining. Dynamic Optimization.

AB This paper tests the efficient long-term contract model against the intertemporal substitution model using Japanese aggregate data. From the former model, employment and wages are arranged by bilateral dynamic bargaining between firms and workers. From the latter model, employment and wages are determined by the dynamic optimization of households within the competitive market framework. The theoretical argument shows that these two hypotheses are nested if labor input adjustments are made by means of worksharing alone. The estimation results are consistent with the efficient long-term contract model, but are inconsistent with the intertemporal substitution model. This finding implies that observed movements in employment and real wages do not arise from strong intertemporal substitution in labor supply but from risk sharing or bilateral bargaining arrangements between firms and workers. Furthermore, the empirical evidence suggests that systematic expansionary policies have no effects on consumption or employment even though unexpected expansionary policies can increase the long-run level of employment.

Oswald, Andrew

TI The Determination of White-Collar Pay. **AU** Blanchflower, David; Oswald, Andrew.

Oudiz, Gilles

TI The European Monetary System and the Franc-Mark Asymmetry. **AU** Cohen, Daniel; Melitz, Jacques; Oudiz, Gilles.

Ozler, Sule

PD February 1988. **TI** On the Relation Between Reschedulings and Bank Value. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 489; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 29. **PR** $2.50; checks payable to University of California at Regents. **JE** 433, 312, 121, 432. **KW** International Loans. Developing Countries. Commercial Banks.

AB The effect of developing country loan reschedulings on commercial banks has been investigated by empirical methods. The data base includes the stock returns of the largest United States banks over the 1978-1980 period and is analyzed using event study methodology. Our major finding concerns the evolving nature of the impact of loan reschedulings: During the early (1978-1980) part of the period studied, reschedulings had a positive effect on bank returns, in contrast to the negative impact found for the later period. Even the latter finding, however, does not imply that the specific banks involved suffered directly from individual defaults. Instead, the detrimental effect appears to stem from general concerns over the health of the banking industry. A general explanation for these results, including the occurrence of both positive and negative influences, is provided by a model of the rescheduling process that recognizes the non-competitive aspect of rescheduling negotiations.

PD June 1988. **TI** Reschedulings and Bank Value: A Rational Expectations Approach. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 488; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 37. **PR** $2.50; checks payable to University of California at Regents. **JE** 433, 312, 431, 121, 311. **KW** International Loans. Developing Countries. Debt Crisis. Commercial Banks.

AB The effect of the developing countries' debt crises on commercial bank value has been subjected to comprehensive empirical analysis. The method employed allows for formation of expectations regarding international loans and investigates the stock market response to updating of these expectations during the rescheduling process. The stock returns of the largest United States banks are analyzed over the 1978-83 period. Results include the response of stock returns to news pertaining to reschedulings, the repudiation probability of rescheduled loans, and a determination of the systematically risky component of these loans. Our major finding concerns the evolution of the effects of the debt crisis on loan values. During the 1978-80 period loan reschedulings are positively correlated with bank stock returns, while during the 1981-83 period stock returns suffered a 4.2 percent loss because of LDC loans. These results are highly robust, and are used to explain the concomitant sudden decline in the LDC lending growth rate. Our results generally confirm and greatly extend previous studies of the debt crises, in particular the slowly realized but strongly negative response at the time of the Mexican nonpayment crisis.

PD June 1988. **TI** Export Instability and Growth. **AU** Ozler, Sule; Harrigan, James. **AA** University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 486; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 28. **PR** $2.50; checks payable to University of California at Regents. **JE** 111, 121, 131, 431. **KW** Instability. Exports. Developing Country. Growth. Econonic Growth.

AB The impact of export receipts instability on growth is investigated by empirical methods. An instability index that varies over time and across countries is estimated by employing a model of autoregressive conditional heteroskedasticity. The data base includes annual data for twenty-six developing countries over the 1963-82 period. Our primary result is that there is a negative effect of real export instability on the growth of developing countries. This impact is through reduced ex-post efficiency of investment, rather than through the level of investment. Country differences are demonstrated to be important for the magnitude of the impact. Instability is found to be more detrimental after the first oil shock in comparison to the previous period.

Park, Sang Yong

TI Options Trading and Stock Price Volatility. **AU** Nabar, Prafulla G.; Park, Sang Yong.

Park, Won Am

PD May 1988. **TI** External Debt and Macroeconomic Performance in South Korea: A Summary. **AU** Park, Won Am; Collins, Susan M. **AA** Park: Korea Development Institute. Collins: Harvard University. **SR** National Bureau of Economic Research Technical Paper: 2596; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 226, 321. **KW** South Korea. Debtor Nation. Economic Growth. Government Policy.

AB During 1980-1986, South Korea went from being the world's fourth largest debtor country, in the midst of an economic crisis, to a model of successful adjustment, with high growth rates and a current account surplus. This paper summarizes the findings of an in depth analysis of Korea's performance, focusing on the experience with external debt. We argue that the explanations for Korea's recovery are closely linked to the explanations for Korea's very rapid growth during the 1960s and 1970s. The centerpieces have been a comprehensive export focused investment plan with external borrowing used to supplement domestic savings in financing the investment and an active, interventionist government policy.

Pastor, Manuel Jr

TI Misleading Signalling, Bank Lending, and the Latin American Debt Crisis: Theory and Evidence. **AU** Dymski, Gary A.; Pastor, Manuel Jr.

Patrone, F.

TI Lambda-Transfer and Harsanyi NTU Values: Individual Rationality, Stability and Degenerate Solutions. **AU** Lucchetti, R.; Patrone, F.; Tijs, S.; Torre, A.

Pecchenino, Rowena A.

PD July 1988. **TI** Costly Communication and the Structure of Incentive Contracts in Multidivisional Firms. **AA** Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8801; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 26. **PR** No Charge. **JE** 511, 514, 611. **KW** Principal-Agent. Incentives. Contracts. Communication. Capital Allocation. Transaction Costs.

AB This paper develops an interactive principal-agent model to analyze the form of contracts governing capital allocation in a multidivisional firm in which communication between division managers and director is both costly and imprecise. The contracts are examined to determine which of their characteristics make them unavailable to capital market participants, and whether these characteristics derive from the structure of transactions costs or the organization of the firm. This examination lends insight into when the transaction costs of market exchange will lead not only to the Coasian entrepreneurial firm, but also to the Williamsonian multidivisional firm.

PD July 1988. **TI** Technological Change, Import Competition, and Worker Displacement. **AU** Pecchenino, Rowena A.; Wolfe, John R. **AA** Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8802; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 27. **PR** No Charge. **JE** 811, 821, 822, 851, 813. **KW** Technology. Displaced Workers. Import Competition. Contracts. Severance Pay. Social Choice.

AB This paper examines a firm's decision to displace its workers as a result either of new technology or of import competition, and determines how contractual arrangements with employees and government programs affect its choice. In a model of technological change, we find that a firm will always make the socially optimal choice (train those workers with a comparative advantage in the new technology) if and only if it bears the full cost of providing severance payments to its workers. If severance payments are shared between firms and the government, or if firms are offered tax breaks for plant relocation, then the probability that workers are displaced increases. Similar results are obtained for firms debilitated by import competition.

Perloff, Jeffrey M.

TI Open-Loop and Feedback Models of Dynamic Oligopoly. **AU** Karp, Larry S.; Perloff, Jeffrey M.

Peruga, Rodrigo

TI Can A Time-Varying Risk Premium Explain Excess Returns in the Forward Market for Foreign Exchange. **AU** Kaminsky, Graciela L.; Peruga, Rodrigo.

Pesaran, Mohammad Hashem

PD May 1988. **TI** Costly Adjustment Under Rational Expectations: A Generalization. **AA** Trinity College and University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 480; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 15. **PR** $2.50; checks payable to U.C. Regents. **JE** 211, 226, 023, 511. **KW** Adjustment Costs. Rational Expectations. Decision Theory.

AB This paper provides a generalization of the standard adjustment cost-rational expectations model due to Sargent (1978), which, in addition to the cost of changing the level of the decision variable, also allows for the cost of changing the speed with which decisions are changed. It establishes the existence of a unique stable solution for this more general model, derives an explicit solution for the underlying decision problem, and provides a necessary order condition for identification of the structural parameters. The paper also contains an application of the model to the determination of the employment in the United Kingdom coal industry over the 1956-83 period.

PD June 1988. **TI** Econometric Analysis of Aggregation in the Context of Linear Prediction Models. **AU** Pesaran, M. H.; Pierse, R. G.; Kumar, M. S. **AA** Pesaran: Trinity College and University of California at Los Angeles. Pierse: Cambridge University. Kumar: International Monetary Fund. **SR** University of California at Los Angeles Department of Economics Working Paper: 485; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 48. **PR** $2.50; checks payable to University of California at Regents. **JE** 211, 226, 229. **KW** Aggregation. Goodness-of-Fit Criteria. Linear Models.

AB This paper deals with the problem of aggregation where the focus of the analysis is whether to predict aggregate variables using macro or micro equations. It generalizes the Grunfeld-Griliches prediction criterion to allow for contemporaneous covariances between the disturbances of micro equations, and the possibility of different parametric restrictions on the equations of the disaggregate model. The paper also develops a formal statistical test of the hypothesis of 'perfect aggregation' which tests the validity of aggregation either through coefficient equality or through the stability of the composition of the regressors across the micro-units over time. The choice criterion and the perfect aggregation test are then applied to employment demand functions for the United Kingdom economy disaggregated by 40 industries.

PD July 1988. **TI** Two-Step, Instrumental Variable and Maximum Likelihood Estimation of Multivariate Rational Expectations Models. **AA** Trinity College, Cambridge and University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 493; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 22. **PR** $2.50; checks payable to University of California at Regents. **JE** 211. **KW** Rational Expectations. Multivariate Models. Maximum Likelihood.

AB This paper extends the results obtained by Pagan (1984), and Turkington (1985) for single equation rational expectation (RE) models to the multivariate RE models and shows that the errors-in-variables method and the substitution method discussed in Wickens (1982) lead exactly to the same likelihood function. Therefore, as far as the maximum likelihood estimation of RE models is concerned, the paper argues that there is little to choose between the substitution and the errors-in-variables methods. The paper also considers multivariate RE models with unanticipated variables, and demonstrates that in the simple case where only current values of the unanticipated variables are included in the RE model, the IV and the two-step estimators of the coefficients of the included unanticipated variables will be asymptotically efficient irrespective of whether the predetermined variables of the RE model are included amongst variables of the expectations formation model.

Peters, Michael

TI Dynamic Monopoly Power When Search is Costly. **AU** Bagwell, Kyle; Peters, Michael.

Peters, Wolfgang

TI Privatization, International Control, and Internal Regulation. **AU** Bos, Dieter; Peters, Wolfgang.

PD March 1988. **TI** Risk Incentives, and Insurance: The Case of Disability. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-158; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 20. **PR** No Charge. **JE** 024, 022, 026. **KW** Risk. Insurance. Moral Hazard. Lifetime Utility. Disability.

AB If all agents in an economy are affected by the same risk factor, the risk can be reduced by insurance. This is especially important in the case of disability risk, since inability to work has a great effect on the potential income flow. As with every kind of insurance, moral hazard must be taken into account when designing an insurance contract, in which it is impossible to verify the person's actual disability. This is precisely the case we want to analyze; it can be found in the literature under the heading "incentive compatibility", which already says something about the planning methodology. The insurance institution offers such a contract that nobody has an incentive to lie to the insurance institution or to commit "insurance fraud." The aim of the present study is to describe an insurance contract covering the disability risk. Moreover, the insurance contract should, at the same time, serve another function as well: if the contract offers the market interest rate on premiums paid, it enables capital formation and intertemporal income transfer. Thus savings can be accumulated to finance the consumption during the retirement age or in the disability phase. Through personal savings, individuals have the opportunity to take their own steps to ensure a secure income flow for the future.

Petit, Maria Luisa

TI Decentralized Policies and Efficient Trade-offs: An Essay on the Costs of Uncoordinated Fiscal and Monetary Policies. **AU** Hallett, Andrew Hughes; Petit, Maria Luisa.

Pfeiffer, F.

TI Routing Multiterminal Nets via Disjoint Connected T-Joins. **AU** Middendorf, M.; Pfeiffer, F.

Phillips, Peter C. B.

PD January 1988. **TI** The Characteristic Function of the Dirichlet and Multivariate F Distributions. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 865; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 18. **PR** No Charge. **JE** 211. **KW** Hypergeometric Function. Contour Integral. Differential Equation. Characteristic Function.

AB Formulae are derived for the characteristic function of the inverted Dirichlet distribution and hence the multivariate F. The analysis involves a new function with multiple arguments that extends the confluent hypergeometric function of the second kind. This function and its properties are studied in the paper and a simple integral representation is given which is useful for numerical work. A special case connected with the multivariate t distribution is also explored.

PD March 1988. **TI** Optimal Inference in Cointegrated Systems. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 866; Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. **PG** 37. **PR** No Charge. **JE** 211. **KW** Co-integration. Error Correction Model. Maximum Likelihood. Unit Roots. Asymptotic Theory.

AB This paper studies the properties of maximum likelihood estimates of cointegrated systems. Alternative formulations of such systems are considered including vector ARMA representations and error correction mechanisms. It is shown that full system maximum likelihood brings the problem of inference within the family that is covered by the LAMN asymptotic theory provided that all unit roots in the system have been eliminated by specification and data transformation. This result has far reaching consequences. It means that cointegrating coefficient estimates are symmetrically distributed and median unbiased asymptotically, that an optimal asymptotic theory of inference applies and that hypothesis tests may be conducted using standard asymptotic chi-squared tests. In short, this solves problems of specification and inference in cointegrated systems that have recently troubled many investigators.

PD April 1988. **TI** Statistical Inference in Instrumental Variables Regression with I(1) Processes. **AU** Phillips, Peter C. B.; Hansen, Bruce E. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 869; Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. **PG** 59. **PR** No Charge. **JE** 211. **KW** Co-integrated. Endogeneity. Instrumental Variables. Serial Correlation. Stochastic Trends.

AB This paper studies the asymptotic properties of instrumental variable (IV) estimates of multivariate cointegrating regressions. The framework of study is based on earlier work by Phillips and Durlauf (1986) and Park and Phillips (1987a, 1987b). In particular, the results in these papers are extended to allow for IV regressions that accommodate deterministic and stochastic regressors as well as quite general deterministic processes in the data generating mechanism. It is found that IV regressions are consistent even when the instruments are stochastically independent of the regressors. This phenomenon, which contrasts with traditional theory for stationary time series, is a beneficial artifact of spurious regression theory whereby stochastic trends in the instruments ensure their relevance asymptotically. Problems of inference are also addressed and some promising new theoretical results are reported. These involve a class of Wald tests which are modified by nonparametric corrections for serial correlation and for endogeneity. These corrections lead to test statistics that have limiting X sup 2 distributions, thereby removing the obstacles to inference in cointegrated systems that were presented by the nuisance parameter dependencies in earlier work. Interestingly, IV methods themselves are insufficient to achieve this end and an endogeneity correction is still generally required, again in contrast to traditional theory.

PD April 1988. **TI** Spectral Regression for Cointegrated Time Series. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 872; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 33. **PR** No Charge. **JE** 211. **KW** ARMA Model. Co-integration. Error correction. LAMN family. Nonparametric. Spectral Regression.

AB This paper studies the use of spectral regression techniques in the context of cointegrated systems of multiple time series. Several alternatives are considered including efficient and band spectral methods as well as system and single equation techniques. It is shown that single equation spectral regressions suffer asymptotic bias and nuisance parameter problems that render these regressions impotent for inferential purposes. By contrast systems methods are shown to be covered by the LAMN asymptotic theory, bringing the advantages of asymptotic median unbiasedness, scale nuisance parameters and the convenience of asymptotic chi-squared tests. System spectral methods also have advantages over full system direct maximum likelihood in that they do not require complete specification of the error processes. Instead they offer a nonparametric treatment of regression errors which avoids certain methodological problems of dynamic specification and permits additional generality in the class of error processes.

Pierse, R. G.

TI Econometric Analysis of Aggregation in the Context of Linear Prediction Models. **AU** Pesaran, M. H.; Pierse, R. G.; Kumar, M. S.

Pindyck, Robert

PD July 1988. **TI** The Excess Co-Movement of Commodity Prices. **AU** Pindyck, Robert; Rotemberg, Julio. **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2671; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 133. **KW** Raw Commodities. Fluctuations.

