

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 January 1990. **TI** Financing Losers in Competitive Markets. **AU** Abel, Andrew B.; Mailath, George J. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences Working Paper: 90-02; 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** 313, 521, 522, 311. **KW** Financial Market. Initial Public Offering. Common Knowledge. Asymmetric Information. Capital Markets.

AB Projects with negative expected value cannot obtain financing in competitive capital markets if all potential investors are risk neutral and have identical beliefs about the distribution of the project's net revenue. We present a series of examples with heterogeneous beliefs in which it is possible for a project to obtain financing even though all investors in the project believe, conditional on the project being undertaken, that the project has a negative expected value. An important feature of the examples is that the differences in beliefs are due only to differences in information, and are not simply arbitrary unexplained differences in opinions.

PD March 1990. **TI** Asset Prices Under Habit Formation and Catching Up With the Joneses. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 3279; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 18. **PR** \$2.00. **JE** 921, 313, 022. **KW** Utility Functions. Consumption. Asset Prices. Consumption Growth. Equity Premium.

AB This paper introduces a utility function that nests three classes of utility functions: (1) time-separable utility functions; (2) "catching up with the Joneses" utility functions that depend on the consumer's level of consumption relative to the lagged cross-sectional average level of consumption; and (3) utility functions that display habit formation. Closed-form solutions for equilibrium asset prices are derived under the assumption that consumption growth is iid. The equity premia under catching up with the Joneses and under habit formation are, for some parameter values, as large as the historically observed equity premium in the United States.

Abraham, Katharine G.

PD October 1989. **TI** Restructuring the Employment Relationship: The Growth of Market-Mediated Work Arrangements. **AA** University of Maryland, College Park. **SR** University of Maryland Department of Economics Working Paper Series: 89-33; Department of Economics,

University of Maryland, College Park, MD 20742. **PG** 49. **PR** no charge. **JE** 821, 825, 824. **KW** Labor Market. Internal Market. Employment. Productivity.

AB During the past few years, considerable interest has been focused on the growing use of a variety of alternative work arrangements that have in common the substitution of market-mediated transactions for direct employment relationships. These include temporary employment, production subcontracting, and contracting out for a variety of business support services. One of this paper's main objectives is to sort out, albeit in a rough way, the relative contributions of the desire for flexibility in staffing levels, the ability to reduce per hour labor costs and economies of scale in the provision of specialized services to employers' use of market-mediated work arrangements. I also consider whether changes in the strength of any or all of these motivations can plausibly account for the growing prevalence of these work arrangements over the past decade.

Abreu, Dilip

PD May 1989. **TI** Renegotiation and Symmetry in Repeated Games. **AU** Abreu, Dilip; Pearce, David; Stacchetti, Ennio. **AA** Abreu: Harvard University. Pearce: Yale University. Stacchetti: Stanford University. **SR** Yale Cowles Foundation Discussion Paper: 920; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 35. **PR** \$2.00. **JE** 026. **KW** Repeated Games. Negotiation. Bargaining Theory. Symmetric Game. Monitoring.

AB It seems reasonable to suppose that in repeated games in which communications is possible, play is determined through a process of negotiation and renegotiation as events unfold. In the absence of a satisfying theory of players' bargaining power, it is unclear how to model this process. Symmetric repeated games are an important class in which the problem is less troublesome. Whatever its source, bargaining power is presumably the same for all players in a symmetric game. We take equal bargaining power to mean that a player can mount a credible objection to a continuation equilibrium in which he receives a particular expected present discounted value, if there are other self-enforcing agreements that never give any player such a low continuation value after any history. This is formalized in a solution concept called consistent bargaining equilibrium.

Accardo, J.

PD January 1990. **TI** Approximation des Valeurs Propres de la Matrice de Covariance d'un Processus Stationnaire. **AA** Universite Lille I et CREST-ENSAE. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9003; INSEE,

Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. PG 60. PR no charge. JE 211. KW Eigenvalues. Stationary Process. Covariance Matrix.

AB In this paper, we describe several results on eigenvalues of the covariance matrix of a stationary process: exact or approximate determination of the eigenvalues, asymptotic study of their empirical distribution, limit properties of the maximal eigenvalue.

PD January, 1990. TI Valeurs Propres de la Matrice de Covariance d'un Processus Stationnaire une etude Numerique. AU Accardo, J.; Bertail, P. AA Accardo: Universite Lille I et CREST-ENSAE. Bertail: INRA et CREST-ENSAE. SR Unite de Recherche Document de Travail ENSAE/INSEE: 9004; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. PG 50. PR no charge. JE 211. KW Eigenvalues. Stationary Process. Covariance Matrix. Asymptotic Theory.

AB In this paper we study the finite sample and the asymptotic properties of the eigenvalues of an empirical covariance matrix computed from observations of a time process. These eigenvalues may be seen as consistent estimates of the eigenvalues of the theoretical covariance matrix, at least in the stationary case. We give several results on the biases, the precisions, the approximated distributions, the behaviors of the minimal and maximal eigenvalues.

Adelman, Irma

PD July 1989. TI Is Structural Adjustment with a Human Face Possible? The Case of Mexico. AU Adelman, Irma; Taylor, J. Edward. AA Adelman: University of California, Berkeley. Taylor: University of California, Davis. SR University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 500 Rev.; 207 Giannini Hall, University of California, Berkeley, Berkeley, CA 94720. PG 36. PR \$7.20. JE 225, 121, 133, 113. KW Economic Policy. International Debts. Social Accounting Matrix. Agricultural Policies. Mexico.

AB The present paper attempts to model structural adjustment patterns in a single, middle-income oil exporter, Mexico. It explores the economy wide costs, in terms of economic growth, income inequality and poverty, of Mexico's economic stabilization policies of the 1980s. On the basis of counterfactual simulation, it also explores the likely impacts of alternative adjustment strategies. This analysis utilizes a modified Social Accounting Matrix (SAM) approach designed to overcome one of the major shortcomings of the conventional SAM: the assumption of unitary expenditure elasticities in household accounts. The base model is calibrated to track the overall and sectoral growth performance of the Mexican economy from 1980 to 1986 and becomes the foundation upon which our policy experiments are built. The present paper is part of an ongoing study of economy wide impacts of alternative structural adjustment policies in Mexico.

PD December 1989. TI Should There be a Marshall Plan for Eastern Europe. AA University of California at Berkeley. SR University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 525; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. PG 36. PR \$7.20. JE 113, 112, 121. KW Marshall Plan. Eastern Europe. Economic Development. Economic Reform. Developing

Countries.

AB The case for massive economic assistance by the United States to Eastern European countries in support of their political liberalization rests on the following propositions: (1) it is in our self-interest to support the political liberalization sweeping eastern Europe, both in order to win the ideological contest between the two political and economic systems and to reap the dividends of peace through changes in the level and structure of our government expenditures; (2) political liberalization without better economic performance will invite a political backlash in Eastern Europe; and (3) economic assistance is necessary to enable the restructuring to take place. I shall take the first proposition for granted and concentrate on what the experience of economic development in developing countries has to teach us about the other two propositions.

Aghion, Philippe

PD May 1989. TI A Model of Growth through Creative Destruction. AU Aghion, Philippe; Howitt, Peter. AA Aghion: Massachusetts Institute of Technology. Howitt: University of Western Ontario. SR Massachusetts Institute of Technology Department of Economics Working Paper: 527; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 49. PR not available. JE 111, 023. KW Economic Growth. Growth Model. Technology. Capital. Developed Countries.

AB This paper presents a model of endogenous stochastic growth, based on Schumpeter's idea of creative destruction. We begin from the belief, supported by many empirical studies starting with Solow (1957), that a large proportion of economic growth in developed countries is attributable to improvement in technology rather than the accumulation of capital. The paper models technological progress as occurring in the form of innovations, which in turn result from the activities of research firms. We depart from existing models of endogenous growth (Romer, 1986, 1988; and Lucas, 1988) in two fundamental respects. First, we emphasize the fact that technological progress creates losses as well as gains, by rendering obsolete old skills, goods, markets, and manufacturing processes. Our second departure is that we view the growth process as discontinuous.

PD June 1989. TI Renegotiation Design Under Symmetric Information. AU Aghion, Philippe; Dewatripont, Mathias; Rey, Philippe. AA Aghion: Massachusetts Institute of Technology. Dewatripont: Universite Libre de Bruxelles and Massachusetts Institute of Technology. Rey: INSEE and Massachusetts Institute of Technology. SR Massachusetts Institute of Technology Department of Economics Working Paper: 522; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 50. PR not available. JE 022, 026. KW Renegotiations. Contracts. Investment.

AB It has been emphasized that, when some relevant variables are not contractible, the possibility of contract renegotiation may prevent achieving desirable allocations which could be implemented otherwise. We analyze a situation where renegotiation is always possible, but contracts can influence the renegotiation process; we show that some flexibility in the choice of this process allows us to achieve efficiency in a variety of situations, including optimal risk-sharing and investment decisions.

PD September 1989. TI Renegotiation Design with

Unverifiable Information. AU Aghion, Philippe; Dewatripont, Mathias; Rey, Philippe. AA INSEE. SR Unite de Recherche Document de Travail ENSAE/INSEE: 8912; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. PG 72. PR no charge. JE 026. KW Incomplete Contracts. Renegotiation. Mechanism Design. Contracts.

AB It has been emphasized that, when some relevant variables are not contractible, the possibility of contract renegotiation may prevent achieving desirable allocations which could be implemented otherwise. We analyze a situation where renegotiation is always possible, but contracts can influence the renegotiation process; we show that some flexibility in the choice of this process allows us to achieve efficiency in a variety of situations, including optimal risk-sharing and investment decisions.

PD October 1989. TI Government Domestic Debt and the Risk of Default: A Political-Economic Model of the Strategic Role of Debt. AU Aghion, Philippe; Bolton, Patrick. AA Aghion: Massachusetts Institute of Technology and DELTA, Paris. Bolton: Harvard University and Laboratoire d'Econometrie de l'Ecole Polytechnique, Paris. SR Massachusetts Institute of Technology Department of Economics Working Paper: 541; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 44. PR not available. JE 321, 025, 322. KW Fiscal Policy. Social Choice. Public Debt. Political Parties.

AB This paper focuses on the question of how differences in income and asset-holdings give rise to differences in preferences concerning fiscal policy and investigates how democratic political institutions, within a two-party system, solve the social choice problem of what fiscal policy to implement when voters have conflicting preferences. It is assumed that the political party in power pursues the interests of its own constituency; in particular the left-wing party identifies with the interests of low-income voters, and the right-wing party represents the high income voters. These party objectives give rise to fiscal policies where the left-wing party favors large government expenditures on public goods with concomitant high levels of taxation, and the right-wing party favors low levels of expenditure and low taxes.

Ahearne, John F.

PD July 1988. TI Why Federal Research and Development Fails. AA Resources for the Future. SR Resources for the Future Energy and Materials Division Discussion Paper: EM88-02; Energy and Materials Division, Resources for the Future, 1616 P St. NW, Washington D.C. 20036. PG 32. PR \$5.00 (U.S. funds only). JE 723, 621, 322, 614. KW Research and Development. Government Spending. Research Funding. Energy. Public Utilities.

AB Large research and development programs undertaken by the U.S. federal government often seem to fail. Mitigating this problem would be desirable if only because large R&D projects continue to be performed: the Strategic Defense Initiative, the Space Station, and the Superconducting Supercollider are examples. From 1971 to 1982 \$35 billion in federal funds went to energy R&D in particular, with almost \$15 billion to nuclear programs. Examination of energy R&D program failures, especially the Clinch River Breeder Reactor, demonstrates four major flaws in the federal R&D process. Three major changes are proposed to reduce the probability of future failure.

Aizenman, Joshua

PD June 1989. TI Strategic Investment in a Debt Bargaining Framework. AU Aizenman, Joshua; Borensztein, Eduardo. AA Aizenman: The Hebrew University. Borensztein: International Monetary Fund. SR National Bureau of Economic Research Working Paper: 3019; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 37. PR \$2.00. JE 443, 441, 411. KW Debtor Nation. Debt Repayment. Trade Model. Bargaining. International Investment.

AB This paper analyzes the strategic role of investment from a debtor country's perspective. The framework is one in which, if the debtor country is unable to meet debt obligations, a bargaining regime determines the amount of debt repayment. In the context of a two country real trade model, debt repayment is equal to the trade surplus of the debtor. The outcome of the bargaining game will therefore be dependent (among other things) on the level of production in the debtor country. In this framework, the paper shows that productive investment may increase or decrease the bargaining power of the debtor country. This ambiguity appears to be fairly robust.

PD September 1989. TI World Integration, Competitive and Bargaining Regimes Switch: An Exploration. AA University of Chicago. SR National Bureau of Economic Research Working Paper: 3103; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 32. PR \$2.00. JE 421, 411, 423. KW Trade Theory. Bargaining. Competition. International Trade.

AB The purpose of this paper is to study the role of an endogenous switch from a competitive to a bargaining international equilibrium. We consider two trading blocks, which can engage in a free-market determined trade, or a bargaining dictated trade. Bargaining can be called for by either party, and it may involve a fixed real cost. We propose a framework in order to deal with these issues. We apply such a framework to a symmetric global environment, where the bargaining equilibrium is shown to offer an international diversification of the country specific shocks, whereas the competitive equilibrium retains the country specific nature of the shocks. The degree of trade dependency is shown to determine the risk diversification achieved via the bargaining process, the frequency of bargaining, and the volume of trade. An increase in the relative importance of the trade dependent activities is associated with greater international diversification of country specific shocks, and with a greater frequency of bargaining.

Alesina, Alberto

PD October 1989. TI Moderating Elections. AU Alesina, Alberto; Rosenthal, Howard. AA Alesina: Harvard University, NBER and CEPR. Rosenthal: Carnegie Mellon University and Massachusetts Institute of Technology. SR Massachusetts Institute of Technology Department of Economics Working Paper: 537; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 37. PR not available. JE 025. KW Voting. Legislature. Electoral Cycle.

AB This paper extends the spatial theory of voting to an institutional structure in which policy choices are a function of the composition of the legislature and of the executive. In an institutional setup in which the policy outcome depends upon relative plurality, each voter has incentives to be strategic since

the outcome depends upon how everybody else votes. To analyze equilibrium in this game between voters, we apply the refinements of Strong Nash and Von Neumann-Morgenstern stable ("Coalition Proof"). The model has several testable implications which seem consistent with some observed patterns of voting behavior in the United States and perhaps in other democracies in which the executive is directly elected.

Allen, Beth

PD December 1989. TI Costly Acquisition of (Differentiated) Information. AA University of Pennsylvania. SR University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 89-27; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. PG 17. PR no charge. JE 021. KW Exchange Economy. Prices. Information. Information Process. General Equilibrium Model.

AB Consumers' choices among many different types of information sub-sigma-fields are examined in a large, perfectly competitive pure exchange economy in which information serves as a consumption good as well as a device to aid in the maximization of state-dependent utility. Analysis of derived preferences over information and wealth (and the resulting value of information function) implies that individual demands for information are well defined and upper hemicontinuous even though these correspondences fail to be convex valued. Sufficient conditions are given for the consistency of information acquisition decisions so that there exist equilibrium price vectors for physical goods and continuous equilibrium price functions for information in a general equilibrium model.

PD February 1990. TI Information as an Economic Commodity. AA University of Pennsylvania. SR University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 90-03; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. PG 13. PR no charge. JE 026, 022, 213. KW Information Process. Information Sets. Differentiated Goods. Commodities.

AB Information is inherently a differentiated commodity displaying aspects of both vertical and horizontal product differentiation. The extent to which different types of information should be regarded as similar can be formalized by a metric and therefore a topology. This provides a framework for the consideration of many possible types of information in an infinite-dimensional commodity space. Other problems include indivisibilities (and hence nonconvexities), satiation, and price and wealth dependent preferences for information. Nevertheless, information can be made endogenous in a microeconomic model and the resulting equilibrium prices for information depend continuously on its type. Extensions and open questions are discussed.

Alon, Noga

PD December 1988. TI Star Arboricity. AU Alon, Noga; McDiarmid, Colin; Reed, Bruce. AA Alon: Tel Aviv University. McDiarmid: Oxford University. Reed: University of Waterloo. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88543-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300

Bonn 1, DEUTSCHLAND. PG 8. PR no charge. JE 213. KW Graph Theory. Star Arboricity.

AB A star forest is a forest all of whose components are stars. The star arboricity, $st(G)$ of a graph G is the minimum number of star forests whose union covers all the edges of G . The arboricity, $A(G)$, of a graph G is the minimum number of forests whose union covers all the edges of G . Clearly $st(G)$ is greater than or equal to $A(G)$. We show that for any graph G , $st(G)$ is greater than or equal to $A(G) + O(\log(\text{maximum degree of a vertex in } G))$.

Anand, Sudhir

PD September 1989. TI Food and Standard of Living: An Analysis Based on Sri Lankan Data. AU Anand, Sudhir; Harris, Christopher. AA Anand: St. Catherine's College, Oxford. Harris: Nuffield College, Oxford. SR Oxford Applied Economics Discussion Paper: 84; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. PG 58. PR not available. JE 921. KW Family Expenditures. Households. Consumer Economics. AB This paper investigates the problem of finding an ordinal indicator of the long-run welfare of households using household budget survey data. We argue that a major problem with any such indicator is that it is at best noisy, and that this noise will in certain cases lead to systematic errors. Specifically, we consider four potential welfare indicators: income per capita, total expenditure per capita, food expenditure per capita, and share of food in total expenditure.

Anderson, Simon P.

PD November 1989. TI Location Equilibria Under Alternative Solution Concepts. AU Anderson, Simon P.; de Palma, Andre; Hong, Gap-Seon. AA Anderson: University of Virginia. de Palma: Northwestern University. Hong: Korea Research Institute of Human Settlement. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 885; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. PG 28. PR no charge. JE 026, 022, 611, 132. KW Location Theory. Two-stage Game. Duopoly Model. Game Theory. Differentiated Products.

AB We provide a comparison of the location equilibria in a duopoly model under three alternative solution concepts. The first one is a simultaneous price and location game, the second is a two-stage location-then-price game. Third, we introduce a new solution concept, a two-stage price-then-location game. It is well known that no (pure strategy) equilibrium usually exists under the first two solution concepts when products are homogeneous. We show this is also true for the third concept. However, introducing sufficient product heterogeneity in a specific manner restores the existence of equilibrium in each case. We argue that, under certain "regularity" conditions, equilibrium locations are farther apart under the location-then-price game than in the simultaneous game.

Andrews, Donald W. K.

PD March 1990. TI Generic Uniform Convergence. AA Yale University. SR Yale Cowles Foundation Discussion Paper: 940; Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 22. PR no charge. JE 211. KW Consistency. Law of Large Numbers. Uniform

Convergence. Asymptotic Theory. Test Statistics. Estimators.

AB This paper presents several generic uniform convergence results that include generic uniform laws of large numbers. These results provide conditions under which pointwise convergence almost surely or in probability can be strengthened to uniform convergence. The results are useful for establishing asymptotic properties of estimators and test statistics. The results given here have the following attributes, (1) they extend results of Newey to cover convergence almost surely as well as convergence in probability, (2) they apply to totally bounded parameter spaces (rather than just to compact parameter spaces), (3) they introduce a set of conditions for a generic uniform law of large numbers that has the attribute of giving the weakest conditions available for iid contexts, but which apply in dependent non-identically distributed contexts as well, and (4) they incorporate and extend the main results in the literature in a parsimonious fashion.

Araoz, Julian

PD December 1989. **TI** Subadditivity, Ordered Structures and Integer Programming. **AA** Universidad Simon Bolivar, Caracas. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89620-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 6. **PR** no charge. **JE** 213. **KW** Integer Programming. Additive Systems.

AB The subadditive facet characterization of the convex hull of solution vectors of Additive System Problems and Ordered Semigroup Problems have been extended to problems over Ordered Multivalued Additive Systems. This result include new integer programming problems, since it handled problems with non-negative coefficients which combine restrictions of type greater than, equal to and less than. Particularly it include Bounded Integer Covering Problems and Bounded Integer Partitioning Problems which were not covered by the previous models.

Arnott, Richard J.

PD November 1989. **TI** Does Providing Information to Drivers Reduce Traffic Congestion?. **AU** Arnott, Richard J.; de Palma, Andre; Lindsey, Robin. **AA** Arnott: Boston College. de Palma: Northwestern University. Lindsey: University of Alberta and University of California, Irvine. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 864; J. L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 43. **PR** no charge. **JE** 933, 615. **KW** Traffic. Transportation. Externalities. Information System. Congestion. Urban Economics.

AB The purpose of this paper is to question the presumption that route guidance and information systems necessarily reduce traffic congestion, and to point out the need to consider the general equilibrium effects of information. A simple model of the morning rush hour is adopted in which commuters choose a departure time and one of two routes to work. While, expected travel costs are reduced by perfectly informing all drivers about route capacities, this is not necessarily the case if imperfect information is provided. Furthermore, if the number of drivers is random, both perfect and noisy information can raise expected costs. A heuristic explanation is that, absent tolls, congestion is an uninternalized externality. Information can cause drivers to change their departure times in such a way as

to exacerbate congestion.

PD May 1990. **TI** A Temporal and Spatial Equilibrium Analysis of Commuter Parking. **AU** Arnott, Richard J.; de Palma, Andre; Lindsey, Robin. **AA** Arnott: Boston College. de Palma: Northwestern University. Lindsey: University of Alberta. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 884; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 49. **PR** no charge. **JE** 933, 615. **KW** Traffic Congestion. Transportation. Traffic. Commuting. Toll Roads.

AB In major cities parking costs typically exceed automobile running costs, while the time to find a parking spot and walk to work can be comparable to driving time. Yet models of urban commuting have ignored parking completely. The purpose of this paper is to examine the effects of parking on morning rush hour congestion and to assess the relative merits of road tolls and parking fees as tools for congestion relief. The paper extends Vickrey's (1969) bottleneck road congestion model by assuming on-street parking is located along commuting routes radiating from the CBD. Absent pricing, drivers occupy parking spots in order of increasing distance from the CBD.

Asano, Takao

PD October 1989. **TI** An Optimal Algorithm for Finding a Minimum Clique Covering of a Circular-Arc Graph. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89610-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 21. **PR** no charge. **JE** 213, 214. **KW** Interval Graph. Clique Covering. Algorithms.

AB We present an algorithm for finding a minimum clique covering of a circular-arc graph. For a circular-arc graph represented by a family of n arcs on a circle, the algorithm requires $O(n \log n)$ time and $O(n)$ space. Furthermore, if the endpoints of the arcs are sorted in advance, it runs in $O(n)$ time. The algorithm is time-and-space optimal to within a constant factor.

PD January 1990. **TI** A Faster Algorithm for Finding a Maximum Weight Clique of a Circular-Arc Graph. **AA** Sophia University, Tokyo. **SR** Universitat Bonn Sonderforschungsbereich 303 Discussion Paper: 90624-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 19. **PR** no charge. **JE** 213, 214. **KW** Circular-Arc Graph. Dynamic Programming. Maximum Clique. Segment Tree. Computer Algorithm.

AB We present an algorithm for finding a maximum weight clique of a circular-arc graph. For a circular-arc graph represented by a set of n weighted arcs on a circle, the algorithm runs in $O(m \log n)$ time and $O(n)$ space, where m is the number of edges of the graph. This compares favorably with the existing fastest algorithm with $O(mn)$ time and $O(m)$ space.

Ashenfelter, Orley

PD December 1989. **TI** Negotiator Behavior and the Occurrence of Disputes. **AU** Ashenfelter, Orley; Currie, Janet. **AA** Ashenfelter: Princeton University. Currie: University of California, Los Angeles. **SR** Princeton Industrial Relations Section Working Paper: 260; Industrial Relations Section, Department of Economics, Princeton

University, Princeton, NJ 08544-2098. PG 17. PR \$1.00. JE 832, 833. KW Negotiations. Collective Bargaining. Arbitration.

AB It is generally recognized that possible gains from cooperation are not always realized because negotiating parties sometimes fail to reach agreement. Such negotiation failures are *ex post* inefficient and have long defied economist's attempts to explain them. In this paper we discuss breakdowns in collective bargaining when disputes are resolved by compulsory arbitration. We argue that the study of arbitration offers insights into the nature of negotiation failures which may be of general interest.

Ault, Hugh J.

PD August 1989. TI Taxing International Income: An Analysis of the U.S. System and its Economic Premises. AU Ault, Hugh J.; Bradford, David F. AA Ault: Boston College. Bradford: Princeton University. SR National Bureau of Economic Research Working Paper: 3056; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 43. PR \$2.00. JE 323. KW Taxation. International Transactions.

AB This paper describes the basic U.S. legal rules that govern the taxation of international transactions and explores the economic policies or principles they reflect. Particular attention is paid to the changes made by the Tax Reform Act of 1986, but it is impossible to understand the 1986 Act changes without placing them in the context of the general taxing system applicable to international transactions. The exposition is intended to be intelligible to readers with either legal or economic training.

Ausubel, Lawrence M.

PD June 1990. TI A Generalized Theorem of the Maximum. AU Ausubel, Lawrence M.; Deneckere, Raymond J. AA Northwestern University. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 899; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. PG 13. PR \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. JE 022. KW Maximum Theorem. Continuity. Value Function.

AB This paper generalizes the Theorem of the Maximum (Berge, 1963) to allow for discontinuous changes in the domain and the objective function. It also provides a geometrical version of the (generalized) theorem.

Bagwell, Kyle

PD April 1989. TI Oligopoly Limit Pricing. AU Bagwell, Kyle; Ramey, Garey. AA Bagwell: Northwestern University. Ramey: University of California, San Diego. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 829; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. PG 39. PR no charge. JE 611, 022. KW Limit Pricing. Barriers to Entry. Monopoly. Market Structure.

AB The basic notion of limit pricing involves an incumbent firm choosing a low price and thereby convincing a potential entrant that entry would be unprofitable. This informal idea becomes a complete theory of entry deterrence when two further issues are addressed. First, the linkage between the preentry price and the postentry profits of the entrant must be

made explicit. Second, true monopolies are certainly the exception, and any useful model of limit pricing must therefore be consistent with the existence of multiple, uncoordinated incumbents.

PD December 1989. TI The Sensitivity of Strategic and Corrective R&D Policy in Battles for Monopoly. AU Bagwell, Kyle; Staiger, Robert W. AA Bagwell: Northwestern University. Staiger: Stanford University and National Bureau of Economic Research. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 868; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 40. PR \$3.00 in the U.S.A. or Canada; \$ 5.00 via international mail. JE 611, 522, 621, 422. KW R&D. Business Investment. Monopoly. Patents. Subsidies.

AB See additional entry under this author.

PD December 1989. TI The Sensitivity of Strategic and Corrective R&D Policy in Oligopolistic Industries. AU Bagwell, Kyle; Staiger, Robert W. AA Bagwell: Northwestern University. Staiger: Stanford University and National Bureau of Economic Research. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 869; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 41. PR \$3.00 in the U.S.A. or Canada; \$ 5.00 via international mail. JE 422, 611, 621, 522. KW Game Theory. Uncertainty. Subsidies. Oligopoly.

AB See additional entry under this author.

PD January 1990. TI The Sensitivity of Strategic and Corrective R&D Policy in Oligopolistic Industries. AU Bagwell, Kyle; Staiger, Robert W. AA Bagwell: Northwestern University. Staiger: Stanford University. SR National Bureau of Economic Research Working Paper: 3236; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 41. PR \$2.00. JE 621, 323, 611, 422. KW Oligopoly. Technology. Subsidies. Product Markets. Taxation.

AB See additional entry under this author.

PD January 1990. TI The Sensitivity of Strategic and Corrective R&D Policy in Battles for Monopoly. AU Bagwell, Kyle; Staiger, Robert W. AA Bagwell: Northwestern University. Staiger: Stanford University. SR National Bureau of Economic Research Working Paper: 3235; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 40. PR \$2.00. JE 621, 323, 611, 422. KW Monopoly. Exports. Technology. Product Markets. Subsidies. Taxation.

AB We characterize the strategic and corrective role for R&D subsidies in an export market where R&D is an uncertain process and where the winner of the R&D competition monopolizes the market. Investments in R&D are assumed to induce either first order or mean-preserving second order shifts in the distribution of (i) a firm's costs, with the low cost firm then monopolizing the product market or, under a reinterpretation of the model, (ii) a firm's discovery dates, with the first firm to make the discovery enjoying patent protection of infinite duration. We show that, regardless of which form uncertainty takes in the R&D process, a national strategic incentive to subsidize R&D exists, but must be balanced against a national corrective incentive to tax R&D whenever a country has more than one firm involved in the R&D

competition.

PD February 1990. **TI** The Sensitivity of Strategic and Corrective R&D Policy in Oligopolistic Industries. **AU** Bagwell, Kyle; Staiger, Robert W. **AA** Bagwell: Northwestern University. Staiger: Stanford University. **SR** Stanford Hoover Institute Working Paper in Economics: E-90-1; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 49. **PR** not available. **JE** 411, 422. **KW** Trade Policy. R&D. Technology. Oligopoly. Subsidies. Commercial Policy.

AB We evaluate the sensitivity of the case for an R&D subsidy in an export sector when the outcome of R&D is uncertain and when the resulting product market is oligopolistic. Investments in R&D are assumed to induce either first order or mean-preserving second order shifts in the distribution of a firm's costs, with firms then competing in either prices or quantities in the product market. When R&D reduces the mean of a firm's cost distribution in the particular sense of first order stochastic dominance, we find using standard models of product market competition that a national strategic basis for R&D subsidies exists, whether firms choose prices or quantities.

PD June 1990. **TI** Capacity, Entry, and Forward Induction. **AU** Bagwell, Kyle; Ramey, Garey. **AA** Bagwell: Northwestern University. Ramey: University of California, San Diego. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 888; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 48. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 611, 514, 511. **KW** Entry Deterrence. Economic Capacity. Cost Function. Market Share.

AB We introduce avoidable fixed costs into the capacity and entry model of Dixit (1980) to produce a coordination problem among multiple postentry equilibria. Elimination of weakly dominated strategies makes it possible for the entrant to play a knockout strategy, consisting of a large capacity commitment which selects the entrant's preferred postentry equilibrium and drives the incumbent from the market. The incumbent must respond to the knockout threat by using judo tactics, involving a reduction in its capacity commitment. In subgame perfect equilibria which are robust to elimination of weakly dominated strategies, the incumbent must accept a market share smaller than the entrant's if avoidable fixed costs are sufficiently high, or cede the market to the entrant if avoidable fixed costs are higher still.

PD August 1990. **TI** Optimal Export Policy for a New Product Monopoly. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 898; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 47. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 422, 411, 022. **KW** Subsidies. Exports. Product Quality. Prices.

AB A new welfare-enhancing role is identified for a policy of export subsidization in a new product industry. An export subsidy policy promotes the (rational) perception that a high quality export can be provided at a relatively low price. Thus, an export subsidy generates a first order benefit to welfare by enabling a high quality export to be sold at a less distorted, high price. The subsidy will also introduce distortions into the price

of a low quality export and, when product quality is policy sensitive, the quality selection process. Since these choices are initially undistorted, however, the export country welfare loss arising from new distortions is of second order importance.

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** Cornell Center for Analytic Economics Working Paper: 88-11; Cornell University, Uris Hall, Floor 4, Ithaca, NY 14853-7601. **PG** 51. **PR** not available. **JE** 021. **KW** Sunspots. Equilibrium Allocations. Trade. General Equilibrium Theory.

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 the reduced certainty economy. It is also shown that, in general, there exist no continuous transitions from nonsunspot equilibria to sunspot equilibria.

Baldwin, Richard E.

PD September 1989. **TI** On the Growth Effects of 1992. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 3119; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 52. **PR** \$2.00. **JE** 422, 411, 111, 226. **KW** Trade Policy. Growth Theory. Growth Model. International Trade.

AB This paper demonstrates that several types of dynamic trade effects can be easily quantified, at least roughly. These dynamic effects on output are found to be much larger than the static effects measured by existing empirical studies of trade liberalizations. The paper expositis and measures the Ricardian dynamic trade effect (the link between trade and steady-state level of productive factors). It also expositis and measures the Grossman-Helpman dynamic trade effect (the link between trade and the steady-state rate of accumulation of productive factors) by calibrating two of the "new" growth theory models.

PD September 1989. **TI** The Stolper-Samuelson Theorem Reconsidered: An Example of Ricardian Dynamic Trade Effects. **AA** National Bureau of Economic Research and Columbia University. **SR** National Bureau of Economic Research Working Paper: 3110; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 20. **PR** \$2.00. **JE** 411, 422, 111. **KW** Trade Theory. Trade Policy. Capital Stock. Tariffs.

AB Standard trade theory views the capital stock as an endowment. However, trade policy can affect a country's steady-state capital stock. By ignoring the endogeneity of capital, standard analysis is incomplete and can be misleading. For instance, when capital in endogenous the Stolper-Samuelson theorem incorrectly predicts the long-run impact of a tariff on factor rewards in a 2-by-2 trade model. Moreover, the output effects of a trade policy can be greatly amplified by its indirect effect on the steady-state capital stock. Since this indirect effect may take a very long time to be fully realized, trade policy can have a long-lasting effect on growth. Ricardo first studied this link between trade and steady-state factor supplies.