AB This paper tests and confirms the existence of a puzzling phenomenon - the prices of largely unrelated raw commodities have a persistent tendency to move together. We show that this co-movement of prices is well in excess of anything that can be explained by the common effects of past, current, or expected future values of macroeconomic variables such as inflation, industrial production, interest rates, and exchange rates. These results are a rejection of the standard competitive model of commodity price formation with storage.

Pissarides, Christopher A.

PD March 1988. **TI** Unemployment and Macroeconomics: An Inaugural Lecture. **AA** London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 304; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 28. **PR** No Charge. **JE** 822, 824, 023. **KW** Macroeconomics. Unemployment. Wages. Job Search. Labor Market. Demand Shock.

AB This paper is based on an inaugural lecture given at the London School of Economics on 9 February 1988. It discusses some issues in the theory of unemployment, it proposes a framework for the analysis of unemployment and finally applies the framework to the analysis of the rise in unemployment in Britain after 1979. The framework is based on bilateral monopoly in the labor market and the explanation for the rise in unemployment in Britain rests primarily with a demand-side shock, which caused the rise in 1980-81, and supply-side persistence, which has kept unemployment up since then.

Plott, Charles R.

TI Multiple Unit Double Auction User's Manual. **AU** Johnson, Alonzo; Lee, Hsing Yang; Plott, Charles R.

Polemarchakis, Heraklis

TI Credit Constraints and Investment Finance: Empirical Evidence from Greece. **AU** Dutta, Jayasri; Polemarchakis, Heraklis.

Postlewaite, Andrew

TI Forward Induction and Equilibrium and Equilibrium Refinement. **AU** Okuno, Fujiwara Masahiro; Postlewaite, Andrew.

TI Workers Versus Firms: Bargaining Over A Firm's Value. **AU** Mailath, George; Postlewaite, Andrew.

TI Asymmetric Information Bargaining Problems With Many Agents. **AU** Mailath, George J.; Postlewaite, Andrew.

Poterba, James M.

PD April 1988. **TI** Inflation and Taxation with Optimizing Governments. **AU** Poterba, James M.; Rotemberg, Julio. **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2567; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 134, 321, 311. **KW** Inflation. Taxes. Government Policy.

AB This paper extends and evaluates previous work on the positive theory of inflation. We examine the behavior of governments concerned solely with minimizing the deadweight loss from raising revenue through inflation and tax finance. We show that both governments that can commit to future policy actions, as well as those that cannot precommit, will choose a positive contemporaneous association between inflation and the level of tax burdens. We examine the empirical validity of this prediction using data from Britain, France, Germany, Japan, and the United States. Inflation and tax rates are as likely to be negatively as positively correlated, so the results cast doubt on the empirical relevance of simple models in which governments with time-invariant tastes choose monetary policy to equate the marginal deadweight burdens of inflation and taxes.

Preston, Esme

PD January 1988. **TI** The Accountant's PC: Getting Started. **AU** Preston, Esme; Preston, John. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 3/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 12. **PR** No Charge. **JE** 214. **KW** IBM PC. Accounting. Economics. Software. Wordprocessing.

AB This paper considers how accountants and economists may best realize the professional power-tool capabilities of the IBM PC. It considers the cost of major items of applications software widely used by accountants and economists and of training courses in the use of personal computers. The subset of DOS (or OS) commands essential to the applications-software user is outlined and some texts recommended. Alternative and economical electronic instruction tools are suggested. Some economical but high quality software is discussed.

PD January 1988. **TI** Multilingual and Mathematical Text Processing. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 2/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 17. **PR** No Charge. **JE** 214. **KW** IBM PC. Software. Wordprocessing. Foreign Languages. Mathematics.

AB This paper discusses briefly the Australian wordprocessor OK Editor which has advanced capabilities for handling mathematical and multilingual text (including some Asian languages) and other attractive features combined with a high standard of output. It proceeds to a discussion of the international standards evolving for technical wordprocessing and an examination of some of the alternatives available in the international software market which are likely to be strong competitors with the Australian product.

TI Two Papers on Simple Word Processors for the PC. **AU** Preston, John; Preston, Esme.

Preston, John

TI The Accountant's PC: Getting Started. **AU** Preston, Esme; Preston, John.

PD January 1988. **TI** Two Papers on Simple Word Processors for the PC. **AU** Preston, John; Preston, Esme. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 1/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 13. **PR** No Charge. **JE** 214. **KW** IBM PC. Software. Wordprocessing.

AB The first paper extends the method outlined in A Trick with DOSEDIT to explore the combined powers of DOSEDIT and EDLIN applied to the characters of the extended ASCII code so that mathematical, and foreign language characters may be incorporated, edited, and saved in documents otherwise composed of standard ASCII code. The second paper outlines a method of combining the capabilities of the PC/MS DOS line editor EDLIN and the public domain program DOSEDIT to rehearse and record DOS batch files.

Pudney, Stephen

TI A Model of Female Labour Supply in the Presence Hours Restrictions. **AU** Ilmakunnas, Seija; Pudney, Stephen.

Puhakka, Mikko

PD August 1988. **TI** Subsidization and Stabilization: Optimal Policy over the Business Cycle in the Spirit of Kaldor, Frisch, and Meade. **AU** Puhakka, Mikko; Wright, Randall. **AA** *Puhakka: Helsinki School of Economics, Wright:* University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-14; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 34. **PR** No Charge. **JE** 023, 133, 323, 025, 131. **KW** Unemployment. Fluctuations. Subsidies. Stabilization. Externalities. Business Cycle.

AB We study economies where externalities provide an explicit role for intervention and technology shocks generate aggregate fluctuations. In laissez-faire equilibrium there is too much unemployment (at least on average, and under certain assumptions, uniformly over the business cycle), compared to the first best allocation. But a self-financing linear employment subsidy can move the decentralized equilibrium to the optimal allocation. We characterize the way in which this policy varies over the cycle. One special case of our results indicates that a simple restriction on technology (homotheticity) implies the optimal subsidy will be constant, or independent of unemployment.

Quah, Danny

TI The Dynamic Effects of Aggregate Demand and Supply Disturbance. **AU** Blanchard, Olivier Jean; Quah, Danny.

PD June 1988. **TI** The Relative Importance of Permanent and Transitory Components: Identification and Some Theoretical Bounds. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 498; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 21. **PR** No Charge. **JE** 131, 133, 211, 226. **KW** Permanent Shocks. Identification. Random Walk. Economic Fluctuations. Transitory Shocks.

AB The relative contribution of permanent and transitory disturbances is a question of considerable importance in the study of economic fluctuations. A number of alternative empirical models have been proposed and used to estimate the relative sizes of these different components. These empirical models are typically just-identified or over-identified by assumptions that are open to dispute. This paper develops exact theoretical bounds on the relative importance of the permanent and transitory components focusing only on assumptions of orthogonality and lag lengths. The paper shows that the orthogonality restriction is inessential and that there is a direct relation between the theoretical minimum importance of the permanent component and assumptions on its lag length. Thus the importance of the permanent component is maximized by setting it to a random walk. The paper proves that for any given difference stationary time series, there always exists a decomposition into the sum of a series that is arbitrarily smooth (i.e. "close" to being deterministic) and a stationary residual series.

Quandt, Richard E.

TI Betting Bias in "Exotic" Bets. **AU** Asch, Peter; Quandt, Richard E.

TI Manual for GOG. **AU** Bogart, William T.; Quandt, Richard E.; Shapiro, Carl.

Quintas, Luis G.

PD February 1988. **TI** *Uniqueness of Nash Equilibrium* Points in Bimatrix Games. **AA** Universidad Nacional de San Luis. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 764; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 8. **PR** No Charge. **JE** 026. **KW** Bimatrix Games. Nash Equilibrium.

AB This note is concerned with techniques for constructing bimatrix games with predetermined unique Nash equilibrium points. The results obtained here extend the constructions presented by Heuer (1979) and Quintas (1988).

Quinzii, Martine

PD January 1988. **TI** Efficiency of Marginal Cost Pricing Equilibria. **AA** University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8807; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 20. **PR** No Charge. **JE** 614, 024, 022. **KW** Marginal Cost Pricing. Pareto Optimal. Elasticity. Pricing Equilibrium.

AB We present sufficient conditions for a marginal cost pricing equilibrium to be efficient in an economy with an aggregated non-convex public sector and a competitive convex private sector. Given regularity conditions which restrict the degree of non-convexity of the public sector technology, we show that if the product of the elasticities (or derivatives) of the aggregate demand and marginal cost of the public sector goods is less than one at an equilibrium, then the equilibrium is efficient. If this product is uniformly less than one, then all marginal cost pricing equilibria are efficient.

Randolph, William C.

PD April 1988. **TI** Aggregation Consistent Restriction Based Improvement of Local Area Estimators. **AU** Randolph, William C.; Zieschang, Kimberly. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Prices and Living Conditions. **SR** Bureau of Labor Statistics Working Paper: 182; 441 G Street Northwest, Washington, D.C. 20009 Room 2127. **PG** 13. **PR** No Charge. **JE** 211, 227, 212. **KW** Composite Estimation. Restrictions. Consumer Price Index. Mean Squared Error. Aggregate Data.

AB We derive and examine local area composite parameter estimators that are based upon robust application of restrictions to local area parameter estimators. For robustness, we impose an aggregation consistency constraint that a regional composite estimator must equal an unrestricted regional estimator. Our estimators are applied to estimate city level rental physical housing depreciation rates for possible correction of bias in the United States Consumer Price Index. In the application, we find that our estimators result in large improvements in terms of multivariate mean squared error.

Rasche, Robert H.

PD May 1988. **TI** Demand Functions for U.S. Money and Credit Measures. **AA** Michigan State University. **SR** Michigan State Econometrics and Economic Theory

Workshop Paper: 8718; Department of Economics, Michigan State University, East Lansing, Michigan 48824. **PG** 89. **PR** No Charge. **JE** 311, 315, 133, 131. **KW** Demand Functions. Velocity. Credit Demand. Money Demand. Random Walk.

AB This study estimates demand functions for various money and credit aggregates in the United States, including measures of the monetary base, measures of transactions money, M2, M3, L, nonfinancial debt, and available Divisia measures over the post-accord period. Similar parsimonious and stable demand functions in first differences of logs are found for all aggregates through M3 involving income and interest rate arguments. Consistent demand functions are found using both monthly and quarterly data. For the broader aggregates, L and nonfinancial debt, the data are consistent with the hypothesis that the ratios of these aggregates to household net worth are random walks without drift.

Razin, Assaf

PD May 1988. **TI** International Allocation of Investment Under Uncertainty. **AU** Razin, Assaf; Wong, Kar yiu. **AA** Razin: Tel-Aviv University. Wong: University of Washington. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 14-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 42. **PR** No Charge. **JE** 441, 422, 423, 431, 411. **KW** Capital Movements. Uncertainty. International Investment. Capital Markets.

AB The paper extends the analytical framework dealing with international flows of physical and financial capital under uncertainty in order to focus on the general equilibrium effects of liberalization of the capital markets. It shows that the volume of security trade falls as the restrictions on investment-capital flows are reduced and vice versa.

TI Exchange-Rate Management Viewed as Tax Policies. **AU** Frenkel, Jacob; Razin, Assaf.

TI International Effects of Tax Reforms. **AU** Frenkel, Jacob; Razin, Assaf.

Reinsdorf, Marshall

PD March 1988. **TI** Consumer Information and Industrial Profitability in an Equilibrium Price Dispersion Model. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Research and Evaluation. **SR** Bureau of Labor Statistics Working Paper: 178; 441 G Street Northwest, Washington, D.C. 20212 Room 2127. **PG** 14 + appendix. **PR** No Charge. **JE** 022, 611, 612. **KW** Search Theory. Market Competition. Price Dispersion. Oligopoly.

AB An equilibrium search model is developed in which consumers whose willingness-to-pay for the product is less than its expected acquisition cost (including search costs) do not initiate search, implying a price elastic market demand even when buyers always purchase one unit. Even though high consumer information costs make markets less competitive, an industry attempting to benefit from this effect by raising such costs suffers a decline in the height of its effective demand curve. Industry's collective profits are typically maximized when search costs are roughly 40 percent of the level implying monopoly price cost margins.

Rey, Patrick

PD May 1988. **TI** Vertical Restraints and Producers' Competition. **AU** Rey, Patrick; Stiglitz, Joseph. **AA** Rey: INSEE. Stiglitz: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2601; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 611, 612, 022. **KW** Vertical Integration. Imperfect Competition. Nash Equilibrium.

AB This paper examines the rationale for vertical restraints. It shows that there are important circumstances under which these restrictions have significant anti-competitive effects. The paper focuses on the consequences of exclusive territorial arrangements among the retailers of two products which are imperfect substitutes. Such arrangements are shown to increase consumer prices; under plausible conditions the increase in consumer prices is sufficiently large to more than offset the deleterious effects from "double marginalization" resulting from reduced competition among retailers. The imposition of exclusivity provisions may be part of a Nash equilibrium among producers. These results hold whether there are or are not franchise fees.

Rob, Rafael

PD May 1988. **TI** Pollution Claim Settlements under Private Information. **AA** University of Pennsylvania. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 19-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 56. **PR** No Charge. **JE** 722, 025, 026. **KW** Mechanism Design. Externalities. Property Rights. Pollution.

AB The classical problem of resolving a nuisance dispute between a pollution-generating firm and nearby residents is modelled here as a mechanism design problem. We assume that the designer of the mechanism is the firm, that it is uncertain about the actual losses suffered by residents and that the initial assignment of property rights is one where each resident is entitled to prevail. We derive a profit-maximizing scheme under the individual-rationality and incentive-compatibility constraints and examine its properties. It is shown that the outcomes it yields are sometimes inefficient. Moreover, when many residents are affected by pollution and the degree of uncertainty with respect to the losses they suffer is large, these inefficiencies become rampant.

Robb, A. Leslie

PD March 1988. **TI** Consumption, Income and Retirement. **AU** Robb, A. Leslie; Burbidge, Jonn B. **AA** Robb: McMaster University. Burbidge: McMaster University, Visiting UCL and IFS. **SR** University College London Discussion Paper: 88-09; Department of Economics, University College London, Gower Street, London, WC1E 6BT. **PG** 37. **PR** pounds sterling 1.50. **JE** 918, 921. **KW** Consumption. Retirement. Saving. Life Cycle Hypothesis. Euler Equations.

AB This paper uses data from the three Canadian Family Expenditure Surveys conducted between 1979 and 1985 to estimate patterns of consumption and after-tax income for particular married-couple families, paying careful attention to the transition between work and retirement. The results complement those of Diamond, Hamermesh and others, who have suggested that consumption-age profiles are downward-sloping late in the life cycle. The research implies that the common presumptions of numerical-simulation life-cycle models, in particular, upward-sloping consumption-age profiles and dissaving in retirement (e.g. Summers (1981) and Auerbach, Kotlikoff and Skinner (1983, 1987a, b)), are not supported. Moreover, not only do the estimates of consumption-age profiles slope downwards, but, there is some evidence that the consumption of certain (blue-collar) households declines discontinuously near retirement age, which casts doubt upon the frequently-encountered assumption that the marginal utility of consumption is independent of the quantity of leisure consumed (e.g. Gustman and Steinmeier (1986)). The results also imply that the functional form of Euler equations should be sufficiently flexible to permit pre-retirement consumption to have an inverted U-shape (Mariger (1987)'s finding that consumption declines by 47 per cent upon retirement may have been induced by the restrictive functional form he assumed). In addition, the paper shows that the uncertain lifetime model, with the addition of a bequest motive, can rationalize the empirical results.

Roberts, Russell D.

PD April 1988. **TI** Subsidies to Private Spending on Public Goods. **AA** University of California at Los Angeles. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-22; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 41. **PR** No Charge. **JE** 323, 321, 024, 025. **KW** Public Goods. Subsidies. Taxes. Efficient Allocation. Taxation.

AB When financing public goods you can choose between taxation and a subsidy to private spending on the public good. To finance a particular level of expenditure on the public good, x(p), revenue of x(p) is required. A subsidy of s sufficient to generate private contributions of x(p) requires revenue of s x(p). Using just a subsidy imposes a smaller tax burden on society than direct taxation used alone. But if the subsidy rate, s, is close to one, then the gain from this smaller tax burden is small. This paper explores the size of the subsidy when the goal is to produce an efficient level of the public good.

Robertson, James W.

TI Energy, Obsolescence, and the Productivity Slowdown. **AU** Hulten, Charles; Robertson, James W.; Wykoff, Frank.

Robinson, Sherman

TI The Opportunity Cost of Defense Spending: A General Equilibrium Analysis. **AU** Roland, Holst David W.; Robinson, Sherman; Tyson, Laura DAndrea.