Banerjee, Anindya

TI Estimating Euler Equations with Integrated Series.
AU Dolado, Juan; Galbraith, John W.; Banerjee, Anindya.

Barahona, Francisco

PD 1988. **TI** On Some Applications of the Chinese Postman Problem. **AA** University of Waterloo.
SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89559-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 18. **PR** no charge. **JE** 213. **KW** Chinese Postman Problem. VLSI Layout. Planar Multicommodity Flows. Linear Programming.

AB In this paper we survey some of the applications of the Chinese Postman Problem, namely, finding ground states of Ising spin glasses, via minimization, planar multicommodity flows, and max cut in graphs not contractible to $K(5)$. In the last Section we show how to formulate all these problems as linear programs of polynomial size.

Barro, Jason R.

PD February 1990. **TI** Pay, Performance and Turnover of Bank CEOs. **AU** Barro, Jason R.; Barro, Robert J. **AA** J. Barro: Analysis Group. R. Barro: Harvard University. **SR** National Bureau of Economic Research Working Paper: 3262; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 41. **PR** \$2.00. **JE** 512, 812, 312, 824. **KW** Commercial Banks. Wages. Chief Executive Officers. Labor Productivity. Labor Turnover.

AB We studied the relation of CEO pay and turnover to performance and characteristics of companies in a new data set that covers large commercial banks over the period 1982-87. For newly hired CEOs, the elasticity of pay with respect to assets is about one-third. As experience increases, the correlation between compensation and assets diminishes for about four years and then rises back to its initial value. We interpret these findings along the lines of Rosen's matching model, allowing for adjustments of compensation and bank assets and for possible dismissal of the CEO. For continuing CEOs, the change in compensation depends on performance as measured by stock and accounting returns.

Barro, Robert J.

PD September 1989. **TI** Economic Growth in a Cross Section of Countries. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 3120; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** \$2.00. **JE** 226, 111, 132, 851, 123. **KW** Growth Model. Human Capital. Growth Theory. Income Distribution.

AB In neoclassical growth models with diminishing returns to capital, a country's per capita growth rate tends to be inversely related to its initial level of income per person. This convergence hypothesis seems to be inconsistent with the cross-country evidence, which indicates that per capita growth rates for about 100 countries in the post-World War II period are uncorrelated with the starting level of per capita product. However, if one holds constant measures of initial human capital, measured by primary and secondary school enrollment rates, there is evidence that countries with lower per capita product tend to grow faster. Countries with higher human capital also have lower fertility rates and higher ratios of

physical investment to GDP. These results on growth, fertility, and investment are consistent with some recent theories of endogenous economic growth.

TI Pay, Performance and Turnover of Bank CEOs.
AU Barro, Jason R.; Barro, Robert J.

Basu, Kaushik

PD February 1990. **TI** Collusion in Finitely-Repeated Oligopolies. **AA** Princeton University and the Delhi School of Economics. **SR** Princeton Financial Research Center Memorandum: 111; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 33. **PR** \$3.00. **JE** 611, 511, 514. **KW** Oligopoly. Collusion. Cournot Game. Decision Theory. Market Structure. Corporate Strategy.

AB Explaining collusion in finitely repeated oligopoly is problematic because of the backward induction argument. The usual response to this has been to consider infinitely repeated games and treat these as approximations of long, finite repetitions or to introduce a modicum of irrationality in firm decision making. The present paper explores a third avenue which introduces some extensive form structure to the Cournot game itself. Hence the supergame constructed in this paper is one in which the stage game is itself an extensive form game. In particular, the stage game is a Cournot oligopoly, of the kind modeled by Saloner (1987), in which firms can observe each others initial production and respond by producing more before the product is sold on the market.

Batarce, Jaime Andres

PD March 1990. **TI** The Impact on the Brady Plan on Stockholders Wealth. **AA** St. John's University. **SR** New York University Economic Research Reports: 90-10; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 38. **PR** no charge. **JE** 433, 312, 121. **KW** Commercial Banks. Developing Countries. Debt Policy. International Debt.

AB On March 10th, 1989, U.S. Treasury Secretary Nicholas F. Brady proposed a major shift in the goals of the industrial world's Third-World debt policy. The new policy was to bring about a broad reduction in the outstanding debt by inducing banks to forgive part of it. This paper investigates how this change in strategy affects the expectations of investors holding bank equities. In short, I find strong evidence that prices of commercial banks fully reflect their exposure in developing countries. I also find strong evidence that the Brady plan had a positive effect on the stock of financial institutions with exposure in developing countries.

Bates, Charles E.

PD January 1990. **TI** Structural Stability and Trends in Economic Time Series. **AA** Johns Hopkins University. **SR** Johns Hopkins Department of Economics Working Paper: 239; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. **PG** 39. **PR** no charge. **JE** 221, 131, 132. **KW** Unit Roots. GNP. Time Trend. Time Series. Growth Rates. Economic Fluctuations.

AB Many economic time series have the appearance of shifting time trends. This paper investigates the extent to which such shifts are spurious. Such shifts correspond to changes in the parameter estimates on subsets of the data. A measure of the variation of such estimates is developed and is

called the Coefficient of Structural Instability. It is proved that an efficient estimator minimizes an asymptotic form of this instability measure for correctly specified models. This measure is used to examine the stability of the trend in log per capita GNP for four different estimators. Simulations demonstrate that the apparent shifts in this time series may be spurious. Even decade long shifts in growth rates as different as the 1950s and the 1960s are common for persistent, parsimonious autoregressive models whether stationary or integrated.

Baxter, Marianne

PD March 1990. **TI** Explaining Saving/Investment Correlations. **AU** Baxter, Marianne; Crucini, Mario J. **AA** University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 224; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 53. **PR** no charge. **JE** 441, 431, 423, 411. **KW** Saving. Investment. Current Account. Capital Mobility.

AB National saving and investment rates are highly positively correlated in virtually all countries. This fact is often viewed as puzzling, as it apparently implied a low degree of international capital mobility. This paper shows that the observed positive correlation between national saving and investment rates arises naturally within a quantitatively-restricted equilibrium model with perfect mobility of financial capital and a very high degree of physical capital mobility. The model is consistent with the fact that saving/investment correlations are larger for larger countries, but are not zero for small countries. In addition, the model is consistent with Sachs' (1981) empirical results which show that current account deficits are associated with investment booms.

Bean, Charles

PD January 1990. **TI** Ten Years of Mrs T. **AU** Bean, Charles; Symons, James. **AA** Bean: London School of Economics. Symons: University College London. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 370; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 78. **PR** no charge. **JE** 133, 131, 825, 824. **KW** Unemployment. Productivity. Unions. Macroeconomic Policy.

AB We argue that the 1970s were characterized by attempts to maintain a cooperative, low employment equilibrium in the face of considerable union power, through the use of incomes policies and neo-corporatist machinery. The 1980s saw a shift away from this, towards direct measures to limit union power. This, together with the adoption of tight macroeconomic policies, explains the initial rise in unemployment. Empirical evidence suggests that its persistence throughout the decade is due to the effect of prolonged unemployment on the search behavior of outsiders, rather than the insider mechanism emphasized by Blanchard and Summers, and others.

Bebchuk, Lucian Arye

TI The Effects of Insider Trading on Insiders' Reaction to Opportunities to "Waste" Corporate Value. **AU** Fershtman, Chaim; Bebchuk, Lucian Arye.

PD July 1990. **TI** The Effects of Insider Trading on Insiders' Choice Among Risky Investment Projects. **AU** Bebchuk, Lucian Arye; Fershtman, Chaim.

AA Bebchuk:

Harvard University and National Bureau of Economic Research. Fershtman: Tel Aviv University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 897; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 38. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 522, 514, 611. **KW** Principal-Agent Model. Corporations. Investment. Business Investment. Insider Trading.

AB This paper studies certain effects of insider trading on the principal-agent problem in corporations. Specifically, we focus on insiders' choice among investment projects. Other things equal, insider trading leads insiders to choose riskier investment projects, because increased volatility of results enables insiders to make greater trading profits if they learn results in advance of the market. This effect might or might not be beneficial, however, because insiders' risk aversion pulls them toward a conservative investment policy. We identify and compare insider's choices of projects with insider trading those without such trading.

Beeson, Patricia

PD March 1990. **TI** The Effects of Colleges and Universities on Local Labor Markets. **AU** Beeson, Patricia; Montgomery, Edward E. **AA** Beeson: University of Pittsburgh. Montgomery: Michigan State University. **SR** National Bureau of Economic Research Working Paper: 3280; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 24. **PR** \$2.00. **JE** 941, 824, 823, 226. **KW** Migration. Wages. Employment. Growth Model. Labor Market. Economic Growth. Regional Economics.

AB Despite the presence of anecdotal evidence linking regional growth and the presence of quality universities in such areas as the Silicon Valley in California and Route 128 in Boston, there have been few systematic studies of the relationship between universities and local economies. In this paper we examined the relationship between four measures of the quality or extent of activities of colleges and universities in an area and various measures of the local labor markets activity, including employment, income and migration.

Benabou, Roland

PD November 1989. **TI** Some Welfare Effects of Inflation. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 542; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 39. **PR** not available. **JE** 134, 133, 023. **KW** Inflation. Search Theory. Prices.

AB This paper examines the effects of inflation on the efficiency of the price system, output and welfare, through a model of monopolistic competition with consumer search and (S,s) price setting. Its results have relevance for both search theory and macroeconomics. In particular, it provides a foundation for the conventional wisdom linking higher inflation, through increased price dispersion, to more resources spent on search. It also brings to light some efficiency-improving effects, as well as others whose impact depends on preferences and market structure. The paper's theoretical analysis and numerical simulations thus deliver a message of caution against simple arguments about the "distortions" caused

by inflation.

Benavie, Arthur

PD May 1989. **TI** Optimal Stabilization Policy with an Interest-Equalization Tax in a Small Open Economy. **AU** Benavie, Arthur; Froyen, Richard. **AA** University of North Carolina, Chapel Hill. **SR** University of North Carolina Working Paper Series: 89-3; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 35. **PR** not available. **JE** 431, 441, 323, 321, 311. **KW** Interest Rate Parity. Interest Rates. Monetary Policy. Fiscal Policy. Taxes. Exchange Market.

AB Uncovered interest rate parity (UIP) severely constrains the ability of monetary and fiscal policy to achieve domestic stabilization. Policy effectiveness is significantly enhanced by incorporating an interest-equalization tax stabilizer into the framework. In the UIP case, the interest-equalization tax is an effective replacement for sterilized exchange market intervention in the case of imperfect asset substitutability.

Benhabib, Jess

PD April 1989. **TI** Growth Accounting and Externalities. **AU** Benhabib, Jess; Jovanovic, Boyan. **AA** New York University. **SR** New York University Economic Research Reports: 89-10; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 36. **PR** no charge. **JE** 229, 131, 111. **KW** Capital. Externalities. Increasing Returns. Growth Rates.

AB We reexamine the aggregate data on the growth of output, labor and capital, within the context of an explicit model that admits the possibility of an externality to the capital input. We consider three separate sources of evidence. Looking first at the annual post-war U.S. data, we find no evidence of the presence of increasing returns to scale in the aggregate production function, or of a large positive externality on the capital input. Second, like Romer, we also use the model to interpret the behavior of output and inputs over longer periods of time. Finally, we show that the apparent empirical validity of "Gibrat's Law" in the behavior of different countries' GNP series is also consistent with there being no externalities or increasing returns associated with either the capital or the labor input.

PD March 1990. **TI** A New Class of Solutions to Dynamic Programming Problems Arising in Growth Theory and Applications to Dynamic Games. **AU** Benhabib, Jess; Rustichini, Aldo. **AA** Benhabib: New York University. Rustichini: Northwestern University. **SR** New York University Economic Research Reports: 90-12; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 26. **PR** no charge. **JE** 111, 026, 022. **KW** Dynamic Programming. Dynamic Games. Growth Theory.

AB We provide exact solutions for a class of stochastic dynamic programming problems in growth theory involving pairs of constant relative risk aversion utility functions and multi-sector CES technologies. This generalizes the solutions for the well-known case of logarithmic utility coupled with Cobb-Douglas production functions. We are also able to incorporate depreciation schemes through a vintage capital approach. We then study applications of our results to dynamic

games.

PD April 1990. **TI** Vintage Capital, Investment and Growth. **AU** Benhabib, Jess; Rustichini, Aldo. **AA** Benhabib: New York University. Rustichini: Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 886; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** not available. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 111, 621, 131, 226. **KW** Vintage. Capital. Growth Theory. Technology. Investment.

AB We study the dynamics of growth and investment in a continuous time model with vintage capital. Vintage capital models may be characterized by non-exponential rates of depreciation and technical change and can incorporate "gestation lags" as well as "learning by doing". We investigate the effect of such features on the dynamics of investment and growth and show how they can contribute to explain the volatile nature of investment time series.

Bennett, Elaine

PD April 1990. **TI** Three Approaches to Bargaining in NTU Games. **AA** University of Kansas and University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 586; Department of Economics, 2263 Bunche, Los Angeles, CA 90024. **PG** 22. **PR** \$2.50. **JE** 026. **KW** Game Theory. Bargaining Theory. Noncooperative Games. Bargaining.

AB This paper presents a noncooperative model of bargaining in characteristic function games and relates its outcomes to those of a cooperative model and a bargaining theory model. Despite the differences in the approach of these three models and the resulting differences in the nature of their solutions, all three models make similar predictions of bargaining outcomes.

Bennett, Neil G.

PD September 1989. **TI** The Divergence of Black and White Marriage Patterns. **AU** Bennett, Neil G.; Bloom, David E.; Craig, Patricia H. **AA** Bennett and Craig: Yale University. Bloom: Columbia University. **SR** Columbia Department of Economics Working Paper: 443; Department of Economics, Columbia University, New York, New York 10027. **PG** 37. **PR** \$5.00. **JE** 921. **KW** Women. Marriage.

AB Our purpose in this paper is first, to examine patterns of first marriage among black and white women in the United States, and then, to assess the various factors that underlie these patterns. Three major differences exist between the first marriage patterns of black and white women: lower proportions of blacks marry than whites, the proportion of women who ever marry has declined substantially across cohorts of black women but comparatively modestly across cohorts of white women, and increased education is associated negatively, if only slightly, with the probability of ever marrying among white women, but is associated positively among black women. The observed racial divergence of marriage patterns is demonstrated to be consistent with three factors differentially experienced by blacks and whites: the marriage squeeze, labor market success, and out-of-wedlock childbearing.

TI Modeling American Marriage Patterns. **AU** Bloom,

David E.; Bennett, Neil G.

PD January 1990. **TI** Plotting Our Destiny: Interpreting Our Demographic Trajectory. **AU** -Bennett, Neil G.; Bloom, David E. **AA** Bennett: Yale University. Bloom: Columbia University. **SR** Columbia Department of Economics Working Paper: 458; Department of Economics, Columbia University, New York, New York 10027. **PG** 16. **PR** \$5.00. **JE** 841, 132. **KW** Forecasting. Demographics. Human Behavior.

AB We look towards the future at once with great anticipation and apprehension. Our curiosity about the life we have not yet lived or events yet to occur, a fundamental aspect of human behavior, often carries with it a bubbling excitement at the prospect of good times or perhaps an incapacitating fear of dire circumstances to follow. Sometimes we seek to minimize the uncertainty inherent in our future by gathering information, bits and pieces that serve as clues to potential outcomes. This is true not just for individuals, but for large group entities as well, such as corporations and government agencies. Forecasters have long exploited the power of demography in constructing their prediction. But just how far can we go in our efforts to understand the future? How potent is our arsenal of demographic data and techniques.

Bental, Benjamin

PD September 1988. **TI** Money and Capital Accumulation in Financially Repressed Economies. **AU** Bental, Benjamin; Kim, Joon-Kyung. **AA** Kim: Virginia Polytechnic Institute and State University. Bental: Technion, Israel Institute of Technology and University of California, San Diego. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E88-09-01; Working Paper Coordinator, Department of Economics, Sandy Hall, Blacksburg, Virginia 24061. **PG** 26. **PR** free by request. **JE** 311. **KW** Fiat Money. Developing Countries. Financial Markets. Capital. Credit Markets.

AB This paper discusses the role of money in the process of capital accumulation where financial markets are impeded by contract enforcement problems. In particular, in less developed countries (LDCs) creditors may know little about the repayment capability of potential debtors so that financial instruments other than money may not be acceptable to them. It is shown that investment and output can be raised by a discount window (DW) that issue loans in the form of circulating currency with which borrowers can purchase the resources they cannot obtain through direct transactions in the credit markets. It is also demonstrated that adequate lump sum taxes-cum-transfers along with the operation of the DW can support an allocation that is Pareto superior to the laissez-faire equilibrium allocation.

Bera, A. K.

PD February 1990. **TI** A Test for Conditional Heteroskedasticity in Time Series Models. **AU** Bera, A. K.; Higgins, M. L. **AA** Bera: University of Illinois, Champaign and University of Western Ontario. Higgins: University of Wisconsin, Milwaukee. **SR** University of Western Ontario Department of Economics Research Report: 9003; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 22. **PR** not available. **JE** 211. **KW** Heteroskedasticity. Time Series. ARCH Model. ARCH.

AB While testing for conditional heteroskedasticity and

nonlinearity, the power of the test in general depends on the functional forms of conditional heteroskedasticity and nonlinearity that are allowed under the alternative hypotheses. In this paper, we suggest a test for conditional heteroskedasticity/nonlinearity with the nonlinear autoregressive conditional heteroskedasticity (NARCH) model of Higgins and Bera (1989) as the alternative. Standard testing procedures are not applicable since our nonlinear ARCH parameter is not identified under the null hypothesis. To resolve this problem, we apply the procedure recently proposed by Davies (1987). Power and size of the suggested test are investigated through simulation and an empirical application of testing for ARCH in exchange rates is also discussed.

Berck, Peter

PD January 1990. **TI** Mathematical Appendices For: Reconciling the Von Hielbig and Differentiable Crop Production Functions. **AU** Berck, Peter; Helfand, Gloria E. **AA** Berck: University of California at Berkeley. Helfand: University of California at Davis. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 455a; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. **PG** 11. **PR** \$5.00. **JE** 711, 712. **KW** Production Function. Agricultural Inputs. Mathematical Models. Agriculture.

AB No abstract.

Berk, Jonathan

PD January 1990. **TI** The Timing of Information in a General Equilibrium Framework. **AA** Yale University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-271; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 45. **PR** no charge. **JE** 021, 026. **KW** Complete Markets. Information Process. General Equilibrium Model.

AB This paper addresses the question of how an endogenously determined information flow effects the model of dynamically complete markets. We find that the model is not robust to the latitude agents have in deciding when information is revealed. We also show that on the announcement of a change in the information flow, in anything but a complete market, prices will adjust to reflect the announcement. Finally, we give an example of a fully rational model in which prices fully reveal all information, and in equilibrium, an agent pays a strictly positive amount for new information.

Beron, Kurt J.

TI Tax Compliance: An Investigation Using Individual TCMP Data. **AU** Tauchen, Helen V.; Witte, Ann Dryden; Beron, Kurt J.

Bertail, P.

TI Valeurs Propres de la Matrice de Covariance d'un Processus Stationnaire une etude Numerique. **AU** Accardo, J.; Bertail, P.

Bertola, Giuseppe

PD January 1990. **TI** Target Zones and Realignment. **AU** Bertola, Giuseppe; Caballero, Ricardo J. **AA** Bertola: Princeton University. Caballero: Columbia University. **SR** Columbia Department of Economics Working Paper:

460; Department of Economics, Columbia University, New York, New York 10027. PG 16. PR \$5.00. JE 431, 432. KW Exchange Rates. European Monetary System.

AB Recent contributions emphasize that the presence of exchange rate target zones has important effects on the within-band behavior of exchange rates. We show that the implications of available models are strikingly inconsistent with European Monetary System data, and we propose a model of recurring realignments whose predictions are consistent with the evidence.

Besanko, David

PD November 1988. **TI** The Logit Model of Monopolistic Competition. **AU** Besanko, David; Perry, Martin K.; Spady, Richard H. **AA** Bellcore. **SR** Bellcore Economics Discussion Paper: 54; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. **PG** 18. **PR** not available. **JE** 022, 611. **KW** Monopolistic Competition. Differentiated Products.

AB Monopolistic competition is the term used to describe competition between firms which produce similar but not identical products. One of the important controversies in this literature concerns whether such competition will provide a sufficient variety of products from which consumers can choose. This paper examines this issue using the logit choice model to capture the difference between products in the eyes of consumers. We find that monopolistic competition results in too few firms and thus too few products from the viewpoint of consumers.

PD September 1989. **TI** Exclusive Dealing in a Spatial Model of Retail Competition. **AU** Besanko, David; Perry, Martin K. **AA** Besanko: Indiana University. Perry: Rutgers University. **SR** Bellcore Economics Discussion Paper: 55; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. **PG** 32. **PR** not available. **JE** 615, 611, 616, 022. **KW** Consumption. Retail Trade. Differentiated Products. Monopolistic Competition. Oligopoly.

AB In this paper we examine exclusive dealing in a model with brand differentiation by two manufacturers and spatial differentiation by retailers. With no exclusive dealing, there will be market boundaries between retailers. However, with exclusive dealing, each retailer carries only one brand and competes with its neighbors carrying the other brand. Thus, some consumers at any location will travel to the more distant retailer in order to purchase the other brand. Exclusive dealing will in general harm consumers because this intermingling brand and spatial differentiation will result in higher prices. Moreover, transportation costs will generally increase because consumers may have to travel further to obtain their preferred brand. However, if exclusive dealing results in much lower fixed cost per retailer, new entry can prevent transportation costs from increasing too much while reducing the total fixed costs of retailing.

PD November 1989. **TI** The Logit Model of Monopolistic Competition: Brand Diversity. **AU** Besanko, David; Perry, Martin K.; Spady, Richard H. **AA** Bellcore. **SR** Bellcore Economics Discussion Paper: 60; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. **PG** 22. **PR** not available. **JE** 611, 022. **KW** Monopolistic Competition. Differentiated Products. Product Innovation.

AB Monopolistic competition is the term used to describe

competition between firms which produce similar but not identical products. One of the important controversies in this literature concerns whether such competition will provide a sufficient variety of products from which consumers can choose. This paper examines this issue using the logit choice model to capture the difference between products in the eyes of consumers. We find that monopolistic competition results in too few firms and thus too few products from the viewpoint of consumers.

Besley, Timothy

PD December 1989. **TI** Taxation and Welfare in an Oligopoly with Strategic Commitment. **AU** Besley, Timothy; Suzumura, Kotaro. **AA** Besley: Princeton University. Suzumura: Hitotsubashi University. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 52; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. **PG** 26. **PR** no charge. **JE** 022, 024, 612, 323. **KW** Taxation. Oligopoly. Tax System.

AB This paper establishes comparative statics results in an oligopoly model with strategic commitment. In our model, firms compete in two stages. In the first (resp. second) stage, firm chooses strategic cost-reducing investment (resp. output). Taking an excise tax/subsidy as an exogenous shift parameter, the short-run as well as the long-run effect on output, the effect on cost-reducing investment, and the effect on second-best welfare are systematically examined. We identify the critical role played by the strategic substitutability of outputs and cost-reducing investments as well as obtaining a variant of the Le Chatelier principle in our model.

PD January 1990. **TI** Understanding Welfare Stigma: Taxpayer Resentment and Statistical Discrimination. **AU** Besley, Timothy; Coate, Stephen. **AA** Besley: Princeton University. Coate: Harvard University. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 42; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. **PG** 33. **PR** no charge. **JE** 911, 914, 921. **KW** Welfare Programs. Poverty. Consumer Economics.

AB Welfare stigma is widely regarded to be of central importance in understanding the impact of welfare programs in their goal of alleviating poverty. It affects both the decision to take-up benefits and the well-being of those who actually do. This paper develops alternative models of the determinants of welfare stigma. We identify two views; a statistical discrimination approach and a taxpayer resentment view. We discuss how each may be formalized and derive their implications. We then examine what they imply about the relationship between stigma and program design.

PD January 1990. **TI** Tax Compliance and Corruption Deterrence: The Role of Wage Incentives. **AU** Besley, Timothy; McLaren, John. **AA** Princeton University. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 44; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. **PG** 43. **PR** no charge. **JE** 822, 321, 916. **KW** Wage Policy. Tax System. Public Sector. Employment. Corruption.

AB This paper presents a simple model to evaluate

alternative payment schemes for tax inspectors in the presence of corruption. We identify three wage regimes. First, one could pay the same wage that a tax inspector could earn elsewhere - his reservation wage. Second, one could pay a wage which solves the moral hazard problem, i.e., deters bribery. This we call an efficiency wage, by analogy with recent models examined in macroeconomics. Third, the government could pay a wage below the reservation wage, at which only the dishonest become tax inspectors - the capitulation wage. We make precise the conditions under which each yields the greatest amount of tax revenues, net of administrative costs.

Bester, Helmut

PD July 1987. **TI** Moral Hazard and Equilibrium Credit Rationing: An Overview of the Issues. **AU** Bester, Helmut; Hellwig, Martin. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-125; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 34. **PR** no charge. **JE** 022, 311. **KW** Credit Rationing. Interest Rates. Bargaining. Collateral. Loans.

AB One of the more intriguing puzzles in microeconomics is presented by the phenomenon of credit rationing. If funds are so scarce as to require rationing, why do lenders not raise the interest that they demand? We survey recent developments that seek to explain this phenomenon by appealing to incentive problems in the relation between the borrower and the lender. A simple example, due to Stiglitz and Weiss, shows that under certain circumstances, lenders will not use their bargaining power to raise interest rates because the adverse incentive effects of such a move outweigh any direct effect on the lender's payoffs. To examine the robustness of this argument, we discuss how the analysis is affected by the use of collateral, variations in loan size and investment, or alternative forms of the finance contract.

Betancourt, Roger R.

PD February 1990. **TI** What Determines U.S. Retail Margins?. **AU** Betancourt, Roger R.; Gautschi, David A. **AA** Betancourt: University of Maryland, College Park. Gautschi: INSEAD, Fontainebleau, France. **SR** University of Maryland Department of Economics Working Paper Series: 90-2; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 43. **PR** no charge. **JE** 633, 611. **KW** Retail Trade. Profits. Industrial Organization. Market Structure.

AB In this paper we develop an economic framework for the empirical analysis of retail margins. This framework departs from the definition of profits and incorporates recent theoretical developments formalizing the role of distribution services in retail activities. Alternative approaches, based on a mark-up model and on a hedonic equation, are also considered. The data base is information on 49 retail sectors from the 1982 U.S. Census of Retail Trades. The results reject the hedonic approach and part of the previous specification of the mark-up model. They provide some support for the hypothesis of monopolistic competition as the relevant market structure in the retail sector and substantial evidence for the hypothesis that distribution services are the main determinants of retail margins.

Bhatia, Kul B.

PD March 1988. **TI** Tax Incidence in a Hierarchical Model. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 8801; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 33. **PR** no charge. **JE** 021, 022, 222. **KW** Taxes. General Equilibrium Model. Commodities. Production Economy.

AB Production hierarchies are common in input-output tables but have not been used much in analytical work on tax incidence. A general equilibrium model with two mobile factors and flexible production coefficients is set up for this purpose. Earlier studies generally assumed one factor and fixed coefficients. There is one intermediate good, a final good, and one with both final and intermediate uses. Some features of existing models with intermediate and final goods carry over to hierarchical technology, but results about incidence of factor and commodity taxes differ markedly even under severe restrictions on elasticities of substitution and other parameters.

PD October 1989. **TI** Rural-Urban Migration and the Structure of Production. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 8915; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 41. **PR** not available. **JE** 823, 824, 821, 022. **KW** Migration. Labor Mobility. Employment. Production. Open Economy. Wages.

AB Production linkages between the rural and urban sectors are incorporated into the Harris Todaro (HT) model. The two sectors interact in goods and labor markets, as in the original model, and directly in production. The input-output framework shows that even when expected urban wage goes up in a small open economy, there may be no outmigration from agriculture. Numerical illustrations for a closed and a small open economy, from a computable general equilibrium model suggest that intermediate goods can significantly alter migration flows and unemployment rates. Production linkages thus can be another policy instrument for dealing with HT-type rural-urban migration.

Bhattacharya, Utpal

PD December 1989. **TI** Insiders, Outsiders and Market Breakdowns. **AU** Bhattacharya, Utpal; Spiegel, Matthew. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-89-20; First Boston Series, Graduate School of Business, Columbia University, New York, New York 10027. **PG** 29. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** 313, 311. **KW** Financial Markets. Insider Trading. Regulations. Finance Theory.

AB This paper proposes a simple classical Walrasian framework for the analysis of manipulation in financial markets, and uses it to formalize the notion of a "breakdown in confidence" in the trading system. Such a phenomenon occurs when the outsiders refuse to trade with the insiders because the benefits of trade is outweighed by the informational disadvantage small outsiders have vis-a-vis big insiders. We demonstrate the robustness of our results by proving that the market collapse condition extends not only to the familiar linear strategy function, but to the whole class of feasible non-linear strategy functions. Implications for insider trading

regulation are sketched out.

Bikhchandani, Sushil

TI Optimal Search with Learning. AU Sharma, Sunil; Bikhchandani, Sushil.

Bittenbender, Sheri

PD August 1989. TI Harvard University's John F. Kennedy School of Government/Project 88 Conference: Harnessing Market Forces to Protect the Environment. AU Bittenbender, Sheri; Stavins, Robert. AA Harvard University. SR Harvard Energy and Environmental Policy Center Discussion Paper: M-89-02; Energy and Environmental Policy Center, J.F. Kennedy School of Government, Harvard University, 79 John F. Kennedy St., Cambridge, MA 02138. PG 50. PR \$7.50. JE 721, 722, 731. KW Environment. Natural Resources. Pollution.

AB The report examines 13 major natural resource and environmental problems facing the country, and proposes 36 specific policy recommendations to address them. A central theme in the Project 88 report is that inefficient natural resource use and environmental degradation could be reduced by ensuring that consumers and producers face the true costs of their decisions -- not just their costs, but the full social costs of their actions. Hence, many of the recommendations provide for the use of economic incentive mechanisms for the achievement of environmental goals -- tradeable permit systems to control industrial air pollutants; deposit-refund systems to manage containerizable hazardous waste; least-cost bidding at electrical utilities to encourage greater energy efficiency; removal of market barriers which promote inefficient resource use; and removal of unwarranted subsidies of environmentally destructive activities.

Black, Dan A.

PD January 1990. TI Self-Enforcing Contracts with Costly Mobility. AU Black, Dan A.; Lowenstein, Marti A. AA Virginia Polytechnic Institute and State University. SR Virginia Polytechnic Institute and State University Working Paper in Economics: E90-01-04; Working Paper Coordinator, Department of Economics, Pamplin Hall, Blacksburg, Virginia 24061. PG 21. PR free by request. JE 823, 833, 821. KW Labor Mobility. Labor Contracts. Labor Market.

AB In this paper we present a simple model of the employment relationship when workers find it costly to change jobs. We allow employers and workers to enter into implicit labor contracts, but in order to abstract from the role of reputations we require that contracts be self-enforcing. The labor market equilibrium that results exhibits many features that are consistent with current empirical findings.

Black, Stanley W.

PD November 1989. TI Transactions Costs and Vehicle Currencies. AA University of North Carolina, Chapel Hill. SR University of North Carolina Working Paper Series: 89-11; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. PG 19. PR not available. JE 431, 441. KW Transaction Costs. Foreign Exchange. Currency. Capital Flow.

AB Using a simple model of transactions costs in the interbank foreign exchange market and a model of vehicle

currency use, the interaction between transactions costs and vehicle currency use is explored. The impact of volume on bid-ask spreads is estimated from cross-section time series data on seven currencies. Data on transactions costs and the currency denomination of trade and capital flows is used to estimate changes in the attractiveness of using the U.S. dollar as a vehicle between 1980 and 1987. The data suggest a modest reduction in the attractiveness of the dollar as a vehicle.

Blackburn, Keith

PD October 1988. TI Monetary Policy and Policy Credibility Theories and Evidence. AU Blackburn, Keith; Christensen, Michael. AA Blackburn: University of Western Ontario. Christensen: University of Aarhus. SR University of Western Ontario Department of Economics Research Report: 8806; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 71. PR not available. JE 311, 026, 023. KW Monetary Policy. Inflation. Game Theory. Reputation. Repeated Games.

AB This survey performs a critical evaluation of the recent literature on monetary policy which emphasizes the theory of games as a natural characterization of centralized policy making. The dominant theme is the credibility hypothesis and its role in the success or otherwise of anti-inflationary policies. The principal concerns of the survey are as follows: (1) the interpretation of strategic interdependence between centralized policy makers and private economic agents; (2) the rules or institutional structure in the economy which determine the scope for discretionary opportunism on the part of policy makers; and (3) the design of informal incentive mechanisms which may substitute for formal commitments.

Blackburn, McKinley L.

PD November 1989. TI The Declining Economic Position of Less-Skilled American Males. AU Blackburn, McKinley L.; Bloom, David E.; Freeman, Richard B. AA Blackburn: University of South Carolina. Bloom: Columbia University. Freeman: Harvard University. SR Columbia Department of Economics Working Paper: 452; Department of Economics, Columbia University, New York, New York 10027. PG 40. PR \$5.00. JE 851, 824. KW Wage Differentials. Male Labor Supply. Education. AB This paper documents the substantial decline in the economic position of less skilled American males that has occurred since the early 1970's. The paper also explores a variety of potential explanations for the widening of earnings differentials between more and less educated white males. On the basis of these analyses, we draw several conclusions. First, our analyses indicate that industrial shift and deunionization account for non-negligible portions of the overall increase in educational wage differentials that occurred in the 1980's. Second, our analysis achieves greater success when we focus our aim on explaining the change in the growth rate of wage differentials between the 1970's and 1980's. Third, our analysis suggests that the 1970's and 1980's differed importantly in ways not captured by our analyses.

Blackorby, Charles

PD May 1990. TI A Welfarist Proof of Arrow's Theorem. AU Blackorby, Charles; Donaldson, David; Weymark, John A. AA University of British Columbia. SR University of British Columbia Department of Economics Discussion Paper:

90-16; #997-1873 East Mall, Vancouver, British Columbia V6T 1W5. PG 44. PR not available. JE 024, 025. KW Social Choice. Welfare Theory. Welfare Economics.

AB This article presents a proof of Arrow's Theorem which highlights the theorem's relationship to welfarism and which emphasizes its underlying geometric structure. In addition, this method of proof is adapted to provide a proof of a single-preference-profile version of Arrow's Theorem. The relationship between Arrowian social choice theory and Bergson-Samuelson welfare economics is also considered.

Blanchard, Olivier Jean

PD October 1989. TI The Aggregate Matching Function. AU Blanchard, Olivier Jean; Diamond Peter. AA Massachusetts Institute of Technology. SR Massachusetts Institute of Technology Department of Economics Working Paper: 538; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 44. PR not available. JE 824, 821, 131, 133. KW Labor Market. Unemployment. Wages. Job Vacancies.

AB We present a picture of the labor market, one with large flows of jobs and workers, and matching. We develop a consistent approach to the interaction among those flows and the stocks of unemployed workers and vacant jobs, and to the determination of wages. We estimate the matching function, using both aggregate data and data from manufacturing and find evidence of a stable matching process in the data. We examine the joint movements in unemployment, vacancies and wages, the Beveridge and Phillips curve relations, in the light of our model. We conclude that aggregate activity shocks rather than reallocation shocks dominate the movement of unemployment.

Blanchflower, David G.

PD January 1990. TI Working Internationally. AU Blanchflower, David G.; Oswald, Andrew J. AA Blanchflower: University of Surrey. Oswald: London School of Economics. SR London School of Economics Centre for Labour Economics Discussion Paper: 371; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. PG 25. PR no charge. JE 826, 122, 824. KW Developed Countries. Labor Markets. Unions. Unemployment. Labor Force.

AB The paper uses newly available International Social Survey Programme (ISSP) micro data on individuals to study work and the characteristics of labor market in eight countries (Australia, Austria, Germany, Great Britain, Italy, Switzerland and the USA). It examines unemployment, unionization, labor force participation, hours of work, earnings inequality and the determinants of earnings. The principal point to emerge from the data is the countries' similarities rather than their differences. Wages, for example, are explained by a common equation across nations.

PD January 1990. TI Unemployment and the Demand for Unions. AU Blanchflower, David G.; Crouchley, Robert; Estrin, Saul; Oswald, Andrew J. AA Oswald and Blanchflower: Dartmouth College, NBER and London School of Economics. Crouchley: University of Surrey. Estrin: London School of Economics. SR London School of Economics Centre for Labour Economics Discussion Paper: 372; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED

KINGDOM. PG 29. PR no charge. JE 824, 831. KW Labor Market. Wages. Employment. Trade Unions.

AB Why do people join open-shop unions when they would receive union wage rates even if they were not members? Why are unionization rates so low in the southeast of England? To address these questions, which we treat as interrelated, the paper considers the idea that unions offer insurance against victimization and arbitrary dismissal. Consistent with our theoretical approach, we find that union density is greatest, ceteris paribus, within establishments in areas of high unemployment.

PD January 1990. TI What Makes a Young Entrepreneur?. AU Blanchflower, David G.; Oswald, Andrew J. AA Dartmouth College, National Bureau of Economic Research and London School of Economics. SR London School of Economics Centre for Labour Economics Discussion Paper: 373; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. PG 43. PR no charge. JE 821, 824, 841, 921. KW Self-employment. Entrepreneurship. Inheritance. Liquidity Constraints.

AB The paper studies the factors which shape entrepreneurship among young adults. It finds, using data on a British birth cohort, that the probability of self-employment depends sensitively upon whether the individual ever received a gift or inheritance. Those who were given or inherited 5,000 pounds, for example, were approximately twice as likely, ceteris paribus, to set up in business. This is consistent with, and a new test of, recent results from the US stressing the importance of capital and liquidity constraints. The paper also evaluates a number of hypotheses suggested in the literature on small businesses.

PD February 1990. TI What Makes a Young Entrepreneur?. AU Blanchflower, David G.; Oswald, Andrew J. AA National Bureau of Economic Research, Centre for Labour Economics and Dartmouth College. SR National Bureau of Economic Research Working Paper: 3252; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 29. PR \$2.00. JE 813, 821, 521, 522. KW Labor Force. Inheritance. Liquidity Constraints. Small Businesses. Business Investment.

AB The paper studies the factors which shape entrepreneurship among young adults. It finds, using data on a British birth cohort, that the probability of self-employment depends sensitively upon whether the individual ever received a gift or inheritance. Those who were given or inherited 5,000 pounds, for example, were approximately twice as likely, ceteris paribus, to set up in business. This is consistent with, and a new test of, recent results from the US stressing the importance of capital and liquidity constraints. The paper also evaluates a number of hypotheses suggested in the literature on small businesses.

PD February 1990. TI Unemployment and the Demand for Unions. AU Blanchflower, David G.; Crouchley, Robert; Estrin, Saul; Oswald, Andrew J. AA Blanchflower: London School of Economics, NBER and Dartmouth College. Crouchley: University of Surrey. Estrin: London School of Economics. Oswald: Dartmouth College. SR National Bureau of Economic Research Working Paper: 3251; National Bureau of Economic Research, 1050 Massachusetts Avenue,

Cambridge, MA 02138. PG 29. PR \$2.00. JE 831, 833. KW Trade Unions. Unemployment. Insurance. Labor Turnover.

AB Why do people join open-shop unions when they would receive union wage rates even if they were not members? Why are unionization rates so low in the southeast of England? To address these questions, which we treat as interrelated, the paper considers the idea that unions offer insurance against victimization and arbitrary dismissal. Consistent with our theoretical approach, we find that union density is greatest, *ceteris paribus*, within establishments in areas of high unemployment.

Blau, Francine D.

PD August 1989. **TI** Wage and Employment Uncertainty and the Labor Force Participation Decisions of Married Women. **AU** Blau, Francine D.; Grossberg, Adam J. **AA** Blau: University of Illinois, Champaign. Grossberg: Trinity College. **SR** National Bureau of Economic Research Working Paper: 3081; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 42. **PR** \$2.00. **JE** 824, 821, 813. **KW** Female Labor Supply. Labor Force. Marriage. Wages.

AB Over the past 30 years, research on married women's labor force participation has concluded virtually without exception that the principal source of labor force participation rate growth for married women has been the concurrent growth of women's real wages. The experience of the 1970's suggests, however, that real wage growth cannot account for the increase in participation rates that occurred during that period. This paper argues that an important determinant of married women's current participation decisions is the level of uncertainty associated with expectations of future wages, and that high levels of uncertainty during the 1970's may have contributed substantially to the growth in participation that occurred during that time.

Blinder, Alan S.

PD September 1989. **TI** A Shred of Evidence on Theories of Wage Stickiness. **AU** Blinder, Alan S.; Choi, Don H. **AA** Blinder: Princeton University. Choi: Rice University. **SR** National Bureau of Economic Research Working Paper: 3105; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 17. **PR** \$2.00. **JE** 821, 023. **KW** Labor Markets. Wages. Wage Policy.

AB A small interview survey was undertaken to see how actual wage-setters would react to the central ideas of several economic theories of wage stickiness. Wage cuts were surprisingly prevalent in recent years, despite the booming economy. The strongest finding was that managers believe that perceptions of fairness play a major motivational role in labor markets; and that a "fair" wage policy is a good deal more complicated than simply not cutting wages. We also found substantial evidence for money illusion and against the adverse selection version of the efficiency wage model.

Blitzer, Charles R.

PD July 1989. **TI** An Economy Wide Energy Model for Egypt. **AU** Blitzer, Charles R.; Eckaus, R. S.; Lahiri, S. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 530; Department of Economics,

Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 33. **PR** not available. **JE** 121, 723, 113. **KW** Egypt. Developing Countries. Energy. Economic Policy.

AB This paper describes a model for the Egyptian economy that can be used in analyzing energy and other economic policy issues in the context of structural adjustment programs. The main features of the model are that it is economy-wide, multisectoral, dynamic, long-run, and obeys rules of economic efficiency, subject to exogenous constraints. The model projects the future levels of economic activity and energy supply and demand at regular intervals over a 25-year time horizon. By disaggregating the economy the model is able to investigate the important interactions of structural change with energy demand at a finer level of detail than in a fully aggregated model.

Bloom, David E.

TI The Divergence of Black and White Marriage Patterns. **AU** Bennett, Neil G.; Bloom, David E.; Craig, Patricia H.

PD November 1989. **TI** Modeling American Marriage Patterns. **AU** Bloom, David E.; Bennett, Neil G. **AA** Bloom: Columbia University. Bennett: Yale University. **SR** Columbia Department of Economics Working Paper: 451; Department of Economics, Columbia University, New York, New York 10027. **PG** 21. **PR** \$5.00. **JE** 841, 921. **KW** Marriage. Family. Demographics. Households.

AB This paper analyzes cohort marriage patterns in the United States in order to determine whether declining rates of first marriage are due to changes in the timing of marriage, changes in the incidence of marriage, or both. A parametric model that is well suited to the analysis of censored data is fit to information on marital status and age at first marriage derived from three independent data sets. An extended version of the model is also estimated in which its parameters are allowed to depend on social and economic variables. The results provide evidence that the incidence of first marriage is declining across cohorts and that the mean age at first marriage is increasing among those who do marry. In addition, education is the most powerful correlate of marriage timing, whereas race is the most powerful correlate of marriage incidence.

TI The Declining Economic Position of Less-Skilled American Males. **AU** Blackburn, McKinley L.; Bloom, David E.; Freeman, Richard B.

PD January 1990. **TI** The Economics of HIV Testing in Employment Settings. **AU** Bloom, David E.; Glied, Sherry. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 459; Department of Economics, Columbia University, New York, New York 10027. **PG** 9. **PR** \$5.00. **JE** 913, 833. **KW** AIDS. Medical Costs. Health Insurance.

AB Profit maximizing firms will only seek to require HIV testing among their employees when the benefits of testing outweigh its costs. Our analysis suggests that this is most likely to be the case for firms that already require their employees to undergo blood tests, for firms that recruit workers from populations in which the prevalence of HIV infection is relatively high, and for firms that are subject to relatively large increases in their health insurance and other employment costs if one of their employees subsequently develops AIDS. Our calculations indicate that most firms (especially small firms) are unlikely to find HIV testing cost-beneficial in purely financial terms. In addition, the incentives against testing are

strengthened in most states by laws that make it illegal either to require testing or to base employment decisions on the results of HIV tests.

TI Plotting Our Destiny: Interpreting Our Demographic Trajectory. AU Bennett, Neil G.; Bloom, David E.

Bodie, Zvi

PD September 1989. **TI** Pension Funds and Financial Innovation. AA Boston University. **SR** National Bureau of Economic Research Working Paper: 3101; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 50. **PR** \$2.00. **JE** 522, 521, 313. **KW** Pensions. Pension Plans. Securities.

AB Pension funds have played a critical role in the evolution of the markets for debt and equity securities and their derivatives in the U.S. over the last 15 years. The new securities and markets can largely be explained as responses to the investment demands of pension funds in an environment of increased interest rate volatility and tighter regulation.

Bolton, Patrick

TI Government Domestic Debt and the Risk of Default: A Political-Economic Model of the Strategic Role of Debt. AU Aghion, Philippe; Bolton, Patrick.

Bonanno, Giacomo

PD March 1990. **TI** On the Set-Theoretic Equivalence of Extensive-Form Games. AA University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 354; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 37. **PR** no charge. **JE** 026. **KW** Extensive Games. Game Theory.

AB We introduce a new game form, which we call the set-theoretic form, and show that a set-theoretic form can be associated with every extensive game. Since the map from extensive forms to set-theoretic forms is not one-to-one we use this fact to define a notion of equivalence of extensive games. We then describe a transformation which we call the interchange of contiguous simultaneous moves and show that it is possible to move from one game to any other game in the same equivalence class by using this transformation a finite number of times and without ever leaving the equivalence class.

Borensztein, Eduardo

TI Strategic Investment in a Debt Bargaining Framework. AU Aizenman, Joshua; Borensztein, Eduardo.

Bos, Dieter

PD November 1989. **TI** Employee Share Ownership and Privatisation: A Comment. AU Bos, Dieter; Nett, Lorenz. AA University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-263; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 5. **PR** no charge. **JE** 611, 833, 824, 821. **KW** Employee Ownership. Income. Perfect Equilibrium.

AB The comment refers to a paper by Grout published in the *Economic Journal* (1988). Grout's paper is concerned with the impact of employee shares on the net income of the employees. Analyzing a specific game he concludes that "workers in

aggregate do not gain from share ownership". This conclusion is not always true. Grout does not correctly apply the perfect equilibrium concept although he claims to do so. Choosing a particular specification within his model and determining the equilibrium of his game, we give an example where employees increase their net income by buying employee shares even in the worst possible case of a share price equal to the market value of the shares.

Bousquet, A.

PD October 1989. **TI** Analyse Microeconomique de la Demande d'Energie Application aux Industries Laitieres. AU Bousquet, A.; Ivaldi, M.; Ladoux, N. AA Bousquet: INRA-EDF et ENSAE-CREST. Ivaldi: GREMAQ. Ladoux: CEA. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9002; INSEE, Unité de Recherche. 1 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. **PG** 63. **PR** no charge. **JE** 921, 132, 723. **KW** Manufacturing. Dairy Products. Demand Functions. Expenditures. Consumption. Energy.

AB This paper provides a theoretically consistent approach to estimate demand relationships when zero expenditures occur. The econometric model is based on the Kuhn-Tucker conditions associated with the minimization program of costs and use the concept of virtual prices. The model proposed is closely related to the generalized Tobit model. We estimate the econometric model under internal consistency conditions and show that these conditions are equivalent to the requirement that the cost function is concave. The empirical analysis consists of estimating a Translog cost function for three energy inputs using a cross-section of individual French milk industries.

Boylan, Richard T.

TI Fictitious Play: A Statistical Study of Multiple Economic Experiments. AU El-Gamal, Mahmoud A.; Boylan, Richard T.

Bradford, David F.

TI Taxing International Income: An Analysis of the U.S. System and its Economic Premises. AU Ault, Hugh J.; Bradford, David F.

PD May 1990. **TI** What is National Saving?: Alternative Measures in Historical and International Context. AA Princeton University. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 54; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. **PG** 65. **PR** no charge. **JE** 221, 224, 122. **KW** National Savings. National Wealth. Asset Market.

AB Most discussion of national saving behavior is based on national income account data. This paper lays out some of the main alternative conceptions of saving and to present data comparing recent U.S. saving behavior with its own past and with that of other nations. I argue, in particular, that more attention should be paid to measures of national wealth at asset market values. The main empirical contribution is to pull together data from the national balance sheets on wealth at market value compiled for the United States by the Flow of Funds, Division of Board of Governors of the Federal Reserve System (1989) and by various agencies sources in three other countries for which market value figures could be found: Japan, Sweden, and the United Kingdom.

Brander, James A.

PD August 1989. **TI** Trade Adjustment Assistance: Welfare and Incentive Effects of Payments to Displaced Workers. **AU** Brander, James A.; Spencer, Barbara J. **AA** University of British Columbia. **SR** National Bureau of Economic Research Working Paper: 3071; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 24. **PR** \$2.00. **JE** 822, 811, 024. **KW** Social Welfare. Manpower Training. Employment. Public Policy.

AB We analyze the welfare effects of conditional trade adjustment assistance (i.e. assistance that is received only if displaced workers remain unemployed), and compare the conditional program with unconditional assistance. Taking the level of assistance as exogenous, we show that either the conditional or unconditional program may impose greater efficiency costs, depending on underlying parameters. We then introduce an explicit social welfare function and solve for the optimal level of assistance for each program. Finally, we compare the optimized values of the two programs. If the distribution of wage offers is uniform, the unconditional program is welfare superior.

Braun, Steven

TI Production Smoothing Evidence from Physical-Product Data. **AU** Krane, Spencer; Braun, Steven.

Bredenkamp, Hugh

PD December 1989. **TI** Fiscal Constraints of a Fixed Exchange Rate Regime. **AU** Bredenkamp, Hugh; Deppler, Michael. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/89/107; International Monetary Fund, Washington, DC 20431. **PG** 22. **PR** not available. **JE** 431, 311, 321, 432. **KW** Exchange Rates. Fiscal Policy. Monetary Theory. Budget Deficit. Policy Coordination.

AB The paper considers whether the implementation of a fixed exchange rate regime requires or implies binding constraints on fiscal policy. The main conclusions are that, from a country perspective, the effective constraint is on the degree of monetary financing, which bears an uncertain relationship to the size of the budget deficit; that, from a systemic perspective, the financial stability of the currency area can be ensured by making the monetary and fiscal authorities independent of one another; and that the case for coordination of fiscal policies, whatever its merits, is not enhanced by the creation of a fixed exchange rate regime.

Brennan, Michael

PD November 1989. **TI** Bond Covenants and the Valuation of Risky Debt: A New Approach. **AU** Brennan, Michael; Detemple, Jerome B.; Kalay, Avner. **AA** Brennan: University of California, Los Angeles. Detemple: Columbia University. Kalay: Tel Aviv University and the University of Utah. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-90-01; First Boston Series, Graduate School of Business, Columbia University, New York, New York 10027. **PG** 36. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** 522, 521, 541. **KW** Corporations. Corporate Debt. Bonds. Asset Prices. **AB** In this paper we analyze the role of minimum net worth constraints for the valuation and the incentive effects of

corporate debt. We provide a general characterization of the set of corporate contracts whose values are immune to the financial policies of the firm. An example of such a contract is a bond that reverts to equity when the asset (market) value falls below a prespecified level. We also study the properties of a particular class of reverting bond contracts which revert to equity when the accounting value of the assets of the firm falls below a prespecified level. The analysis demonstrates the importance of noise in accounting data as a source of risk for bond values and the relative unimportance of leverage ratios and of the risk of the underlying assets.

Brito, Dagobert L.

PD February 1990. **TI** Dynamic Optimal Income Taxation With Government Commitment. **AU** Brito, Dagobert L.; Hamilton, Jonathan H.; Slutsky, Steven M.; Stiglitz, Joseph E. **AA** Brito: Rice University. Slutsky and Hamilton: University of Florida. Stiglitz: Stanford University. **SR** National Bureau of Economic Research Working Paper: 3265; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** \$2.00. **JE** 323, 921, 321, 022. **KW** Income Taxes. Taxes. Taxation. Government Policy. Tax Policy.

AB The optimal income taxation problem has been extensively studied in one period models. This paper analyzes optimal income taxation when consumers work for many periods. We also analyze what information, if any, that the government learns about abilities in one period can be used in later periods to attain more redistribution than in a one period world. When the government must commit itself to future tax schedules, intertemporal nonstationarity of tax schedules could relax the self-selection constraints and lead to Pareto improvements. The effect of nonstationarity is analogous to that of randomization in one period models. The use of information is limited since only a single lifetime self-selection constraint for each type of consumer exists.

Brock, William A.

PD September 1989. **TI** Liquidity Constraints in Production Based Asset Pricing Models. **AU** Brock, William A.; LeBaron, Blake. **AA** University of Wisconsin, Madison. **SR** National Bureau of Economic Research Working Paper: 3107; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 17. **PR** \$2.00. **JE** 315, 313, 311, 132, 131. **KW** Credit Constraints. Asset Pricing Model. Economic Fluctuations. Simulation Model.

AB This paper explores the time series implications of introducing credit constraints into a production based asset pricing model. Simulations are performed choosing parameter values which generate reasonable values for aggregate fluctuations. These results show that mean reversion in simulated return series, measured by variance ratio tests, is enhanced with the introduction of binding credit constraints. Without these constraints there is very little evidence of mean reversion. This is consistent with financial market data where the weak evidence for mean reversion is stronger in small firm returns. Other tests are run on the simulated series including checking the standard deviation, skewness, and kurtosis. These other tests do not show strong differences between the constrained and unconstrained firms in the model.

Brown, E. Cary

PD October 1989. TI Episodes in the Public Debt History of the United States. AA Massachusetts Institute of Technology. SR Massachusetts Institute of Technology Department of Economics Working Paper: 540; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 33. PR not available. JE 131, 133, 322, 321. KW Public Debt. Government Debt. Fiscal Policy.

AB Prior to the Great Depression of the 1930's, debt of the United States government was created in connection with wars and substantially liquidated postwar through budget surpluses from tight fiscal policies. This paper reviews these periods of debt accumulation and repayment, separating the changes in the debt into those resulting from repayment (or accumulation) and those resulting from price changes. In the 19th century, and especially after the Civil War, the falling price level sharply increased the burden of the debt without a corresponding adjustment of interest rates. The opposite is nearer the truth initially after World War II, and surely from 1974 to the present.

Bruno, Michael

PD August 1989. TI Israel's Crisis and Economic Reform: A Historical Perspective. AA Bank of Israel. SR National Bureau of Economic Research Working Paper: 3075; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 54. PR \$2.00. JE 121, 133. KW Israel. Economic Reform. Public Debt. Developing Countries.

AB This article analyzes the roots of the deep crisis that has afflicted the Israeli economy since 1973 and the attempt at economic reform and recovery since 1985. All of these are discussed against the background of the long-term evolution in Israel's structure and growth process. At the center of the analysis lie the implications of an oversized government and especially the devastating effects on growth and inflation of the large and persistent public sector deficit on top of the growing tax and public expenditure levels. The norm of "living beyond one's means" at the public sector level has also severely affected the norms of behavior of the private, household as well as business, sectors.

Buschena, David E.

PD December 1989. TI The Creation of Dominant Firm Market Power in the Coconut Oil Export Market. AU Buschena, David E.; Perloff, Jeffrey M. AA University of California at Berkeley. SR University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 518; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. PG 34. PR \$6.80. JE 421, 431, 423. KW Market Power. Coconut Oil. Exports.

AB Legal and institutional changes that increased concentration in the Philippine coconut oil refining and exporting industries enabled the Philippines to exercise some of its potential dominant firm market power, raising the world price to 85 percent above the competitive level. If concerns about eating saturated fats cause the demand for coconut oil to fall slightly, the Philippine export revenues may increase; however, if U.S. demand for coconut oil in food uses falls by more than 20 percent, Philippine exports will fall.

Caballero, Ricardo J.

PD September 1989. TI Expenditure on Durable Goods: A Case for Slow Adjustment. AA Columbia University. SR Columbia Department of Economics Working Paper: 444; Department of Economics, Columbia University, New York, New York 10027. PG 16. PR \$5.00. JE 921, 023, 022. KW Durables. Permanent Income Hypothesis. Consumption. Wealth.

AB For more than half a decade the fact that expenditure on durables can be well approximated by a random walk has remained as a hidden puzzle, challenging almost any theory in which agents smooth the use of their wealth. This paper shows that once a non-parsimonious approach is used, or lower frequencies of the data are examined, the fact itself disappears, changes in durables expenditures reveal a degree of reversion consistent with the permanent income hypothesis (PIH), although this reversion occurs at a rate significantly slower than what is suggested by a frictionless PIH model.

PD December 1989. TI Heterogeneity and Output Fluctuations in a Dynamic Menu Cost Economy. AU Caballero, Ricardo J.; Engel, Eduardo M. R. A. AA Caballero: Columbia University. Engel: Universidad de Chile. SR Columbia Department of Economics Working Paper: 453; Department of Economics, Columbia University, New York, New York 10027. PG 28. PR \$5.00. JE 021, 022, 311. KW Menu Costs. Monetary Policy. Heterogeneity. General Equilibrium Theory.

AB The dynamic behavior of a general equilibrium-menu cost economy with firms that are heterogeneous both in the shocks they perceive and the size of their menu costs, is studied in this paper. Assuming prices increase monotonically, it is shown that (i) there exists a steady state to which the economy tends to converge, (ii) money is neutral in the steady state even though actual prices are not uniformly distributed, (iii) the potential effectiveness of monetary policy is an increasing function of the distance between the current state of the economy and its steady state, (iv) the economy converges faster to the steady state the larger the variance of idiosyncratic shocks and the larger the dispersion of menu costs, and (v) given any degree of strategic complementarity, there exists a unique equilibrium if the economy is sufficiently close to its steady state.

PD December 1989. TI Slope Shocks and Consumption Puzzles: A Semi-Structural Approach. AA Columbia University. SR Columbia Department of Economics Working Paper: 457; Department of Economics, Columbia University, New York, New York 10027. PG 17. PR \$5.00. JE 022, 921, 131. KW Consumption. Fluctuations. Permanent Income Hypothesis.

AB The purpose of this paper is twofold. First, it shows that "reasonable" taste shocks cannot solve the most cited empirical puzzles arising in U.S. aggregate consumption data. Second, it decomposes consumption fluctuations into wealth and substitution effects. This provides a new characterization of consumption that permits us to assess the potential role of a broad set of alternatives to the basic permanent income hypothesis, without the need of going into the difficulties of solving the model under each alternative.

TI Target Zones and Realignments. AU Bertola, Giuseppe; Caballero, Ricardo J.

Campbell, John Y.

PD January 1990. **TI** A Variance Decomposition for Stock Returns. **AA** London School of Economics. **SR** National Bureau of Economic Research Working Paper: 3246; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** \$2.00. **JE** 313, 131. **KW** Stock Returns. Expectations. Dividends. Economic Fluctuations.

AB This paper shows that unexpected stock returns must be associated with changes in expected future dividends or expected future returns. A vector autoregressive method is used to break unexpected stock returns into these two components. In U.S. monthly data in 1927-88, one-third of the variance of unexpected returns is attributed to the variance of changing expected dividends, one-third to the variance of changing expected returns, and one-third to the covariance of the two components. Changing expected returns have a large effect on stock prices because they are persistent: a 1% innovation in the expected return is associated with a 4 or 5% capital loss. Changes in expected returns are negatively correlated with changes in expected dividends, increasing the stock market reaction to dividend news.

Caplin, Andrew

PD October 1989. **TI** Aggregation and Social Choice: A Mean Voter Theorem. **AU** Caplin, Andrew; Nalebuff, Barry. **AA** Caplin: Columbia University. Nalebuff: Yale University. **SR** Columbia Department of Economics Working Paper: 449; Department of Economics, Columbia University, New York, New York 10027. **PG** 23. **PR** \$5.00. **JE** 025. **KW** Social Choice. Voting. Median Voter. Elections.

AB A celebrated result of Black (1984a) demonstrates the existence of a simple majority winner when preferences are single-peaked. The social choice follows the preferences of the median voter: the median voter's most preferred outcome beats any alternative. However, this conclusion does not extend to elections in which candidates differ in more than one dimension. This paper provides a multi-dimensional analog of the median voter result. We show that the mean voter's most preferred outcome is unbeatable according to a 64%-majority rule. The weaker conditions supporting this result represent a significant generalization of Caplin and Nalebuff (1988).

PD October 1989. **TI** Aggregation and Imperfect Competition: On the Existence of Equilibrium. **AU** Caplin, Andrew; Nalebuff, Barry. **AA** Caplin: Columbia University. Nalebuff: Yale University. **SR** Columbia Department of Economics Working Paper: 450; Department of Economics, Columbia University, New York, New York 10027. **PG** 36. **PR** \$5.00. **JE** 022, 611. **KW** Imperfect Competition. Prices. Differentiated Products. Price Competition.

AB We present a new approach to the theory of imperfect competition and apply it to study price competition among differentiated products. The central result provides general conditions under which there exists a pure strategy price equilibrium for any number of firms producing any set of products. This includes products with multi-dimensional attributes. In addition to the proof of existence, we provide conditions for uniqueness. Our analysis covers location models, the characteristics approach, and probabilistic choice together in a unified framework.

PD October 1989. **TI** State-Dependent Pricing and the Dynamics of Money and Output. **AU** Caplin, Andrew;

Leahy, John. **AA** Caplin: Columbia University. Leahy: Princeton University. **SR** Columbia Department of Economics Working Paper: 448; Department of Economics, Columbia University, New York, New York 10027. **PG** 26. **PR** \$5.00. **JE** 131, 133, 023. **KW** Prices. Demand Shocks. Output. Monetary Shocks.

AB There is a long tradition in macroeconomics of attributing the real effects of nominal demand shocks to nominal price stickiness. Standard models of this transmission mechanism assume that each firm leaves its price unchanged for a fixed amount of time. An alternative approach is to allow the price setting decision to depend on the actual state of the economy, not just the date. An example due to Caplin and Spulber (1987) shows that with state-dependent pricing, aggregate price stickiness may disappear altogether. In this paper we provide the first complete analysis of an economy with state-dependent pricing in which monetary shocks have systematic effects on output.

PD February 1990. **TI** Aggregation and Social Choice: A Mean Voter Theorem. **AU** Caplin, Andrew; Nalebuff, Barry. **AA** Caplin: Columbia University. Nalebuff: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 938; Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. **PG** 25. **PR** no charge. **JE** 025, 022. **KW** Median Voter. Voting. Social Choice. Elections.

AB A celebrated result of Black (1984a) demonstrates the existence of a simple majority winner when preferences are single-peaked. The social choice follows the preferences of the median voter: the median voter's most preferred outcome beats any alternative. However, this conclusion does not extend to elections in which candidates differ in more than one dimension. This paper provides a multi-dimensional analog of the median voter result. We show that the mean voter's most preferred outcome is unbeatable according to a 64%-majority rule. The weaker conditions supporting this result represent a significant generalization of Caplin and Nalebuff (1988).

PD February 1990. **TI** Aggregation and Imperfect Competition: On the Existence of Equilibrium. **AU** Caplin, Andrew; Nalebuff, Barry. **AA** Caplin: Columbia University. Nalebuff: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 937; Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. **PG** 36. **PR** no charge. **JE** 611, 022, 511. **KW** Imperfect Competition. Bertrand Equilibrium. Differentiated Products. Prices. Price Competition.

AB We present a new approach to the theory of imperfect competition and apply it to study price competition among differentiated products. The central result provides general conditions under which there exists a pure strategy price equilibrium for any number of firms producing any set of products. This includes products with multi-dimensional attributes. In addition to the proof of existence, we provide conditions for uniqueness. Our analysis covers location models, the characteristics approach, and probabilistic choice together in a unified framework.

Card, David

PD February 1990. **TI** Labor Supply with a Minimum Hours Threshold. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 262; Industrial Relations Section, Department of Economics, Princeton

University, Princeton, NJ 08544-2098. PG 41. PR \$1.50. JE 824, 821. KW Labor Supply. Intertemporal Substitution. Employment Contracts. Employment.

AB This paper considers the importance of minimum hours thresholds for the interpretation of individual labor supply data. An analysis of quarterly labor supply outcomes for prime-age males in the Survey of Income and Program Participation suggests that such thresholds are an important aspect of weekly hours choices. A simple contracting model is presented that incorporates mobility costs and a non-convexity in the relation between weekly hours and effective labor input. The model provides a simple interpretation for the role of demand side variables in explaining annual labor supply outcomes.

Carroll, Chris

PD September 1989. TI Consumption Growth Parallels Income Growth: Some New Evidence. AU Carroll, Chris; Summers, Lawrence H. AA Carroll: Massachusetts Institute of Technology. Summers: National Bureau of Economic Research and Harvard University. SR National Bureau of Economic Research Working Paper: 3090; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 42. PR \$2.00. JE 023, 921. KW Permanent Income Hypothesis. Consumption. Income. Life-Cycle Theory. Consumption Smoothing.

AB This paper argues that the versions of both permanent income and life-cycle theories which have recently become fashionable are inconsistent with the grossest features of cross-country and cross-section data on consumption and income. There is clear evidence that consumption and income growth are much more closely linked than would be predicted by these theories. It appears that consumption smoothing takes place over periods of several years not several decades.

Cass, David

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

Chalfant, James A.