PD April 1988. **TI** The Effect of Trade Liberalization in Agriculture on the U.S. Economy: Projections to 1991. **AU** Robinson, Sherman; Kilkenny, Maureen; Adelman, Irma. **AA** Robinson and Adelman: University of California, Berkeley. Kilkenny: Economic Research Service, United States Department of Agriculture. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 465; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, CA CA 94720. **PG** 52. **PR** $10.40. **JE** 422, 715, 713, 323, 132. **KW** Trade Liberalization. Agriculture. Agricultural Exports. United States. General Equilibrium Model. Protectionism. Subsidies.

AB The present paper analyzes the prospective impact of removing a particular set of distortions -- producer subsidies in United States agriculture -- on the structure of the economy in 1991. Agriculture is a major trading sector and has significant linkages with the rest of the economy, both forward and backward. Agricultural exports contribute significantly to the United States balance of trade. The major linkage is with the food and fiber processing sectors, the products of which comprise a large share of consumer expenditure. Finally, agriculture is capital-intensive and competes with other sectors for the employment of capital as well as labor. In this paper, we first outline the subsidy programs in United States agriculture in place through 1990/1991 under the 1985 Farm Bill. We then describe the CGE model which is used to provide a base-run projection from 1986 to 1991, assuming the policies established by the 1985 Farm Bill remain intact. Next, a series of experiments is conducted to analyze the impact of removing the producer subsidies. Finally, we discuss implications for policy.

Rodrik, Dani

PD May 1988. **TI** Promises, Promises: Credible Policy Reform via Signaling. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2600; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 411, 443, 321, 311. **KW** Policy Reform. Government Policy. Foreign Assistance. Signalling.

AB Empirical experience and theory both suggest that policy reforms can be aborted or reversed if they lack sufficient credibility. One reason for such credibility problems is the legitimate doubt regarding how serious the government really is about the reform process. This paper considers a framework in which the private sector is unable to distinguish between a genuinely reformist government and its nemesis, a government which simply feigns interest in reform because it is a precondition for foreign assistance. The general conclusion is that the rate at which reforms are introduced may serve to convey the government's future intentions, and hence act as a signal of its "type." More specifically, credible policy reform may require going overboard: the government will have to go much farther than it would have chosen to in the absence of the credibility problem.

PD July 1988. **TI** Closing the Technology Gap: Does Trade Liberalization Really Help. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2654; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 422, 421, 621, 411, 023. **KW** Trade Reform. Technology. Protectionism.

AB A common theme in discussions of trade reform is the possibility of improved technical efficiency following trade liberalization. This paper presents a conceptual analysis of the likely linkages between trade regimes and technical efficiency. Three sets of arguments, having to do with X-inefficiency, macroeconomic instability, and increasing returns to scale, are reviewed and found misleading or incomplete. A simple model of technological catch-up by a domestic firm shows the opposite of the usual argument: the larger market share provided by protection to the firm increases its incentives to invest in technological effort. When modified to include oligopolistic considerations at home, the model suggests that the incentives could go either way, depending on the mode of strategic conduct. The presence of economies of scale provides perhaps the strongest reason for productivity improvements, but here the argument relies on frictionless entry into and exit from industries. The paper concludes that the relationship between trade policy and technical efficiency is fundamentally ambiguous.

PD July 1988. **TI** The Welfare Economics of Debt Service. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2655; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 422, 431, 443, 432, 411. **KW** Debtor Nation. Exchange Rates. Trade Policy. Foreign Debt.

AB This paper analyzes some of the implications of the dual transfer a debtor nation must undertake to service foreign debt: (a) an internal transfer from the private sector to the public sector; and (b) an external transfer from the domestic economy to foreign creditors. It shows that, under likely circumstances, a real depreciation of the home currency may complicate the internal transfer. As long as nontraded goods are a net source of revenue for the government, the depreciation called for by debt service deteriorates the public sector's terms of trade vis-a-vis the private sector and magnifies the requisite fiscal retrenchment. The paper discusses the role of trade policy (tariffs and export subsidies) in substituting for devaluation. Generating a private-sector surplus via interest-rate policy is shown to have similar costs on the government budget when the public sector has outstanding domestic debt.

Roemer, John E.

PD August 1988. **TI** On Public Ownership. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 317; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 33. **PR** No Charge. **JE** 022, 025, 027. **KW** Resource Allocation. Implementation. Property Rights. Allocation Mechanisms.

AB An economic environment is specified by stipulating the technology, the preferences of the agents, their private endowments, and those endowments which are publicly owned. What procedure or rule should define resource allocation in such an environment. That is, what correspondence, analagous to the Walrasian correspondence for private ownership economies, can be said to implement resource allocation in a mixed economy. Four candidates for such a correspondence are proposed. The paper proceeds to study whether these can be implemented by game forms, in Nash or dominant strategy equilibrium, as an exercise in the study of the possibility of decentralization of economies with public ownership.

Rogerson, Richard

PD 1987. **TI** "Involuntary" Unemployment in Economics with Efficient Risk Sharing. **AU** Rogerson, Richard; Wright, Randall. **AA** Rogerson: University of Rochester. Wright: University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-22; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 25. **PR** No Charge. **JE** 821, 023, 133. **KW** Unemployment. Business Cycles. Separability. Dynamic Model. Macroeconomics. Labor-Leisure Trade-Off.

AB The purpose of this note is to analyze if and when alternative preference specifications imply that the unemployed are worse off, or that unemployment is "involuntary", in economies with efficient risk sharing. Some examples are analyzed, and then the following general characterization is discussed: employed agents will be better off in equilibrium if and only if the economy has the property that an exogenous increase in wealth results in a decrease in the aggregate unemployment rate. We also present a monetary economy with equilibrium unemployment, and derive a theorem that provides a way to test whether this unemployment is "involuntary" based on observable macro data: employed agents are better off than unemployed agents if and only if unemployment is positively correlated with inflation. An advantage of this result is that much empirical evidence has already been accumulated. Finally, our monetary model generates nominal wage stickiness or sluggishness as a equilibrium phenomenon, in a very natural and general way.

Rogerson, William P.

PD January 1988. **TI** Efficient Investment and Trade with Asymmetric Information. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 766; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 26. **PR** No Charge. **JE** 024, 022, 026. **KW** Public Goods. Private Information. Collective Decision Making. Contracts.

AB This paper considers the standard model of collective decision making with private information which has often been interpreted as a public-goods problem and can also be interpreted as a trading problem with private information. However, one additional complication is added. Each individual must choose an investment level prior to learning his type and the investment choice is not publically observable. It is shown that contracts which implement the efficient outcome exist.

PD February 1988. **TI** Quality vs Quantity in Military Procurement: An Organizational Theory of Decision Bias. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 771; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 34. **PR** No Charge. **JE** 114, 322. **KW** Military Spending. Defense Spending.

AB It is often argued that the same expenditures on military procurement would produce a more effective defense if larger numbers of less sophisticated (and thus cheaper) weapons were purchased. This paper shows that such a result can occur even if the military derives no private consumption value from technically sophisticated weapons. Rather the organization of the decision-making process itself can produce this result. This suggests some possible solutions through organizing decision-making in a different fashion.

Rogoff, Kenneth

TI Sovereign Debt Restructurings: Panacea or Pangloss? **AU** Bulow, Jeremy; Rogoff, Kenneth.

Roland, Holst David W.

PD April 1988. **TI** The Opportunity Cost of Defense Spending: A General Equilibrium Analysis. **AU** Roland, Holst David W.; Robinson, Sherman; Tyson, Laura DAndrea. **AA** Roland-Holst: Mills College. Robinson: Department of

Agricultural and Resource Economics, University of California at Berkeley. Tyson: University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8871; IBER, 156 Barrows Hall University of California Berkeley, CA 94720. **PG** 22. **PR** $3.50. **JE** 114, 322. **KW** Defense Spending. General Equilibrium. NATO. Disarmament. Defense Budget. Simulation.

AB Reductions in federal defense expenditure are studied with a general equilibrium simulation model. The experimental scenarios for spending cuts include reductions due to cost sharing within strategic alliances and unilateral disarmament. In both cases, the economic effects of one-time only cuts and sustained reductions over time are evaluated. When one-time cuts are undertaken, significant changes in the composition of national income and product are observed. In the case of sustained reductions in defense spending, the resulting increased private saving and capital formation led to substantial increases in real GNP.

Roley, V. Vance

TI Federal Reserve Behavior Since 1980: A Financial Markets Perspective. **AU** Melton, William C.; Roley, V. Vance.

Romer, Christina

PD June 1988. **TI** The Great Crash and the Onset of the Great Depression. **AA** University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2639; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 042, 131. **KW** Great Depression. Stock Market. Durable Goods.

AB This paper argues that the collapse of stock prices in October 1929 generated temporary uncertainty about future income which caused consumers to forego purchases of durable and semidurable goods in late 1929 and much of 1930. Evidence that the stock market crash generated uncertainty is provided by the decline in confidence expressed by contemporary forecasters. Evidence that this uncertainty affected consumer behavior is provided by the fact that spending on consumer durables and semidurables declined immediately following the Great Crash and by the fact that there is a negative historical relationship between stock market variability and the production of consumer durables in the prewar era.

Rosen, Harvey

TI Municipal Construction Spending: An Empirical Examination. **AU** Holtz, Eakin Douglas; Rosen, Harvey.

TI A Note on Revenue Forecasting During the Dukakis Administrations. **AU** Feenberg, Daniel; Rosen, Harvey.

Rosenbluth, Gideon

PD August 1987. **TI** The Causes and Consequences of Interprovincial Migration. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-29; #997-1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PG** 18. **PR JE** 823, 826, 824. **KW** Labor Mobility. Migration.

AB The causes of interprovincial migration have been the subject of painstaking econometric analysis - e.g. Winer and Gauthier (1982). My interest in this subject was aroused by work my colleagues and I had done on BC fiscal policy (and other provincial policies) for the BC Economic Policy Institute - Allen and Rosenbluth (1986). Is "employment creation" by a provincial government likely to be rendered ineffective in reducing unemployment because of in-migration. Can unions "raise" wage rates above those prevailing in other provinces. Is R. C. Allen (1986) right in suggesting that interprovincial mobility has caused wage rates to converge. This paper reports on my attempt to construct and estimate a simultaneous equation model that can suggest answers to questions such as these, and to use it in simulation experiments. The paper should be regarded as a progress report.

Rosenthal, Stuart S.

TI Mortgage Rationing in the Post Disintermediation Era: Does FHA Make a Difference? **AU** Duca, John V.; Rosenthal, Stuart S.

Ross, S. A.

TI Spanning, Valuation and Options. **AU** Brown, D. J.; Ross, S. A.

Ross, Thomas W.

TI Canada's New Competition Policy. **AU** Maule, Christopher J.; Ross, Thomas W.

PD April 1988. **TI** On the Relative Efficiency of Cash Transfers and Subsidies. **AA** Carleton University and National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-20; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 36. **PR** No Charge. **JE** 921, 914, 323, 024, 022. **KW** Subsidies. Resource Allocation. Transfer Payments. Households. Welfare Function.

AB This paper considers the problem of the relative efficiency of cash grants versus subsidies when society's goal is to raise the welfare of a household. It asks why subsidies are used when they would appear to be less efficient than cash grants at raising the utility of the recipient. The analysis largely focuses on the study of three simple special cases. When the head of the household makes all consumption decisions for the household, a principle-agent problem is created: the head acts as the agent of the government in allocating the transferred resources. If the head makes decisions by maximizing a household welfare function that gives less weight to other members' utilities than society would wish, subsidies to commodities with particular characteristics may be more efficient than cash grants. Though related to the old notion of paternalism, this theory is more specific in that social preferences do respect individuals' actual utility functions, but they combine them with different weights. This leads to more specific predictions regarding the kinds of commodities that can be efficiently subsidized, as well as the description of conditions under which subsidies are relatively inefficient.

Rotemberg, Julio

TI Inflation and Taxation with Optimizing Governments. **AU** Poterba, James M.; Rotemberg, Julio.

PD May 1988. **TI** Labor Hoarding, Inflexible Prices and Procyclical Productivity. **AU** Rotemberg, Julio; Summers, Lawrence. **AA** Rotemberg: Massachusetts Institutes of

Technology.
Summers: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2591; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 44. **PR** $2.00. **JE** 133, 131, 821, 023. **KW** Solow Residual. Price Rigidity. Labor Hoarding. Business Cycle. Perfect Competition.

AB Hall has pointed out that, when there is perfect competition and price flexibility, labor hoarding alone will not induce the Solow residual measured using labor's share in revenues to be procyclical. We show that, even with perfect competition, a small amount of price rigidity - we assume firms must set price slightly before the level of demand becomes known makes the extent of procyclical productivity depend mainly on the extent of labor hoarding. We show that indeed, whether productivity is measured via the Solow method using labor's share in revenues or using other methods, it tends to be more procyclical in industries and in nations where labor hoarding is more important.

TI The Excess Co-Movement of Commodity Prices. **AU** Pindyck, Robert; Rotemberg, Julio.

Roth, David

TI The Demand for Soccer Bets Israel 1983-1987. **AU** Fishelson, Gideon; Roth, David.

Rothschild, Michael

PD June 1988. **TI** Asset Pricing with a Factor ARCH Covariance Structure: Empirical Estimates for Treasury Bills. **AU** Rothschild, Michael; Engle, Charles. **AA** Rothschild: University of California, San Diego. Engle: University of Virginia. **SR** National Bureau of Economic Research Technical Paper: 65; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 311. **KW** Arbitvage Pricing Theory. Asset Pricing Model. Time Varying. ARCH.

AB Asset pricing relations are developed for a vector of assets with a time varying covariance structure. Assuming that the eigenvectors are constant but the eigenvalues changing, both the Capital Asset Pricing Model and the Arbitrage Pricing Theory suggest the same testable implication: the time varying part of risk premia are proportional to the time varying eigenvalues. Specifying the eigenvalues as general ARCH processes, the model is a Multivariate Factor ARCH model. Univariate portfolios corresponding to the eigenvectors will have (time varying) risk premia proportional to their own (time varying) variance and can be estimated using the GARCH-M model. This structure is applied to monthly treasury bills from two to twelve months maturity and the value weighted NYSE returns index. The bills appear to have a single factor in the variance process and this factor is influenced or "caused in variance" by the stock returns.

Sachs, Jeffrey

PD June 1988. **TI** Japanese Structural Adjustment and the Balance of Payments. **AU** Sachs, Jeffrey; Boone, Peter. **AA** Sachs: Harvard University. Boone: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2614; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 122, 717, 112, 431. **KW** Japan. Structural Adjustment. Land. Land-Use Policy. Simulation Model.

AB Policy discussions in Japan have increasingly recognized the important role of land values and land-use patterns in Japanese macroeconomic adjustment. In Japan in recent years, land wealth constitutes more than half of financial wealth, a proportion that is much higher than in the United States and other industrialized economies. Consequently, shifts in land-use patterns can have important effects on Japanese savings and investment patterns, and thereby on the Japanese trade balance and current account. This papers studies the implications of land-use policies for the Japanese macroeconomy using both a theoretical model and a multisectoral dynamic simulation model.

TI Default and Renegotiation of Latin American Foreign Bonds in the Interwar Period. **AU** Jorgensen, Erika; Sachs, Jeffrey.

TI The Debt Crisis: Structural Explanations of Country Performance. **AU** Berg, Andrew; Sachs, Jeffrey.

TI Bolivia's Economic Crisis. **AU** Morales, Juan Antonio; Sachs, Jeffrey.

PD July 1988. **TI** Conditionality, Debt Relief and the Developing Country Debt Crisis. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2644; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 432, 443, 431, 224. **KW** Debt Crisis. International Monetary Fund. Debtor Nation.

AB This paper raises several cautionary notes regarding high-conditionality lending by the International Monetary Fund and the World Bank in the context of international debt crisis. It is argued that the role for high-conditionality lending is more restricted than generally believed, because enforcement of conditionality is rather weak. Moreover, the incentives for a country to abide by conditionality terms are also likely to be reduced by a large overhang of external indebtedness. Given the limited ability to enforce conditionality agreements, modesty and realism should be a cornerstone of each program. The experience with conditionality suggests two major lessons for the design of high-conditionality lending. First, debt forgiveness rather than mere debt rescheduling may increase a debtor country's compliance with conditionality, and thereby increase the actual stream of repayments by the indebted countries. Second, given the complexity of the needed adjustments, and the difficulty of enforcing conditionality agreements, programs are most likely to be successful when macroeconomic stabilization is given priority over large-scale liberalization.