TI Portfolio Choices in the Presence of Other Risks. AU Finkelstein, Israel; Chalfant, James A.

PD June 1989. TI The Mean and Variance of the Mean-Variance Decision Rule. AU Chalfant, James A.; Collender, Robert N.; Subramanian, Shankar. AA Chalfant and Subramanian: University of California, Berkeley. Collender: North Carolina State University, Raleigh. SR University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 466 Rev.; 207 Giannini Hall, University of California, Berkeley, Berkeley, CA 94720. PG 39. PR \$7.80. JE 211, 026, 022. KW Risk. Land Allocation. Uncertainty. Mean-Variance Analysis.

AB The widely used mean-variance approach to decisions under uncertainty requires estimates of the parameters of the joint distribution of returns. When optimal behavior is determined using estimates, rather than the true values, the decision is a random variable. We examine the usefulness of mean-variance analysis by deriving the bias and variance-covariance matrix for the decision vector. The latter shows that decisions based on estimated parameters can have a large variance around the true optimum. The results show that optimal decisions can differ substantially from those based on mean-variance analysis.

Chapuis, G.

PD November 1989. TI Forecasting French Postal Financial Services in France - I The National Model. AU Chapuis, G.; Nicolas B.; Renaudon, P.; Villa, P. AA INSEE. SR Unite de Recherche Document de Travail ENSAE/INSEE: 8911; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. PG 44. PR no charge. JE 311, 921, 312, 314. KW Financial Assets. Monetary Policy. Savings. Banking. Financial Intermediaries. Commercial Banks. Portfolio.

AB For some years, the French financial system has been changing from that of an "overdraft economy" to that of a "market economy". In order to measure the importance of this change, we have estimated a model of demand for the postal financial assets. The model allows us to make forecasts about the collection of saving so that the planners can use such information while drawing up their management strategies. It is a Post Office's market share model which illustrates the wealth and the structure of the Post Office's customers portfolio.

Chari, V. V.

PD October 1989. TI Sustainable Plans and Mutual Default. AU Chari, V. V.; Kehoe, Patrick J. AA Federal Reserve Bank of Minneapolis and University of Minnesota. SR Federal Reserve Bank of Minneapolis Staff Report: 124; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55480. PG 42. PR no charge. JE 322, 323, 321. KW Debt Default. Taxes. Public Debt. Government Debt.

AB This paper presents a simple general equilibrium model of optimal taxation in which both private agents and the government can default on their debt. As a benchmark we consider Ramsey equilibria in which the government can precommit to its policies at the beginning of time, but in which private agents can default. We consider sustainable equilibria in which both government and private agent decision rules are required to be sequentially rational. We completely characterize the set of sustainable equilibria. In particular, we show that when there is sufficiently little discounting and government consumption fluctuates enough, the Ramsey allocations and policies (in which the government never defaults) can be supported by a sustainable equilibrium.

PD November 1989. TI Sustainable Plans and Debt. AU Chari, V. V.; Kehoe, Patrick J. AA Federal Reserve Bank of Minneapolis and University of Minnesota. SR Federal Reserve Bank of Minneapolis Staff Report: 125; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55480. PG 32. PR no charge. JE 322, 323, 321. KW Taxes. Debt Default. Government Debt. Public Debt.

AB This paper presents a simple general equilibrium model of optimal taxation similar to that of Lucas and Stokey (1983), except that we let the government default on its debt. As a benchmark, we consider Ramsey equilibria in which the government can precommit its policies at the beginning of time. We then consider sustainable equilibria in which both government and private agent decision rules are required to be sequentially rational. We concentrate on trigger mechanisms which specify reversion to the finite horizon equilibrium after deviations by the government. The main result is that no Ramsey equilibrium with positive debt can be supported by such trigger mechanisms.

Chen, Pengyuan

PD November 1989. TI A Lower Bound for the Dimension of the Message Space of the Decentralized Mechanisms Realizing a Given Goal. AA Lake Forest College. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 863; J. L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. PG 15. PR no charge. JE 024, 213. KW Informational Efficiency. Allocation Functions.

AB The dimension of the message space is an important indicator of the informational efficiency of the decentralized economic mechanism. A general method is developed which leads to obtaining a lower bound for the dimension of the message space of the decentralized mechanisms that realize a given allocation function. The lower bound is expressed in terms of certain differential property of the allocation function. In particular, for economies consisting of two agents the lower bound can be further expressed by the rank of the "bordered Hessian" of the allocation function. Our approach is analytic and requires differentiability assumption.

Chichilnisky, Graciela

PD December 1989. TI Development at the Turn of the Century. AA Columbia University. SR Columbia Department of Economics Working Paper: 456; Department of Economics, Columbia University, New York, New York 10027. PG 13. PR \$5.00. JE 112, 441, 442, 443. KW Capital Markets. International Markets. Telecommunications. Technology. International Theory.

AB Today's rapid and profound international evolution requires an update of the development agenda. As East-West relations alter radically and forge history, new trends in global capital markets; telecommunications and new technologies erode inexorably the old structures and alter permanently the economic landscape. As the century turns, traditional issues of transfer of resources, debt rescheduling and the access to industrial markets must be re-examined.

Choi, Don H.

TI A Shred of Evidence on Theories of Wage Stickiness. AU Blinder, Alan S.; Choi, Don H.

Christensen, Michael

TI Monetary Policy and Policy Credibility Theories and Evidence. AU Blackburn, Keith; Christensen, Michael.

Christiano, Lawrence J.

PD October 1989. TI Unit Roots in Real GNP: Do We Know, and Do We Care?. AU Christiano, Lawrence J.; Eichenbaum, Martin. AA Christiano: Federal Reserve Bank of Minneapolis. Eichenbaum: Northwestern University. SR National Bureau of Economic Research Working Paper: 3130; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 47. PR \$2.00. JE 133, 131, 132. KW Unit Roots. Economic Fluctuations. Business Cycle.

AB Macroeconomists have traditionally viewed movements in aggregate output as representing temporary fluctuations about a deterministic trend. According to this view, innovations to real gross national product (GNP) should have no impact on long-run forecasts of aggregate output. Increasingly however, this view of aggregate fluctuations has

been challenged. The first part of this paper argues that the new consensus about the presence and size of the unit root in real GNP is not supported by an analysis of postwar U.S. GNP data. The data simply do not discriminate between the trend stationary and the difference stationary views of U.S. real GNP. The second part of this paper investigates the consequences of not knowing. Here we ask the question, Do we care if real GNP has a unit root? Our answer is, Maybe not.

Chung, Alan

TI Macroeconomic Convergence: International Transmission of Growth and Technical Progress. AU Helliwell, John F.; Chung, Alan.

Chung, Fan R. K.

PD 1988. TI Separator Theorems and Their Applications. AA Bell Communications Research, New Jersey. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89558-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 18. PR no charge. JE 213. KW Separator Theorems. Graph Theory.

AB There are many different formulations and variations of separator theorems scattered about in the literature. For example, some very useful separator properties involve the trade-off of the separator size and the ratio of the two separated parts as well as additional requirements when the vertices are colored. We here intend to briefly survey various separator theorems. Then we will discuss some applications of these separator theorems to an extremal graph problem of finding optimal universal graphs. We then include references to many other applications in algorithmic design, data structure, and circuit complexity as well as in a number of other areas.

Chvatal, V.

PD October 1989. TI Recognizing Dart-free Perfect Graphs. AU Chvatal, V.; Sun, L. AA Rutgers University. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89606-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 36. PR no charge. JE 213. KW Polynomial-time algorithm. Perfect Graphs. Decomposition Theorem. Algorithms.

AB The "dart" is the graph with vertices a, b, c, d, e and edges ab, ac, ad, ae, bd, ca. We present a polynomial-time algorithm to recognize dart-free perfect graphs. The algorithm is based on a decomposition theorem elucidating the structure of these graphs.

PD October 1989. TI Almost All Graphs with $1.44n$ Edges are 3-Colourable. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89602-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 19. PR no charge. JE 213. KW Graph Theory. Subgraph. Random Graphs.

AB We establish a uniform asymptotic approximation of certain probabilities arising in the coupon collector's problem. Then we use this approximation to prove that almost all graphs with n vertices and $1.44n$ edges contain no subgraph with minimum degree at least three, and hence are 3-colourable.

Clements, Michael P.

PD February 1990. **TI** The Mathematical Structure of Models that Exhibit Cointegration: A Survey of Recent Approaches. **AA** Institute of Economics and Statistics. **SR** Oxford Applied Economics Discussion Paper: 85; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. **PG** 33. **PR** not available. **JE** 211. **KW** Co-integration. Error Correction Model. Dynamic System.

AB The paper surveys the recent mathematical literature on the conditions for a vector process to exhibit co-integration. An attempt is made to clarify various diverse approaches by bringing out their similarities. The paper begins with a discussion of the error correction parameterization of a dynamic system, which is a natural framework within which to frame the conditions for co-integration. Other equivalent parameterizations are then discussed, noting for example the various rank deductions implied by co-integration.

Clotfelter, Charles T.

PD March 1990. **TI** The Impact of Tax Reform on Charitable Giving: A 1989 Perspective. **AA** Duke University. **SR** National Bureau of Economic Research Working Paper: 3273; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 27. **PR** \$2.00. **JE** 323, 921. **KW** Tax Reform. Taxation. Charities. Tax Policy. Charitable Contributions.

AB The purpose of this paper is to examine the predicted effects of tax reform in the 1980s (the tax acts of 1981 and 1986) on charitable contributions by individuals and to compare them to the actual and apparent effects, viewed from the perspective of 1989. The paper discusses what the economic models can and cannot be expected to do. Then, using published data from tax returns, the paper compares actual and predicted changes in giving as a result of both of the major tax reform acts. As a result of these tax changes, average giving in high income classes declined. These results imply that tax policy should continue to be considered one important determinant of the level of individual charitable contributions.

Coate, Stephen

TI Understanding Welfare Stigma: Taxpayer Resentment and Statistical Discrimination. **AU** Besley, Timothy; Coate, Stephen.

Cole, Harold L.

PD December 1989. **TI** Default, Settlement and Signalling: Lending Resumption in a Reputational Model of Sovereign Debt. **AU** Cole, Harold L.; Dow, James; English, William B. **AA** Cole and English: University of Pennsylvania. Dow: London Business School. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 89-26; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 43. **PR** no charge. **JE** 443, 441, 411. **KW** Sovereign Debt. Public Debt. Debt Payment. Capital Markets. International Markets.

AB We consider a model of international sovereign debt where repayment is enforced because defaulting nations lose their reputation and consequently, are excluded from international capital markets. Underlying our analysis of

reputation is the hypothesis that borrowing countries have different, unobservable, attitudes towards the future. Some regimes are relatively myopic, while others are willing to make sacrifices to preserve their access to debt markets. Nations' preferences, while unobservable, are not fixed but evolve over time according to a Markov process. We consider separating equilibria in which myopic countries default while farsighted countries repay, and lenders' decisions depend on inferences about the borrower's type. By offering to partially repay loans in default, a government can signal its reliability. Our main result is that the period of exclusion from capital markets ends when a country reaches a settlement with its creditors.

PD April 1990. **TI** Specialization, Transactions Technologies, and Money Growth. **AU** Cole, Harold L.; Stockman, Alan C. **AA** Cole: University of Pennsylvania. Stockman: University of Rochester and National Bureau of Economic Research. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 90-09; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 38. **PR** no charge. **JE** 311, 023.

KW Differentiated Goods. Money Demand. Monetary Theory. **AB** This paper develops a differentiated product model with money (similar to a parable told by Lucas to motivate exchange in a representative agent model), a cash-in-advance constraint for market purchases, and endogenous specialization. Monetary exchange involves differentiated goods at a point in time, so a nonzero balance of trade is not required for monetary equilibrium. Consumption of goods not purchased with money (analogous to leisure services or credit goods) can either rise or fall with the money growth rate. We discuss the implied nominal interest elasticities of the money demand in the general equilibrium.

Coleman, Wilbur John II

PD November 1989. **TI** Equilibrium in a Production Economy with an Income Tax. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 366; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 24. **PR** no charge. **JE** 323, 321, 022, 213.

KW Tax Policy. Capital. Income Tax. Production Economy. **AB** A state dependent income tax is incorporated into an intertemporal production economy. Methods are developed for establishing the existence and uniqueness of an equilibrium, and for explicitly constructing this equilibrium. Some tax policy experiments are suggested, the results of which may have important implications in quantifying the effects of various tax policies.

Collender, Robert N.

TI The Mean and Variance of the Mean-Variance Decision Rule. **AU** Chalfant, James A.; Collender, Robert N.; Subramanian, Shankar.

Conley, John P.

PD January 1990. **TI** The Bargaining Problem Without Convexity. **AU** Conley, John P.; Wilkie, Simon. **AA** Bellcore. **SR** Bellcore Economics Discussion Paper: 63; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. **PG** 18. **PR** not available.

JE 022, 213. **KW** Bargaining Theory.

AB An n -person Bargaining Problem consists of a pair (S, d) where S is a subset of R ; (n) is a set of feasible utility vectors that the players may obtain through cooperation, and the point d is an element of S , called the disagreement point, is interpreted as the utility that players receive if they fail to reach an agreement. In this paper, we relax the common assumption that S is convex and examine the implications for well known solution concepts. We argue that even with von Neumann-Morgenstern utilities, this restriction is substantive and limits the application of the theory. Without convexity, the solution introduced by Nash (1950) is no longer well defined. We propose a new solution called the Nash extension. This solution coincides with the Nash solution when S is convex and is the unique solution satisfying weak Pareto optimality, symmetry, scale invariance, continuity, and a new axiom, ethical monotonicity.

Cotter, Kevin D.

PD October 1989. **TI** Communication Equilibria with Large State Spaces. **AA** Northwestern University and Wayne State University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 862; J. L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 15. **PR** no charge. **JE** 026. **KW** Game Theory. Incentive Compatibility. Revelation Principle. Communication. Information Structure.

AB A definition of communication equilibrium of games for which players may have arbitrary [rather than finite] type spaces is examined. The revelation principle is proven, and the set of equilibria is compared with the sets of strategy and action correlated equilibria. The equilibrium correspondence is shown to be discontinuous with respect to the information structure of the game, in contrast with previous continuity results for strategy and action correlated equilibrium.

Coughlin, Peter

PD September 1989. **TI** A Model of Electoral Competition with Interest Groups. **AU** Coughlin, Peter; Mueller, Dennis C.; Murrell, Peter. **AA** University of Maryland, College Park. **SR** University of Maryland Department of Economics Working Paper Series: 89-23; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 9. **PR** no charge. **JE** 025. **KW** Interest Groups. Social Choice. Voting.

AB This letter specifies and analyzes a model of electoral competition with interest groups. The assumptions used in the model are drawn from the existing literature. We (i) show that certain assumptions that have been used in empirical analyses of voting provide a sufficient condition for the existence of an electoral equilibrium and (ii) characterize the equilibrium strategies. Embodied in the characterization is a set of parameters that can be said to measure the electoral strengths of the interest groups. We also state the appropriate definition of the Pareto relation for our model and note that each of the equilibrium strategies is Pareto optimal.

PD September 1989. **TI** Policies Over Time and Pareto Optimality. **AU** Coughlin, Peter; Howe, Eric. **AA** Coughlin: University of Maryland, College Park. Howe: University of Saskatchewan. **SR** University of Maryland Department of Economics Working Paper Series: 89-22; Department of Economics, University of Maryland, College

Park, MD 20742. **PG** 25. **PR** no charge. **JE** 025. **KW** Social Choice. Voting. Voting Model.

AB This paper is concerned with sequences of policies that occur over time in voting models and planning procedures. The framework for our analysis includes assumptions that are satisfied by models in the corresponding literatures, together with other standard assumptions for microeconomic analysis that involve time. The starting point for our analysis is the perspective that results from combining the following (widely held) views: 1) Certain voting models and planning procedures can be interpreted as being "non-tatonnement" or "sequential" processes (where each policy in the sequence that is generated is actually experienced by voters or consumers) and 2) an alternative being Pareto optimal in any given period ("temporal Pareto optimality") is the appropriate efficiency criterion only if the alternative is the final outcome from a tatonnement process--and that, otherwise, one should examine the efficiency of the entire path (using "intertemporal Pareto optimality").

Cowan, Robin

PD September 1989. **TI** Technological Variety and Competition: Issues of Diffusion and Intervention. **AA** New York University. **SR** New York University Economic Research Reports: 89-23; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 28. **PR** no charge. **JE** 621, 611, 612. **KW** Technology. Adoption. Market Structure. Competition.

AB Recent work in the area of competing technologies has stressed the result that when several technologies compete for the same niche in the market, under a wide variety of circumstances, all but one of the technologies will be driven from the marketplace. Further, it need not be the best technology which remains. This paper argues that there is a place for intervention when technologies are being chosen or standards are being set. Intervention in the market can optimally balance the tradeoff between the desire for immediate payoffs and the desire for more information about different technologies--it can raise the expected present value of the adoption process. It remains the case, however, that even with optimal intervention, the market will lock in to a single technology, and not necessarily the superior one. The paper discusses these results with reference to technological changes in high tech and information technology.

Craig, Patricia H.

TI The Divergence of Black and White Marriage Patterns. **AU** Bennett, Neil G.; Bloom, David E.; Craig, Patricia H.

Crama, Y

PD November 1989. **TI** A Decomposition of Strongly Unimodular Matrices into Incidence Matrices of Digraphs. **AU** Crama, Y.; Loebel, M.; Poljak, S. **AA** Crama: University of Limburg. Loebel: University of Bonn. Poljak: Charles University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89611-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 6. **PR** no charge. **JE** 213. **KW** Unimodular Matrix. Graph Theory. **AB** No abstract.

Cramton, Peter C.

PD April 1990. **TI** Ratifiable Mechanisms: Learning

from Disagreement. **AU** Cramton, Peter C.; Palfrey, Thomas R. **AA** Cramton: Yale University. Palfrey: California Institute of Technology. **SR** Caltech Social Science Working Paper: 731; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, California 91125. **PG** 26. **PR** no charge. **JE** 026. **KW** Mechanism Design. Cartels. Game Theory. Learning. **AB** In a mechanism design problem, participation constraints require that all types prefer the proposed mechanism to some status quo alternative. If the payoffs in the status quo depend on strategic actions based on the players' beliefs, then the inferences players make in the event someone objects to the proposed mechanism may alter the participation constraints. We include this possibility for learning from disagreement by modeling the mechanism design problem as a ratification game in which privately informed players simultaneously vote for or against the proposed mechanism. We develop and illustrate a new concept, ratifiability, that takes account of this inferencing problem in a consistent way. Requiring a mechanism to be ratifiable can either strengthen or weaken the standard participation constraints that arise in mechanism design problems.

Crosson, Pierre

PD November 1988. **TI** Alternative Agriculture: A Review and Assessment of the Literature. **AU** Crosson, Pierre; Ekey, Janet. **AA** Resources for the Future. **SR** Resources for the Future Energy and Natural Resources Division Discussion Paper: ENR88-01; Energy and Natural Resources Division, Resources for the Future, 1616 P St. NW, Washington D.C. 20036. **PG** 64. **PR** \$5.00 (U.S. funds only). **JE** 722, 717, 711, 716. **KW** Agriculture. Environment. Pollution. Pesticides. **AB** Unlike conventional agriculture, alternative agriculture relies on crop and animal wastes and a rotation with a leguminous crop instead of on inorganic fertilizers to provide plant nutrients. And alternative agriculture minimizes or entirely avoids chemical pesticides, relying instead on crop rotations, cultivations, and other biological controls to manage insect pests, plant diseases and weeds. Except in special circumstances alternative agriculture is not economically competitive with the conventional system because of a yield disadvantage. However, alternative agriculture bestows more environmental benefits than the conventional system, primarily in improved animal habitat and reduced use of pesticides. Research to remove the economic disadvantage of alternative agriculture would encourage wider adoption of it, permitting capture of the environmental benefits.

Crouchley, Robert

TI Unemployment and the Demand for Unions. **AU** Blanchflower, David G.; Crouchley, Robert; Estrin, Saul; Oswald, Andrew J. **TI** Unemployment and the Demand for Unions. **AU** Blanchflower, David G.; Crouchley, Robert; Estrin, Saul; Oswald, Andrew J.

Crucini, Mario J.

TI Explaining Saving/Investment Correlations. **AU** Baxter, Marianne; Crucini, Mario J.

Currie, Janet

TI Negotiator Behavior and the Occurrence of Disputes. **AU** Ashenfelter, Orley; Currie, Janet.

Cutler, David M.

PD January 1990. **TI** Speculative Dynamics and the Role of Feedback Traders. **AU** Cutler, David M.; Poterba, James M.; Summers, Lawrence H. **AA** Cutler and Poterba: National Bureau of Economic Research and Massachusetts Institute of Technology. Summers: National Bureau of Economic Research and Harvard University. **SR** National Bureau of Economic Research Working Paper: 3243; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 12. **PR** \$2.00. **JE** 313, 311, 131. **KW** Asset Markets. Speculation. Trading. Finance Theory. Expectations. **AB** This paper summarizes our earlier research documenting the characteristic speculative dynamics of many asset markets and suggests a framework for understanding them. Our model incorporates "feedback traders," traders whose demand is based on the history of past returns rather than the expectation of future fundamentals. We use this framework to describe ways in which the characteristic return pattern might be generated, and also to address the long-standing question of whether profitable speculation stabilizes asset markets.

PD January 1990. **TI** Speculative Dynamics. **AU** Cutler, David M.; Poterba, James M.; Summers, Lawrence H. **AA** Cutler and Poterba: National Bureau of Economic Research and Massachusetts Institute of Technology. Summers: National Bureau of Economic Research and Harvard University. **SR** National Bureau of Economic Research Working Paper: 3242; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 38. **PR** \$2.00. **JE** 313, 311, 132, 131. **KW** Asset Returns. Speculation. Economic Fluctuations. Dynamic Model. **AB** This paper presents evidence on the characteristic speculative dynamics of a wide range of asset returns. It highlights three stylized facts. First, returns tend to be positively serially correlated at high frequency. Second, returns tend to be negatively serially correlated over long horizons. Third, deviations of asset values from proxies for fundamental value have predictive power for returns. These patterns emerge repeatedly in our analyses of stocks, bonds, foreign exchange, real estate, collectibles, and precious metals, and they appear too strong to be attributed only to small sample biases. The pervasive nature of these patterns suggests that they may be due to inherent features of the speculative process, rather than to variation in risk factors which affect particular markets.

Davis, Steve J.

PD October 1989. **TI** Gross Job Creation, Gross Job Destruction and Employment Reallocation. **AU** Davis, Steve J.; Haltiwanger, John C. **AA** Davis: University of Chicago. Haltiwanger: University of Maryland, College Park. **SR** University of Maryland Department of Economics Working Paper Series: 89-31; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 52. **PR** no charge. **JE** 824, 229, 131, 631. **KW** Employment. Manufacturing. Labor Turnover. **AB** This paper measures the heterogeneity of establishment level employment changes in the U.S. manufacturing sector over the 1972 to 1986 period. Our empirical work exploits a rich data set with approximately 860,000 annual observations

on 160,000 manufacturing establishments to calculate rates of gross job creation, gross job destruction, and their sum, gross job reallocation. The central empirical findings are as follows: (1) Based on March-to-March establishment level employment changes, gross job reallocation averages more than 20% of employment per year. (2) For the manufacturing sector as a whole, March-to-March gross job reallocation varies over time from 17% to 23% of employment per year. (3) Time variation in gross job reallocation is countercyclic gross reallocation rates covary negatively with own sector and manufacturing net employment growth rates.

de Bartolome, Charles A. M.

PD August 1989. **TI** *Interpreting "The Ramsey Equations" of Optimal Tax Theory.* **AA** New York University. **SR** New York University Economic Research Reports: 89-21; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 26. **PR** no charge. **JE** 323. **KW** Taxation. Taxes. Tax System. Indirect Taxes.

AB "The Ramsey Equations," which characterize the optimum indirect tax structure, are interpreted using the intuitive ideas of excess burden and willingness to pay.

de Janvry, Alain

PD July 1989. **TI** *The Political Feasibility of Rural Poverty Reduction.* **AU** de Janvry, Alain; Sadoulet, Elisabeth. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 508; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 39. **PR** \$7.80. **JE** 713, 121, 914, 941, 024. **KW** Rural Poverty. Welfare Economics. Poverty. Political Reforms.

AB Policies oriented at the reduction of rural poverty will only be introduced if politically feasible. Computable general equilibrium and multimarket models have been widely used to measure the complex economic and welfare effects of these policies. Based on the body of theoretical and empirical knowledge on the determinants of influence by groups in civil society and on the role of the state in policy making, an index of the political feasibility of policy outcomes is constructed. Use of this index with data from India and Ecuador allows us to identify a number of promising avenues to politically feasible reforms, in particular by choosing policies that induce the emergence of supportive coalitions dominated by the nonpoor. The general equilibrium effects and the leakages of antipoverty instruments are key in inducing emergence of these coalitions.

PD July 1989. **TI** *Efficient Share Tenancy Contracts Under Risk: The Case of Three Rice-Growing Villages in Thailand.* **AU** de Janvry, Alain; Fukui, Seiichi; Sadoulet, Elisabeth. **AA** de Janvry and Sadoulet: University of California, Berkeley. Fukui: Okayama University, Japan. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 507; 207 Giannini Hall, University of California, Berkeley, Berkeley, CA 94720. **PG** 42. **PR** \$8.40. **JE** 121, 713, 717. **KW** Share Tenancy Contracts. Risk. Rice. Thailand. Sharecropping. Developing Countries.

AB Share tenancy contracts are widely observed in developing countries. For this reason, many scholars have been searching to identify the causes of their prevalence and permanence. The key issue in answering this question has been

to establish under what conditions share tenancy is more desirable for the landlord, in his character of principal, than alternative contracts. It is well known, however, that sharecropping is usually a source of inefficiencies. We will show in this paper that, based on observations from three villages in Thailand, there exists a variety of conditions that make a sharecropping contract not only optimum for the landlord but also efficient in resource use.

PD July 1989. **TI** *Path Dependent Policy Reforms: From Land Reform to Rural Development in Colombia.* **AU** de Janvry, Alain; Sadoulet, Elisabeth. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 506; 207 Giannini Hall, University of California, Berkeley, Berkeley, CA 94720. **PG** 18. **PR** \$3.60. **JE** 717, 121, 112. **KW** Agricultural Policies. Land Reform. Rural Development. Colombia.

AB Today, Colombia is characterized by creeping agricultural stagnation and growing armed warfare in the rural areas. This implies that, short of a nonagricultural solution to rural instability or of effective military counterinsurgency, the implementation of redistributive land reform remains one of the key solutions to successful agricultural development in spite of its apparent economic infeasibility. It is the logic of this sequence of reforms that we analyze in this paper, both in theory in Part II and in the specific case of Colombia Part III.

de Melo, Jaime

PD December 1989. **TI** *Productivity and Externalities: Models of Export-Led Growth.* **AU** de Melo, Jaime; Robinson, Sherman. **AA** de Melo: The World Bank and CEPR. Robinson: University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 520; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. **PG** 45. **PR** \$9.00. **JE** 411, 111, 226. **KW** Exports. Developing Countries. Growth Model. Externalities. Productivity.

AB In developing countries, successful export-led growth (ELG) industrialization has been associated with rapid structural change and productivity growth. We develop a simple analytical model with an export externality that captures the large increase in both total factor productivity and trade share associated with export-led growth. A second model is developed to decompose growth into various components: (1) factor accumulation, (2) a factor reallocation effect from moving factors from low to high productivity sectors, (3) an export externality effect arising from exporting light and heavy manufactures, and (4) an import externality effect arising from importing capital goods (heavy manufactures).

de Palma, Andre

PD February 1989. **TI** *Toward an Endogenous Central Place Theory.* **AU** de Palma, Andre; Papageorgiou, Yorgos Y. **AA** de Palma: Northwestern University. Papageorgiou: McMaster University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 828; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 27. **PR** no charge. **JE** 941, 931, 022. **KW** Regional Economics. Spatial Theory. Location Theory. Urban Economics.

AB We envisage a continuum of spatially interdependent

agents, evenly distributed over a linear, homogeneous space. We let the density of agents gradually increase at a slightly uneven rate, slow enough to permit the restoration of a locally stable, perfectly dispersed equilibrium. At the same time, we also let the degree of spatial interdependence increase. If there is a single type of agent, the spatial characteristics of the emerging agglomerated state cannot be predicted within our framework. If though there are two types of agent, the departure from the dispersed equilibrium may take the form of initial growth on a regularly spaced pattern of locations: specialization here appears to be necessary for the emergence of a regular settlement pattern. The timing of emergence depends both on the preferences and on the characteristics of spatial interaction among agents. The spacing of settlements, on the other hand, depends on the characteristics of spatial interaction alone.

TI Does Providing Information to Drivers Reduce Traffic Congestion?. **AU** Arnott, Richard J.; de Palma, Andre; Lindsey, Robin.

TI Location Equilibria Under Alternative Solution Concepts. **AU** Anderson, Simon P.; de Palma, Andre; Hong, Gap-Seon.

TI A Temporal and Spatial Equilibrium Analysis of Commuter Parking. **AU** Arnott, Richard J.; de Palma, Andre; Lindsey, Robin.

Dellas, Harris

PD May 1989. **TI** Growth Via External Public Debt and Capital Controls. **AU** Dellas, Harris; Galor, Oded. **AA** Dellas: University of Maryland, College Park. Galor: Brown University. **SR** University of Maryland Department of Economics Working Paper Series: 89-19; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 24. **PR** no charge. **JE** 411, 111. **KW** Economic Growth. Public Debt. Capital Controls. Open Economy.

AB This paper analyzes strategies for economic growth of a small open overlapping generations economy which is characterized by multiple, dynamically efficient, locally stable, stationary equilibria. The paper designs a Pareto welfare improving growth scheme that consists of public external debt and controls on private capital outflows. This policy permits the economy to shift from a low output to a high output stationary equilibrium. The policy may be Pareto welfare improving if the economy's rate of convergence to the better stationary equilibrium is faster than the rate of accumulation of the foreign public debt. The results may provide an explanation for the widespread use of public foreign debt and capital controls.

PD September 1989. **TI** Self-Fulfilling Expectations, Speculative Attacks and Capital Controls. **AU** Dellas, Harris; Stockman, Alan C. **AA** Dellas: University of Maryland, College Park. Stockman: University of Rochester and National Bureau of Economic Research. **SR** University of Maryland Department of Economics Working Paper Series: 89-20; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 12. **PR** no charge. **JE** 431, 411, 311. **KW** Expectations. Monetary Policy. Capital Controls. Exchange Rates. Economic Policy. Foreign Reserves.

AB This paper examines the endogenous implementation of capital controls in the context of a fixed exchange rate regime. It is shown that if there exists a non-zero probability that the

policy maker's response to a speculative attack on official foreign reserves will be the introduction of controls, such an attack may occur even when current and expected monetary policy is consistent with a permanently viable, control-free fixed exchange rate regime. Consequently, capital controls may be the outcome of self-fulfilling expectations rather than the result of imprudent economic policies.

PD September 1989. **TI** Reserve-Currency Preferences of Central Banks: The Case of Korea. **AU** Dellas, Harris; Yoo, Chin Bang. **AA** Dellas: University of Maryland, College Park. Yoo: Vanderbilt University and Bank of Korea. **SR** University of Maryland Department of Economics Working Paper Series: 89-25; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 18. **PR** no charge. **JE** 311. **KW** Portfolio. Central Bank. Asset Pricing Model.

AB We study the portfolio aspects of official Korean central bank holdings of foreign reserves for the 1980-87 period. We find that while the mean-variance optimization model does not seem capable of explaining the behavior of official portfolios, a consumption (imports) asset pricing model fits the actual official investments in international assets well. Hence, our findings indicate that certain governmental actions are consistent with the notion that policy makers maximize the welfare of the representative agent.

Demski, Joel S.

PD September 1989. **TI** Prenegotiated Labor Buyouts Can Resolve Double Moral Hazard Problems. **AU** Demski, Joel S.; Sappington, David E. M. **AA** Bellcore. **SR** Bellcore Economics Discussion Paper: 61; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. **PG** 12. **PR** not available. **JE** 022, 611. **KW** Moral Hazard. Principal-Agent Model.

AB We consider a double moral hazard problem in which the efforts of the owner and risk averse worker in a firm are not verifiable. The realized value of the firm's random profit stream is also unverifiable. Furthermore, there is no third party to break a "balanced budget" requirement. We show the double moral hazard problem can be resolved completely and costlessly when the owner, who can observe the workers' actions, has the option of requiring the worker to purchase the firm at a renegotiated price.

Deneckere, Raymond J.

PD October 1989. **TI** Capacity-Constrained Price Competition When Unit Costs Differ. **AU** Deneckere, Raymond J.; Kovenock, Dan. **AA** Deneckere: Northwestern University. Kovenock: Purdue University and Economic Institute, Erasmus University, Netherlands. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 861; J. L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 55. **PR** no charge. **JE** 022, 026. **KW** Duopoly. Price Distribution. Price Competition. Economic Capacity.

AB This paper characterizes the set of Nash equilibria in a price setting duopoly in which firms have limited capacity, and in which costs of production up to capacity may differ. Assuming concave revenue and efficient rationing, we show that the case of different unit costs involves a tractable generalization of the methods used to analyze the case of identical costs. However, the supports of the two firms'

equilibrium price distributions need no longer be connected and need not coincide. In addition, the supports of the equilibrium price distributions need no longer be continuous in the underlying parameters of the model.

TI A Generalized Theorem of the Maximum.
AU Ausubel, Lawrence M.; Deneckere, Raymond J.

Deppler, Michael

TI Fiscal Constraints of a Fixed Exchange Rate Regime.
AU Bredekamp, Hugh; Deppler, Michael.

Desai, Padma

PD January 1990. **TI** Perestroika: Is it on Track?.
AA Columbia University. **SR** Columbia Department of Economics Working Paper: 462; Department of Economics, Columbia University, New York, New York 10027. **PG** 21. **PR** \$5.00. **JE** 052, 027, 112. **KW** Soviet Union. Communism. Economic Systems. Economic Reform.

AB In Chapter 1 of these essays, published in 1987, I examined at length the nature and magnitude of the economic malaise confronting the Soviet leadership and concluded that the Soviet economy needed a systemic change. Mikhail Gorbachev has now moved forcefully to accept this challenge. In fact, enormous changes have occurred in the Soviet Union. However, it would be incorrect to say that a systemic change has occurred. Far from it. Rather, perestroika has become a widely shared objective, but with progress at an extremely cautious pace. Gorbachev continues to navigate in difficult waters, laying the foundations for perestroika, hastening slowly. What problems has he encountered? And how has he dealt with them? Do recent announcements, such as postponing price reform, suggest a retreat or a prudent pause? In the following, I review several formidable problems that he faces. But I also note his responses and reach a cautiously optimistic conclusion regarding the soundness of this strategy.

Detemple, Jerome B.

PD October 1988. **TI** Option Listing and Stock Returns.
AU Detemple, Jerome B.; Jorion, Philippe. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-89-13; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 26. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** 313, 311. **KW** Option Market. Options. Stock Market.

AB This paper investigates the impact of the opening of new option markets on the underlying stock. We propose a new model with heterogeneous investors and multiple stocks where options are traded once introduced in the market. The predictions of the model enable us to explain a number of empirical results. In addition to the price increase and volatility decrease that take place when new options are listed, we obtain and explain the following new empirical results: (i) an increase in the value of the market around the listing dates of new options, (ii) an increase in the value of an industry index of a larger magnitude than the increase in the market, (iii) the dissipation of the price and volatility effects in recent periods and (iv) the existence of an announcement effect in one subperiod of our sample and its dissipation in recent periods.

PD January 1989. **TI** Financial Innovation, Values and Volatilities When Markets are Incomplete. **AA** Columbia

University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-89-12; 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 U.S., Canada and Puerto Rico). **JE** 313, 311. **KW** Financial Theory. Securities. Options. Stock Market.

AB The traditional pricing methodology in finance values derivative securities as redundant assets that have no impact on equilibrium prices and allocations. This paper considers a model with incomplete markets in which the valuation of derivative securities cannot be treated independently from the valuation of the primary securities. The model constitutes a framework for the analysis of the consequences of financial innovation (creation of new contracts or modification of existing contracts). We provide a numerical counterexample to the popular belief that financial innovations that increase the volatilities of traded securities are "bad".

TI Bond Covenants and the Valuation of Risky Debt: A New Approach. **AU** Brennan, Michael; Detemple, Jerome B.; Kalay, Avner.

PD November 1989. **TI** Optimal Consumption-Portfolio Policies with Habit Formation. **AU** Detemple, Jerome B.; Zapatero, Fernando. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-90-02; First Boston Series, Graduate School of Business, Columbia University, New York, New York 10027. **PG** 36. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** 311, 921, 022. **KW** Portfolio. Asset Prices. Consumption.

AB In this paper we solve the consumption-portfolio problem when.

Devereux, Michael

PD September 1989. **TI** Investment, Financial Factors and Cash Flow: Evidence From UK Panel Data. **AU** Devereux, Michael; Schiantarelli, Fabio. **AA** Devereux: Institute for Fiscal Studies, London. Schiantarelli: Boston University. **SR** National Bureau of Economic Research Working Paper: 3116; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 38. **PR** \$2.00. **JE** 522, 521, 132. **KW** Investment. Business Investment. Liquidity Constraints. Cash Flow.

AB In this paper we provide some econometric evidence on the impact of financial factors like cash flow, debt and stock measures of liquidity on the investment decisions of U.K. firms. These variables are introduced via an extension of the Q model of investment which explicitly includes agency/financial distress costs. We discuss if the significance of cash flow may be due to the fact that it proxies for output or because it is a better measure of market fundamentals than Q. Moreover we investigate if the effect of financial factors varies across different types of firms, according to size, age, and type of industry (growing and declining). We analyze the determinants of the magnitude of the cash flow effect and explain why caution must be exercised in attributing inter-firm differences only to differences in the importance of agency or financial distress costs.

Dewatripont, Mathias

TI Renegotiation Design Under Symmetric Information. **AU** Aghion, Philippe; Dewatripont, Mathias; Rey, Philippe.

TI Renegotiation Design with Unverifiable Information. **AU** Aghion, Philippe; Dewatripont, Mathias; Rey, Philippe.

Diamond Peter

TI The Aggregate Matching Function. **AU** Blanchard, Olivier Jean; Diamond Peter.

Dieter, Bos

PD January 1990. **TI** Notes on Price-Cap Regulation. **AA** University of Bonn. **SR** Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: A-278; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 13. **PR** no charge. **JE** 613, 612, 227. **KW** Price Regulation. Price Index. Monopoly. Regulations. Public Policy. **AB** This paper presents an analysis of a recently invented new form of price regulation. An index of prices of monopolistically supplied goods must never exceed the retail price index minus X . The main results of the chapter are as follows: (i) If the constant X is politically chosen, price-cap regulation does not distort factor inputs. Hence, the government should refrain from sophisticated economic reasoning when choosing X . If X is measured by productivity increases, the firm is punished for high productivity increases, which implies undesired efficiency losses. (ii) The ideal price-cap regulation has exogenous (= political) X and a price index of monopolistically supplied goods which is a subindex of the retail price index. It is shown that this regulation leads to pricing similar to Feldstein (1972): the consumption of necessities is favored by relatively lower prices.

Dolado, Juan

PD September 1989. **TI** Estimating Euler Equations with Integrated Series. **AU** Dolado, Juan; Galbraith, John W.; Banerjee, Anindya. **AA** Dolado: Bank of Spain. Galbraith: McGill University. Banerjee: University of Florida. **SR** Oxford Applied Economics Discussion Paper: 81; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. **PG** 32. **PR** not available. **JE** 211, 132. **KW** Euler Equation. Stationarity. Monte Carlo Model.

AB We consider estimates of parameters in Euler equations where regressors may be nonstationary. We argue that results of the form typically found in empirical applications can readily be explained by consideration of orders or integration of the variables concerned; in particular, we can explain the frequent empirical finding that discount rates and adjustment costs are poorly estimated. Both analytical and experimental (Monte Carlo) results are provided.

Donald, Stephen G.

PD August 1990. **TI** Piecewise Maximum Likelihood Estimation in Empirical Models of Auctions. **AU** Donald, Stephen G.; Paarsch, Harry J. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-17; #997-1873 East Mall, Vancouver, British Columbia V6T 1W5. **PG** 21. **PR** not available. **JE** 211, 212. **KW** Empirical Models. Auctions. Maximum Likelihood. Asymptotic Theory.

AB In empirical applications of game theory to auctions, the distribution of unobserved (or latent) characteristics is assumed to be common knowledge to the players of the game. Based upon their knowledge of these distributions, players are assumed to choose strategies which maximize their expected payoffs. Rational behavior within an assumed class of distributions for the latent process will impose certain restrictions upon the data generating process of the equilibrium strategies which can be tested. Within this framework, however, the support of the distribution of equilibrium strategies often depends upon all of the parameters of the distribution of latent characteristics, making the application of standard maximum likelihood estimation procedures inappropriate. In this paper, we propose a piecewise maximum likelihood estimator, show the conditions under which it is consistent, and derive the relevant asymptotic distributions.

Donaldson, David

TI A Welfarist Proof of Arrow's Theorem. **AU** Blackorby, Charles; Donaldson, David; Weymark, John A.

PD June 1990. **TI** On the Aggregation of Money Measures of Well-Being in Applied Welfare Economics. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-12; #997-1873 East Mall, Vancouver, British Columbia V6T 1W5. **PG** 32. **PR** not available. **JE** 024, 022. **KW** Cost-Benefit Analysis. Welfare Economics. Welfare Ratio. Equivalence Scale.

AB This paper compares social preference relations based on aggregates of different money measures of well-being: compensating variations, money metrics, and welfare ratios. Criteria employed are: (i) consistency (transitivity of weak and strict preference, asymmetry of strict preference); (ii) ability to cope with price and income changes (general equilibrium), (iii) independence of social preferences from "reference" prices and/or reference household types; (iv) flexibility with respect to inequality aversion. Social preferences based on money measures are contrasted with those based on utilities which in turn are based on adult-equivalence scales.

Dow, James

TI Default, Settlement and Signalling: Lending Resumption in a Reputational Model of Sovereign Debt. **AU** Cole, Harold L.; Dow, James; English, William B.

Dumas, Bernard

PD February 1989. **TI** Performance of Currency Portfolios Chosen by a Bayesian Technique: 1967-1985. **AU** Dumas, Bernard; Jacquillat, Bertrand. **AA** Dumas: University of Pennsylvania. Jacquillat: University Paris-Dauphine. **SR** Stanford Hoover Institute Working Paper in Economics: E-89-6; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 36. **PR** not available. **JE** 313, 311. **KW** Portfolio. Currency. Money Market.

AB This paper is about normative currency portfolio rules. It assumes logarithmic investors who maximize the expected utility from lognormal currency returns with and without short sales restrictions. A number of implementable portfolio diversification policies are tried out on a large body of data covering nine major currencies and eighteen years of weekly observations. In doing so, we present ways of dealing with the "estimation risk" in an international context. The necessary

mean and covariance inputs are provided by a Bayesian prior on the means and by sample means and covariance matrices, which are estimated from weekly sample data. While some policies do produce abnormal returns (over and beyond proper reward for risk), none does so in a statistically significant way.

PD August 1989. **TI** The Money and Bond Markets in France: Segmentation vs. Integration. **AU** Dumas, Bernard; Jacquillat, Bertrand. **AA** Dumas: University of Pennsylvania. Jacquillat: University of Paris Dauphine, and Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-89-21; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 42. **PR** not available. **JE** 313, 311, 613. **KW** Deregulation. Bond Market. Money Market. **AB** In this paper, we address the issue of segmentation vs. integration of the money and bond markets in France during the period 1981-1984 which was characterized by severe limitations for all but a few selected institutions, as far as the access to the money market was concerned. Since then profound deregulation has taken place. Thus, it is interesting to verify to what extent the money market was disconnected from other markets, e.g. the bond market, during the pre-deregulation period.

Dunne, Paul

PD June 1989. **TI** Military Expenditure and Unemployment in the OECD. **AU** Dunne, Paul; Smith, Ron. **AA** Dunne: Magdalene College, Cambridge. Smith: Birkbeck College. **SR** University of Cambridge Department of Applied Economics Working Paper: 8906; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 26. **PR** \$4.00; checks payable to University of Cambridge. **JE** 114, 824, 322, 321, 122. **KW** Military Expenditures. OECD. Employment. Unemployment Rate. Government Spending. Defense Spending. **AB** The paper briefly surveys previous estimates made of the employment effects of military expenditure. It then considers evidence from the simple dynamic reduced form regressions estimated on long historical series for the US and the UK and pooled post-war data for 11 OECD countries. This does not suggest that the share of military expenditure is a significant influence on the unemployment rate. This in turn implies that in analyzing unemployment no special account need be taken of military expenditure and that the fear that reductions in the share of military expenditure will be associated with higher average unemployment levels is misplaced.

Dutta, Jayasri

PD October 1989. **TI** What Do Heteroskedasticity Tests Detect?. **AU** Dutta, Jayasri; Zaman, Asad. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 447; Department of Economics, Columbia University, New York, New York 10027. **PG** 25. **PR** \$5.00. **JE** 211. **KW** Heteroskedasticity. Lagrange Multiplier Tests. Exact Tests. **AB** A test can be said to "detect" a heteroskedastic variance sequence only if (at the very least) its power exceeds its size. Using this principle to define the "implicit null" and "alternative" for a test, we analyze the performance of several popular tests for heteroskedasticity. The tests examined belong to one of two broad classes; the Szroeter class of exact tests, and the Bickel class of asymptotic chi-squared tests, which

includes Lagrange Multiplier tests. We show that for all such tests, there exist many kinds of heteroskedasticity which the tests fail to detect. Using a technique due to Pitman, we construct a test which detects all kinds of heteroskedasticity in the normal model.

Dutta, Prajit K.

PD June 1990. **TI** Innovation and Product Differentiation. **AU** Dutta, Prajit K.; Lach, Saul; Rustichini, Aldo. **AA** Dutta: Columbia University. Lach: Hebrew University. Rustichini: Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 894; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 37. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 621, 611, 112. **KW** Economic Development. Differentiated Products. Innovations. Market Competition. **AB** Economic theory has primarily viewed an innovation as a single, discontinuous change. Historical and empirical evidence, on the other hand, shows that a major part of economic development has come from an accumulation of small improvements to original technologies and quality additions to early products. We focus analysis on competition in the post-discovery phase, emphasizing in particular that a key dimension to this competition is the innovations that lead to product differentiation and quality improvement. In a duopoly model with a single adoption choice, we derive endogenously the level and diversity of product innovations. We demonstrate the existence of equilibria in which firms emerge at different points of the quality spectrum.

Ebrill, Liam P.

PD January 1990. **TI** The U.S. Health Care Industry: Performance and Issues. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/1; International Monetary Fund, Washington, DC 20431. **PG** 33. **PR** not available. **JE** 913. **KW** Health Care. Medical Costs. Medical Insurance. **AB** This paper describes how economic behavior in the market for health care in the United States is influenced by a range of impediments to the functioning of the price mechanism which impart an upward bias to health care costs and imply efficiency losses. The paper also considers how to reform the health care sector, with particular emphasis on finding a way of resolving the dilemma posed by the tradeoff between the risk spreading afforded by insurance and establishing appropriate incentives to restrain expenditures.

Eckaus, R. S.

TI An Economy Wide Energy Model for Egypt. **AU** Blitzer, Charles R.; Eckaus, R. S.; Lahiri, S.

Eckel, Catherine C.

PD June 1989. **TI** Pricing, Capacity and Regulation with Random Correlated Demands. **AU** Eckel, Catherine C.; Smith, William T. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E89-06-01; Working Paper Coordinator, Department of Economics, Pamplin Hall, Blacksburg, Virginia 24061. **PG** 31. **PR** free by request. **JE** 611, 641, 022. **KW** Monopoly. Aggregate Demand. Prices. Economic Capacity.

AB This paper demonstrates how a multiproduct monopolist can exploit economies of scope arising from the stochastic characteristics of demand. If operating costs are convex, or if the firm must precommit to capacity and faces a reliability constraint, then optimal prices are set to decrease the variance of aggregate demand. Demands that covary negatively with aggregate demand are charged lower prices than those that covary positively. Covariances enter the pricing rule through "betas" analogous to those that appear in asset pricing models. Optimal capacity is also affected by these betas. As long as demands are not perfectly positively correlated, expected costs of joint production are less than expected costs of serving demands separately.

Eckwert, Bernhard

PD February 1990. **TI** Nonlinear Price Schedules and Monetary Equilibrium. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-281; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 21. **PR** no charge. **JE** 311, 021. **KW** Consumer Behavior. Monetary Equilibrium. Rational Expectations. Stock Prices. Savings.

AB A version of the overlapping generations model is used to analyze consumer behavior and the properties of monetary equilibria if agents are faced with a nonlinear rate-of-return schedule on saving. Optimal individual decisions depend on economic parameters in a non-standard way. In a long run rational expectations equilibrium either real stock prices or the aggregate supply of stocks constitute a free parameter of the model. In the short run, if expectations are inelastic, no endogenous constraints on nominal stock prices exist while nominal goods and real stock prices are restricted to certain subsets of the positive real line.

Ehrenberg, Ronald

PD January 1990. **TI** Faculty Turnover at American Colleges and Universities: Analyses of AAUP Data. **AU** Ehrenberg, Ronald; Kasper, Hirschel; Rees, Daniel. **AA** Ehrenberg and Rees: Cornell University. Kasper: Oberlin College. **SR** National Bureau of Economic Research Working Paper: 3239; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 29. **PR** \$2.00. **JE** 812, 823, 813. **KW** Labor Turnover. Occupation Turnover. Tenure.

AB This paper uses institutional level data collected by the American Association of University Professors as part of their annual survey of faculty members' compensation to analyze faculty turnover. Analyses of aggregate data over almost a twenty year period highlight how remarkably stable faculty retention rates have been nationwide and how little they vary across broad categories of institutions. Analyses of variations in faculty retention rates across individual institutions stress the role that faculty compensation levels play. Higher levels of compensation appear to increase retention rates for assistant and associate professors (but not for full professors) and the magnitude of this effect grows larger as one moves from institutions with graduate programs, to four-year undergraduate institutions, to two-year institutions.

Eichenbaum, Martin

TI Unit Roots in Real GNP: Do We Know, and Do We Care?. **AU** Christiano, Lawrence J.; Eichenbaum, Martin.

Eichengreen, Barry

PD September 1989. **TI** The Comparative Performance of Fixed and Flexible Exchange Rate Regimes: Interwar Evidence. **AA** University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 3097; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 33. **PR** \$2.00. **JE** 431, 411, 321. **KW** Exchange Rates. Interest Rates. Capital Controls.

AB This paper reports evidence on the characteristics of fixed and flexible exchange rate regimes. It contrasts experience under three interwar exchange rate regimes: the free float of the early 1920s, the fixed rates of 1927-31, and the managed float of the early 1930s. A number of important differences across nominal exchange rate regimes emerge.

PD September 1989. **TI** The Capital Levy in Theory and Practice. **AA** University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 3096; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 45. **PR** \$2.00. **JE** 323, 322, 321. **KW** Public Debt. Capital Levy. Taxation. Fiscal Policy.

AB A capital levy is a one-time tax on all wealth holders with the goal of retiring public debt. This paper reconsiders the historical debate over the capital levy in a contingent capital taxation framework. This shows how in theory the imposition of a levy can be welfare improving when adopted to redress debt problems created by special circumstances, even if its nonrecurrence cannot be guaranteed. If the contingencies in response to which the levy is imposed are fully anticipated, independently verifiable and not under government control, then saving and investment should not fall following the imposition of the levy, nor should the government find it more difficult to raise revenues subsequently.

PD January 1990. **TI** One Money for Europe? Lessons from the U.S. Currency Union. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 90-132; IBER, 156 Barrows Hall, University of California, Berkeley, Berkeley, California 94720. **PG** 103. **PR** \$3.50. **JE** 423, 432, 431, 411. **KW** Economic Integration. Monetary Union. Europe. Exchange Rates. Central Bank. Currency.

AB Much of the recent discussion in Europe of the need to complete the internal market and to create a central bank for the Economic Community alludes to the competitive challenge posed by the United States. The rationale for a single European market free of barriers to international transactions is straightforward. An integrated market encourages specialization along lines of comparative advantage. The rationale for a European central bank and its relationship to the single market are less straightforward. However it is a common observation that balance of payments problems do not arise within the United States. I use some unusual data to analyze exactly how interregional payments balance is maintained. This enables us to ask whether or not the conditions for replicating the American situation are present in Europe.

Ekey, Janet

TI Alternative Agriculture: A Review and Assessment of the Literature. **AU** Crosson, Pierre; Ekey, Janet.

El-Gamal, Mahmoud A.

PD May 1990. **TI** Bayesian Economists...Bayesian Agents II: Evolution of Beliefs in the Single Sector Growth Model. **AU** El-Gamal, Mahmoud A.; Sundaram, Rangarajan, K. **AA** El-Gamal: California Institute of Technology. Sundaram: University of Rochester. **SR** Caltech Social Science Working Paper: 736; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, California 91125. **PG** 12. **PR** no charge. **JE** 026, 023. **KW** Learning. Bayesian Model. Growth Model. Capital Stock. Convergence Theorem.

AB In "Bayesian Economists...Bayesian Agents I" (BBI), we generalized the results on Bayesian learning based on the martingale convergence theorem from the repeated to the sequential framework. In BBI, we showed that the variability introduced by the sequential framework is sufficient under very mild identifiability conditions to circumvent the incomplete learning results that characterize the literature. In this paper, we demonstrate that result in the neoclassical single sector growth model under even weaker identifiability conditions. We study the evolution of agent-beliefs in that model and show that, under reasonable conditions, the dependence of the current capital stock on the previous capital stock induces enough variability for our complete learning results to become relevant.

PD May 1990. **TI** Fictitious Play: A Statistical Study of Multiple Economic Experiments. **AU** El-Gamal, Mahmoud A.; Boylan, Richard T. **AA** California Institute of Technology. **SR** Caltech Social Science Working Paper: 737; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, California 91125. **PG** 35. **PR** no charge. **JE** 215. **KW** Experimental Economics. Experimental Design. Cournot Equilibrium.

AB This paper illustrates the use of a full Bayesian procedure to update an experimenter's belief over various economic behavioral hypotheses using data from a variety of (potentially very different) experiments. Our example uses experimental data to update our belief as to whether individuals select strategies according to fictitious play. We endow the experimenter with priors over the events that players act according to fictitious play and according to the Cournot process. We then numerically compute the likelihood function for each experiment by replicating the experimental design and running the experiment with robots that behave according to each of our hypotheses.

Engel, Eduardo M. R. A.

TI Heterogeneity and Output Fluctuations in a Dynamic Menu Cost Economy. **AU** Caballero, Ricardo J.; Engel, Eduardo M. R. A.

English, William B.

TI Default, Settlement and Signalling: Lending Resumption in a Reputational Model of Sovereign Debt. **AU** Cole, Harold L.; Dow, James; English, William B.

Erdos, Peter L.

PD January 1990. **TI** Applications of Antilexicographic Order II. How to Sharpen the Lym Inequality. **AU** Erdos, Peter L.; Frankl, P.; Kleitman, D. J.; Saks, M. E.; Szekely, L. A. **AA** Erdos: Hungarian Academy of Sciences, Budapest. Frankl: University of Paris VII. Kleitman: Massachusetts

Institute of Technology. Saks: University of California, San Diego. Szekely: Eotvos University, Budapest and University of New Mexico. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90626-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 11. **PR** no charge. **JE** 213. **KW** LYM Inequality. Sperner Families.

AB We present an infinite sequence of inequalities based on the canonization of Sperner families, such that every inequality sharpens the well-known LYM inequality. The zero order term of the sequence is the LYM inequality itself.

PD January 1990. **TI** On the Reconstruction of Combinatorial Structures from Line-Graphs. **AA** Mathematical Institute of the Hungarian Academy of Sciences, Budapest. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90627-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 12. **PR** no charge. **JE** 213. **KW** Line-Graphs. Finite Vector Spaces. Hypergraphs. Hypergraph Classes.

AB Here are presented some reconstruction-type results related to H. Whitney, C. Berge and J. C. Fournier. Certain hypergraph classes are described which are determined (up to isomorphism) by its line-graphs. There are Hamming schemes, t-designs and finite vector spaces among the described classes.

Ericson, Richard

PD September 1989. **TI** An Alternative Theory of Firm and Industry Dynamics. **AU** Ericson, Richard; Pakes, Ariel. **AA** Ericson: Columbia University. Pakes: Yale University. **SR** Columbia Department of Economics Working Paper: 445; Department of Economics, Columbia University, New York, New York 10027. **PG** 66. **PR** \$5.00. **JE** 611, 022. **KW** Learning Process. Industrial Organization. Market Structure. Bankruptcy.

AB A salient feature of firm level data is the great variability in the fate of firms over time. Perhaps the most notable manifestation of this variability is the great amount of turnover, or entry and exit, found in firm, or establishment level, data. Not only do entry and exit tend to occur simultaneously, but at least in the cross section, they are positively correlated; that is, in any given period, industries with high entry rates tend to be industries with high exit rates. This paper is an attempt to provide a model of firm and industry dynamics that allows for entry, exit, and (some of) the idiosyncratic, or firm specific, uncertainties that generate variability in the fortunes of firms. It pays particular attention to the impact of the uncertainty generated by the random outcomes of investment in research and exploration processes.

Estrin, Saul

TI Unemployment and the Demand for Unions. **AU** Blanchflower, David G.; Crouchley, Robert; Estrin, Saul; Oswald, Andrew J.

TI Unemployment and the Demand for Unions. **AU** Blanchflower, David G.; Crouchley, Robert; Estrin, Saul; Oswald, Andrew J.

TI Unemployment and the Demand for Unions. **AU** Blanchflower, David G.; Crouchley, Robert; Estrin, Saul; Oswald, Andrew J.

Evans, Martin

PD January 1990. **TI** A Modern Look at Asset Pricing and Short-Term Interest Rates. **AU** Evans, Martin; Wachtel, Paul. **AA** New York University. **SR** National Bureau of Economic Research Working Paper: 3245; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** \$2.00. **JE** 311, 131, 134. **KW** Interest Rates. Economic Fluctuations. Asset Pricing Theory. Inflation. Output.

AB This paper uses modern asset pricing theory to examine the behavior of short-term nominal interest rates over the past 25 years. The analysis investigates whether variation in the stochastic behavior of output and inflation can explain movements in the rate of interest. Our results reveal that much of the month to month movement in nominal interest rates reflects changes in the real rate and the risk premia rather than inflationary expectations.

Evans, William N.

PD September 1989. **TI** The Nature of Utility Functions for Minor Health Effects. **AU** Evans, William N.; Viscusi, W. Kip. **AA** Evans: University of Maryland, College Park. Viscusi: Duke University. **SR** University of Maryland Department of Economics Working Paper Series: 89-24; Department of Economics, University of Maryland, College Park MD 20742. **PG** 39. **PR** no charge. **JE** 913. **KW** Health. Public Health. Health Risks.

AB The appropriate insurance and valuation of health risks hinges on the structure of utility functions in different health states. This largely unexplored area is investigated by developing an econometric technique to estimate utility functions based on survey data on risk-dollar tradeoffs for minor health effects. The empirical tests indicate that for the temporary health effects considered, consumers treat injuries as tantamount to a drop in income, implying that there is a demand for full insurance of the nonpecuniary loss. A general procedure is also developed to estimate monetary loss equivalents that vary by observed characteristics.

Fair, Ray C.

PD September 1989. **TI** Inflationary Expectations and Price Setting Behavior. **AA** Yale University. **SR** National Bureau of Economic Research Working Paper: 3102; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 20. **PR** \$2.00. **JE** 227, 134, 132. **KW** Expectations. Prices. Inflation.

AB This paper tests for the existence of expectational effects in very disaggregate price equations. Price equations are estimated using monthly data for each of 40 products. The dynamic specification of the equations is also tested, including whether the equations should be specified in level form or in change form. Two expectational hypotheses are used, one in which expectations of the aggregate price level are a function of the past values of the price level and one in which expectations are rational. Under the first hypothesis the lag length is estimated along with the other parameters, and under the second hypothesis the lead length is estimated along with the other parameters.

Farmer, Roger E. A.

PD September 1989. **TI** AIL Theory and the Ailing Phillips Curve: A Contract Based Approach to Aggregate Supply. **AA** University of California, Los Angeles.

SR National Bureau of Economic Research Working Paper: 3115; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 27. **PR** \$2.00. **JE** 131, 133, 023. **KW** Unemployment. Interest Rates. Contract Theory. Aggregate Supply.

AB This paper presents empirical evidence from U.S. data of a structurally stable aggregate supply relationship between real and nominal rates of interest and the rate of unemployment. The paper reviews theories of contracts that are based on the twin assumptions of asymmetric information and limited collateral and it argues that these theories (referred to as A.I.L. theories) provide a strong theoretical foundation for a contract-based theory of aggregate supply. It is suggested that the original Phillips curve estimates should be reinterpreted in the light of A.I.L. theories which represent alternatives to the Phelps-Friedman interpretation of the Phillips relationship.

PD January 1990. **TI** Sticky Prices. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 588; Department of Economics, 2263 Bunche, Los Angeles, CA 90024. **PG** 17. **PR** \$2.50. **JE** 133, 023. **KW** Business Cycle. Prices. Economic Fluctuations.

AB The real world is characterized by sticky prices in the sense that prices do not respond rapidly to innovations in other variables. Many authors have tried to explain this fact by constructing model economies that contain artificial barriers to price flexibility. For some time we have known of models where prices are perfectly free to move that contain an equilibrium in which they do not. Previously known examples that exhibit this feature have generally been dismissed as serious explanations of business cycle phenomena because they make counterfactual predictions. The contribution of this paper is to present a simple example of an economy in which prices are "sticky", in the above sense, that mimics many of the features that characterize business cycles.

Farrell, Joseph

PD April 1989. **TI** Asset Ownership and Market Structure in Oligopoly. **AU** Farrell, Joseph; Shapiro, Carl. **AA** Farrell: Hoover Institution and University of California, Berkeley. Shapiro: Princeton University. **SR** Stanford Hoover Institute Working Paper in Economics: E-89-13; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 41. **PR** not available. **JE** 611, 022. **KW** Oligopoly. Investment. Capital. Market Structure.

AB We study the effects of changes in the ownership of productive assets in a concentrated industry. We analyze (1) investment by an oligopolist, (2) the sale by one oligopolist to another of industry-specific capital, and (3) stock market purchases whereby one firm acquires a partial interest in a rival firm. In each case we determine how the change in asset ownership affects price, profits, industry performance, and measured concentration. We identify those industry conditions and asset transactions for which increase in concentration serve as a reliable indicator of worsened industry performance.

Feenberg, Daniel

TI The Impact of the 1986 Tax Reform Act on Personal Saving. **AU** Skinner, Jonathan; Feenberg, Daniel.

Feenstra, Robert C.

PD August 1989. **TI** Distance, Demand, and Oligopoly

Pricing. AU Feenstra, Robert C.; Levinsohn, James A. AA Feenstra: University of California, Davis. Levinsohn: University of Michigan. SR National Bureau of Economic Research Working Paper: 3076; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 31. PR \$2.00. JE 611, 022. KW Oligopoly. Product Demand. Differentiated Products.

AB We demonstrate how to estimate a model of product demand and oligopoly pricing when products are multidimensionally differentiated. We provide an empirical counterpart to recent theoretical work on product differentiation. Using specifications informed by economic theory, we simultaneously estimate a demand system and price-cost margins for products differentiated in many dimensions.

PD February 1990. TI Distributing the Gains from Trade with Incomplete Information. AU Feenstra, Robert C.; Lewis, Tracy R. AA University of California at Davis. SR University of California at Davis Economics Department Working Paper: 352; Department of Economics, University of California at Davis, Davis, CA 95616. PG 28. PR no charge. JE 422, 431, 411. KW Incomplete Information. Tariffs. Imports. Government Policy.

AB We argue that the incomplete information which the government has about domestic agents means that tariffs become an optimal instrument to protect them from import competition. We solve for the optimal government policies, subject to the political constraint of ensuring Pareto gains from trade, the incentive compatibility constraint, and the government's budget constraint. We find that the optimal policies take the form of nonlinear tariffs, so that both buyers and sellers of the import face an effective price which exceeds its world level. We find that the tariffs are never complete, in the sense of bringing prices for all individuals back to their initial level. Rather, it will always be possible to make some individuals strictly better off than at the initial prices, while ensuring that no persons are worse off.

PD February 1990. TI Trade and Uneven Growth. AA University of California at Davis. SR University of California at Davis Economics Department Working Paper: 353; Department of Economics, University of California at Davis, Davis, CA 95616. PG 32. PR no charge. JE 111, 411. KW Endogenous Growth. International Trade. Innovation. R&D.

AB We consider trade between two countries of unequal size, where the creation of new intermediate inputs occurs in both. We assume that the knowledge gained from R&D in one country does not spillover to the other. Under autarky, the larger country would have a higher rate of product creation. When trade occurs in the final goods, we find that the smaller country has its rate of product creation slowed, even in the long run. In contrast, the larger country enjoys a temporary increase in its rate of R&D. We also examine the welfare consequences of trade in the final good, which depend on whether the intermediate inputs are traded or not.

PD February 1990. TI Designing Policies for Open Trade. AU Feenstra, Robert C.; Lewis, Tracy R.; McMillan, John. AA Feenstra and Lewis: University of California, Davis. McMillan: University of California, San Diego. SR National Bureau of Economic Research Working Paper: 3258; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 26.

PR \$2.00. JE 422, 411, 023. KW Trade Policy. Quotas. Imports. Auctions. Protectionism.