Sadka, Efraim

PD May 1988. **TI** Income Tax in the Industrial Sector. **AU** Sadka, Efraim; Ziegelman, Avi. **AA** Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 16-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 34. **PR** No Charge. **JE** 323, 521, 541. **KW** Israel. Taxation. Inflation. Investment. Capital.

AB The paper surveys and analyzes various features of the corporate tax in Israel. Special and detailed attention is paid to the clauses that are supposed to eliminate the effect of inflation (climbing to an annual rate of 440 per cent in 1984) on real tax liabilities in the business sector. In addition to the well-recognized distinction between nominal and real interest between nominal and real capital gains, and between historic and current cost depreciations, the Israeli law attempts to solve a yet unrecognized issue in the low inflation countries: the fact that sales usually occur after production costs were incurred; in this way net operating profit which is calculated at current prices overstates the true real income of the firm. The paper also presents calculations of effective tax rates in the manufacturing sectors. These rates tend to be generally very low and, in many cases, negative. They also exhibit significant inter-firm and intra-firm variances.

Saffer, Henry

TI The Demand for Cigarettes and Restrictions on Smoking in the Workplace. **AU** Chaloupka, Frank; Saffer, Henry.

Safra, Zvi

TI Risk Aversion in Nash Bargaining Problem with Risky Outcomes and Risky Disagreement Outcome. **AU** Zilcha, Itzhak; Safra, Zvi.

TI Some Observations on the Nature of Risk Aversion. **AU** Karni, Edi; Safra, Zvi.

Salanie, Bernard

PD February 1988. **TI** A Note on Adverse Selection with a Risk-Averse Agent. **AA** Unite de Recherche INSEE. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 8807; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. **PG** 19. **PR** No Charge. **JE** 026, 022. **KW** Contract Theory. Principal-Agent Theory. Adverse Selection.

AB The purpose of this note is to study a simple example of an adverse selection problem in a Principal-Agent relationship, where uncertainty is not resolved at the time the contract is signed. It is shown that the agent's risk-aversion then plays a critical role in determining the shape of the optimal contract; more precisely, a bunching phenomenon will occur for large (but finite) values of the agent's absolute index of risk-aversion. Since this phenomenon is absent in the two extreme cases of zero or infinite risk-aversion, it is argued that one would miss important points in focussing on these (simpler) cases, as is usually done.

Sandmann, Klaus

PD April 1988. **TI** An Intertemporal Interest Rate Market Model: Complete Markets. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-94; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 29. **PR** No Charge. **JE** 313, 311, 213. **KW** Contingent Claims. Option Pricing. Martingale Measures. Capital Market.

AB This paper is based on the work of J. M. Harrison and D. M. Kreps and makes use of the whole technique developed by them. In contrast to their work it is intended to model a market which depends only on the interest rate structure. So interest rate is the only source of uncertainty and dynamic force in the market. In this framework the valuation of coupon paying debt securities is characterized in terms of martingale measures like in Harrison and Kreps. The first model assumes that there exists a known finite number of trading dates and coupons are paid at these dates. As coupon rates are not negative, but may be zero, it is assumed without loss of generality, that coupon payments take place at every trading date. The second model is a continuous time generalization, that is trading and coupon payments occur continuously. Again a martingale characterization is derived. This second part of the paper makes use of the results obtained by J. M. Harrison and S. R. Pliska and transfers them to the interest rate market model described here. As a conclusion the market model is complete if and only if one equivalent martingale measure exists. With the result from York it follows that in this model the class of interest rate processes is limited to the Wiener and Poisson martingales.

Sappington, David E. M.

TI Monitoring Quality Provisions in Regulated Markets. **AU** Lewis, Tracy R.; Sappington, David E. M.

Satterthwaite, Mark A.

PD February 1988. **TI** The Rate of Convergence To Efficiency in the Buyer's Bid Double Auction as the Market Becomes Large. **AU** Satterthwaite, Mark A.; Williams, Steven R. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 741; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 45. **PR** No Charge. **JE** 026, 022. **KW** Reservation Price. Double Auction. Bayesian. Nash Equilibrium. Competitive Allocation.

AB Consider a market with m sellers, each having a single item to sell, and m buyers, each desiring to buy at most one item. Each trader has a reservation value for the item independently drawn from the unit interval; sellers' values have distribution F(1) and buyers' values have distribution F(2). Sellers and buyers simultaneously submit offers and bids. These offers and bids determine a closed interval in which a market-clearing price may be selected. In the buyer's bid double auction (BBDA) the price selected is the upper endpoint of this interval. Trade then occurs at this price. We consider Bayesian Nash equilibria in which all sellers use one strategy and all buyers use a second strategy. Each seller in the BBDA has a dominant strategy to set his offer equal to his reservation value. In response to these dominant strategies each buyer has an incentive to bid less than his reservation value. This strategic misrepresentation causes the BBDA to be ex post inefficient. We show that the amount of misrepresentation by buyers must be small when the market is large. In fact, we prove that under all equilibrium responses of the buyers to the sellers' dominant strategies the difference between a buyer's bid and his reservation value is 0(1/m), regardless of the distributions F(1) and F(2). Thus, competitive pressures as the market grows quickly force buyers towards truthful revelation and the equilibrium towards the ex post efficient, perfectly competitive allocation.

Saunders, Anthony

TI Incentives to Engage in Bank Window Dressing: Manager vs. Stockholder Conflicts. **AU** Allen, Linda; Saunders, Anthony.

Schmidt, Peter

PD June 1988. **TI** Dickey-Fuller Tests with Drift. **AA** Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8717; Department of Economics, Michigan State University, East

Lansing, Michigan 48824. **PG** 50. **PR** No Charge. **JE** 211. **KW** Time Series. Random Walk. Unit Root. Drift. Cointegration.
AB Dickey and Fuller have provided several tests of the hypothesis of a unit root in an observed time series, based on the regression of the variable on its lagged value. However, it is not always realized that the usual tabulation of the distributions of their test statistics assumes that the intercept in this regression equals zero; that is, under the null hypothesis the time series is a random walk without drift. This paper provides tabulations for the case in which there is non-zero drift.

Schmitt, Nicolas

PD 1987. **TI** Two-Country Trade Liberalization in an Address Model of Product Differentiation. **AA** University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8718C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PR** $4.00. **JE** 421, 422. **KW** Differentiated Products. Free Trade.

Scholtes, Philippe R.

PD January 1988. **TI** Consumer's Behaviour Under Nonuniform Prices. **AA** Indian Statistical Institute and CORE. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8802; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 28. **PR** No Charge. **JE** 022, 213. **KW** Nonlinear Pricing. Pricing Rules. Equilibrium.
AB Nonlinear pricing-schemes are largely applied nowadays, and several authors have already emphasized their appealing properties. Yet they raise two classes of problems: at a theoretical level first, in terms of existence and uniqueness (or stability) of an equilibrium under such pricing-rules; secondly at an operational level, regarding the design of their parameters. We propose to develop here the theoretical point, using both differential calculus and (non) convex analysis.

Schurger, Klaus

PD May 1988. **TI** Almost Subadditive Multiparameter Ergodic Theorems. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-95; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 26. **PR** No Charge. **JE** 211. **KW** Subadditivity Conditions. Multiparameter Random Sets. Convergence. Monotonicity.
AB The main purpose of this paper is to extend a.e. convergence results of Derriennic, Liggett and Schurger to a class of multiparameter processes X satisfying a strong almost subadditivity condition (SASC), which have certain monotonicity properties.

Schweizer, Urs

PD June 1988. **TI** Unanimous Choice of Rules. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-172; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 48. **PR** No Charge. **JE** 025, 021, 026. **KW** Bargaining. Uncertainty. Competitive Allocation. Social Choice.
AB Rules are defined as a device to solve a sequence of similarly structured allocation problems which two parties are assumed to face. The question is addressed as to what would be the distinguished feature of the bargaining problem at the level of rules as compared to that of a single allocation decision. Buchanan and Tullock '1962 argue that unanimous agreement is more likely at the level of rules because a veil of uncertainty can be expected to lessen potential conflicts of interest. The present paper explores this idea in a formal setting.

Scotchmer, Suzanne

PD April 1988. **TI** Monotonicity in Games That Exhaust Gains to Scale. **AU** Scotchmer, Suzanne; Wooders, Myrna Holtz. **AA** Scotchmer: University of California, Berkeley. Wooders: University of Toronto. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 525; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 32. **PR** $4.00. **JE** 026, 021. **KW** Comparative Statics. Core. Cooperative Games. Coalitions. Exchange Economies.
AB We compare core payoffs in two cooperative games in which coalitions contained in both player sets have the same worth in both games. The players are characterized by their "types", and players of the same type are substitutes for each other. If the (finite) set of players in each game is large enough to exhaust gains to scale in a sense we define, the abundance of one type of player and the core utility achieved by that type cannot change in the same direction. If the core utility is interpreted as the price of the player, the interpretation is that price decreases with supply. We present a geometric exposition and interpret our results for exchange economies.

Scott, Peter

PD July 1988. **TI** The Economic Consequences of Population Ageing in Advanced Societies. **AU** Scott, Peter; Johnson, Paul. **AA** London School of Economics. **SR** Centre for Economic Policy Research Discussion Paper: 263; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 41. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 841, 918, 821, 826, 915. **KW** Aging. Retirement. Demographic Economics. Elderly.
AB The aging of the populations of all developed nations over the next 40 years will have an important impact on welfare expenditure and labor supply. This paper uses aggregate data from IMF and OECD studies to examine the way in which income support for the elderly and the labor supply of older workers in developed countries is likely to be affected by demographic developments into the next century. A range of possible policy responses to the increased cost of an aging population is considered, and the paper concludes that the scope for reducing this cost by altering pension systems or increasing retirement age is slight; the most effective way of coping with the cost of an aging population is by ensuring that the long-run rate of economic growth is maximized.

Sen, Partha

PD June 1988. **TI** Deterioration of the Terms of Trade and Capital Accumulation: A Reexamination of the Laursen-Metzler Effect. **AU** Sen, Partha; Turnovsky, Stephen J. **AA** Sen: University of Illinois at Urbana Champaign. Turnovsky: University of Washington. **SR** National Bureau of Economic Research Working Paper: 2616; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 411, 023, 821. **KW** Exhange Kates. Open Economy. Intertemporal Substitution. Current Account.

AB This paper analyzes the effects of both a permanent and a temporary deterioration in the terms of trade on a small open economy. The model, based on intertemporal optimization, emphasizes the labor-leisure choice and the role of capital accumulation. There are two main conclusions to be drawn from the analysis. The first is that in all cases the transitional dynamics depends critically upon the long-run response of the capital stock to the deterioration in the terms of trade. This has been shown to consist of a substitution effect, which is negative, together with an income effect, which is positive. Secondly, since the steady state equilibrium depends upon the initial conditions of the economy, a temporary shock, by altering these initial conditions for some later date when the shock ceases, leads to a permanent effect on the economy. In the case where the substitution effect dominates, a deterioration in the terms of trade leads to a short-run reduction in investment and a short-run current account surplus, contrary to the Laursen-Metzler effect. However, when the long-run income effect dominates, the deterioration in the terms of trade leads to a short-run investment boom, accompanied by a short-term current account deficit. The Laursen-Metzler effect prevails, although it is driven by investment, rather than by savings behavior.

Shapiro, Carl

TI Manual for GOG. **AU** Bogart, William T.; Quandt, Richard E.; Shapiro, Carl.

Shapiro, Matthew D.

PD May 1988. **TI** Sources of Business Cycle Fluctuations. **AU** Shapiro, Matthew D.; Watson, Mark W. **AA** Shapiro: Yale University. Watson: Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2589; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 52. **PR** $2.00. **JE** 133, 131, 226, 023. **KW** Business Cycle. Supply Shocks. Fluctuations.

AB What shocks account for the business cycle frequency and long run movements of output and prices? This paper addresses this question using the identifying assumption that only supply shocks, such as shocks to technology, oil prices, and labor supply affect output in the long run. Real and monetary aggregate demand shocks can affect output, but only in the short run. This assumption sufficiently restricts the reduced form of key macroeconomic variables to allow estimation of the shocks and their effect on output and price at all frequencies. Aggregate demand shocks account for about twenty to thirty percent of output fluctuations at business cycle frequencies. Technological shocks account for about one-quarter of cyclical fluctuations, and about one-third of output's variance at low frequencies. Shocks to oil prices are important in explaining episodes in the 1970s and 1980s. Shocks that permanently affect labor input account for the balance of fluctuations in output, namely, about half of its variance at all frequencies.

PD July 1988. **TI** The Stabilization of the U.S. Economy: Evidence from the Stock Market. **AA** Yale University. **SR** National Bureau of Economic Research Working Paper: 2645; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 133, 131, 042. **KW** Economic History. Fluctuations. Stock Market.

AB Until recently, economists widely believed that economic activity had become less variable in the United States following the end of World War II. Challenging this belief, new research suggests that key historical time series are spuriously volatile, a finding that is highly controversial. Data from the stock market may provide a vehicle for resolving the controversy. Economic theory relates stock prices to real activity; empirical tests also show a strong link between stock prices and activity. Financial data are accurately measured over long spans of time and hence are free of most of the measurement problems in other time series. Measures of stock prices show no stabilization in the post-World War II period relative to the pre-World War I or pre-Depression periods. These stock market data thus support the hypothesis that real activity has not been stabilized.

Shell, Karl

TI Market Participation and Sunspot Equilibria. **AU** Balasko, Yves; Cass, David; Shell, Karl.

TI Sunspot Equilibrium in an Overlapping-Generations Economy with an Idealized Contingent-Commodities Market. **AU** Cass, David; Shell, Karl.

Sheshinski, Eytan

PD July 1988. **TI** Staggered and Synchronized Price Policies by Multiproduct Monopolies. **AU** Sheshinski, Eytan; Weiss, Yoram. **AA** Sheshinski: Hebrew University. Weiss: Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 24-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 52. **PR** No Charge. **JE** 022, 134, 616. **KW** Inflation. Adjustment Costs. Monopoly.

AB A monopoly sells two products and sets nominal prices. Inflation erodes the real prices of these products. There are costs of adjustment associated with a minimal price change. The question is will prices be changed simultaneously or in a staggered fashion. The paper analyzes the conditions on the project function and costs of adjustment which generate synchronized or staggered pricing policy. The solution can be applied to a duopoly.

Shiller, Robert J.

TI Interpreting Cointegrated Models. **AU** Campbell, John Y.; Shiller, Robert J.

Shilling, James D.

TI The Impact of the Agencies on Conventional Fixed-Rate Mortgage Yields. **AU** Hendershott, Patric H.; Shilling, James D.

Shitovitz, Benyamin

TI Cores in Imperfectly Competitive Economies. **AU** Gabszewicz, Jean J.; Shitovitz, Benyamin.

Shubik, Martin

PD March 1988. **TI** Gold, Liquidity and Secured Loans in a Multistage Economy. Part I: Gold as Money. **AU** Shubik, Martin; Yao, Shuntian. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 871; Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box

2125 Yale Station, New Haven, CT 06520. **PG** 46. **PR** No Charge. **JE** 021, 026, 311. **KW** Gold. Exchange Economy. Nash Equilibrium. Trading.

AB A multiperiod exchange economy with gold used both as money and as jewelry is examined in this paper. The existence of Nash equilibria is proved for the market games with finitely many traders as well as the games with a continuum of traders. For market games with a continuum of traders at infinite horizon, the existence of stationary Nash equilibria has been proved under the assumption that gold is properly distributed at the beginning or a secured loan between traders is available.

Siconolfi, Paolo

PD August 1987. **TI** Sunspot Equilibria and Incomplete Financial Markets. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-20; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 36. **PR** No Charge. **JE** 021, 026, 311. **KW** Allocation. Exchange Economy. Uncertainty. Competitive Equilibrium. Financial Market.

AB This paper studies the equilibrium allocations of a two period exchange competitive model with incomplete financial market and "extrinsic" uncertainty in the second period. In this paper we extend Cass's analysis with respect to the number of commodities and financial instruments that households can trade and the number of possible states in the second period. If the markets are incomplete and the financial structure allows the transfer of positive wealth in the second period regardless of the particular realization of the uncertainty, the equilibrium allocation set contains, generically with respect to endowments, a one-parameter family of allocations. In addition, all but a finite (and odd) number of the equilibrium allocations are inefficient and the "sunspot" type.

Silver, A.

TI Interest Rate Swaps: An Alternative Explanation. **AU** Estrella, Arturo; Arak, M.; Goodman, L.; Silver, A.

Silvestre, Joaquim

TI Imperfect Competition and Fixprice Equilibria. **AU** Madden, Paul; Silvestre, Joaquim.

Smith, Gregor W.

TI How Informative are Preliminary Announcements of the Money Stock in Canada? **AU** Milbourne, Ross D.; Smith, Gregor W.

Snyder, Ralph D.

PD February 1988. **TI** Statistical Foundations of Exponential Smoothing. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 5/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 22. **PR** No Charge. **JE** 211, 132. **KW** Exponential Smoothing. Forecasting. Estimation. Kalman Filtering. ARMA Models. State Space Model.

AB In this paper the exponential smoothing methods of forecasting are rationalized in terms of a statistical state space model with only one primary source of randomness. Their link, in general terms, with the ARMA class of models (both stationary and nonstationary cases) is also explored.

PD July 1988. **TI** Kalman Filtering with Partially Diffuse Initial Conditions. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 9/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 28. **PR** No Charge. **JE** 213, 211. **KW** State Space Models. Nonstationary Time Series. Computer Algorithm.

AB In this paper a square root algorithm is proposed for estimating linear state space models. A particular feature of the approach is that it contains special provisions for nonstationary time series with incompletely specified initial conditions. It differs from earlier approaches to the problem in that an additional property of the covariance matrix of the state estimation error vector is exploited to further reduce storage requirements and computational loads in computer implementations.

Sokoler, Meir

TI Monetary Policy and Institutions in Israel. Past, Present and Future. **AU** Cukierman, Alex; Sokoler, Meir.

Srinivasan, T. N.

PD February 1988. **TI** Food Aid: A Cause, or Symptom of Development Failure or an Instrument for Success. **SR** Yale University Economic Growth Center Discussion Paper: 554; Economic Growth Center, 27 Hillhouse Avenue, New Haven, CT 06520. **PG** 48 pp. **PR** $2.00. **JE** 914, 911, 121, 443. **KW** Foreign Aid. Developing Countries. India. Poverty. Economic Development.

AB The role of foreign aid in the form of food in furthering economic development of poor countries and in alleviating adverse impacts on the poor of structural and sectoral adjustment programs in these countries is discussed. A simple analytical framework for evaluating the incentive and welfare impacts of food aid is suggested. Because of policy interventions, domestic and international markets for food have been historically subject to severe distortions leading to ever growing food stocks in some, mainly rich, countries while in others, largely poor, many cannot afford to consume enough food. The possible impact of distortion-free global food markets is sketched. The use of surplus food for payment of wages-in-kind to workers employed in rural works programs thereby creating productive assets while alleviating poverty has often been proposed. With an applied general equililbrium model of the Indian economy, it is shown that a well-designed and efficiently implemented food-for-work program can virtually eliminate abject poverty in India at a modest cost. Experience with food aid in several other countries is also briefly discussed.

Staiger, Robert W.

PD May 1988. **TI** The Role of Export Subsidies when Product Quality is Unknown. **AU** Staiger, Robert; Bagwell, Kyle. **AA** Staiger: Stanford University. Bagwell: Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2584; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 35. **PR** $2.00. **JE** 323, 422, 022. **KW** Export Subsidy. Entry Barriers. International Trade. Product Quality.

AB We explore in this paper the role of export subsidies when goods arriving from foreign countries are initially of unknown quality to domestic consumers, who learn about their quality only through consumption. If, when confronted with such goods, consumers view price as a signal of quality, a role for export subsidies can arise. In particular, we show that absent export subsidies, entry of high quality firms may be blocked by their inability to sell at prices reflecting their true quality. Export subsidies enable high quality producers to begin exporting profitably even while unable to credibly convey their high quality to consumers in the "introductory" period. Thus, in breaking the entry barrier for high quality firms, export subsidies can raise average quality in the market and a welfare-improving role for export subsidies emerges. Moreover, even when high quality firms find it possible to signal their high quality to consumers through an introductory pricing strategy, a role for government policy can arise: the signal (low introductory price) represents a transfer of surplus from foreign producers to domestic consumers which, as we show below, can be avoided with an appropriate export tax/subsidy policy.

TI Private Cost Information and the Multinational Enterprise. **AU** Bagwell, Kyle; Staiger, Robert W.

PD July 1988. **TI** Rules and Discretion in Trade Policy. **AU** Staiger, Robert W.; Tabellini, Guido. **AA** Staiger: Stanford University. Tabellini: UCLA. **SR** National Bureau of Economic Research Working Paper: 2658; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 422, 323, 321. **KW** Trade Policy. Dynamic Model. Intervention. Tariffs.
AB We argue in this paper that the second-best nature of trade policy intervention makes it likely that the issue of time consistency will be an important consideration in determining both the extent and the efficacy of such intervention in most environments. The point is seen most directly by noting that a tariff is both a tax on consumers and a subsidy to producers of the import-competing good. Since first-best intervention typically calls for targeting each distortion with a separate tax/subsidy, the tariff will be a more effective policy tool if its consumption tax aspect can be separated from its production subsidy dimension. Consequently, if production decisions are made prior to consumption decisions, a government with sufficient policy flexibility will be tempted to surprise producers with policies other than those announced in an effort to make this separation. This leads optimal trade policy intervention to be time-inconsistent in a wide range of environments. We explore this idea in general terms and illustrate the results with specific examples.

Stapleton, R. C.

PD May 1988. **TI** Risk Aversion and the Intertemporal Behavior of Asset Prices. **AU** Stapleton, R. C.; Subrahmanyam, M. G. **AA** Stapleton: Churchill College, University of Cambridge. Subrahmanyam: New York University and University of Cambridge. **SR** New York University Salomon Brothers Center Working Paper: 463; New York University Salomon Brothers Center for the Study of Financial Institutions 90 Trinity Place, New York, New York 10006. **PG** 39. **PR** $4.00. **JE** 313, 311. **KW** Random Walk. Asset Prices. Financial Economics. Stock Prices.
AB In the literature to date, authors have either assumed non-stochastic discount factors or have placed restrictions on preferences to derive the stochastic process generating stock prices. In other words, the emphasis has been on sufficient conditions for stock prices to evolve randomly over time. The question arises: what are the necessary conditions for the random walk behavior of stock prices, and are they are any broader than the special cases studied so far. This is the focus of the current paper.

Stevens, Guy V. G.

PD August 1988. **TI** Interactions Between Domestic and Foreign Investment. **AU** Stevens, Guy V. G.; Lipsey, Robert E. **AA** Stevens: Board of Governors of the Federal Reserve System. Lipsey: Queens College and the Graduate Center, City University of New York and the National Bureau of Economic Research. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 329; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 64. **PR** No Charge. **JE** 441, 442, 521, 522. **KW** Business Finance. Multinational Firms. Foreign Investment.
AB This paper studies both the domestic and foreign fixed investment expenditures of a sample of United States multinational firms. In addition to explaining empirically each type of investment, an important goal is to determine whether there are significant interactions between expenditures in the different locations. Two types of interaction -- one, financial, and the other, production-based -- are explored theoretically and empirically. The financial interaction is the result of a model which assumes a risk of bankruptcy and its associated costs; under these circumstances, the firm faces an increasing cost of capital as a function of its debt/equity ratio. Domestic and foreign investment will be interdependent, since, in competing for finance, each affects the cost of capital in the other location. Production interactions can arise when, because of start-up costs or other factors that produce nonlinear cost functions, it may become profitable to shift production from the home to the foreign location.

Stewart, Geoff

PD September 1987. **TI** The Separation of Ownership and Control in Capitalist and Labour-Managed Firms under Oligopoly. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8719; Department of Economics, University of Southampton, Southampton S09 5NH, ENGLAND. **PG** 14. **PR** No Charge. **JE** 611, 511, 514, 022. **KW** Oligopoly. Capitalism. Entry. Labor Ownership.
AB It has recently been shown that the separation of ownership and control in a capitalist firm may not lead to a conflict of interests between managers and owners when there are oligopolistic interactions between firms. This paper introduces labor-managed firms into the picture. We show that when the labor-managed firm is involved the prospect of gains from managerial discretion under Cournot oligopoly may be replaced by an inevitable loss. In an entry deterrence framework on the other hand there is, once more, the possibility of mutual gains.

PD September 1987. **TI** Profit-Sharing in Cournot-Nash Oligopoly. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8718; Department of Economics, University of Southampton, Southampton S09 5NH, ENGLAND. **PG** 14. **PR** No Charge. **JE** 611, 511, 514, 022. **KW** Profit-Sharing. Oligopoly. Entry.
AB In the absence of productivity gains the introduction of profit-sharing by an individual firm is generally thought to

result in losses for shareholders, the workforce or both. Whilst true for monopoly, this paper demonstrates that in a quantity-setting Nash oligopoly the opposite will generally be the case. Also, a switch to profit-sharing may deter a potential entrant which would have entered if faced with an incumbent operating a conventional wage system. Once again there is the possibility of higher incomes for both shareholders and workers under profit-sharing.

PD June 1988. **TI** Strategic Entry Interactions Involving Profit - Maximising and Labour - Managed Firms. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8812; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 30. **PR** No Charge. **JE** 611, 641, 514, 511. **KW** Entry. Profit Maximization. Employee Ownership. Excess Capacity.

AB Using the framework suggested by Dixit (1980), it is shown, first, that conditions and strategies which deter entry are independent of whether the potential entrant is a labor-managed or profit-maximizing firm. Second, whatever the incumbent, a labor-managed potential entrant is more likely than a profit-maximizer to be accommodated into the industry. Third, entry-deterrence by labor-managed firms is more likely to involve excess capacity than is deterrence by a profit-maximizer. Finally, capacity in the labor-managed firm may even exceed the level which would be used in the threatened post-entry equilibrium.

Stiglitz, Joseph E.

PD January 1988. **TI** Sharecropping. **AA** Princeton University. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 11; Department of Economics/Woodrow Wilson School of Public and International Affairs Princeton University, Princeton, NJ 08544. **PG** 23. **PR** No Charge. **JE** 713, 716, 714. **KW** Sharecropping. Tenant Farmer. Agriculture.

AB This paper surveys the changing perspectives on sharecropping, the pervasive and persistent institutional arrangement under which much of the world's land is tilled, whereby the worker (tenant) gets use of the landlord's land, in return for a fraction of the output. Sharecropping provides a means for risk sharing, while at the same time providing workers with important incentives. The modern theory of sharecropping not only explains the prevalence of sharecropping but also many of the institutional details, for instance, provisions for cost sharing and the interlinking of land and credit contracts. Attention is called to certain unresolved puzzles. Sharecropping has served as the paradigm example of the wider class of principal agent relationships.

PD January 1988. **TI** Principal and Agent. **AA** Princeton University. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 12; Department of Economics/Woodrow Wilson School of Public and International Affairs Princeton University, Princeton, NJ 08544. **PG** 33. **PR** No Charge. **JE** 022. **KW** Principal-Agent Theory. Contract Theory.

AB This papers surveys some of the principle economic results in principal-agent theory. Principal-agent relationships, in which one individual (the principal) must design a contract in order to motivate another individual (the agent) to act in the manner the principal wishes, or to reveal some information which is of value to the principal, are pervasive in our economy. The relationships between creditor and borrower, employer and employee, insurance company and the insured, landlord and tenant, and firm owner and manager are all examples. The paper explains the general circumstances under which such relationships arise and shows how a variety of seemingly quite different problems can be recast into a standard form. General results, which characterize principal agent problems in all of their forms, as well as some special results, which characterize certain important versions of the principal agent problem, are described.

TI Vertical Restraints and Producers' Competition. **AU** Rey, Patrick; Stiglitz, Joseph.

PD July 1988. **TI** Pareto Inefficiency of Market Economies: Search and Efficiency Wage Models. **AU** Stiglitz, Joseph; Greenwald, Bruce. **AA** Stiglitz: Princeton University. Greenwald: Bell Communications Research. **SR** National Bureau of Economic Research Working Paper: 2651; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 822, 821, 023. **KW** Search Theory. Efficiency Wages. Unemployment. Government Policy. Pareto Efficient.

AB This paper shows that market economies with search and in which wages are affected by efficiency wage considerations are not constrained Pareto efficient. Wages are not set at Pareto efficient levels, nor is the level of employment (unemployment) Pareto efficient. We identify the nature of the biases and the welfare improving government interventions.

TI Dysfunctional Non-Market Institutions and the Market. **AU** Arnott, Richard; Stiglitz, Joseph.

Stock, James H.

PD July 1988. **TI** The Pension Inducement to Retire: An Option Value Analysis. **AU** Stock, James; Wise, David. **AA** Stock: Harvard University. Wise: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2660; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 915, 918, 826, 921, 824. **KW** Pensions. Retirement. Aging. Social Security.

AB The option value model developed in an earlier paper is used to simulate the effect on retirement of changes in a firm's pension plan compared to the effect of changes in Social Security provisions. The provisions of the firm's pension plan have a much greater effect than Social Security regulations on the retirement decisions of the firm's employees. The analysis supports the following conclusions: (1) Increasing the firm's early retirement age from 55 to 60, for example, would reduce by almost 40 percent, from .48 to .30, the fraction of employees that is retired by age 60. (2) The effect of changes in Social Security rules, on the other hand, would be small. Raising the Social Security retirement ages by one year, for example, has very little effect on employee retirement rates. The proportion retired by age 62 is reduced by only about 4 percent.

PD August 1988. **TI** Pensions, the Option Value of Work, and Retirement. **AU** Stock, James H.; Wise, David A. **AA** Stock: Harvard University. Wise: Harvard University and Visiting Scholar, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-28; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 65.

PR No Charge. **JE** 918, 915, 826, 821, 921. **KW** Retirement. Pension Plans. Social Security. Opportunity Costs.

AB The paper develops a model of retirement based on the option value of continuing to work. Continuing to work maintains the option of retiring on more advantageous terms later. The model is used to estimate the effects on retirement of firm pension plan provision. Typical defined benefit pension plans in the United States provide very substantial incentives to remain with the firm until some age, often the early retirement age, and then a strong incentive to leave the firm thereafter. (This may be a major reason for the rapidly declining labor force participation rates of older workers in the United States.) The model fits firm retirement data very well; it captures very closely the sharp discontinuous jumps in retirement rates at specific ages. The model is used to simulate the effect on retirement of potential changes in pension plan provisions. Increasing the age of early retirement from 55 to 60, for example, would reduce firm departures rates between ages 50 and 59 by almost forty percent.

PD August 1988. **TI** The Pension Inducement to Retire: An Option Value Analysis. **AU** Stock, James H.; Wise, David A. **AA** Stock: Harvard University. Wise: Harvard University and Visiting Scholar, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-29; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 50. **PR** No Charge. **JE** 918, 915, 826, 821, 212. **KW** Retirement. Pension plans. Social Security.

AB The option value model developed in an earlier paper is used to simulate the effect on retirement of changes in a firm's pension plan compared to the effect of changes in Social Security provisions. The provisions of the firm's pension plan have a much greater effect than Social Security regulations on the retirement decisions of the firm's employees.

Stockman, Alan C.

PD April 1988. **TI** Real Exchange Rate Variability Under Pegged and Floating Nominal Exchange Rate Systems: An Equilibrium Theory. **AA** University of Rochester. **SR** National Bureau of Economic Research Working Paper: 2565; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 422, 411, 421. **KW** Exchange Rates. Trade Policy. Balance-of-Payments. International Trade. Debt Crisis.

AB This paper proposes a new explanation for the greater variability of real exchange rates under pegged than under floating nominal exchange rate systems. The explanation hinges on the propensity of governments to use international trade restrictions and financial restrictions for balance-of-payments purposes under pegged exchange rates. In particular, these restrictions become more likely during periods of time when countries suffer losses of international reserves than might, without policy changes, lead to a balance-of-payments crisis. This covariation of restrictions with reserve changes implies that real exchange rates will vary less under pegged than under floating exchange rates.

Subrahmanyam, M. G.

TI Risk Aversion and the Intertemporal Behavior of Asset Prices. **AU** Stapleton, R. C.; Subrahmanyam, M. G.

Summers, Lawrence H.

PD May 1988. **TI** Relative Wages, Efficiency Wages, and Keynesian Unemployment. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2590; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 13. **PR** $2.00. **JE** 821, 825, 824. **KW** Unemployment. Relative Wages. Efficiency Wages.

AB While modern economic theorists have produced a variety of explanations for the failure of wages to fall in the face of unemployment, Keynes emphasis on relative wages has not been reflected in most contemporary discussions. This short paper suggests that relative wage theories in which workers' productivity depends primarily on their relative wage provide the best available apparatus for understanding actual unemployment and its fluctuations. Such theories are very closely related to the efficiency wage theories that have received widespread attention in recent years.