AB In this paper we consider recent proposals to auction U.S. import quotas, using the funds so obtained to encourage relocation out of the protected industries. We argue that the information available to the government, or lack thereof, is a critical factor in understanding these policies. In a world of full information, it makes little sense to use auction quotas rather than tariffs. Similarly, it is unclear why an elaborate program of temporary protection is needed, rather than immediately opening trade and compensating people with an income transfer. When the government has limited information, however, these policies become quite sensible and may even be optimal.

Fernandez, Raquel

PD September 1989. TI Striking for a Bargain Between Two Completely Informed Agents. AU Fernandez, Raquel; Glazer, Jacob. AA Boston University. SR National Bureau of Economic Research Working Paper: 3108; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 33. PR \$2.00. JE 832, 833. KW Unions. Collective Bargaining. Labor Strikes. Negotiation.

AB This paper models the wage-contract negotiation procedure between a union and a firm as a sequential bargaining process in which the union also decides, in each period, whether or not to strike for the duration of that period. We show that there exist subgame-perfect equilibria in which the union engages in several periods of strikes prior to reaching a final agreement, although both parties are completely rational and fully informed. This has implications for other inefficient phenomena such as tariff wars, debt negotiations, and wars in general. We characterize the set of equilibria, show that strikes can occur in real time, and discuss extensions of the model such as lockouts and the possibility of multiple recontracting opportunities.

Ferreira, Jose Luis

PD August 1990. TI A Communication-Proof Equilibrium Concept. AA Northwestern University. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 896; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. PG 26. PR \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. JE 026. KW Game Theory. Renegotiation. Coalition. Infinite Horizon. Cooperative Games.

AB This paper proposes an equilibrium concept for the classes of environments in which players can communicate with each other but cannot make binding agreements. This Communication-proof equilibrium is intended to be regarded as an extension of both Coalition and Renegotiation-proof equilibria. Conceptual foundations for this particular definition are widely discussed as it is confronted with other definitions in this class of environments. The definition is extended to infinite horizon games using the von Neumann and Morgenstern's concept of abstract stable sets.

Fershtman, Chaim

PD January 1990. TI Cross Licensing of Complementary Technologies. AU Fershtman, Chaim; Kamien, Morton I. AA Fershtman: Northwestern University and Tel Aviv

University.

Kamien: Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 866; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60201. **PG** 28. **PR** no charge. **JE** 611, 616, 621, 511. **KW** Licenses. Technology. Innovations. Products.

AB It often happens that the introduction of a new product requires the development of several distinct complementary technologies. These new technologies may be in the form of component parts or production methods, or both. It also sometimes happens that these complementary technologies are independently developed by different firms. In these circumstances each firm possesses a technology that only has value when combined with those of the other firms'. Each firm may in these circumstances seek to develop the complementary technologies on its own or choose to provide access to its technology to others in exchange for access to their technologies. This exchange of complementary technologies typically takes the form of cross licensing.

PD January 1990. **TI** Delayed Agreements and Non-Expected Utility. **AU** Fershtman, Chaim; Safra, Zvi; Vincent, Daniel R. **AA** Fershtman: Northwestern University and Tel Aviv University. Safra: Tel Aviv University. Vincent: Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 867; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston IL 60208. **PG** 16. **PR** no charge. **JE** 026, 022. **KW** Game Theory. Expected Utility. Contingent Plans. Information Structure.

AB It is common in the analysis of economic environments to consider the effects of making contingent plans. Typically, the ability to formulate a contingent strategy before a particular state of Nature is realized enhances an agent's choice set and, it does not strictly improve welfare, usually does not reduce it. We analyze a game situation in which two agents may interact strategically either before or after a random of Nature. Since the strategy choices may be contingent on the state, players do not, by moving earlier, lose any ability to exploit the information that knowledge of the state may impart. The standard analysis, in the context of expected utility maximizing agents, suggests that offering the players the opportunity to decide earlier has no welfare effects. The objective of this paper is to demonstrate that such a result is highly dependent on the assumption of expected utility agents.

PD June 1990. **TI** The Effects of Insider Trading on Insiders' Reaction to Opportunities to "Waste" Corporate Value. **AU** Fershtman, Chaim; Bebchuk, Lucian Arye. **AA** Fershtman: Tel Aviv University. Bebchuk: Harvard University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 889; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** not available. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 521, 522, 512, 514. **KW** Insider Trading. Corporations. Business Finance.

AB This paper analyzes certain effects of insider trading on the principal-agent problem in corporations. Specifically, we focus on those managerial choices that confront managers with

the need to decide between options that produce different corporate value but do not differ in the managerial effort involved. In the absence of insider trading, and as long as managers' salaries are positively correlated with their firm's results, managers will make such choices efficiently, and consequently such choices have previously received little attention. We show that, in the presence of insider trading, managers may make such choices inefficiently.

TI The Effects of Insider Trading on Insiders' Choice Among Risky Investment Projects. **AU** Bebchuk, Lucian Arye; Fershtman, Chaim.

Finkelshtain, Israel

PD June 1989. **TI** Portfolio Choices in the Presence of Other Risks. **AU** Finkelshtain, Israel; Chalfant, James A. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 505; 207 Giannini Hall, University of California, Berkeley, Berkeley, CA 94720. **PG** 29. **PR** \$5.80. **JE** 311, 026, 022. **KW** Multivariate Risk. Portfolio Choice. Mean-Variance Analysis. Risk Aversion. Wealth. Investment.

AB The effects of multivariate risk are examined in a model of portfolio choice. The conditions under which portfolio choices are separable from consumption decisions are derived. Unless the appropriate restrictions hold on investors' preferences or the probability distribution of risks, the optimal portfolio is affected by other risks. This requires generalizing the usual measures of risk aversion. With two risky assets, the choices made by investors coincide if and only if their generalized risk aversion measures are identical. An extension of Ross's notion of stronger risk aversion is used to characterize the effect of risk aversion on the investment level in the riskier asset. Finally, in a mean-variance model, the matrix measures of risk aversion and wealth on the optimal portfolio.

Finn, Mary G.

PD June 1988. **TI** Intertemporal Asset-Pricing Relationships in Barter and Monetary Economies: An Empirical Analysis. **AU** Finn, Mary G.; Hoffman, Dennis L.; Schlagenhauf, Don E. **AA** Arizona State University. **SR** University of Western Ontario Department of Economics Research Report: 8805; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 37. **PR** not available. **JE** 311, 023. **KW** Monetary Economy. Monetary Models. Asset Prices. Intertemporal Model. Barter Economy.

AB This paper investigates whether the poor empirical performance of intertemporal asset pricing relationships, which has been documented in the literature, stems from the fact that they have been derived from barter economy models. This question is addressed here by systematically estimating and testing the Euler equations governing asset choices that are derived from alternative barter and monetary economy models. The generalized method of moments (GMM) estimation technique and monthly data on the US economy over the period 1959:02-1985:12 are employed. The estimation findings reaffirm the lack of support for the barter economy specification embodying the conventional end-of-period timing assumption in respect to consumption and investment choices.

Fisher, Anthony C.

PD December 1989. **TI** On the Existence and Optimality

of Competitive Equilibria in Nonrenewable Resource Industries. AU Fisher, Anthony C.; Karp, Larry S. AA University of California at Berkeley. SR University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 521; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. PG 21. PR \$5.00. JE 721, 024. KW Nonrenewable Resources. Competitive Equilibrium. Welfare Analysis. Natural Resources.

AB If average costs in a nonrenewable resource industry are U-shaped, competitive equilibrium may not be optimal and, indeed, may not exist. Although the differential equation that describes the change in the rate of extraction is the same for planner and firm, the boundary conditions obtained from the transversality conditions for the respective problems (for planner and firm) will not, in general, be the same. If costs are convex, or if there exists a backstop technology which can produce the resource services at sufficiently low cost, the boundary conditions are, however, the same.

Fluck, Zsuzasanna

PD March 1990. TI Does a Little Envy Make Any Difference?. AA Princeton University. SR John M. Olin Program for the Study of Economic Organization and Public Policy: 53; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. PG 25. PR no charge. JE 025, 021. KW Social Choice. General Equilibrium.

AB Our objective is to investigate the existence of a Social Choice Correspondence that is efficient and satisfy some "almost Equitable" criterion. Looking at a pair of Equity axioms, namely, "No-Envy" and "Bigger is Better" we analyze the perturbation of these concepts, "a-envy-free" and "p-monotonicity", respectively, while regarding Pareto Optimality as an axiom representing efficiency. We conclude that the nonexistence of an Equitable-Efficient Social Choice Correspondence is very robust, in fact the one satisfying Pareto Optimality and "Bigger is Better" expressed "infinitely high Envy" as the number of agents increases. It is shown that Envy is an increasing function of the size of the economy. We also Characterize the Core from the point of view Envy-freeness. Similarly, we prove that any Social Choice Correspondence satisfying Pareto Optimality and No-Envy could make not only one person but almost everybody worse off even in relatively small economies.

Foster, William E.

PD April 1989. TI A Political-Economic Rationale for Coupled Welfare Transfer Policies. AU Foster, William E.; Rausser, Gordon C. AA Foster: North Carolina State University. Rausser: University. SR University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 498; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. PG 44. PR \$8.80. JE 024, 911, 321. KW Welfare Transfers. Wealth. Political System. Social Welfare. Transfer Programs.

AB The existence of distortionary wealth transfers is currently viewed as the result of competition among pressure groups. In this model of the world, groups wrestle over the potential wealth offered by an economic system, enjoying subsidies or suffering taxes in proportion to their relative political strengths. In short, wealth transfers flow to the

politically strong at the expense of society as a whole. This paper presents an alternative model where policies that increase total social welfare may have to be accompanied by wealth transfers, or they will not be implemented because of political opposition.

Frank, Andras

PD 1988. TI Packing Paths, Circuits and Cuts: A Survey. AA University of Budapest. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88532-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 57. PR no charge. JE 213. KW VLSI Layout. VLSI Design. Graph Theory. Routing Problems.

AB The main motivation of the topic treated in this paper comes partly from routing problems in VLSI design and partly from the intrinsic development of graph theory. Therefore our purpose is twofold. First we want to cover a relatively broad area from graph theory and, doing so, many results will be listed which do not seem to have too much to do with VLSI applications. On the other hand we try to put some emphasis on results that are closer to routing problems.

PD December 1989. TI Conservative Weightings and Ear-decompositions of Graphs. AA Eotvos University, Budapest. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89618-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 21. PR no charge. JE 213. KW Graph Theory. Bipartite Graphs. Polynomial Time Algorithm.

AB An edge-weighting w of a graph $G=(V,E)$ is called conservative if there is no circuit of negative total weight. We prove that the minimum of $w(E)$ over all conservative weightings is equal to the maximum number of odd ears in an ear-decomposition of G . This theorem provides an answer to a question of Sole and Zaslavsky about the biggest cardinality μ of a minimum T -join over all even subsets T of V . The proof of the main theorem provides a polynomial time algorithm to construct the optima in question.

Frankel, Jeffrey

PD November 1988. TI U.S. Borrowing From Japan. AA Harvard University. SR Harvard John F. Kennedy School of Government Discussion Paper: 174D; J.F. Kennedy School of Government, 79 J.F.K. Street, Cambridge, MA 02138. PG 46. PR no charge. JE 431, 441, 411. KW Japan. Debtor Nation. Currency. Exchange Rates. International Investment. Capital Flows.

AB The paper first examines six factors determining the large net capital flow from Japan to the United States in the 1980s: (1) the large pool of available Japanese 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. The conclusion is that the capital flow was attracted primarily by higher expected rates of return in the United States and that the flow was abetted by financial liberalization in Japan. The paper then considers implications of the new U.S. indebtedness to Japan for the Japanese economy, for the U.S. economy (including short-term financial market volatility, medium-term business-cycle vulnerability, and long-term trends in living standards), and for political relations.

Frankl, P.

TI Applications of Antilexicographic Order II. How to Sharpen the Lym Inequality. **AU** Erdos, Peter L.; Frankl, P.; Kleitman, D. J.; Saks, M. E.; Szekely, L. A.

Freeman, Richard B.

TI The Declining Economic Position of Less-Skilled American Males. **AU** Blackburn, McKinley L.; Bloom, David E.; Freeman, Richard B.

Friedman, Benjamin M.

PD February 1990. **TI** Implications of Corporate Indebtedness for Monetary Policy. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 3266; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 34. **PR** \$2.00. **JE** 521, 311, 134, 023. **KW** Corporate Debt. Monetary Policy. Financial System. Banking. Inflation.

AB The thesis advanced in this paper is that the more likely threat posed by a continuing rapid rise of corporate indebtedness is a return to rapid price inflation. A review of recent developments lead to four specific conclusions: First, problems of debt service within the private sector are more likely to arise among business borrowers, not households. Second, despite these high debt service burdens, debt default on a scale large enough to threaten the financial system as a whole is unlikely in the absence of a general economic downturn. Third, the consequent need to prevent a serious recession, so as to preclude the possibility of a systemic debt default, will increasingly constrain the Federal Reserve System's conduct of monetary policy. Fourth, over time this constraint will severely limit the ability of monetary policy to contain or reduce price inflation.

PD March 1990. **TI** Changing Effects of Monetary Policy on Real Economic Activity. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 3278; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 44. **PR** \$2.00. **JE** 311, 315, 133. **KW** Monetary Policy. Mortgages. Exports. Interest Rates. Exchange Rates.

AB Major changes have taken place in the U.S. economy within the past quarter century. Changes with implications that are at least potentially important for the effect of monetary policy on real economic activity include the elimination of Regulation Q interest ceilings and the development of the secondary mortgage market, the greater openness of the U.S. economy including both goods markets and financial markets, and the rapidly increasing indebtedness of private borrowers including especially nonfinancial business corporations.

Friedman, James W.

PD October 1989. **TI** The "Folk Theorem" and Continuous Reaction Functions: A Synthesis. **AA** University of North Carolina, Chapel Hill. **SR** University of North Carolina Working Paper Series: 89-9; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 28. **PR** not available. **JE** 611, 022, 026. **KW** Oligopoly. Reaction Function. Nash Equilibrium. Cournot Equilibrium.

AB Earlier efforts by Friedman examined infinite horizon oligopolies trying (and failing) to show existence of subgame perfect Nash equilibria with the firms' strategies being

continuous reaction functions. In Friedman and Samuelson (1989) the existence of such equilibria is proved in a typical game theoretic model with discounting. The equilibrium strategies mimic trigger strategies in their method of operation but are continuous, so that small defections from equilibrium actions result in small (per period) punishments. The results are proved by construction equilibria in an analogous fashion to that found in proofs of folk theorems in repeated games. The present paper provides a review of the "folk theorem" literature in game theory, the reaction function literature in oligopoly, and then shows how these two literatures are drawn together in the Friedman and Samuelson paper.

PD October 1989. **TI** Price-Quantity Oligopoly with Adjustment Costs. **AA** University of North Carolina, Chapel Hill. **SR** University of North Carolina Working Paper Series: 89-10; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 30. **PR** not available. **JE** 611, 022, 026. **KW** Oligopoly. Differentiated Products. Output. Price. Noncooperative Equilibrium.

AB In an earlier paper I investigated three single shot models of differentiated products oligopoly. In each model firms choose both output and price. The demand, cost, and spillover demand specifications are quite general, and the main results are: (1) with simultaneous choice there is no pure strategy noncooperative equilibrium, and (2) with output chosen first and announced to all firms prior to the choice of price, equilibrium sometimes exists, and when it does it is the same as in a quantity only model. In the present paper I continue to investigate models (1) and (2) with the added feature that firms can adjust their original output plans after prices have been announced. Depending on the size of the adjustment costs, there may be a pure strategy equilibrium for model (1). In model (2), as adjustment costs fall from very high levels, the equilibrium moves continuously a quantity only equilibrium to a price only equilibrium.

Friedman, Milton

PD March 1990. **TI** Alternative Approaches to Analyzing Economic Data. **AU** Friedman, Milton; Schwartz, Anna J. **AA** Friedman: Stanford University. Schwartz: National Bureau of Economic Research. **SR** Stanford Hoover Institute Working Paper in Economics: E-90-10; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 34. **PR** not available. **JE** 023, 036, 212. **KW** Economic Methodology. Money Demand. Econometric Techniques.

AB This paper compares two approaches to the analysis of economic data: the exclusively econometric approach recommended by Hendry and Ericsson and the more eclectic approach that we employed in our books "Monetary History" and "Monetary Trends." It concludes that the article by Hendry and Ericsson is mislabeled. Their article is not in any relevant sense an evaluation of our "empirical model of U.K. money demand". Rather, it uses one equation from our book as a peg on which to hang an exposition of sophisticated econometric techniques. Insofar as their empirical findings do bear on ours, they simply confirm some of our principal results and contradict none.

Froot, Kenneth A.

PD September 1989. **TI** Intrinsic Bubbles: The Case of Stock Prices. **AU** Froot, Kenneth A.; Obstfeld, Maurice.

AA Harvard University. **SR** National Bureau of Economic Research Working Paper: 3091; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 30. **PR** \$2.00. **JE** 313, 311. **KW** Stock Prices. Dividends. Rational Bubbles. Stock Market. Finance Theory.

AB Several puzzling aspects of the behavior of United States stock prices can be explained by the presence of a specific type of rational bubble that depends exclusively on dividends. We call such bubbles "intrinsic" bubbles because they derive all of their variability from exogenous economic fundamentals, and none from extraneous factors. Unlike the most popular examples of rational bubbles, intrinsic bubbles provide an empirically plausible account of deviations from present value pricing. Their explanatory potential comes partly from their ability to generate persistent deviations that appear relatively stable over long periods.

PD February 1990. **TI** Herd on the Street: Informational Inefficiencies in a Market with Short-Term Speculation. **AU** Froot, Kenneth A.; Scharfstein, David S.; Stein, Jeremy C. **AA** Froot: Harvard University, MIT and NBER. Scharfstein: National Bureau of Economic Research. Stein: Harvard University. **SR** National Bureau of Economic Research Working Paper: 3250; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 29. **PR** \$2.00. **JE** 311, 026, 022. **KW** Speculation. Finance Theory. Asset Markets. Trading.

AB Standard models of informed speculation suggest that traders try to learn information that others do not have. This result implicitly relies on the assumption that speculators have long horizons, i.e., can hold the asset forever. By contrast, we show that if speculators have short horizons, they may herd on the same information, trying to learn what other informed traders also know. There can be multiple herding equilibria, and herding speculators may even choose to study information that is completely unrelated to fundamentals. These equilibria are informationally inefficient.

Froyen, Richard

TI Optimal Stabilization Policy with an Interest-Equalization Tax in a Small Open Economy. **AU** Benavie, Arthur; Froyen, Richard.

Fry, Vanessa

PD February 1990. **TI** Abstention and Aggregation: Demand for Tobacco in the United Kingdom. **AU** Fry, Vanessa; Pashardes, Panos. **AA** Fry: University College, Oxford and Institute for Fiscal Studies, London. Pashardes: City University and Institute for Fiscal Studies, London. **SR** Oxford Applied Economics Discussion Paper: 86; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. **PG** 27. **PR** not available. **JE** 921. **KW** Tobacco. Family Expenditures. Consumption.

AB This paper examines the implications of zero expenditures at the micro level for the modelling of aggregate consumer demands. Zero expenditure by an individual consumer on a good can be due to abstention from its consumption, in the sense that there is no nonnegative price which would induce consumption. When such zero expenditures are included in the data from which aggregate consumer demand is estimated the resulting parameters may be unstable. The issue is investigated empirically using pooled Family Expenditure Survey data for the United Kingdom for the years 1970-1984, focusing on the demand for tobacco.

Fudenberg, Drew

PD March 1989. **TI** An Approximate Folk Theorem with Imperfect Private Information. **AU** Fudenberg, Drew; Levine, David K. **AA** Fudenberg: Massachusetts Institute of Technology. Levine: University of California, Los Angeles. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 525; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 33. **PR** not available. **JE** 026. **KW** Repeated Games. Folk Theorem. Private Information.

AB We give a partial folk theorem for approximate equilibria of a class of discounted repeated games where each player receives a private signal of the play of his opponents. Our condition is that the game be "informationally connected," meaning that each player i has a deviation that can be statistically detected by player j regardless of the action of any third player k . Under the same condition, we obtain a partial folk theorem for the exact equilibria of the game with time-average payoffs.

PD May 1989. **TI** The Folk Theorem with Imperfect Public Information. **AU** Fudenberg, Drew; Levine, David K.; Maskin, Eric. **AA** Fudenberg: Massachusetts Institute of Technology. Levine: University of California, Los Angeles. Maskin: Harvard University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 523; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 58. **PR** not available. **JE** 026. **KW** Folk Theorem. Repeated Games. Imperfect Information. Game Theory.

AB The Folk Theorem obtains in repeated games with imperfect public information if for each pair of agents there is at least one action profile where the information revealed by the publicly observed outcome permits deviations by one of the agents to be statistically distinguished from deviations by the other, and the dimension of the set of feasible payoffs equals the number of players. Under somewhat stronger conditions, we obtain a Folk Theorem for strict equilibria. Without pairwise full rank, a "Nash-Threats" Folk Theorem obtain if the observed outcomes statistically give independent information about each player's actions. We give applications of our results to repeated agency models, the Green-Porter oligopoly model and repeated mechanism design.

PD June 1989. **TI** Equilibrium Payoffs with Long-Run and Short-Run Players and Imperfect Public Information. **AU** Fudenberg, Drew; Levine, David K. **AA** Fudenberg: Massachusetts Institute of Technology. Levine: University of California, Los Angeles. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 524; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 22. **PR** not available. **JE** 026. **KW** Repeated Games. Folk Theorem. Game Theory.

AB We present a general algorithm for computing the limit, as δ converges to 1, of the set of payoffs of perfect public equilibria, of repeated games with long-run and short-run players, allowing for the possibility that the players' actions are not observable by their opponents. We use the algorithm to obtain an exact characterization of the limit set when the players' realized actions, but not their choices of mixed strategies, are observable. We show each that long-run player's highest equilibrium payoff is generally greater in this case than when their actions are unobserved.

PD August 1989. **TI** Monopoly and Credibility in Asset Markets: An Example. **AU** Fudenberg, Drew; Levine, David K. **AA** Fudenberg: Massachusetts Institute of Technology. Levine: University of California, Los Angeles. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 539; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 31. **PR** not available. **JE** 022, 023, 051. **KW** Economies of Scale. Capitalism. Monitoring. Production. **AB** In a simple economy firms arise because there are economies of scale in intertemporal production. Consequently, agents must borrow in order to produce. Because overlapping generations of workers do not live long enough to make credible promises to repay, infinitely lived patient capitalists are the only producers. However, the behavior of capitalists is imperfectly monitored by the workers. All agents are risk neutral and the output of different capitalists is statistically independent, so adding capitalists neither improves the monitoring technology nor enlarges the set of feasible utilities. Nevertheless, adding more capitalists can increase welfare.

Fuerst, Timothy S.

PD August 1990. **TI** Liquidity, Loanable Funds, and Real Activity. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 900; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 37. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 311, 315, 023. **KW** Cash-in-Advance Model. Monetary Theory. Central Bank. Credit Market.

AB This paper develops a general equilibrium model of two traditional explanations of the monetary "black box" linking money and real activity: the liquidity effect and the loanable funds effect. These effects are modeled with a monetary production economy in which central bank injections of cash are funneled into the economy through the credit market. As a result, only borrowers have direct access to the newly injected cash. The model has several interesting implications: 1) monetary injections cause fluctuations in asset prices for non-Fisherian reasons, 2) monetary injections increase current and future real activity, and, 3) the central bank has the ability to dampen or magnify fluctuations in real activity.

Fukao, Kyoji

PD September 1989. **TI** The Fisherian Time Preference and the Evolution of Capital Ownership Pattern in a Global Economy. **AU** Fukao, Kyoji; Hamada, Koichi. **AA** Yale University. **SR** National Bureau of Economic Research Working Paper: 3104; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 24. **PR** \$2.00. **JE** 111, 411, 023. **KW** Growth Theory. Time Preference. Growth Model.

AB Conventionally economic growth theory was based on the assumption of a constant rate of time preference. Uzawa (1968) and Obstfeld (QJE, 1981) introduced the rate of time preference that increases with the utility level. Irving Fisher ("The Theory of Interest") has a different opinion, however, that people are more time impatient at the lower level of income. This paper assumes a non-monotonic time preference schedule such that people are more patient at the middle income levels and are less patient when they are either very poor or rich. Based on a nonlinear savings function out of wealth implied by

such a time preference schedule, this paper develops a single good, multi-country growth model of a global economy with free capital mobility.

Fukui, Seiichi

TI Efficient Share Tenancy Contracts Under Risk: The Case of Three Rice-Growing Villages in Thailand. **AU** de Janvry, Alain; Fukui, Seiichi; Sadoulet, Elisabeth.

Gagnon, Joseph E.

TI Savings Rates and Output Variability in Industrial Countries. **AU** Schinasi, Garry J.; Gagnon, Joseph E.

PD December 1989. **TI** Exchange Rate Variability and the Level of International Trade. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 369; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 29. **PR** no charge. **JE** 431, 411, 132. **KW** Exchange Rates. International Trade.

AB There have been numerous theoretical and empirical studies of the effect of exchange rate variability on the level of international trade. Most theoretical studies have concluded that under reasonable assumptions exchange rate variability ought to depress the level of trade. Empirical studies generally have not identified a significant effect of exchange rate variability on trade flows. This paper builds a theoretical model in which exchange rate variability has a negative effect on the level of trade. The model is calibrated to observed trade flows and real exchange rates. Simulation of the model demonstrates that the effect of increasing exchange rate variability on trade flows is very small.

PD January 1990. **TI** Why Hasn't Trade Grown Faster Than Income? Inter-Industry Trade Over the Past Century. **AU** Gagnon, Joseph E.; Rose, Andrew K. **AA** Gagnon: Board of Governors of the Federal Reserve System. Rose: University of California at Berkeley. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 371; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 14. **PR** no charge. **JE** 411, 122, 131. **KW** Developed Countries. International Trade.

AB Over the past century, the ratio of international trade to GDP has not grown substantially for most major OECD economies. We conjecture that growth in intra-industry trade has been offset by a decline in inter-industry trade. Inter-industry trade may have declined either because of biased growth in factor inputs so that factor proportions have become more similar, or because preferences have become more similar with rising per capita income.

Galbraith, John W.

TI Estimating Euler Equations with Integrated Series. **AU** Dolado, Juan; Galbraith, John W.; Banerjee, Anindya.

Gale, Ian

PD February 1990. **TI** The Informational Content of Initial Public Offerings. **AU** Gale, Ian; Stiglitz, Joseph. **AA** Gale: University of Wisconsin, Madison. Stiglitz: Stanford University. **SR** National Bureau of Economic Research Working Paper: 3259; National Bureau of Economic

Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 15. PR \$2.00. JE 313, 522, 311, 022. KW Capital Markets. Firm Equity. Finance Theory.

AB The ability of capital markets to distinguish firms of different value by the size of their initial equity offerings is attenuated when insiders can sell equity more than once. A model is developed in which there is price risk from holding equity between periods. When the uncertainty is small. There must be pooling in the first period. When uncertainty is large, the pooling equilibria dominate the separating equilibrium.

Galor, Oded

TI Growth Via External Public Debt and Capital Controls. AU Dellas, Harris; Galor, Oded.

Garbers, Jorn

PD July 1989. TI Partitioning Graphs into Dense Subgraphs. AU Garbers, Jorn; Promel, Hans Jurgen; Steger, Angelika. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89575-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 6. PR no charge. JE 213. KW NP-complete problem. Random Graphs. Polynomial Time. Subgraphs.

AB In this note we propose a polynomial time heuristic for the NP-complete problem of partitioning a graph into dense subgraphs. Our main theorem shows that for certain classes of random graphs this heuristic finds the desired partitioning almost surely.

Gautschi, David A.

TI What Determines U.S. Retail Margins?. AU Betancourt, Roger R.; Gautschi, David A.

Geanakoplos, John

PD June 1989. TI An Introduction to General Equilibrium with Incomplete Asset Markets. AA Yale University. SR Yale Cowles Foundation Discussion Paper: 919; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. PG 51. PR \$2.00. JE 021. KW Asset Markets. Incomplete Markets. General Equilibrium Theory.

AB I survey the major results in the theory of general equilibrium with incomplete asset markets. I also introduce the papers in this volume and offer a few suggestions for further work.

Ghosh, Atish R.

PD January 1990. TI Fiscal Policy, Competitiveness, and the External Balance. AA Princeton University. SR John M. Olin Program for the Study of Economic Organization and Public Policy: 45; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. PG 37. PR no charge. JE 321, 323, 441, 431, 423. KW Fiscal Policy. Competitiveness. Exchange Rates. External Balance. Current Account.

AB This paper uses a two good, two country, general equilibrium model to analyze the effects of fiscal policies on a country's international competitiveness and its external balance. The external balance is decomposed into changes in the ownership of world wealth across residents of each country, and changes in the distribution of world wealth represented by

assets located in each country. It is shown that a rise of government expenditure on the foreign good improves the home country's competitiveness and its net foreign asset position. Whether a reduction in equity taxes improves or deteriorates the external balance depends upon the magnitude of a fiscal transmission effect.

PD February 1990. TI Accounting for Real Exchange Rate Movements in the Short-Run and in the Long-Run. AA Princeton University. SR John M. Olin Program for the Study of Economic Organization and Public Policy: 46; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. PG 29. PR no charge. JE 431, 321, 311, 122, 131. KW Exchange Rates. Fiscal Policy. Monetary Policy. Supply Shocks. Economic Fluctuations.

AB This paper uses an economic model to econometrically decompose the dollar-Yen and the dollar-DM real exchange rates into nominal shocks, real supply shocks, and real demand shocks. We find that much of the long-run movement in real exchange rates is the result of supply shocks in Japan and in Germany; while short-run movements are dominated by nominal shocks and demand shocks.

PD February 1990. TI Does Model Uncertainty Really Preclude International Policy Coordination. AU Ghosh, Atish R.; Ghosh, Swati R. AA A. Ghosh: Princeton University. S. Ghosh: Oxford University. SR John M. Olin Program for the Study of Economic Organization and Public Policy: 47; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. PG 27. PR no charge. JE 113, 411, 432. KW Policy Coordination. Economic Policy. International Coordination. Macroeconomic Model.

AB We show that uncertainty about the effects of economic policies, far from precluding international macroeconomic policy coordination, may actually provide an additional incentive to coordinate policies. Using eleven global macroeconomic models we find that the welfare gains from coordination which arise solely from the existence of model uncertainty, are of roughly the same magnitude as those identified in the standard literature.

PD February 1990. TI Is it Signalling? Exchange Intervention and the Dollar-Deutschemark Rate. AA Princeton University. SR John M. Olin Program for the Study of Economic Organization and Public Policy: 48; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. PG 31. PR no charge. JE 431, 432, 311. KW Portfolios. Exchange Rates. Central Bank. Monetary Policy.

AB The portfolio balance channel for sterilized exchange intervention is tested by examining the effects of changes in relative asset supplies on the Dollar/Deutschemark rate during the 1980s. In contrast to previous studies, we control for any signalling effects of central bank intervention and find a weak, but statistically significant, portfolio balance influence on the exchange rate.

PD February 1990. TI Strategic Aspects of Public Finance in a World with High Capital Mobility. AA Princeton University. SR John M. Olin Program for the Study of Economic Organization and Public Policy: 49; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New

Jersey 08544. **PG** 28. **PR** no charge. **JE** 321, 323, 441, 423, 322. **KW** Public Goods. Tax Policy. Tax System. Capital Markets. International Trade. Fiscal Policy. Policy Coordination.

AB In a world with high capital mobility an increase in equity taxes is likely to induce a capital outflow. As a result there may be an under-provision of public goods when governments have only equity taxes at their disposal. This paper compares the provision of public goods under cooperative and noncooperative tax policies. Surprisingly, the noncooperative regime may result in either an over- or an under-provision of public goods. It is also shown that the gains from coordination increase as countries become atomistic.

PD February 1990. **TI** International Capital Mobility and Optimal Current Account Behaviour: An Empirical Investigation. **AA** Princeton University. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 50; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. **PG** 31. **PR** no charge. **JE** 441, 431, 423, 133. **KW** Capital Markets. Economic Integration.

AB Recent studies of international capital mobility, based upon the correlation between savings and investment, report the surprising result that capital does not flow freely even among the major industrialized nations. We argue that such tests are flawed and propose an alternative measure of capital mobility. If capital is mobile then the current account should act as a buffer to smooth consumption in the face of shocks to output, investment and government expenditure. Using this criterion we find no evidence of capital market barriers; indeed, the puzzling fact may be the excessive volatility in the current accounts of several of the countries in the sample.

Ghosh, Swati R.

TI Does Model Uncertainty Really Preclude International Policy Coordination. **AU** Ghosh, Atish R.; Ghosh, Swati R.