TI Labor Hoarding, Inflexible Prices and Procyclical Productivity. **AU** Rotemberg, Julio; Summers, Lawrence.

Suslow, Valerie Y.

PD August 1988. **TI** Short-Run Supply with Capacity Constraints. **AU** Suslow, Valerie Y.; Bresnahan, Timothy F. **AA** Suslow: University of Michigan and National Fellow, Hoover Institution. Bresnahan: Stanford University. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-32; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 59. **PR** No Charge. **JE** 631, 641, 611, 514, 511. **KW** Capacity Constraints. Aluminum. Mass Production. Production Smoothing.

AB Explicitly quantitative decisionmaking by businesses, based largely on operations research techniques, has grown in importance in recent years. Yet the ordinary econometric study of supply and cost does not take advantage of this information. This paper focuses on an important standard case; mass production achieved by flow processes in capital intensive facilities, where capacity adjusts slowly and is longlived. We show that very elementary analysis of the details of the production process can have substantial payoff in terms of the econometrics of short-run supply. Our analysis of the North American primary aluminum industry from 1958-83 shows that two regimes appear distinctly in the data (capacity constrained and unconstrained) and that production smoothing behavior is visible.

Suzumura, Kotaro

TI Strategic Cost-Reduction Investment and Economic Welfare. **AU** Okuno, Fujiwara Masahiro; Suzumura, Kotaro.

Svoronos, Alexander

PD February 1988. **TI** Duality Theory in Infinite-Horizon Models. **AA** CORE. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8807; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 53. **PR** No Charge. **JE** 022, 021, 213, 024. **KW** Intertemporal Model. Duality Theory. General Equilibrium.

AB A variety of economic models exhibit an intertemporal structure that warrants formulating them as infinite-horizon problems. Such a formulation poses questions of both theoretical and computational nature. This study addresses these issues in the settings of a convex, discrete-time welfare optimization model with a simple intertemporal linkage. In Part I we develop a general duality theory in the spirit of Rockafellar. We use to it guarantee the existence of period-to-period dual vector prices, and also to specify their nature. We focus on a specific class of perturbations that produce duals with an intertemporal structure similar to that of the primal. In Part II we develop methods for truncating the infinite-horizon models in a way that guarantees convergence of the truncated problems' optimal values to the infinite-horizon optimum, and provide some upper bounds on their rates of convergence. In Part III we examine a General Competitive Equilibrium model, with a finite number of infinitely-lived agents. We use the duality theory of Part I to establish a welfare weight theorem, and to sketch an algorithm for finding approximate solutions.

Swamy, P. A. V. B.

PD June 1988. **TI** The Stochastic Coefficients Approach to Econometric Modeling, Part II: Description and Motivation. **AU** Swamy, P. A. V. B.; Conway, Roger K.; Leblanc, Michael R. **AA** Board of Governors of the Federal Reserve. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 30; Division of Research and Statistics, Federal Reserve Board, Washington, D.C. 20551. **PG** 30. **PR** No Charge. **JE** 211, 212. **KW** Stochastic Coefficients Model. Forecast. Identification. Bayesian Inference.

AB A general stochastic coefficients model developed by Swamy and Tinsley serves as a reference point for discussion in this second of a series of three articles. Other well-known specifications are related to the model. The authors weigh the advantages and disadvantages of stochastic coefficients and suggest procedures to address the identification and estimation problem with weaker and noncontradictory assumptions. They argue that the real aim of inference is prediction and that "imprecise" parameter estimates of a coherent model are acceptable if they forecast well.

Swanson, Timothy M.

TI The Repeat Player in Dispute Resolution: Its Impact Upon Civil Litigation. **AA** University College London. **SR** University College London Discussion Paper: 88-08; Department of Economics, University College London, Gower Street, London, WC1E 6BT. **PG** 62. **PR** pounds sterling 1.50. **JE** 916, 026. **KW** Bargaining. Game Theory. Civil Litigation.

AB The objective of this paper is the analysis of one facet of bargaining power: the repeat player's advantage. The methodology employed is primarily game theoretic; the analysis of litigation as a multi-staged strategic situation in which there exists bilateral uncertainty. The specific application is civil litigation; specifically, the resolution of tort claims as applied to the set of such claims filed with the High Courts of England. The data base consists of approximately 200 case histories of civil tort disputes filed in the High Courts, i.e. including both those cases ultimately settled and those ultimately determined by the courts. The information derived from these files includes costs, offers and ultimate resolution. Finally, various civil rules are compared and analyzed for their impact upon the dispute resolution process.

Tabellini, Guido

TI External Debt, Capital Flight and Political Risk. **AU** Alesina, Alberto; Tabellini, Guido.

TI Rules and Discretion in Trade Policy. **AU** Staiger, Robert W.; Tabellini, Guido.

Tan, Guofu

PD July 1988. **TI** Monopoly Provision of Product Warranties. **AA** California Institute of Technology. **SR** Caltech Social Science Working Paper: 678; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 20. **PR** No Charge. **JE** 022. **KW** Adverse Selection. Moral Hazard. Mechanism Design. Warranties. Product Quality.

AB This article considers the problem of monopoly provision of product warranties in the face of both bilateral moral hazard and adverse selection problems. If the quality of the product is more important as a determinant of reliability than consumer care then standard results are obtained; that is, a positive correlation between warranties and reliability and between price and reliability are observed, and higher type buyers buy more expensive versions of the product with higher warranties. On the other hand, if consumer care is more important in increasing reliability, the results are exactly opposite; for example, there is a negative correlation between warranty coverage and reliability. Also, when consumer care is important, higher type buyers buy versions of the product with lower warranty and lower quality. Other features of the optimal warranty contract are also characterized in this paper.

Tan, Tommy Chin Chiu

PD February 1988. **TI** On Aumann's Notion of Common Knowledge -- An Alternative Approach. **AU** Tan, Tommy Chin Chiu; da, Costa Werlang Sergio Ribeiro. **AA** Tan: University of Chicago. da Costa Werlang: University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 88-09; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 19. **PR** No Charge. **JE** 022, 026. **KW** Common Knowledge. Bayesian. Uncertainty. Beliefs.

AB An event is common knowledge, in the intuitive sense, if everyone knows that it has occurred, if everyone knows that everyone knows that it has occurred and so on. We provide a Bayesian definition of common knowledge which is based on the infinite hierarchy of beliefs derived from the basic uncertainty space. Each agent's infinite stream of beliefs represents his prior on the basic uncertainty, his prior on the priors of the other agents, and so on. This framework therefore allows a direct formalization of the intuitive notion of common knowledge: an event is common knowledge in the eyes of agent if he believes that it has occurred with probability one, if he believes that everyone else believes that it has occurred with probability one, and so on. The main theorem of the paper establishes the equivalence of the Bayesian definition and the definition of common knowledge provided by Professor Aumann in his seminal paper, "Agreeing to Disagree" (1976).

Taylor, Lori

TI What Can Be Done With Bad School Performance Data?
AU Hanushek, Eric A.; Taylor, Lori.

Taylor, Mark P.

TI Exchange Rates and the EMS: Assessing the Track Record. **AU** Artis, Michael; Taylor, Mark P.

PD May 1988. **TI** Covered Interest Arbitrage and Market Turbulence: An Empirical Analysis. **AA** University of Dundee. **SR** Centre for Economic Policy Research Discussion Paper: 236; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 24. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 431, 441. **KW** Covered Interest Parity. Arbitrage. Market Efficiency. Exchange Rates. International Capital Market. Assets.

AB The covered interest parity (CIP) theorem states that the covered interest differential between two similar assets denominated in different currencies should be zero. This paper utilizes high-quality data recorded by the dealers at the Bank of England to test CIP during periods in which news is known to have introduced turbulence into the market, as well as during a relatively calm, control period. The data is high-frequency and allowance is made for the bid-offer spread, brokerage costs and other considerations. The analysis suggests three important conclusions. First, profitable arbitrage opportunities do occasionally occur and sometimes persist during turbulent periods. Second, the degree of efficiency of the markets we study appears to have increased over time. Third, there appears to be a 'maturity effect' whereby the existence, size and persistence of profitable arbitrage opportunities appear to be a positive function of the length of maturity. We propose an explanation of this phenomenon in terms of the existence of credit limits.

Tesfatsion, Leigh

PD April 1988. **TI** U.S. Money Demand Instability: A Flexible Least Squares Approach. **AU** Tesfatsion, Leigh; Vietch, John. **AA** Tesfatsion: University of Southern California. Veitch: University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8809; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 50. **PR** No Charge. **JE** 311, 131, 133. **KW** Money Demand. Time Varying. Regime Shifts. Smoothness Prior. Structural Change. Linear Model.

AB The extensive empirical literature on United States money demand has posited two qualitative requirements for a desirable money demand model. First, the model should specify a simple (preferably linear) relationship between money demand and a small number of theoretically plausible variables. Second, the coefficients characterizing the relationship should exhibit stability over time. The present paper uses a recently developed flexible least squares (FLS) time-varying regression technique to investigate linearity and coefficient stability for United States money demand over the period 1959:Q2 to 1985:Q3. United States money demand observations are assumed to have been generated by a Goldfeld-type log-linear regression model with slowly evolving coefficients. The time-paths traced out by the FLS coefficient estimates for this model exhibit clearcut shifts in 1974 and 1982 as other OLS money demand studies have surmised. The shifts are small, however, relative to a persistent downward trend in the estimated coefficient for the inflation rate, indicating that the model may be misspecified. A second major finding of the study is the fragility of inferences from OLS estimation for the full sample period, and for pre-1974 and post-1974 subperiods. OLS coefficient estimates exhibit sign and magnitude properties which are not representative of typical FLS coefficient estimates.

Thomas, Robin

TI On Polynomial Time Decidability of Induced-Minor-Closed Classes. **AU** Matousek, Jiri; Nesetril, Jaroslav; Thomas, Robin.

Thomas, Stephen H.

TI The Economics of the Bis Bank Capital Adequacy Proposals. **AU** McKenzie, George W.; Thomas, Stephen H.

Tienda, Marta

PD March 1988. **TI** Looking to 1990: Immigration, Inequality and the Mexican Origin People in the United States. **AA** Population Research Center/NORC and University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 88-4; Economics Research Center/NORC, 1155 E. 60th St., Chicago, IL 60637. **PG** 25. **PR** $2.00; Send requests to Librarian, Economics Research Center. **JE** 917, 823, 826, 921, 941. **KW** Immigration. Mexico. Discrimination.

AB My purpose in this essay is to discuss themes that illustrate the social content of Mexican origin in the United States stratification regime. My concern is with immigration and integration processes emphasizes the persistence and perpetuation of structured inequities between people of Mexican origin and native whites. From a sociological standpoint, the strong correspondence between socioeconomic disadvantage and Mexican origin raises challenging questions about the relative weight of continued immigration from Mexico versus institutionalized discrimination in maintaining the minority status of the Chicano/Mexican-American population.

Tijs, S.

TI Lambda-Transfer and Harsanyi NTU Values: Individual Rationality, Stability and Degenerate Solutions. **AU** Lucchetti, R.; Patrone, F.; Tijs, S.; Torre, A.

Tirole, Jean

TI Moral Hazard and Renegotiation in Agency Contracts. **AU** Fudenberg, Drew; Tirole, Jean.

TI Perfect Bayesian and Sequential Equilibria: A Clarifying Note. **AU** Fudenberg, Drew; Tirole, Jean.

TI Repeated Auctions of Incentive Contracts, Investment and Bidding Parity with an Application to Takeovers. **AU** Laffont, Jean Jacques; Tirole, Jean.

Todd, Michael J.

PD February 1988. **TI** A Centered Projective Algorithm for Linear Programming. **AU** Todd, Michael J.; Ye, Yinyu. **AA** Todd: Cornell. Ye, Yinyu: Stanford. **SR** Yale Cowles Foundation Discussion Paper: 861; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 41. **PR** No Charge. **JE** 213. **KW** Linear Programming. Karmarkar's Algorithm. Algorithm.

AB We describe a projective algorithm for linear programming that shares features with Karmarkar's projective algorithm and its variants and with the path-following methods of Gonzaga, Kojima-Mizuno-Yoshise, Monteiro-Adler, Renegar, Vaidya and Ye. It operates in a primal-dual setting, stays close to the central trajectories, and converges in O(square root of n times L) iterations like the latter methods. (Here n is the number of variables and L the input size of the problem.) However, it is motivated by seeking reductions in a suitable potential function as in projective algorithms, and the approximate centering is an automatic byproduct of our choice of potential function.

Topel, Robert

PD July 1988. **TI** Job Mobility and the Careers of Young Men. **AU** Topel, Robert; Ward, Michael. **AA** Topel: University of Chicago. Ward: Unicon Research Corp. **SR** National Bureau of Economic Research Working Paper: 2649; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 823, 824, 813, 821. **KW** Mobility. Career Path. Labor Market. Wages. Employment.

AB We study the joint processes of job mobility and wage growth among young men drawn from the Longitudinal Employee-Employer Data. Following individuals at three month intervals from their entry into the labor market, we track career patterns of job changing and the evolution of wages for up to 15 years. Following an initial period of weak attachment to both the labor force and particular employers, careers tend to stabilize in the sense of strong labor force attachment and increasing durability of jobs. During the first 10 years in the labor market, a typical young worker will work for seven employers, which accounts for about two-thirds of the total number of jobs he will hold in his career. The evolution of wages plays a key role in this transition to stable employment: we estimate that wage gains at job changes account for at least a third of early-career wage growth, and that the wage is the key determinant of job changing decisions among young workers. We conclude that the process of job changing for young workers, while apparantly haphazard, is a critical component of workers' move toward the stable employment relations that characterize mature careers.

Torre, A.

TI Lambda-Transfer and Harsanyi NTU Values: Individual Rationality, Stability and Degenerate Solutions. **AU** Lucchetti, R.; Patrone, F.; Tijs, S.; Torre, A.

Townley, Peter G. C.

PD June 1988. **TI** A Model of Retiree Demand for Life-Insured Annuities When Markets Fail and Optimal Public Provision is Not Feasible. **AA** Acadia University and Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 720; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 45. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 918, 321, 214, 026. **KW** Asymmetric Information. Uncertainty. Public Policy. Annuity.

AB Individuals beginning a retirement of uncertain duration are assumed to possess better information about their life expectancy than either private sector insurers or government. When this type of asymmetric information exists, a competitive equilibria in annuity markets will be inefficient. When this occurs, a government can operate an optimal compulsory annuity plan if certain conditions are satisfied. When they are not, an alternative is to operate a public annuity plan on a voluntary basis. In a simulation model with fully optimizing retirees, the existence and characteristics of viable voluntary annuity plans are shown in a variety of circumstances.

PD June 1988. **TI** Uncertain Lifetimes, Informational Asymmetries and Public Choice: Compulsory vs. Voluntary Social Security. **AA** Acadia University and Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 719; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 32. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 918, 321, 921, 214, 026. **KW** Asymmetric Information. Social Security. Public Policy.

AB A government's policy choice between compulsory and voluntary social security schemes is examined when it can identify individuals neither by life expectancy (risk class) nor by preferences (aversion to risk). This decision is not trivial because, as shown by simulation, compulsory schemes can decrease welfare in a variety of circumstances whereas, in the same circumstances, viable, welfare-enhancing voluntary schemes exist. Because a majority of risk-averse voters will always prefer a compulsory to a voluntary scheme, a government's state of ignorance exists ex ante and ex post. Thus, a government can unwittingly implement a welfare-reducing scheme.

Tracy, Joseph S.

TI Market Structure, Strike Activity, and Union Wage Settlements. **AU** Abowd, John M.; Tracy, Joseph S.

Trela, Irene

PD 1988. **TI** Do Developing Countries Lose from the MFA. **AU** Trela, Irene; Whalley, John. **AA** University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8804C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 45. **PR** $4.00. **JE** 121.

Tulcea, C. Ionescu

PD June 1987. **TI** On the Approximation of Upper Semi-Continuous Correspondences and the Equilibriums of Generalized Games. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 736; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 32. **PR** No Charge. **JE** 213, 021. **KW** Correspondences. Convex Space. Continuity.