Gibbons, Robert

PD May 1989. **TI** Layoffs and Lemons. **AU** Gibbons, Robert; Katz, Lawrence F. **AA** Gibbons: Massachusetts Institute of Technology and National Bureau of Economic Research. Katz: Harvard University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 531; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 41. **PR** not available. **JE** 824, 821. **KW** Layoffs. Employment. Human Capital. Unemployment. Wages.

AB In this paper we provide theoretical and empirical analyses of an asymmetric information model of layoffs in which the current employer is better informed about its workers' abilities than prospective employers are. The key feature of the model is that when firms have discretion with respect to whom to lay off, the market infers that laid-off workers are of low ability. Since no such negative inference should be attached to workers displaced in a plant closing, our model predicts that the post-displacement wages of otherwise observationally equivalent workers will be higher for those displaced by plant closings than for those displaced by layoffs.

PD August 1989. **TI** Relative Performance Evaluation for Chief Executive Officers. **AU** Gibbons, Robert; Murphy, Kevin J. **AA** Gibbons: Massachusetts Institute of

Technology and National Bureau of Economic Research. Murphy: University of Rochester. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 532; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 35. **PR** not available. **JE** 825, 821. **KW** Productivity. Shirking. Incentives.

AB Measured individual performance often depends on random factors which also affect the performances of other workers in the same firm, industry, or market. In these cases, relative performance evaluation (RPE) can provide incentives while partially insulating workers from the common uncertainty. Basing pay on relative performance, however, generates incentives to sabotage the measured performance of co-workers, to collude with co-workers and shirk, and to apply for jobs with inept co-workers. RPE contracts also are less desirable when the output of co-workers is expensive to measure or in the presence of production externalities, as in the case of team production. The purpose of this paper is to review the benefits and costs of RPE and to test for the presence of RPE in one occupation where the benefits plausibly exceed the costs: top-level management.

PD November 1989. **TI** Does Unmeasured Ability Explain Inter-Industry Wage Differences?. **AU** Gibbons, Robert; Katz, Lawrence F. **AA** Gibbons: Massachusetts Institute of Technology. Katz: Harvard University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 543; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 36. **PR** not available. **JE** 824, 851, 821. **KW** Wages. Wage Differentials. Human Capital.

AB This paper provides empirical assessments of the two leading explanations of measured inter-industry wage differentials: (1) true wage differentials exist across industries, and (2) the measured differentials simply reflect unmeasured differences in workers' productive abilities. First, we summarize the existing evidence on the unmeasured ability explanation, which is based on first-differenced regressions using matched Current Population Survey (CPS) data. Second, we construct a simple model in which unmeasured ability is not equally valued in all industries; instead, there is matching.

Gifford, Sharon

PD January 1990. **TI** A Model of Inspection and Repair With An Endogenous Number of Projects. **AU** Gifford, Sharon; Wilson, Charles. **AA** Gifford: Rutgers University. Wilson: New York University. **SR** New York University Economic Research Reports: 90-06; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 15. **PR** no charge. **JE** 022, 522, 511, 514. **KW** Firm Theory. Production. Products. Business Investment.

AB The paper characterizes the optimal policy for a model of inspection and repair when the number of projects is endogenous and the firm maximizes the discounted sum of returns. A current project is either functioning or failed, but its status in any period can be determined only by evaluation. The firm may discard any subset of current projects in each period, but it may evaluate only one current project or one new project per period. We demonstrate that the optimal policy takes one of two forms. A "discard" policy specifies that the firm evaluate a new project in each period and discard current projects at some critical age. An "age inspection" policy specifies that the firm

evaluate a new project only if all current projects are sufficiently young.

Gilbert, Christopher L.

PD September 1989. **TI** What is a Farecard Worth?. **AU** Gilbert, Christopher L.; Jalilian, Hossein. **AA** Gilbert: Queen Mary College, London. Jalilian: Institute of Economics and Statistics, Oxford. **SR** Oxford Applied Economics Discussion Paper: 82; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. **PG** 17. **PR** not available. **JE** 615, 022. **KW** Demand Theory. Transportation. Consumers.

AB We use the duality approach to demand theory to evaluate the value to a consumer of a farecard which allows travel at zero marginal pecuniary cost. The analysis is extended to networks with two modes of travel (bus and underground). Illustrative figures are calculated for farecards on the London Regional Transport Network.

PD September 1989. **TI** The Demand for Travel and the Demand for Travelcards on the London Regional Transport Network. **AU** Gilbert, Christopher L.; Jalilian, Hossein. **AA** Gilbert: Queen Mary College, London. Jalilian: Institute of Economics and Statistics, Oxford. **SR** Oxford Applied Economics Discussion Paper: 83; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. **PG** 70. **PR** not available. **JE** 615, 933. **KW** Transportation. Subway System. Urban Economics. **AB** In this paper we attempt to discriminate between two competing explanations for the rise in demand for travel on the London Regional Transport (LRT) bus and underground network over the nineteen eighties. The first explanation attributes this rise to a supposed increase in employment in Central London; the second explanation suggests that the rise is due to the fact that many Londoners now hold travelcards which allow travel on the LRT network at zero marginal pecuniary cost. We investigate these hypotheses by developing a joint model for the demand for travel and the demand for travelcards. The model is estimated on a long sample of four weekly data.

Gilboa, Itzhak

PD February 1990. **TI** Aggregation of Semi-Orders: Intransitive Indifference Makes a Difference. **AU** Gilboa, Itzhak; Lapson, Robert. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 870; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 36. **PR** \$3.00 in the U.S.A. or Canada; \$ 5.00 via international mail. **JE** 022, 026, 025. **KW** Expected Utility. Utilitarianism. Utility Functions. Social Choice.

AB A semi-order can be thought of as a binary relation P for which there is a utility u representing it in the following sense: xPy iff $u(x) - u(y)$ is greater than 1. Weak orders (for which indifference is transitive) can not be considered a successful approximation of semi-orders; for instance, a utility function representing a semi-order in the manner mentioned above is almost unique, i.e. cardinal and not only ordinal. In this paper we deal with semi-orders on a product space and their relation to given semi-orders on the original spaces. Following the intuition of Rubinstein we find surprising results: with the appropriate framework, it turns out that a Savage-type expected utility requires significantly weaker axioms than it does in the

context of weak orders.

PD June 1990. **TI** A Model of Random Matching. **AU** Gilboa, Itzhak; Matsui, Akihiko. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 887; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 20. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 021, 022, 026. **KW** Random Matching. Random Variables. Finite Additivity. Law of Large Numbers.

AB This paper presents a model of random matching between individuals chosen from large populations. We assume that the populations and the set of encounters are infinite but countable and that the encounters are i.i.d. random variables. Furthermore, the probability distribution on individuals according to which they are chosen for each encounter is "uniform", which also implies that it is only finitely additive. Although the probability measure which governs the whole matching process also fails to be (fully) sigma-additive, it still retains enough continuity properties to allow for the use of the law of large numbers. This, in turn, guarantees that the aggregate process will (almost surely) behave "nicely", i.e., that there will be no aggregate uncertainty.

Giovannini, Alberto

PD September 1989. **TI** Asset Prices and Interest Rates in Cash-in-Advance Models. **AU** Giovannini, Alberto; Labadie, Pamela. **AA** Giovannini: CEPR, NBER and Columbia University. Labadie: Columbia University. **SR** National Bureau of Economic Research Working Paper: 3109; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 44. **PR** \$2.00. **JE** 313, 134, 131, 132. **KW** Asset Prices. Inflation. Stock Returns. Interest Rates.

AB This paper develops a method to solve and simulate cash-in-advance models of money and asset prices. The models are calibrated to US data spanning the period from 1890 to 1987 and are used to study some empirical regularities observed in the US data over this period. The phenomena which are the focus of the paper include the average level of stock returns and returns on nominal bonds, the covariation of realized real interest rates and real asset returns with inflation, and the ability of nominal interest rates to predict inflation and nominal stock returns.

PD March 1990. **TI** Capital Flight and Tax Competition: Are There Viable Solutions to Both Problems?. **AU** Giovannini, Alberto; Hines, James R., Jr. **AA** Giovannini: Columbia University. Hines: Princeton University. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 51; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. **PG** 63. **PR** no charge. **JE** 323, 441. **KW** Corporate Taxes. Capital Mobility. Foreign Investment. Tax System.

AB This paper discusses a model corporate tax system based on the application of the residence principle. This tax system, while preserving national sovereignties, minimizes the distortions from international capital mobility. The paper is motivated by an analysis of European capital income tax systems, and of the distortions they might give rise to as obstacles to international capital flows diminish. The alternative system we analyze has two main properties: it

exploits the territoriality of law enforcement, and allows countries to set the corporate tax rate and the extent of double taxation of corporate income independently from their partners. The paper concludes with some suggestive evidence of the potential revenue effects among European countries of this tax system.

Glazer, Jacob

TI Striking for a Bargain Between Two Completely Informed Agents. AU Fernandez, Raquel; Glazer, Jacob.

Glied, Sherry

TI The Economics of HIV Testing in Employment Settings. AU Bloom, David E.; Glied, Sherry.

Goldberg, Linda S.

PD September 1989. TI Debt Write-Downs and Debt-Equity Swaps in a Two Sector Model. AU Goldberg, Linda S.; Spiegel, Mark. AA New York University. SR National Bureau of Economic Research Working Paper: 3121; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 25. PR \$2.00. JE 443, 433, 411. KW Debtor Nation. Debt-Equity Swaps. Debt Repurchase. Debt Crisis.

AB "Debt overhang" models have motivated the possibility of Pareto-improving "market-based debt-reduction schemes" under an assumption of creditor seizure in bad states. These models usually reach the conclusion that while pure debt forgiveness is in the interest of debtor nations, debt repurchase programs are not. This paper introduces a "safe sector" into the debtor nation which is unexposed to seizure during default states. Two important results which emerge are that debt forgiveness is not necessarily in the interest of all debtors, and the potential for Pareto-improving debt-equity swaps is magnified.

PD January 1990. TI Exchange Rate Patterns: Correlations with Entry, Exit and Investment in U.S. Industry. AA New York University. SR National Bureau of Economic Research Working Paper: 3249; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 34. PR \$2.00. JE 431, 611, 133. KW Exchange Rates. Industrial Organization. Market Structure. Devaluation. Investment.

AB The view that the strength of the dollar in the early 1980s was associated with persistent restructuring of United States industry is supported by correlations between exchange rate patterns and data on business formation, business failure and sectoral investment in new plant and equipment. Short term trend depreciations of the dollar are associated with reallocation of resources across sectors, while longer term trend depreciations are associated with investment expansions in many sectors of industry. Persistent exchange rate volatility is strongly associated with investment contractions, with this effect weakest during depreciation periods. This suggests a second order effect of depreciation trends: during trend depreciation periods the negative and significant correlation between exchange rate volatility and investment is reduced.

PD March 1990. TI Predicting Exchange Rate Crises: Mexico Revisited. AA New York University and National Bureau of Economic Research. SR New York University Economic Research Reports: 90-11; New York University, Faculty of Arts and Science, Department of Economics,

Washington Square, New York, N.Y. 10003. PG 24. PR no charge. JE 431, 121, 432. KW Exchange Rates. Mexico. Balance of Payments. Currency Devaluation. Speculation.

AB This paper predicts ex-ante the probability of currency crises and size of expected devaluations month by month for Mexico between 1980 and 1986 using a heterodox linear discrete time model of exchange rate crises. The forces contributing to speculative attacks on the Mexican peso include internal money creation, external credit shocks, and relative price shocks. The framework proves highly successful for generating forecasts of the probability of speculative attacks on the peso and for predicting lower bounds for post-collapse exchange rates using a range of assumptions about critical levels of central bank reserve floors.

Goldfeld, Stephen M.

PD January 1990. TI Rationing, Defective Inputs and Bayesian Updates Under Central Planning. AU Goldfeld, Stephen M.; Quandt, Richard E. AA Princeton University. SR Princeton Financial Research Center Memorandum: 113; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. PG 20. PR \$3.00. JE 027, 052, 512. KW Central Planning. Rationing. Inventories. Firm Theory. Production.

AB The enterprise manager anticipates that he will be rationed in his input markets and is required to meet an output target. In order to avoid a penalty for missing the output target, he can purchase the inputs at an earlier time, when rationing is not in effect, but then he must incur an inventory carrying cost. The inputs themselves are defective, with an unknown mean rate. The manager also has a prior density over the defective rate. He can solve the relevant expected cost minimization problem either by simultaneously determining the optimal amounts to be ordered on the two possible dates or by dynamic programming, in which case Bayesian learning can take place. The paper investigates the properties of the optimal solution under the two scenarios with respect to variations in the defective rate, the level of uncertainty and the relative costs of inventories and of missing the target.

Gordon, Richard L.

PD July 1988. TI Federal Coal Leasing: An Analysis of the Economic Issues. AA Pennsylvania State University. SR Resources for the Future Energy and Materials Division Discussion Paper: EM88-01; Energy and Materials Division, Resources for the Future, 1616 P St. NW, Washington D.C. 20036. PG 38. PR \$5.00 (U.S. funds only). JE 721, 723, 731. KW Coal. Public Lands. Federal Leases. Coal Leasing. Leasing.

AB The 1971 decision of then Secretary of the Interior Rogers Morton to impose a "temporary" moratorium on federal coal leasing was followed by actions that, with only a brief respite, have continued the hiatus into at least 1989. This paper describes and analyzes the leasing moratorium. The role of federal coal in U.S. coal supply is indicated. Further review is given of the history with particular attention to a description of the 1976 law. Then the provisions of the law are analyzed. Finally, an appendix reviews the controversies about conduct of leasing during the brief period at the start of the Reagan administration in which leasing resumed.

Gourieroux, C.

PD December 1989. TI Least Squares and Fractionally Integrated Regressors. AU Gourieroux, C.; Maurel, F.; Monfort, A. AA Gourieroux: CREST-ENSAE and CEPREMAP. Maurel and Monfort: INSEE. SR Unite de Recherche Document de Travail ENSAE/INSEE: 8913; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. PG 55. PR no charge. JE 211. KW Nonstationarity. Integrated Variables. Linear Models. Least Squares. Asymptotic Theory.

AB We consider linear models whose explanatory variables may be either deterministic or stochastic, have different growth rates. Basic tools, in the present paper, are the fractionally integrated processes. We study the asymptotic properties of different estimated methods: ordinary least squares, partial ordinary least squares, i.e., O.L.S. applied to the most divergent variables, conditional ordinary least squares, i.e., O.L.S. applied to the less divergent variables taking as given the estimated coefficients of the more divergent variables.

PD December 1989. TI Econometrics of Count: The ALDP Model. AU Gourieroux, C.; Monfort, A. AA Gourieroux: CREST-ENSAE and CEPREMAP. Monfort: INSEE. SR Unite de Recherche Document de Travail ENSAE/INSEE: 9001; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. PG 57. PR no charge. JE 211, 229. KW Count Data. Poisson Models. Asymptotic Theory. Maximum Likelihood.

AB In this paper we first propose a survey of the literature on the econometrics of count data. Then we define a new class of models for count data: the additive log-differenced probability models. This class might be seen as the analogue of proportional hazard models for duration data and, moreover, it has interesting interpretations in terms of costs (or benefits). The asymptotic properties of the maximum likelihood estimators for these models are studied and compared with those of the discriminant analysis estimators. Estimators for the case of endogenously stratified samples are also proposed. Finally the case of heterogeneous observations is discussed.

Gray, Wayne B.

PD January 1990. TI Are OSHA Health Inspections Effective? A Longitudinal Study in the Manufacturing Sector. AU Gray, Wayne B.; Jones, Carol Adaire. AA Gray: Clark University. Jones: Resources for the Future. SR National Bureau of Economic Research Working Paper: 3233; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 31. PR \$2.00. JE 822, 913, 631. KW OSHA. Health. Occupational Safety. Manufacturing. Health Inspectors. Safety Regulations.

AB We examine the impact of OSHA health inspections on compliance with agency regulations in the manufacturing sector, with a unique plant level dataset of inspection and compliance behavior during 1972-1983, the first twelve years of OSHA enforcement operations. Two major findings are robust across the range of linear and count models estimated in the paper: (1) the number of citations and the number of violations of worker exposure restrictions decrease with additional health inspections in manufacturing plants; and (2) the first health inspection has the strongest impact. The results suggest that prior research focusing on the limited impact of OSHA safety regulations may underestimate OSHA's total contribution to reducing workplace risks.

Green, Jerry

PD August 1989. TI Technological Licensing and the Novelty Requirement in Patent Law. AU Green, Jerry; Scotchmer, Suzanne. AA Green: Harvard University. Scotchmer: University of California, Berkeley and Hoover Institution. SR Stanford Hoover Institute Working Paper in Economics: E-89-22; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. PG 31. PR not available. JE 621, 916, 613. KW Patents. Licensing. Novelty. Innovation. Technology. Patent Law.

AB In markets with sequential innovation, early innovators confer an externality on later innovators by disclosing their technological knowledge. A collusive agreement between sequential innovators, in which one patentholder licenses the other patentholder, might internalize the externality and generate socially efficient incentives to innovate. We argue that this consideration governs optimal choice of the "novelty requirements" in patent law, which can have the effect of randomizing whether a later innovation is patentable.

Greenwald, Bruce C.

PD June 1989. TI The Economics of Deregulation of Local Exchange Telecommunications. AU Greenwald, Bruce C.; Sharkey, William W. AA Bellcore. SR Bellcore Economics Discussion Paper: 56; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. PG 26. PR not available. JE 612, 613, 635. KW Telecommunications. Regulation.

AB This paper has two objectives. The first is to reappraise the potential competitiveness of local exchange telecommunications markets, in light of recent arguments in favor of deregulation. The second objective is to discuss regulatory reform strategies. We conclude that local telecommunications markets retain the essential characteristics of natural monopoly, but that many of the regulatory reforms are nevertheless desirable.

Greenwood, Jeremy

PD 1989. TI Externalities and Asymmetric Information. AU Greenwood, Jeremy; McAfee, R. Preston. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 8914; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 21. PR not available. JE 024, 613, 323. KW Externalities. Regulation. Taxation. Welfare Theory.

AB A reconsideration of the Pigovian theory of regulating externalities via taxation is undertaken for environments with private information. The presence of private information may have no effect on the social optimum, but when it has an impact it is to cause a group of different agents to share the same production or consumption levels. The model developed provides an appealing characterization of when such situations transpire: they occur when the individuals who desire most to engage in some activity are the ones who society least wants to participate. Since such instances could potentially be regulated by the imposition of quantity controls, this may explain authorities' apparent predilection for quantity limits rather than tax-cum-subsidy schemes to manage many externalities.

PD January 1990. TI Financial Development, Growth, and the Distribution of Income. AU Greenwood, Jeremy; Jovanovic, Boyan. AA Greenwood: Federal Reserve Bank

of Minneapolis and University of Western Ontario. Jovanovic: New York University. **SR** University of Western Ontario Department of Economics Research Report: 9002; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 45. **PR** not available. **JE** 311, 011, 012. **KW** Growth Theory. Economic Development. Financial Markets. Finance Theory.

AB A paradigm is presented where both the extent of financial intermediation and the rate of economic growth are endogenously determined. Financial intermediation promotes growth because it allows a higher rate of return to be earned on capital, and growth in turn provides the means to implement costly financial structures. Thus, financial intermediation and economic growth are inextricably linked in accord with the Goldsmith-McKinnon-Shaw view on economic development. The model also generates a development cycle reminiscent of the Kuznets hypothesis. In particular, in transition from a primitive slow-growing economy to a developed fast-growing one, a nation passes through a state where the distribution of wealth across the rich and poor widens.

Gregoir, Stephane

PD January 1990. **TI** Speculation, Prix et Bien-etre. **AU** Gregoir, Stephane; Salanie, Bernard. **AA** INSEE. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9008; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. **PG** 44. **PR** no charge. **JE** 313, 311, 227. **KW** Financial Markets. Speculation. Prices. Futures Market.

AB This paper examines some theoretical results about the consequences of speculation on prices and welfare. We present three simple examples based on papers by Newbery (1987), Hart-Kreps (1986) and Stein (1987); we study in each of these cases the behavior of prices and welfare when speculators enter a market or when a futures market opens. One can then exhibit situations in which speculation destabilizes prices and reduces total welfare.

Grilli, Vittorio

PD August 1989. **TI** Managing Exchange Rate Crisis: Evidence from the 1890's. **AA** Yale University. **SR** National Bureau of Economic Research Working Paper: 3068; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 35. **PR** \$2.00. **JE** 042, 431, 311, 443. **KW** Exchange Rates. Monetary Policy. Devaluation. Gold Standard. Public Debt.

AB This paper investigates the effectiveness of the monetary authority's borrowing policies in resolving exchange rate crisis. It shows why obtaining loans or lines of credit in foreign currency may avoid, at least temporarily, the devaluation of a fixed exchange rate, and discusses the problem of the optimal size of the loan and/or the line of credit. The analysis focuses on a particular episode of foreign exchange rate pressure, during the troubled years between 1894 to 1896. The results suggest that the borrowing policy followed by the U.S. Treasury in those years was effective in avoiding the collapse of the United States' gold standard, and that the amount of the borrowing undertaken by the Treasury might have been optimal.

PD August 1989. **TI** Financial Integration, Liquidity and Exchange Rates. **AU** Grilli, Vittorio; Roubini, Nouriel. **AA** Yale University. **SR** National Bureau of Economic

Research Working Paper: 3088; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 39. **PR** \$2.00. **JE** 431, 411, 443, 423. **KW** Asset Markets. Public Debt. Exchange Rates. Capital Controls.

AB This paper presents a two-country extension of Lucas' (1988) work on the effects of cash-in-advance constraints in asset markets on the pricing of financial assets. The model is one where there exists some degree of separation between the goods markets and the asset markets and money is used for transactions in both markets. The main results of the paper are the following. First, the equilibrium level of the exchange rate depends on the share of money used for asset transactions: a greater share will correspond to a more appreciated exchange rate. Second, under uncertainty, liquidity effects deriving from stochastic shocks to bond creation lead to an "excess" volatility of nominal and real exchange rates even when the "fundamental" value of the exchange rate is constant.

PD March 1990. **TI** Financial Integration. Liquidity and Exchange Rates. **AU** Grilli, Vittorio; Roubini, Nouriel. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 939; Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. **PG** 34. **PR** no charge. **JE** 431, 441, 443, 411. **KW** Asset Prices. Exchange Rates. Financial Integration. Asset Markets. Capital Controls.

AB We present a two-country extension of Lucas' (1988) work on how cash-in-advance constraints in asset markets affect the pricing of financial assets. In the model, there is some degree of separation between the goods markets and the asset markets, and money is used for transactions in both markets. The main results of the paper are the following. First, the equilibrium level of the exchange rate depends on the share of money used for asset transactions; a greater share corresponds to a more appreciated currency. Second, under uncertainty the liquidity effects deriving from stochastic shocks to bond creation lead to an "excess" volatility of nominal exchange rates, even when the "fundamental" value of the exchange rate is constant.

Grossberg, Adam J.

TI Wage and Employment Uncertainty and the Labor Force Participation Decisions of Married Women. **AU** Blau, Francine D.; Grossberg, Adam J.

Grossman, Gene Michael

PD August 1989. **TI** Health Benefits of Increases in Alcohol and Cigarette Taxes. **AA** City University of New York. **SR** National Bureau of Economic Research Working Paper: 3082; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 38. **PR** \$2.00. **JE** 323, 913, 921. **KW** Health Care. Excise Taxes. Taxation. Cigarettes. Alcohol.

AB Health taxes on alcohol and cigarettes imposed by the Federal government of the United States have been very stable since 1951. This paper summarizes research that shows that increased taxation, which results in higher prices, would discourage alcohol abuse and cigarette smoking. One striking finding is that a policy to raise the Federal excise tax on beer in line with the rate of inflation over the last three decades would cut motor vehicle fatalities of 18 to 20 year olds, many of which are alcohol-related, by about 15 percent, saving more than 1,000 lives per year. A second is that over 800,000 premature deaths in the cohort of Americans 12 years and older

in 1984 would be averted if the Federal excise tax on cigarettes were restored to its real value in 1951.

PD September 1989. **TI** Quality Ladders in the Theory of Growth. **AU** Grossman, Gene Michael; Helpman, Elhanan. **AA** Grossman: Princeton University. Helpman: Tel Aviv University. **SR** National Bureau of Economic Research Working Paper: 3099; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 34. **PR** \$2.00. **JE** 621, 111, 023. **KW** Product Quality. Innovations. Profit. Differentiated Products.

AB We develop a model of repeated product improvements in a continuum of sectors. Each product follows a stochastic progression up a quality ladder. Progress is not uniform across sectors, so an equilibrium distribution of qualities evolves over time. But the rate of aggregate growth is constant. The growth rate responds to profit incentives in the R&D sector. We explore the welfare properties of our model. Then we relate our approach to an alternative one that views product innovation as a process of generating an ever expanding range of horizontally differentiated products. Finally, we apply the model to issues of resource accumulation and international trade.

Gunderson, Morley

PD May 1990. **TI** Economic of Women's Wages in Canada. **AU** Gunderson, Morley; Riddell, W. Craig. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-10; #997-1873 East Mall, Vancouver, British Columbia V6T 1W5. **PG** 50. **PR** not available. **JE** 821, 822, 824, 917. **KW** Discrimination. Wage Differentials. Female Earnings. Public Policy.

AB This paper provides an overview of the economic issues relating to women's wages in Canada. The paper begins with a discussion of the female-male earnings gap, its movement over time, and the determinants of that gap. It then focuses on the effects of the various policy initiatives undertaken in Canada and discusses a number of special issues relating to women's wages (pensions, working poverty, wage polarization, the effect of free trade, public-private sector wage differentials and union wage effects). The paper concludes with a discussion of the research needs in the area of women's wages in Canada.

Gustman, Alan L.

PD August 1989. **TI** Changing the Social Security Rules for Workers Over 65: Proposed Policies and Their Effects. **AU** Gustman, Alan L.; Steinmeier, Thomas L. **AA** Gustman: Dartmouth College. Steinmeier: Texas Tech University. **SR** National Bureau of Economic Research Working Paper: 3087; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 38. **PR** \$2.00. **JE** 915, 918. **KW** Social Security, Retirement.

AB This paper simulates the effects of proposals to modify procedures for adjusting the Social Security benefits of those who work after normal retirement age. A basic set of policies, currently under consideration, is projected to raise long run costs by \$30 billion dollars net of taxes, while inducing an increase of 5 percent in the number of full-time male workers between the ages of 65 and 69. Alternative policies may create very different flows of funds. Outcomes, especially in the short-run, will vary widely with the timing of the application decision for benefits.

PD August 1989. **TI** The Stampede Toward Defined Contribution Pension Plans: Fact or Fiction?. **AU** Gustman, Alan L.; Steinmeier, Thomas L. **AA** Gustman: Dartmouth College. Steinmeier: Texas Tech University. **SR** National Bureau of Economic Research Working Paper: 3086; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** 12. **PR** \$2.00. **JE** 521, 511, 514, 918. **KW** Pensions. Pension Plans. Business Finance.

AB This paper questions recent conclusions that the trend toward defined contribution plans and away from defined plans is due to increased pension regulation and/or a changing economic environment. Using data from IRS 5500 filed by pension administrators, we find that at least half of the trend is due to a shifting employment mix toward firms with industry, size and union status characteristics which have historically been associated with lower defined benefit plan rates. Not more than half of the trend can be attributed to a "stampede" by firms with given industry, size, and union status characteristics toward defined contribution pension coverage.

PD August 1989. **TI** Evaluating Pension Policies in a Model with Endogenous Contributions. **AU** Gustman, Alan L.; Steinmeier, Thomas L. **AA** Gustman: Dartmouth College. Steinmeier: Texas Tech University. **SR** National Bureau of Economic Research Working Paper: 3085; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** \$2.00. **JE** 824, 823, 521, 918, 821. **KW** Pensions. Pension Policy. Wages. Retirement. Labor Mobility.

AB A model of the firm and its pension plan is used to simulate the first round effects of pension policies. Pension policies create an imbalance in the pension fund which affects the level of pension contributions and ultimately wages. Changes in the differential between compensation and productivity for individual workers alter the distributions of compensation and of incentives for retirement, mobility and effort. Policies investigated include those regulating vesting, pension calculations for early leavers, early retirees and late retirees, maximum services credits, liabilities at termination, and funding practices.

Hajivassiliou, Vassilis A.

PD December 1989. **TI** Testing Game-Theoretic Models of Price-Fixing Behaviour. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 935; Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. **PG** 36. **PR** no charge. **JE** 026, 022, 611, 615. **KW** Tacit Collusion. Cartels. Price Competition. Railroads. Transportation.

AB This paper analyzes price fixing by the Joint Executive Committee railroad cartel from 1880 to 1886 and develops tests of two game-theoretic models of tacit collusion. The first model, due to Abreu, Pearce and Stacchetti (1986), predicts that price will switch across regimes according to a Markov process. The second, by Rotemberg and Saloner (1986), postulates that price wars are more likely in periods of high industry demand. Switching regressions are used to model the firms' shifting between collusive and punishment behavior. The main econometric novelty in the estimation procedures introduced in this paper is that misclassification probabilities are allowed to vary endogenously over time. The JEC data set is expanded to include measures of grain production to be shipped and availability of substitute transportation services. Our findings cast doubt on the applicability of the Rotemberg

and Saloner model to the JEC railroad cartel, while they confirm the Markovian prediction of the Abreu et al. model.

Haller, Hans

PD November 1989. TI Large Random Graphs is Pseudo-Metric Spaces. AA Virginia Polytechnic Institute and State University. SR Virginia Polytechnic Institute and State University Working Paper in Economics: E89-11-02; Working Paper Coordinator, Department of Economics, Pamplin Hall, Blacksburg, Virginia 24061. PG 10. PR free by request. JE 213, 021. KW Trading. Graph Theory. Trading Groups. Random Graphs.

AB Graph theory has found many applications in the social sciences as a device for representing group structures. This paper is motivated by a small economic literature modelling random trading groups or communication structures as random graphs. It relates this literature to recent work by the author which describes trade infrastructures by means of a "contacting cost topology"; cf. Haller (1989). Section 2 introduces notation and terminology and discusses the merits of the model. Section 3 provides conditions under which a given, finite or infinite, countable subset of a pseudo-metric space is almost certainly a connected part of a random graph.

PD December 1989. TI Topologies as Trade Infrastructures. AA Virginia Polytechnic Institute and State University. SR Virginia Polytechnic Institute and State University Working Paper in Economics: E89-11-01; Working Paper Coordinator, Department of Economics, Pamplin Hall, Blacksburg, Virginia 24061. PG 13. PR free by request. JE 022. KW Trading. Cost Topology. Spatial Theory.

AB A space of potential traders is endowed with a topology based on contacting costs. First groups of traders are considered who are indirectly linked via a chain of direct contacts, where each direct contact costs less than a given fixed amount. Then trading groups are considered which persist when the per contact cost becomes arbitrarily small. If the space of traders is compact, then maximal trading groups are characterized as the connected components of the space of traders.

Haltiwanger, John C.

TI Gross Job Creation, Gross Job Destruction and Employment Reallocation. AU Davis, Steve J.; Haltiwanger, John C.

PD January 1990. TI The Dynamic Interaction of Inventories, Temporary and Permanent Layoffs. AU Haltiwanger, John C.; Maccini, Louis J. AA Haltiwanger: University of Maryland. Maccini: Johns Hopkins University. SR Johns Hopkins Department of Economics Working Paper: 238; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. PG 42. PR no charge. JE 133, 132, 821, 023. KW Inventories. Labor Contracts. Layoffs. Business Cycles. Fluctuations. Labor Turnover.

AB Several facts about the business cycle are difficult to reconcile with standard models of inventory and employment dynamics. This paper develops a model of firm-level inventory and labor turnover behavior that is designed to be consistent with the observed facts. The model contains two key features. First, the firm has two stocks--inventories and the attached workforce--which can be used to buffer demand and cost shocks. Second, the firm engages in multiperiod labor contracts

with its workers which permits a distinction between temporary and permanent adjustments to the workforce. We characterize the dynamic interaction of inventories, temporary and permanent layoffs in terms of their respective dynamic responses to demand and cost shocks.

PD January 1990. TI The Dynamic Interaction of Inventories, Temporary and Permanent Layoffs. AU Haltiwanger, John C.; Maccini, Louis J. AA Haltiwanger: University of Maryland, College Park. Maccini: Johns Hopkins University. SR University of Maryland Department of Economics Working Paper Series: 90-1; Department of Economics, University of Maryland, College Park, MD 20742. PG 44. PR no charge. JE 131, 824, 133, 023. KW Inventories. Layoffs. Business Cycle. Labor Turnover. Labor Force. Employment.

AB Several facts about the business cycle are difficult to reconcile with standard models of inventory and employment dynamics. The observed high volatility of production relative to sales puts tremendous strain on the standard assumptions that there are rising marginal costs to the level of output and to changes in employment and thus output. Further, since the observed volatility of output is closely associated with observed volatility of employment (and in particular temporary layoffs), these observations are difficult to explain in models whose cost structure tends to induce stickiness in the level of employment and where temporary and permanent adjustment to the number of workers are not distinguished. This paper develops a model of firm level inventory and labor turnover behavior that is designed to be consistent with the observed facts.