AB We prove several theorems concerning the approximation of upper semi-continuous correspondences having for range a locally convex space. Theorems 1 and 2 (and Corollary 1) generalize certain approximation theorems by G. Haddad, G. Haddad and J. M. Lasry, and J. P. Aubin and A. Cellina. Although some of the details of the proofs of Theorems 1 and 2 are new, the basic ideas are taken from the above mentioned papers. Theorem 3 shows that the correspondences in the approximating families can be chosen so that they are regular. This theorem contains a classical result of M. Hukuhara. Theorem 3 is proved using Theorem 2 and Propositions 1 and 4. Theorem 5 concerns the existence of equilibriums of generalized games (= abstract economies). The main purpose of this result is to replace in the W. Shafer-H.

Sonnenschein equilibrium theorem for generalized games the continuity hypothesis by an upper semi-continuity one. The proof of Theorem 5 is based on the results on the approximation of upper semi-continuous correspondences obtained in Section 2. Theorem 5 is used in Section 4. In Section 4 we establish Theorems 6 and 7. These theorems show that certain statements concerning the equilibrium of generalized games are equivalent to certain statements concerning minimax inequalities of Ky Fan type.

Turner, Paul

PD 1988. **TI** The UK Demand for Money, Commercial Bills and Quasi-Money Assets, 1871-1913. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8806; Department of Economics, University of Southampton, Southampton SO9 5NH, ENGLAND. **PG** 38. **PR** No Charge. **JE** 044, 311. **KW** Money Substitutes. England. Financial System. Commercial Banks. Savings.

AB This paper is concerned with the development of the financial system and the availability of close money substitutes in pre 1914 Britain. The financial sector is important to economic historians for a number of reasons. Firstly it is widely believed that an adequate financial system is a necessary, but not sufficient, condition for the process of industrialization and growth to proceed. The late Victorian/early Edwardian periods are frequently characterized as years of relative economic decline. It is therefore interesting to examine to what extent this might be explained by a failure for suitable financial instruments to develop.

Turnovsky, Stephen J.

TI Deterioration of the Terms of Trade and Capital Accumulation: A Reexamination of the Laursen-Metzler Effect. **AU** Sen, Partha; Turnovský, Stephen J.

Tyson, Laura DAndrea

TI The Opportunity Cost of Defense Spending: A General Equilibrium Analysis. **AU** Roland, Holst David W.; Robinson, Sherman; Tyson, Laura DAndrea.

Ulph, A. M.

PD April 1988. **TI** Union Bargaining - A Survey of Recent Work. **AU** Ulph, A. M.; Ulph, D. T. **AA** A. Ulph: University of Southampton. D. Ulph: University of Bristol. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8805; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 56. **PR** No Charge. **JE** 832, 833, 831. **KW** Unions. Bargaining. Union Membership. Efficient Contracts Model.

AB This paper surveys recent developments in the theoretical and empirical analysis of firm/union bargains. It begins with a review of the two now standard theories of wage/employment determination through firm/union bargaining - the right to manage model and the efficient contracts model - and after setting out their theoretical implications, examines empirical tests of the theories. In subsequent sections a variety of developments of the basic models are reviewed. The first of these developments is the incorporation of other factors such as hours of work and investment/capital into the bargaining framework. Recent attempts to endogenise union membership within the bargaining model constitute the second strand of development that is examined. The final strand covers recent work to examine the implications and desirability of having single rather than multiple firms or unions involved in the bargaining process.

Ulph, D. T.

TI Union Bargaining - A Survey of Recent Work. **AU** Ulph, A. M.; Ulph, D. T.

Venables, Anthony J.

PD 1988. **TI** World Capacity Choice and National Market Games. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8807; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 23. **PR** No Charge. **JE** 411, 026, 422, 641. **KW** International Trade. Two Stage Game. Cournot Equilibrium.

AB A series of models are developed in which international trade is modelled as a two stage game between firms in different countries. At the first stage firms choose their productive capacity. At the second stage different types of market game are played. The most interesting case is that in which firms play a separate price game in each national market, given their worldwide capacity levels. It is established that (i) firms use capacity strategically, in order to manipulate the distribution of rival's output between markets. (ii) The volume of intra-industry trade is intermediate between the two cases most extensively studied in the trade literature (integrated and segmented market Cournot equilibria). (iii) Countries gain from small import tariffs and export subsidies, but these gains are less than in the segmented market Cournot equilibrium case.

Vietch, John

TI U.S. Money Demand Instability: A Flexible Least Squares Approach. **AU** Tesfatsion, Leigh; Vietch, John.

Vila, Jean Luc

TI Optimal Dynamic Hedging. **AU** Grossman, Sanford J.; Vila, Jean Luc.

TI Portfolio Insurance in Complete Markets: A Note. **AU** Grossman, Sanford J.; Vila, Jean Luc.

Vincent, Daniel R.

PD March 1988. **TI** Dynamic Auctions. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 770; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 27. **PR** No Charge. **JE** 026, 022. **KW** Trading. Dynamic Game. Bertrand. Sequential Equilibrium. Bargaining. Surplus.

AB A dynamic trading game is examined in which two uninformed buyers engage in Bertrand-like competition to attempt to purchase a single object of uncertain quality from an informed seller. It is shown that there exists a unique perfect sequential equilibrium. The game is compared to an analogous bargaining game in which a single uninformed buyer makes offers to a single seller. Despite the fact that in the equilibrium of the competitive game, buyers compete away their surplus, it is shown that sellers can often gain a higher expected surplus in the bargaining game.

Vines, David A.

PD June 1988. **TI** North-South Growth and Terms of Trade: A Model on Kaldorian Lines. **AU** Vines, David A.; Molana, Hassan. **AA** University of Glasgow. **SR** Centre for Economic Policy Research Discussion Paper: 248; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 22. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 111, 411, 711. **KW** Kaldor. World Economy. Exchange rates. Equilibrium Growth.

AB This paper examines equilibrium growth and stability in the world economy using a North-South model in which there is assumed to be surplus labor in both North and South at an exogenously determined level of real wages. The model allows for substitution in consumption between primary commodities and industrial goods in the North. It treats the cases of both surplus and scarce land in the South. In the case of an exogenous shock to the model, the North-South terms of trade may overshoot its equilibrium value and/or converge to this value along a cyclical path: there is no guarantee that the adjustment path is stable.

PD June 1988. **TI** Wealth Targets, Exchange Rate Targets and Macroeconomic Policy. **AU** Vines, David; Blake, Andrew; Weale, Martin. **AA** Vines: University of Glasgow. Blake, Weale: University of Cambridge. **SR** Centre for Economic Policy Research Discussion Paper: 247; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 40. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 311, 321, 431, 822, 023. **KW** Exchange Rates. Macroeconomic Policy. National Wealth. Wage Indexation. Fiscal Policy.

AB This paper argues that a wealth target is an important feature of an economic policy package. A real exchange rate target can be used as an intermediate target to steer national wealth towards its desired value. Such a policy requires that fiscal policy be used to restrain inflation. This may be difficult if there is real wage resistance. In this instance, fiscal policy must be used to maintain national wealth, with monetary policy being used to restrain inflation. In this case also, monetary policy can be implemented by means of an exchange rate target. These arguments are demonstrated algebraically and then illustrated using policy rules designed for use on a model of the United Kingdom economy.

TI Monetary Policy and Fiscal Policy: Impact Effects with a New Keynesian 'Assignment' of Weapons to Targets. **AU** Meade, James; Vines, David.

von Ungern, Sternberg Thomas

PD March 1988. **TI** Cartel Stability in Sealed Bid Second Price Auctions. **AA** University of Lausanne. **SR** Universite de Lausanne Cahiers de Recherches Economiques: 8802; Department d'econometrie et d'economie politique, Universite de Lausanne BFSH - Dorigny, CH-1015 Lausanne / Switzerland. **PG** 11. **PR** No Charge. **JE** 022, 025, 511. **KW** Auctions. Cartels. Collusion. Bidding.

AB One of the great advantages of sealed bid second price auctions is that they lead to very simple bidding strategies. This paper shows that they also suffer from a major inconvenient: They greatly facilitate collusion among the participants, even if the cartel's designated winner is not the one with the highest valuation.

Wachtel, Paul

PD June 1988. **TI** Israeli Companies in the American Securities Markets. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 473; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 35. **PR** No Charge. **JE** 441, 423. **KW** Israel. Stock Market. Foreign Equity.

AB There are over two-dozen Israeli companies whose shares trade in the American stock market and virtually all of them have issued stock in the United States. This is an interesting phenomenon because there are relatively few foreign equity issues in the United States and only a handful of foreign companies trade in the United States. In this paper we examine the phenomenon from several perspectives. First, the idea of raising capital in foreign equity markets is evaluated. Second, the size or capitalization of Israeli firms in the American markets is examined. Third, the new issues by Israeli firms are discussed. Finally, the performance characteristics of these shares is analyzed.

Wadhwani, Sushil B.

PD June 1988. **TI** The Effects of Profit-Sharing on Employment, Wages, Stock Returns and Productivity: Evidence from UK Micro-Data. **AU** Wadhwani, Sushil; Wall, Martin. **AA** Centre for Labour Economics London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 311; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 39. **PR** No Charge. **JE** 824, 825, 821, 023. **KW** Profit-Sharing. Productivity. Wages. Employment. Remuneration.

AB This paper provides evidence based on UK firm-level data that: (i) We cannot reject the view that profit-sharing firms view the total level of remuneration as the marginal cost of labor, which is contrary to much of Weitzman's analysis. (ii) There is some support for the popular view that profit-sharing raises total remuneration and can, therefore, be inflationary. (iii) The introduction of profit-sharing does lead to higher productivity, but, this combined with the employment-reducing consequences of (ii) leads us to conclude that the net employment effect is small and uncertain.

PD June 1988. **TI** A Direct Test of the Efficiency Wage Model Using UK Micro Data. **AU** Wadhwani, Sushil B.; Wall, Martin. **AA** Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 313; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 49. **PR** No Charge. **JE** 825, 621, 824, 821. **KW** Efficiency Wages. Productivity. Unemployment.

AB This paper presents evidence that firm-level productivity increases when either relative wages rise, or the level of unemployment rises. Both facts are consistent with the efficiency wage model. The link between relative wages and productivity may also be explicable by unobserved human capital, but this is unlikely as a variety of alternative controls leaves the size of this linkage largely unchanged. It may also arise through rent-sharing, but an instrumental variables estimate suggests that this is unlikely to be important. Moreover, the link between unemployment and productivity is more difficult to rationalize in terms of these alternative models. There is also some evidence that productivity responds to changes in the relative wage as well as the level. This is consistent (though not exclusively) with a "fairness" version of an efficiency wage model where workers allow their comparison standard to rise with past achievements (adaptation theory).

Waelti, John J.

PD March 1988. **TI** Indigenous Social Science and Economic Development in Kenya. **AA** Department of Agricultural and Applied Economics, University of Minnesota. **SR** University of Minnesota Economic Development Center Bulletin: 5; Department of Agricultural and Applied Economics, 231 Classroom Office Building, University of Minnesota Saint Paul MN 55108. **PG** 49. **PR** Free. **JE** 121, 718, 112. **KW** Economic Development. Kenya. Africa. Social Sciences.

AB Kenya, as all sub-Saharan African nations, faces an urgent need for increased economic development over the next two decades. For this to occur, many technical and institutional processes must take place simultaneously. The primary intent of this paper is to review the potential contribution of the social sciences in Kenyan institutions of higher learning, with emphasis on rural social sciences, to national economic growth and development. The basic contention of this paper is that the rural social sciences provide the intellectual and analytical base for contributing to understanding and policy analysis of the most intractable problems presently faced by Kenya and the other developing nations of sub-Saharan Africa. Augmenting indigenous capacity in the rural social sciences is a long run effort, but one which will be of lasting benefit to the Nation, the region, and the continent. While much of this paper applied to sub-Saharan Africa in general, primary focus is on Kenya and East Africa.

Wagner, Janet

TI Gift-Giving Behavior: An Economic Perspective. **AU** Garner, Thesia I.; Wagner, Janet.

Waldman, Michael

PD May 1988. **TI** Interpreting Evidence on Returns to Tenure: The Role of Quasi-Specific Human Capital. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 479; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 25. **PR** $2.50; checks payable to University of California Regents. **JE** 851, 824, 813. **KW** Human Capital. Worker Displacement. Tenure. Heterogeneity.

AB There is a vast empirical literature which finds a strong positive relationship between tenure and wage rates. However, recent papers by Topel (1986), Abraham and Farber (1987), Altonji and Shakotko (1987), and Marshall and Zarkin (1987) have found that after carefully controlling for biases that arise due to factors such as unobserved heterogeneity and job matching, much of the positive relationship between tenure and wage rates disappears. This paper shows that these recent results do not necessarily imply that the labor market exhibits an insignificant level of specific human capital, but rather they may simply indicate that the specificity which does exist typically takes a "quasi-specific" form.

PD May 1988. **TI** What Would Darwin Say About Rational Expectations? **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 478; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 41. **PR** $2.50; checks payable to University of California Regents. **JE** 022, 851, 036. **KW** Rational Expectations. Evolutionary Theory. Speculative Bubbles. Sex Differential.

AB An implicit assumption of the rational expectations approach is that individuals accurately estimate their own abilities (or more precisely there are no systematic errors). There is a wealth of evidence in the psychology literature, however, which clearly indicates that individuals systematically overestimate their own abilities. This paper provides an explanation for some of this evidence which is based on Darwin's theory of sexual selection. It then goes on to discuss the implications of the phenomenon for the following real world economic issues: (i) the existence of speculative bubbles in real world asset markets; (ii) the existence of a winner's curse in real world auctions; and (iii) the problem of career choice.

Wall, Martin

TI The Effects of Profit-Sharing on Employment, Wages, Stock Returns and Productivity: Evidence from UK Micro-Data. **AU** Wadhwani, Sushil; Wall, Martin.

TI A Direct Test of the Efficiency Wage Model Using UK Micro Data. **AU** Wadhwani, Sushil B.; Wall, Martin.

Walraven, Nicholas

PD February 1988. **TI** Expected Appreciation for U. S. Housing. **AA** Economic Activity Section, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper Series: 84; Economic Activity Section, Federal Reserve Board, Washington, D.C. 20551. **PG** 17. **PR** No Charge. **JE** 134, 315, 932, 921. **KW** Inflation Expectations. Housing. Urban Housing. Mortgages. Debt.

AB This paper adapts the contingent claims type models from the finance literature to model debt-financed housing purchases. The model developed yields an estimate of expected housing appreciation, which is compared to expected inflation measures.

Wand, M. P.

TI Bandwidth Choice for Density Derivatives. **AU** Hardle, W.; Marron, J. S.; Wand, M. P.

Ward, Michael

TI Job Mobility and the Careers of Young Men. **AU** Topel, Robert; Ward, Michael.

Ware, Roger

TI Optimal Exclusion and Relocation of Workers in Oversubscribed Industries. **AU** Lewis, Tracy R.; Ware, Roger; Feenstra, Robert C.

TI Eliminating Price Supports: A Political Economy Perspective. **AU** Lewis, Tracy R.; Feenstra, Robert C.; Ware, Roger.

Watson, Mark W.

TI Sources of Business Cycle Fluctuations. **AU** Shapiro, Matthew D.; Watson, Mark W.

Waud, Roger N.

PD July 1988. **TI** Tax Aversion, Optimal Tax Rates, and Indexation. **AA** University of North Carolina, Chapel Hill. **SR** National Bureau of Economic Research Working Paper: 2643; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 921. **KW** Tax Evasion. Laffer Curve. Tax Enforcement.

AB Taking account of the costs of tax evasion and avoidance activity together with the government's costs of tax enforcement it is shown that the optimal point on a stylized Laffer curve is located on the positively sloped region, not at the maximum point of the curve. The analysis eschews the usual supply-side-type rationale for the Laffer curve and shows that such a curve can arise solely as a consequence of the optimizing tax aversion activity of a utility maximizing economic agent. The analysis further implies that indexation to inflation may be warranted by considerations of economic efficiency.

Weale, Martin

TI Wealth Targets, Exchange Rate Targets and Macroeconomic Policy. **AU** Vines, David; Blake, Andrew; Weale, Martin.

Weiss, Yoram

TI Staggered and Synchronized Price Policies by Multiproduct Monopolies. **AU** Sheshinski, Eytan; Weiss, Yoram.

Werner, Jan

PD July 1988. **TI** Equilibrium with Incomplete Markets Without Ordered Preferences. **AA** University of Minnesota. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-184; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 5. **PR** No Charge. **JE** 021, 026, 313. **KW** Financial Markets. Incomplete Markets. Radner Equilibrium. Uncertainty. Exchange Economy.

AB The purpose of this note is to prove the existence of Radner equilibrium of plans, prices and price expectations in an exchange economy with incomplete financial markets under weak conditions on consumers' preference relations. All the previous existence results in the case of markets for financial assets (i.e., assets with exogenously specified money returns) require monotonicity of consumers' preferences. Strict monotonicity was used for proving generic existence of equilibrium with markets for commodity futures, since the results rely on the regular economy arguments. Evidently, monotonicity is a restrictive assumption in the context of uncertainty. The result of this note allows preferences to be non-monotonic and even non-complete and non-transitive. Assumptions are essentially the same as in the case of an economy with complete markets. Only the non-satiation assumption is strengthened to non-satiation in every state of nature. We also prove a variant of the existence result which allows for "zero-probability" states, i.e., states such that consumer's satisfaction does not depend on consumption conditional on this state.

West, Kenneth D.

PD May 1988. **TI** Bubbles, Fads and Stock Price Volatility Tests: A Partial Evaluation. **AA** Princeton University. **SR** National Bureau of Economic Research Working Paper: 2574; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 311. **KW** Stock Prices. Capital Market. Volatility. Expected Returns. Fads.

AB This is a summary and interpretation of some of the literature on stock price volatility that was stimulated by Leroy and Porter (1981) and Shiller (1981a). It appears that neither small sample bias, rational bubbles nor some standard models for expected returns adequately explain stock price volatility. This suggests a role for some nonstandard models for expected returns. One possibility is "fads" models in which noise trading by naive investors is important. At present, however, there is little direct evidence that such fads play a significant role in stock price determination.

PD July 1988. **TI** Evidence from Seven Countries on Whether Inventories Smooth Aggregate Output. **AA** Princeton University. **SR** National Bureau of Economic Research Working Paper: 2664; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 122, 131, 133, 514. **KW** Developed Countries. Inventory. Demand Shocks.

AB Casual examination of annual postwar data on inventories and aggregate output for seven developed countries -- Canada, France, West Germany, Italy, Japan, United Kingdom, United States -- suggests that in these countries the primary function of aggregate inventories is not to smooth aggregate output in the face of aggregate demand shocks. Japan is a possible exception to this generalization.

Whalley, John

TI The Canada-US Free Trade Agreement: Reactions and Evaluations. **AU** Kymlicka, B. B.; Whalley, John; Wonnacott, Ronald I.

TI Do Developing Countries Lose from the MFA. **AU** Trela, Irene; Whalley, John.

PD 1988. **TI** Endogenous Participation in Agricultural Support Programs and Ad Valorem Equivalent Modelling. **AU** Whalley, John; Wigle, Rundall M. **AA** University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8805C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 27. **PR** $4.00. **JE** 713. **KW** Agriculture Policy.

PD 1988. **TI** Rules, Power and Credibility. **AA** University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: Volume 1: Ford Fdn Project; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 187. **PR** $4.00. **JE** 025, 022.

PD 1988. **TI** The Small Among the Big.

AA University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: Vol. 2: Ford Fdn project; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 201. **PR** $4.00.

Wigle, Rundall M.

TI Endogenous Participation in Agricultural Support Programs and Ad Valorem Equivalent Modelling. **AU** Whalley, John; Wigle, Rundall M.

Williams, Steven R.

TI The Rate of Convergence To Efficiency in the Buyer's Bid Double Auction as the Market Becomes Large. **AU** Satterthwaite, Mark A.; Williams, Steven R.

Wilson, John F.

PD January 1988. **TI** Measuring Household Saving: Recent Experience from the Flow of Funds Perspective. **AU** Wilson, John F.; Freund, James L.; Yohn, Frederick O. Jr; Lederer, Walther. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper Series: 85; Economic Activity Section, Federal Reserve Board, Washington, D.C. 20551. **PG** 81. **PR** No Charge. **JE** 223. **KW** Household Saving. Accounting. Financial Accounts. Saving Rate.

AB The sharp decline in the personal saving rate in recent years has focused attention on alternative ways of measuring saving and their relative merits. This paper examines the difference between the traditional NIPA measure of personal saving and that generated by the capital account statistics embedded in the Flow of Funds Accounts. The amount of this difference is summarized in the household "discrepancy" in the FFAs. The focus of the paper is on measurement factors in the NIPAs and the FFAs which give rise to this discrepancy. Recent empirical developments are reviewed, and methodological issues in the measurement of saving from the two accounting perspectives are discussed. Empirical developments in the corporate and the foreign sectors are reviewed as they relate to household saving measurement. Other related issues such as the role of asset write-offs, the effects of NIPA and FFA revisions, and the problems of accounting for underground economic activity also are addressed.

Wilson, Robert

PD May 1988. **TI** Efficient and Competitive Rationing. **AA** Stanford University Graduate School of Business. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 528; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 65. **PR** $4.00. **JE** 611, 616, 614. **KW** Rationing. Priority Service. Contract Theory. Efficiency.

AB Priority service rations available supplies according to contracts that specify each customer's priority or rank order. This alternative market form can achieve most of the efficiency gains attributed to spot markets that in some industries are difficult or expensive to organize. Rationing by priorities is prominent in capital intensive industries with non-storable outputs, as well as in service sector and make-to-order industries where service is queued or congested. This paper describes the role of priority service and sketches a basic model. The main topic is efficient implementation by public enterprises and by competitive firms.

Wise, David A.

TI The Pension Inducement to Retire: An Option Value Analysis. **AU** Stock, James; Wise, David.

TI Pensions, the Option Value of Work, and Retirement. **AU** Stock, James H.; Wise, David A.

TI The Pension Inducement to Retire: An Option Value Analysis. **AU** Stock, James H.; Wise, David A.

Wolfe, John R.

TI Technological Change, Import Competition, and Worker Displacement. **AU** Pecchenino, Rowena A.; Wolfe, John R.

Wolsey, Laurence A.

PD January 1988. **TI** Uncapacitated Lot-Sizing Problems with Start-Up Costs. **AA** University Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8801; Universite Catholique de Louvain Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve BELGIUM. **PG** 13. **PR** No Charge. **JE** 022, 213. **KW** Fixed Costs. Economic Capacity. Algorithm.

AB We consider the uncapacitated economic lot-sizing problem with start-up costs as a mixed integer program. A family of strong valid inequalities is derived, as well as polynomial separation algorithm for the class. It is then shown how by introducing auxiliary variables equivalent or possibly stronger formulations are obtained. Finally some limited computational results for the single item model and a multi-item model with changeover costs are reported.

Wong, Kar yiu

TI International Allocation of Investment Under Uncertainty. **AU** Razin, Assaf; Wong, Kar yiu.

Wonnacott, Paul

PD 1987. **TI** Unilateral Free Trade vs. A Custom's Union: The Further Search for a General Principle. **AU** Wonnacott, Paul; Wonnacott, R. J. **AA** University of Western Ontario. **SR** University of Western Ontario Centre for the Study of International Economic Relations Working Paper: 8716C; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PR** $4.00. **JE** 421, 422.

Wonnacott, R. J.

TI Unilateral Free Trade vs. A Custom's Union: The Further Search for a General Principle. **AU** Wonnacott, Paul; Wonnacott, R. J.

Wonnacott, Ronald I.

TI The Canada-US Free Trade Agreement: Reactions and Evaluations. **AU** Kymlicka, B. B.; Whalley, John; Wonnacott, Ronald I.

Woodbury, Diane F.

TI Using a Consumer Price Index Database to Measure Inner-City Differences in Living Costs. **AU** Love, Douglas O.; Woodbury, Diane F.; Jain, Raj.

Wooders, Myrna Holtz

TI Monotonicity in Games That Exhaust Gains to Scale. **AU** Scotchmer, Suzanne; Wooders, Myrna Holtz.

Wortham, Anne

PD July 1988. **TI** Schumpeter and His Critics on the Future of Capitalism. **AA** Washington and Lee University and Visiting Scholar Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-88-27; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PR** No Charge. **JE** 031, 051, 052. **KW** Schumpeter. Capitalism. Austrian School. Socialism.

AB Joseph Schumpeter, is widely known for his argument that, by virtue of its success, capitalism tends to destroy itself and to be replaced by socialism. Less known are the criticisms and refutations of many of the arguments he advanced to support his vision. By most accounts his analysis is, to quote Robert Heilbroner, a "bravura performance". But, at its innermost core, says Heilbroner, it is "flawed, incomplete, and inadequate". This paper draws attention to the intellectual context of Schumpeter's thought and summarizes challenges to his arguments by economists of the Austrian School led by Ludwig von Mises. If Schumpeter's most shocking and puzzling proposition is that capitalism's success would bring about its downfall, his most controversial proposition is the "superior economic efficiency" of socialism over "fettered" or regulated welfare capitalism, and the probable compatibility of socialism with democracy. He attempts to show that socialism is not only theoretically possible, but practical in principle and relatively efficient.

Wright, Randall

TI "Involuntary" Unemployment in Economics with Efficient Risk Sharing. **AU** Rogerson, Richard; Wright, Randall.

PD October 1987. **TI** The Observational Implications of Labor Contracts in a Dynamic General Equilibrium Model. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-21; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 32. **PR** No Charge. **JE** 824, 832, 023. **KW** Labor Market. Contract Theory. Employment.

AB This paper will argue that appreciating long-term contracts is critical for our understanding of a variety of economic phenomena, precisely because they are a facade. The approach is rather different from that which has typically been pursued in the past. Instead of starting with an inefficient set of markets or other institutions and examining the extent to which contracts might improve things, as was the program in Barro and in the standard implicit contract literature, the idea here is to introduce employment contracts into an economy that was efficient without them. By construction, these contracts will have no effect on the real allocation, but it will be shown that they can make the outcome appear different (which is literally the idea behind a facade, of course). In particular, when agents engage in trade using long-term labor contracts, the equilibrium behavior of real wages, profits, and securities market variables can be dramatically altered even though output, employment, consumption, and hence welfare remain the same.

TI On Money as a Medium of Exchange. **AU** Kiyotaki, Nobuhiro; Wright, Randall.

TI Optimal Firm Size, Taxes, and Unemployment. **AU** Burdett, Kenneth; Wright, Randall.

TI The Effects of Productivity Risk on the Expected Utility and Sectoral Allocation of Workers. **AU** Gaston, Noel; Wright, Randall.

TI Subsidization and Stabilization: Optimal Policy over the Business Cycle in the Spirit of Kaldor, Frisch, and Meade. **AU** Puhakka, Mikko; Wright, Randall.

Wurzel, Eckhard

PD March 1988. **TI** Distribution of Single-Spell Durations in Sample Designs with Time Aggregated Data. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A 162; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** No Charge. **JE** 824, 212, 211. **KW** Time Series Aggregation. Unemployment Duration. Misspecification. Parameter Estimates. Bias.

AB Data on unemployment duration are frequently time aggregated in the sense that only intervals are known for the start or exit dates of the spells. Neglecting this fact for continuous-time processes leads to a misspecification of the distribution of observed spells and can produce biased parameter estimates. In this paper we consider the distribution of single continuous-time spells for sample designs with time aggregated data.

Wykoff, Frank

TI Energy, Obsolescence, and the Productivity Slowdown. **AU** Hulten, Charles; Robertson, James W.; Wykoff, Frank.

Yamada, Tadashi

TI The Effects of Japanese Social Security Retirement Benefits on Personal Savings and Elderly Labor Force Behavior. **AU** Yamada, Tetsuji; Yamada, Tadashi.

Yamada, Tetsuji

PD July 1988. **TI** The Effects of Japanese Social Security Retirement Benefits on Personal Savings and Elderly Labor Force Behavior. **AU** Yamada, Tetsuji; Yamada, Tadashi. **AA** Yamada, Tetsuji: Rutgers University. Yamada, Tadashi: The University of Tsukuba. **SR** National Bureau of Economic Research Working Paper: 2661; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 915, 826, 921, 824. **KW** Japan. Savings. Social Security. Retirement. Elderly.

AB Using Japanese annual time series data covering the period from 1946 to 1982, this paper shows that social security wealth depresses personal savings. The effect was a reduction of approximately 143 thousand yen per capita wealth in real terms from 1970 to 1980. However, declining labor force participation of the elderly (i.e., earlier retirement), stimulates personal saving by an estimated 12 thousand yen over the same period. The study found that the benefit effect dominates the retirement effect. In addition, this study has identified a negative interdependency between the personal savings and labor retirement behaviors of the elderly; that is, an individual saves more before retirement if he expects to stay a shorter time in the labor market, and vice versa.

Yao, Shuntian

TI Gold, Liquidity and Secured Loans in a Multistage Economy. Part I: Gold as Money. **AU** Shubik, Martin; Yao, Shuntian.

Ye, Yinyu

TI A Centered Projective Algorithm for Linear Programming. **AU** Todd, Michael J.; Ye, Yinyu.

Yeldan, Erinc

TI Optimal Adjustment to Trade Shocks under Alternative Development Strategies. **AU** Adelman, Irma; Yeldan, Erinc.

Yohn, Frederick O. Jr

TI Measuring Household Saving: Recent Experience from the Flow of Funds Perspective. **AU** Wilson, John F.; Freund, James L.; Yohn, Frederick O. Jr; Lederer, Walther.

Younes, Yves

PD October 1987. **TI** Equivalence Between the Core and the Set of Competitive Equilibria in Overlapping Generations and Imcomplete Market Models with Many Agents. A. Overlapping Generations Models without Money. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 87-23; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 27. **PR** No Charge. **JE** 021. **KW** Competitive Equilibrium. Incomplete Market. Overlapping Generations. Coalition.

AB The very definition of a competitive equilibrium (C.E.) for an incomplete markets structure (R. Radner (1972)) calls for two questions: (i) As a C.E. is not Pareto optimal relatively to the set of feasible allocations compatible with the market structure, one may ask why agents do not coordinate their trades in order to get a Pareto optimal allocation (relatively to the market structure), (ii) One may ask why, for a C.E. with respect to an incomplete market structure, one requires that each consumer faces many budgetary constraints and not one.

Yourougou, Pierre

TI The Effects of the 1986 Tax Reform Act on the Profitability and Risk of Commercial Banks. **AU** Grammatikos, Theoharry; Yourougou, Pierre.

Zender, Jaime

TI Capital Structure and Dividend Irrelevance with Asymetric Information. **AU** Dybvig, Philip; Zender, Jaime.

Ziegelman, Avi

TI Income Tax in the Industrial Sector. **AU** Sadka, Efraim; Ziegelman, Avi.

Zieschang, Kimberly D.

TI Aggregation Consistent Restriction Based Improvement of Local Area Estimators. **AU** Randolph, William C.; Zieschang, Kimberly.

PD May 1988. **TI** The Characteristics Approach to the Problem of New and Disappearing Goods in Price Indexes. **AA** United States Department of Labor, Bureau of Labor Statistics, Office of Prices and Living Conditions. **SR** Bureau of Labor Statistics Working Paper: 183; 441 G Street Northwest, Washington D.C. 20212 Room 2127. **PG** 21. **PR** No Charge. **JE** 227, 212, 211. **KW** Reservation Prices. Price Index. Commodities. Hedonic Prices.

AB In constructing price indexes the problem of varying commodity availability over situations compared arises in a number of contexts, including technological change, seasonal goods, and spatial comparisons. Franklin Fisher and Karl Shell (1972) have provided the currently accepted theoretical approach by imputing the reservation price(s) of the missing commodity(ies). The problem with the Fisher-Shell approach is that little success has been achieved in developing methods to implement it in practice. Much greater practical success has been achieved using the hedonic methods pioneered by Court (1939) and advanced by Griliches (1961) and many others to adjust for the change in characteristics as new varieties of products replace old ones. The theoretical underpinnings of hedonic methods have been somewhat more controversial. In this paper I establish a condition under which the reservation price approach can be characterized in terms of a type of hedonic, characteristics-based approach to the new and disappearing commodities problem.

Zilcha, Itzhak

TI Aggregate and Distributional Effects of Social Security. **AU** Karni, Edi; Zilcha, Itzhak.

PD May 1988. **TI** Risk Aversion in Nash Bargaining Problem with Risky Outcomes and Risky Disagreement Outcome. **AU** Zilcha, Itzhak; Safra, Zvi. **AA** Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 18-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 13. **PR** No Charge. **JE** 026, 022. **KW** Bargaining. Risk. Risk Aversion. Nash Bargaining Problem.

AB We consider here the role of risk aversion in the Nash bargaining game with risky outcomes. We generalize the results of Roth and Rothblum (1982) to the case where the disagreement outcome is risky as well. It is shown that in such a case the main result of Roth-Rothblum, concerning whether more risk aversion is a disadvantage, depends crucially upon the "degree of change" in the risk aversion.