Hamada, Koichi

TI The Fisherian Time Preference and the Evolution of Capital Ownership Pattern in a Global Economy. AU Fukao, Kyoji; Hamada, Koichi.

Hamilton, Jonathan H.

TI Dynamic Optimal Income Taxation With Government Commitment. AU Brito, Dagobert L.; Hamilton, Jonathan H.; Slutsky, Steven M.; Stiglitz, Joseph E.

Hammour, Mohamad L.

PD January 1990. TI Social Increasing Returns in Macro Models with External Effects. AA Columbia University. SR Columbia Department of Economics Working Paper: 461; Department of Economics, Columbia University, New York, New York 10027. PG 36. PR \$5.00. JE 023, 022. KW Search Theory. Imperfect Competition. Macroeconomic Model. Externalities.

AB Recent macro models of imperfect competition, search, etc., generate external effects of aggregates on individual decisions. These macroeconomic externalities can potentially generate multiple Pareto-ranked equilibria, with the resulting coordination failure problems and a role for "animal spirits". This paper argues that the presence of "social increasing returns" is a common feature of models based on external effects that is crucial for understanding their results. First, I show in the context of an abstract model that social increasing returns are a necessary condition for multiple equilibria. Second, social increasing returns are very useful in understanding when multiplicity will arise in specific examples. Third, when we turn to dynamics, we find that social increasing returns have an essentially destabilizing effect on the economy.

Hanemann, W. Michael

PD April 1989. **TI** Willingness to Pay and Willingness to Accept: How Much Can They Differ?. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 328; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. **PG** 29. **PR** \$5.80. **JE** 921, 024, 721. **KW** Welfare Economics. Demand Function. Income Elasticity. Natural Resources. Consumer Economics. Public Goods.

AB The conventional welfare measures for price changes are the compensating (C) and equivalent (E) variations, which correspond to maximum amount an individual would be willing to pay (WTP) to secure the change or the minimum amount she would be willing to accept (WTA) to forego it. Alan Randall and John Stoll (1980) examined the duality theory associated with fixed quantities in the utility function and showed that, with appropriate modifications, Willig's formulas for bounds on C and E do, indeed carry over to this setting. Within the environmental economics literature, Randall and Stoll's results have been widely interpreted as implying that WTP and WTA for changes in environmental amenities should not differ greatly unless there are unusual income effects. In this note, I reexamine Randall and Stoll's analysis and show that, while it is indeed accurate, its implications have been misunderstood.

Harley, Knick C.

PD March 1988. **TI** Ocean Freight Rates and Productivity, 1740-1913, The Primacy of Mechanical Invention Reaffirmed. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 8802; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 35. **PR** not available. **JE** 615, 042, 621. **KW** Transportation Costs. Industrial Revolution. Railroads. Shipping. Technology.

AB Transportation cost reductions both on land and at sea caused by improved mechanical engineering and metallurgy have long been considered key impacts on the Industrial Revolution. However, modern research on railroads and on ocean freight rates has cast doubts on this proposition. Douglass North's research on ocean shipping some twenty years ago revealed rapidly declining freight rates during the eighteenth and first half of the nineteenth century but concluded that they were not caused by the technology of the Industrial Revolution. These conclusions have been widely accepted and applied in general work on the nineteenth century economy. This consensus seems to be incorrect. New Series on freight rates utilize based on evidence than North's reaffirm that new technology caused freight decline.

Harris, Christopher

TI Food and Standard of Living: An Analysis Based on Sri Lankan Data. **AU** Anand, Sudhir; Harris, Christopher.

Hars, Laszlo

PD February 1990. **TI** Random Search in the Traveling Salesman Problem. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90629-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 31. **PR** no charge. **JE** 213, 214. **KW** Traveling Salesman Problem. Random Search. Local

Search. Algorithms. Computer Programs.

AB A class of random search procedures for approximately solving the traveling salesman problem is investigated and a new algorithm is proposed. Experiments show that it generally gives very good tours in reasonable running time. We also propose a set of random graphs for testing traveling salesman algorithms, which graphs easily to identically generate on any computer capable of performing only 32-bit integer arithmetic.

Hart, Oliver

PD May 1989. **TI** Default and Renegotiation: A Dynamic Model of Debt. **AU** Hart, Oliver; Moore, John. **AA** Hart: Massachusetts Institute of Technology and Harvard Business School. Moore: London School of Economics. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 520; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 57. **PR** not available. **JE** 315, 522, 311. **KW** Credit. Entrepreneur. Debt. Bankruptcy. Business Investment. Firm Assets.

AB This paper considers a situation where an entrepreneur borrows funds from a creditor (e.g., a bank) to finance an investment project. The project will on average generate returns in the future, but these returns accrue in the first instance to the entrepreneur and cannot be allocated directly to the creditor. The role of debt is to provide an incentive for the entrepreneur to transfer some of the future receipts to the creditor. The idea is that if the entrepreneur does not pay his debt, the creditor has the right to seize some fraction of the debtor's assets. We analyze the implications of this right for the form of the long-term debt contract and for the efficiency of the debtor-creditor relationship.

Hay, Donald A.

PD February 1990. **TI** Modelling U.K. Corporations: A Portfolio Analysis. **AU** Hay, Donald A.; Louri, Helen. **AA** Hay: Jesus College, Oxford. Louri: Athens School of Economics. **SR** Oxford Applied Economics Discussion Paper: 88; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. **PG** 25. **PR** not available. **JE** 522, 521, 514. **KW** Investment. Corporations. Portfolio Theory.

AB The paper reports an attempt to model the balance sheet behavior of U.K. corporations with respect to items such as investment, trade credit and debt, and borrowing. Estimation of a mean-variance portfolio model supported the following hypotheses: (i) different corporate objectives give rise to different asset demand functions (ii) for a sample of stable firms real variables are determined first, and financial variables adjusted accordingly (iii) movements in financial variables are consistent with restrictions implied by portfolio theory (iv) sectoral differences are important.

Hayward, Ryan B.

PD January 1990. **TI** Recognizing P(3)-Structure. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90625-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** no charge. **JE** 213, 214. **KW** Graph Theory. Partitioning Problem. Computer Algorithm.

AB A P(3) is a set of three vertices of a graph that induces a chordless path; the P(3) structure of a graph is the set of all

P(3)'s. Vasek Chvatal asked if there is a polynomial time algorithm to determine whether an arbitrary 3-uniform hypergraph is the P(3) structure of some graph. We give an algorithm that solves this problem in $O(n$ to the 4th power) time, where n is the number of vertices. The algorithm is based on a characterization of graphs that have the same P(3) structure, and a reduction of a certain two-edge-set partitioning problem to 2-satisfiability.

Helfand, Gloria E.

TI Mathematical Appendices For: Reconciling the Von Hielbig and Differentiable Crop Production Functions. AU Berck, Peter; Helfand, Gloria E.

Helliwell, John F.

PD February 1990. TI Macroeconomic Convergence: International Transmission of Growth and Technical Progress. AU Helliwell, John F.; Chung, Alan. AA University of British Columbia. SR National Bureau of Economic Research Working Paper: 3264; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 24. PR \$2.00. JE 122, 611, 421, 411. KW Developed Countries. Technology. Free Trade. International Trade. Output. Capital Stock.

AB This paper uses data for nineteen industrial countries over the period 1960-1985 to examine the evidence for international convergence of technical progress. Several models of convergence, including a model in which convergence is affected by changes in a country's openness to trade, are evaluated against competing alternatives. We also assess the extent to which convergence depends on some key measurement issues, including the use of purchasing power parities to compare real output in different countries, the use of different capital stocks in aggregate production functions, and alternative ways of representing embodied or disembodied technical progress. The various models of technical progress are assessed by non-nested tests of both the estimated output equations, using the factor utilization model, and their related factor demand equations.

Hellwig, Martin

TI Moral Hazard and Equilibrium Credit Rationing: An Overview of the Issues. AU Bester, Helmut; Hellwig, Martin.

Helpman, Elhanan

TI Quality Ladders in the Theory of Growth. AU Grossman, Gene Michael; Helpman, Elhanan.

Hendershott, Patric H.

PD September 1989. TI Introducing Risky Housing and Endogenous Tenure Choice into Portfolio-Based General Equilibrium Models. AU Hendershott, Patric H.; Won, Yunhi. AA Ohio State University. SR National Bureau of Economic Research Working Paper: 3114; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 33. PR \$2.00. JE 921, 932, 323. KW Housing. Consumer Economics. Taxation. Portfolio.

AB Portfolio-based general equilibrium models are useful for analyzing the interaction between the structure of individual tax rates and the way particular assets are taxed, for considering the role of differential tax rules and risk in determining household portfolio choices, and for addressing distributional

questions. Unfortunately, current versions of these models give housing short shrift; owner housing is assumed to be riskless, rental housing is not a separately identifiable asset, and tenure choice is of necessity exogenously determined. This paper shows how these models can be extended to incorporate a full housing subsector and uses an extended version of the Galper-Lucke-Toder (GLT) model to analyze the impact of the 1986 Tax Act.

Hens, Thorsten

PD February 1990. TI On the Structure of Market Excess Demand in an Intertemporal General Equilibrium Model. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-280; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 27. PR no charge. JE 021, 213. KW Radner Equilibrium. Spot Market. Market Demand. Demand Function. Intertemporal Models. General Equilibrium Model.

AB Since Debreu (1974) and the strengthenings of this result by Kirman-Koch (1986), Mantel (1976) and Hildenbrand (1989), it is known that in general in the Arrow-Debreu Model of General Equilibrium, the market excess demand function does not obey any structure which leads to a unique or globally stable equilibrium. Considering the theorems of Mantel (1976) and Hildenbrand (1989) we show that these results do not simply carry over to Intertemporal General Equilibrium Models with uncertainty and sequential trade. That is to say, we show that there exists a class of economies in which the spot market excess demand function allows for multiple equilibria in the Arrow-Debreu organization of markets, whereas it is monotone in an Intertemporal General Equilibrium Model with homogeneous expectations; thus in the latter model spot market equilibrium is unique and globally stable.

Hetzel, A.

PD July 1989. TI Globale und Lokale Verdrahtungsalgorithmen fur Sea-of-Cells Design. AU Hetzel, A.; Korte, B.; Krieger, R.; Promel, Hans Jurgen; Radicke, U.; Steger, A. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89582-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 49. PR no charge. JE 214. KW Layout System. Local Algorithm. Global Algorithm. Computers.

AB Paper in German.

Higgins, M. L.

TI A Test for Conditional Heteroskedasticity in Time Series Models. AU Bera, A. K.; Higgins, M. L.

Hilditch, Peter J.

PD June 1989. TI Trade Unions and Labour Productivity: The British Shipbuilding Industry, 1870-1950. AU Hilditch, Peter J.; Reid, Alastair J. AA Hilditch: University of Cambridge. Reid: Girton College, Cambridge. SR University of Cambridge Department of Applied Economics Working Paper: 8907; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. PG 40. PR \$4.00; checks payable to University of Cambridge.

JE 831, 825, 833. **KW** Productivity. Trade Unions.

AB This paper starts by highlighting theoretical and empirical weakness in several recent studies of trade unions and economic efficiency. We then use a simple longitudinal study of trade union strength, measured by real funds per head against physical productivity in the British shipbuilding industry between 1871 and 1950. We supplemented this study, which shows no simple correlation between the two variables, with additional comparisons of productivity against disputes and pay. Again no simple correlation emerges.

Hines, James R., Jr

TI Capital Flight and Tax Competition: Are There Viable Solutions to Both Problems?. **AU** Giovannini, Alberto; Hines, James R., Jr.

Hirshleifer, Jack

PD February 1990. **TI** The Determinants of Power. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 582; Department of Economics, 2263 Bunche, Los Angeles, CA 90024. **PG** 30. **PR** \$2.50. **JE** 025, 021, 112. **KW** Political Economy. Conflict. Cooperation.

AB Power is the ability to achieve one's ends in the presence of rivals. The struggle for power is universal; it occurs not only among nations and political factions within nations but also among and within firms, families, and animal communities. In the steady-state model analyzed here, each contender strikes an optimal balance between productive activity and conflictual activity. The result is a continuing interaction having elements of both "war" and "peace". The factors determining power include: (1) Capabilities: Resources and the efficiencies with which they are utilized. (2) Payoff functions: The equations translating productive efforts into income and conflictual efforts into distributive shares. (3) Protocol: The "rules of the game" whether, for example, the Cournot or Stackelberg or other solution concept is applicable.

Hoang, C. T.

PD October 1989. **TI** On the Two-Edge-Colourings of Perfect Graphs. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89603-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** no charge. **JE** 213. **KW** Graph Theory. Perfect Graphs.

AB We investigate the conjecture that a graph is perfect if it admits a two-edge-colouring such that two edges receive different colours if they are the nonincident edges of a $P(4)$ (chordless path with four vertices). Partial results on this conjecture are given in this paper.

Hoff, Karla

PD October 1989. **TI** International Trade When Risk Markets are Incomplete. **AA** University of Maryland, College Park. **SR** University of Maryland Department of Economics Working Paper Series: 89-30; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 44. **PR** no charge. **JE** 411, 023, 026. **KW** Entrepreneurs. Risk Markets. Comparative Advantage. Trade Model.

AB The basic results of the neoclassical trade model under certainty were believed to carry over under uncertainty to an

important class of cases. This paper constructs a factor price frontier for a risky industry and uses it to demonstrate why there results are not robust. Instead of factor price equalization, the neoclassical model under uncertainty predicts that capital-poor economies will generally obtain lower revenues from their resources than the same resources would yield in capital-rich economies. Instead of a pattern of trade based on the Heckscher-Ohlin theorem, richer economies will tend to have a comparative advantage in riskier sectors.

Hoffman, Dennis L.

TI Intertemporal Asset-Pricing Relationships in Barter and Monetary Economies: An Empirical Analysis. **AU** Finn, Mary G.; Hoffman, Dennis L.; Schlagenhauf, Don E.

Hogan, Kathleen

TI The Non-Optimality of Optimal Trade Policies: The U.S. Automobile Industry Revisited, 1979-1985. **AU** Krishna, Kala; Hogan, Kathleen; Swagel, Phillip.

Hogan, William W.

PD October 1989. **TI** Approximating Efficient Short-Run Prices for Electric Power Transmission. **AA** Harvard University. **SR** Harvard Energy and Environmental Policy Center Discussion Paper: E-89-13; Energy and Environmental Policy Center, J.F. Kennedy School of Government, Harvard University, 79 John F. Kennedy St., Cambridge, MA 02138. **PG** 60. **PR** \$7.50. **JE** 635, 613, 723, 612. **KW** Electricity. Energy. Utilities.

AB Changes in the electric utility industry in many countries will lead to new policies governing electric power transmission services. Traditionally transmission costs and access have been covered as part of a bundled service provided by one or a few players as a small part of predominantly local service. At least two upward trends place the existing system under pressure. First, the increase in the use of economy power sales over a long distance is changing the focus and the economics of power transmission; second, the increase in the number of players and the attendant competition builds inexorably towards a call for more explicit transmission policies that specify the rules for both access and pricing consistent with the underlying economics.

Holzer, Harry J.

PD March 1990. **TI** Asymmetries and Rigidities in Wage Adjustments by Firms. **AU** Holzer, Harry J.; Montgomery, Edward B. **AA** Michigan State University. **SR** National Bureau of Economic Research Working Paper: 3274; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 34. **PR** \$2.00. **JE** 824, 821, 229. **KW** Wages. Employment. Demand Shocks. Labor Market.

AB In this paper we use micro data from the Employment Opportunity Pilot Project (EOPP) surveys of firms in 1980 and 1982 to test for labor market rigidities and asymmetries in response to demand shifts. We analyze wage and employment adjustments to positive and negative shifts, as measured by sales growth between 1979 and 1981. The analysis is done for both entire sample of firms and for selected subsamples based on firm size, unionization, industry and skill mix. The results show that wage adjustments appear to be fairly rigid, compared with employment adjustments. They also appear to be quite asymmetric, with significant adjustments in response to positive

shifts but little adjustment in response to negative shifts.

Hong, Gap-Seon

TI Location Equilibria Under Alternative Solution Concepts. **AU** Anderson, Simon P.; de Palma, Andre; Hong, Gap-Seon.

Hoover, Kevin D.

PD March 1990. **TI** Causation, Spending and Taxes: Sand in the Sandbox or Tax Collector for the Welfare State. **AU** Hoover, Kevin D.; Sheffrin, Steven M. **AA** University of California at Davis. **SR** University of California at Davis Research Program in Applied Macro and Macro Policy: 67; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 56. **PR** no charge. **JE** 321, 322, 323, 133. **KW** Taxation. Federal Budget. Deficits. Fiscal Policy. Government Spending.

AB This paper analyzes the casual relations between federal expenditure and federal taxation using an approach based on the invariance of econometric relationships in the face of structural intervention. The basic approach, an alternative to tests based on vector autoregressions or Granger-causality, is based on insights of Herbert Simon. The approach combines institutional evidence for interventions or changes of regime with econometric tests for structural breaks to investigate the relative stability of conditional and marginal probability distributions for each variable. The patterns of stability are the product of underlying causal order. The causal tests apply to both models with cross-equation restrictions and to models based on rules-of-thumb and, in principle, can distinguish between these classes of models.

Hornstein, Andreas

PD November 1989. **TI** The Firm and the Plant in General Equilibrium Theory. **AU** Hornstein, Andreas; Prescott, Edward C. **AA** Federal Reserve Bank of Minneapolis and University of Minnesota. **SR** Federal Reserve Bank of Minneapolis Staff Report: 126; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55480. **PG** 23. **PR** no charge. **JE** 021, 023, 512. **KW** General Equilibrium. Capital Utilization. Production.

AB The general equilibrium formulations are developed for two important economic environments. The first environment is the Lucas managerial span-of-control theory of the firm. It is shown that, in the spirit of McKenzie, the aggregate production set can be characterized by a convex cone. The second environment permits both the number of hours plants are operated and the number of workers operating them to be varied. For empirically reasonable elasticities of substitution, equilibrium is characterized by employment-consumption lotteries.

Howe, Eric

TI Policies Over Time and Pareto Optimality. **AU** Coughlin, Peter; Howe, Eric.

Howitt, Peter

TI A Model of Growth through Creative Destruction. **AU** Aghion, Philippe; Howitt, Peter.

PD February 1990. **TI** Wicksell's Cumulative Process as Nonconvergence to Rational Expectations. **AA** University of

Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 9004; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 28. **PR** not available. **JE** 311, 023. **KW** Interest Rates. Monetary Policy. Rational Expectations. Inflation.

AB In his (1968) AEA Presidential address, Milton Friedman argued, among other things, that controlling interest rates tightly was not a feasible monetary policy. His argument was a variation on Wicksell's cumulative process. This argument, which was once quite uncontroversial, at least among monetarists, has lost its currency. One obvious reason is that the argument invokes adaptive expectations, and there appears to be no way of reformulating it under rational expectations. There is a rational expectations argument, due to Sargent and Wallace (1975), to the effect that interest pegging will make the price level indeterminate. The purpose of this paper is to argue that, contrary to these rational expectations arguments, Wicksell's cumulative process is not only possible, but inevitable, not just in a conventional macro model but also a flexible price, micro-based finance constraint model, whenever the interest rate is pegged.

Hubbard, R. Glenn

PD September 1989. **TI** Corporate Payouts and the Tax Price of Corporate Retentions: Evidence From the Undistributed Profits Tax of 1936-1938. **AU** Hubbard, R. Glenn; Reiss, Peter C. **AA** Hubbard: Columbia University. Reiss: Stanford University. **SR** National Bureau of Economic Research Working Paper: 3111; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** \$2.00. **JE** 042, 511, 323. **KW** Corporations. Taxation. Dividends. Capital Gains. Corporate Taxes.

AB Many provisions of the U.S. tax code affect corporate decisions to pay out or retain earnings. Most studies of these effects have examined the effects of dividend and capital gains taxes on payouts. Relatively few studies have considered the effects of corporate taxes on retentions. In the early 1900s, the United States experimented with several corporate taxes on retentions. These taxes increased the price of corporate retentions, thereby encouraging corporate payouts. This paper studies the response of corporations to the most significant of these experiments, the Undistributed Profits Tax of 1936-1938.

Ivaldi, M.

TI Analyse Microeconomique de la Demande d'Energie Application aux Industries Laitieres. **AU** Bousquet, A.; Ivaldi, M.; Ladoux, N.

Jackson, Matthew O.

PD April 1990. **TI** Implementing a Public Project and Distributing its Cost. **AU** Jackson, Matthew O.; Moulin, Herve. **AA** Jackson: Northwestern University. Moulin: Duke University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 882; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 19. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 024, 026, 022. **KW** Public Goods. Mechanism Design. Welfare Analysis.

AB We provide a game form which undertakes a public project exactly when the total benefit of the project to

individuals in a society outweighs its cost. The game form is simple, as well as balanced and individually rational. The game form can be adjusted to distribute cost according to a wide class of rules. For example it can distribute costs so that each individual pays a share of the cost which is proportional to his or her benefit. We discuss the informational limitations of our work (at least two individuals need to know the average value of the project), and the relation of this work to the literature on mechanism design and public goods.

Jacquillat, Bertrand

TI Performance of Currency Portfolios Chosen by a Bayesian Technique: 1967-1985. **AU** Dumas, Bernard; Jacquillat, Bertrand.

TI The Money and Bond Markets in France: Segmentation vs. Integration. **AU** Dumas, Bernard; Jacquillat, Bertrand.

Jalilian, Hossein

TI What is a Farecard Worth?. **AU** Gilbert, Christopher L.; Jalilian, Hossein.

TI The Demand for Travel and the Demand for Travelcards on the London Regional Transport Network. **AU** Gilbert, Christopher L.; Jalilian, Hossein.

Jones, Carol Adaire

TI Are OSHA Health Inspections Effective? A Longitudinal Study in the Manufacturing Sector. **AU** Gray, Wayne B.; Jones, Carol Adaire.

Jorion, Philippe

TI Option Listing and Stock Returns. **AU** Detemple, Jerome B.; Jorion, Philippe.

Jovanovic, Boyan

TI Growth Accounting and Externalities. **AU** Benhabib, Jess; Jovanovic, Boyan.

TI Financial Development, Growth, and the Distribution of Income. **AU** Greenwood, Jeremy; Jovanovic, Boyan.

Just, Richard E.

PD August 1989. **TI** An Assessment of the Agricultural Economics Profession. **AU** Just, Richard E.; Rauser, Gordon C. **AA** Just: University of Maryland, College Park. Rauser: University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 509; 207 Giannini Hall, University of California, Berkeley, Berkeley, CA 94720. **PG** 26. **PR** \$5.20. **JE** 036, 012, 713. **KW** Economics Profession. Agricultural Economics. Economic Methodology.

AB The American Agricultural Economic Association is composed of various groups ranging from industry to government to academia with widely divergent values and interests. This has led to controversy, sometimes healthy and other times destructive, on the appropriate model for graduate training and methodologies of research. These differences affect the direction and vitality of the profession and imply both benefits and costs in pursuing the solutions to various problems and issues.

Kalay, Avner

TI Bond Covenants and the Valuation of Risky Debt: A New Approach. **AU** Brennan, Michael; Detemple, Jerome B.; Kalay, Avner.

Kalia, Ehud

PD March 1990. **TI** Rational Learning Leads to Nash Equilibrium. **AU** Kalia, Ehud; Lehrer, Ehud. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 895; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 36. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 026. **KW** Repeated Games. Nash Equilibrium. Learning. Incomplete Information.

AB Two players are about to play a discounted infinitely repeated bimatrix game. Each player knows his own payoff matrix and chooses a strategy which is a best response to some private beliefs over strategies chosen by his opponent. If both players' beliefs contain a grain of truth (each assigns some positive probability to the strategy chosen by the opponent), then they will eventually (a) accurately predict the future play of the game and (b) play a Nash equilibrium of the repeated game. An immediate corollary is that in playing a Harsanyi-Nash equilibrium of a discounted repeated game of incomplete information about opponents' payoffs, the players will eventually play an equilibrium of the real game as if they had complete information.

Kamien, Morton I.

TI Cross Licensing of Complementary Technologies. **AU** Fershtman, Chaim; Kamien, Morton I.

Kamin, Steven B.

PD January 1990. **TI** Contractionary Devaluation with Black Markets for Foreign Exchange. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 370; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 37. **PR** no charge. **JE** 431, 311, 121, 133, 132. **KW** Exchange Rates. Devaluation. Black Market. Developing Countries. Foreign Exchange.

AB Analyzes of the possible contractionary effects of exchange rate devaluation typically assume the foreign exchange market to be unified, thereby ignoring the large fraction of transactions taking place in the black markets for foreign exchange that exist in many developing countries. This paper explores how the existence of these black markets may alter the impact of an official devaluation on aggregate output. It is argued that devaluations will be followed by less immediate contraction in a black market economy than in a unified market economy, both because the black market exchange rate will depreciate by less than the official rate, and because many of the devaluation's contractionary effects will occur in anticipation of the official devaluation itself. These propositions are tested using a simple numerical simulation model.

Kaminsky, Graciela

PD December 1989. **TI** Efficiency in Commodity Futures Markets. **AU** Kaminsky, Graciela; Kumar, Manmohan S.

AA Kaminsky:

University of California, San Diego. Kumar: International Monetary Fund. SR International Monetary Fund Working Paper: WP/89/106; International Monetary Fund, Washington, DC 20431. PG 32. PR not available. JE 313, 132. KW Futures Market. Commodities. Forecasting. Hedging.

AB This paper undertakes an econometric investigation into the efficiency of commodity futures markets. Despite a considerable amount of empirical literature, there is no general consensus on whether or not the markets are efficient. The results of this study suggest that for certain commodities expected excess returns to futures speculation are non-zero, however, it is argued that these results do not necessarily imply that markets are inefficient, or that agents do not act rationally. The implications of the study for the cost of using the futures markets for hedging, and for the power of futures prices to forecast future spot prices, are also noted.

Kantor, Shawn E.

PD June 1990. **TI** Razorbacks, Ticky Cows, and the Closing of the Georgia Open Range: The Dynamics of Institutional Change Uncovered. AA California Institute of Technology. SR Caltech Social Science Working Paper: 723; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, California 91125. PG 52. PR no charge. JE 042, 112. KW Property Rights. Institutional Change. Economic History. Economic Development.

AB While a redistribution of property rights might enable society to capture potential efficiency gains, the inevitable distributional conflicts make the transformation far from automatic. As individuals who would be adversely affected by change seek a priori contracts for compensation, those who anticipate net benefits must decide how much to pay, who should pay, and who should receive their payments. How, therefore, does the political process influence the path of institutional and economic development? This paper explores the dynamics of institutional change in an attempt to explain better why the adoption of potentially productive institutions are delayed and why inefficient ones persist.

Karp, Larry S.

TI On the Existence and Optimality of Competitive Equilibria in Nonrenewable Resource Industries. AU Fisher, Anthony C.; Karp, Larry S.

Kasper, Hirschel

TI Faculty Turnover at American Colleges and Universities: Analyses of AAUP Data. AU Ehrenberg, Ronald; Kasper, Hirschel; Rees, Daniel.

Katz, Lawrence F.

TI Layoffs and Lemons. AU Gibbons, Robert; Katz, Lawrence F.

TI Does Unmeasured Ability Explain Inter-Industry Wage Differences?. AU Gibbons, Robert; Katz, Lawrence F.

Kaufmann, Michael

PD 1988. **TI** Routing Problems in Grid Graphs. AU Kaufmann, Michael; Mehlhorn, Kurt. AA Universitat des Saarlandes. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89561-OR;

Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 21. PR no charge. JE 213. KW Routing Problems. Graph Theory. VLSI-Layout.

AB The routing problem lies at the heart of VLSI design. A routing problem is given by a routing region and a set of nets. In this paper the routing region will always be a grid graph, i.e., a finite subgraph of the integer grid. A routing problem is naturally viewed as a multi-commodity flow problem. Each net represents the demand to send one unit of flow of a certain commodity from one terminal to the other terminal of the net; also each edge has capacity one. The additional constraint is that a commodity has to be sent along a single path and cannot be split up into pieces. If all nets have the same terminals then Menger's theorem provides us with a solution: The number of edge-disjoint paths is given by the capacity of a minimum cut.

Kehoe, Patrick J.

TI Sustainable Plans and Mutual Default. AU Chari, V. V.; Kehoe, Patrick J.

TI Sustainable Plans and Debt. AU Chari, V. V.; Kehoe, Patrick J.

Kehoe, Timothy J.

PD December 1989. **TI** More on Money as a Medium Exchange. AU Kehoe, Timothy J.; Kiyotaki, Nobuhiro; Wright, Randall. AA Kehoe: Federal Reserve Bank of Minneapolis and University of Minnesota. Kiyotaki: University of Wisconsin, Madison and London School of Economics. Wright: University of Pennsylvania and Stanford University. SR University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 89-29; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. PG 15. PR no charge. JE 313, 022. KW Monetary Economy. Commodities. Monetary Theory.

AB We extend the results of Kiyotaki and Wright (1989), who study a monetary economy in which different commodities serve as media of exchange, depending on their intrinsic properties and on extrinsic beliefs. Kiyotaki and Wright consider only symmetric, pure strategy equilibria and find that for some parameter values no such equilibria exist. We consider equilibria that can be interpreted either as mixed strategy equilibria or as nonsymmetric equilibria. We prove the existence of equilibrium for all parameter values and prove that the number of equilibria is generically finite.

Kendix, Michael

PD September 1989. **TI** Changing Unemployment Rates in Europe and the U.S.: Institutional Structure and Regional Variation. AU Kendix, Michael; Olson, Mancur. AA Kendix: Rutgers University. Olson: University of Maryland, College Park. SR University of Maryland Department of Economics Working Paper Series: 89-21; Department of Economics, University of Maryland, College Park, MD 20742. PG 48. PR no charge. JE 941, 131, 841. KW Employment. Unemployment.

AB There are substantial and persisting differences in unemployment rates across the developed democratic countries and across the states of the US. No prior theory has explained both the across-nation and within-U.S. variations in unemployment. This paper offers an explanation, grounded in

the theory of collective choice, to explain these differences.

Kern, Walter

PD January 1989. TI Verfahren der Kombinatorischen Optimierung und ihre Gültigkeitsbereiche. AA University of Cologne. SR Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: 89.71; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 43. PR no charge. JE 213. KW Matroid Theory. Algorithms. Simplex Algorithm. AB Paper in German.

Kilkenny, Maureen

PD February 1990. TI Economywide Implications of Agricultural Liberalization in the United States. AU Kilkenny, Maureen; Robinson, Sherman. AA Kilkenny: Pennsylvania State University. Robinson: University of California at Berkeley. SR University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 526; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. PG 18. PR \$5.00. JE 713, 711, 422. KW Agriculture. Agricultural Policy. Factor Mobility. Trade Policy.

AB Agriculture is a relatively small part of the U.S. economy, but public expenditures supporting agriculture are large in both relative and absolute terms. Given this combination, changes in agricultural policies may have significant economy wide effects. These effects will depend on the degree of factor mobility, the disposition of the saved farm program expenditures, and the nature of existing sector specific distortions. We use a 10-sector computable general equilibrium (CGE) model to analyze unilateral and multilateral agricultural liberalization under various assumptions about factor mobility and macroeconomic closure.

Kim, Joon-Kyung

TI Money and Capital Accumulation in Financially Repressed Economies. AU Bental, Benjamin; Kim, Joon-Kyung.

Kiyotaki, Nobuhiro

PD August 1989. TI A Contribution to the Pure Theory of Money. AU Kiyotaki, Nobuhiro; Wright, Randall. AA Kiyotaki: Federal Reserve Bank of Minneapolis and University of Wisconsin, Madison. Wright: Federal Reserve Bank of Minneapolis and University of Pennsylvania. SR Federal Reserve Bank of Minneapolis Staff Report: 123; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55480. PG 37. PR no charge. JE 311, 023. KW Differentiated Goods. Search Theory. Barter. Money.

AB We analyze a general equilibrium model with search frictions and differentiated commodities. Because of the many differentiated commodities, barter is difficult because it requires a double coincidence of wants, and this provides a medium of exchange role for fiat money. We prove the existence of equilibrium with valued fiat money and show it is robust to certain changes in the environment, including imposing transaction costs, storage costs, and taxes on the use of money. Rate of return dominance, liquidity, and the potential welfare improving role of fiat money are discussed.

TI More on Money as a Medium Exchange. AU Kehoe, Timothy J.; Kiyotaki, Nobuhiro; Wright, Randall.

Klein, Martin

PD March 1989. TI Monetary and Fiscal Seigniorage: Theory and Evidence. AA University of Bonn. SR Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: B-123; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 22. PR no charge. JE 311, 323. KW Seigniorage. Monetary Policy. Money Supply. Europe. AB This paper is a contribution to the debate about seigniorage in Europe. The main point is a theoretical and empirical comparison of two measures of seigniorage: Monetary seigniorage, the change in the stock of base money in real terms, and fiscal seigniorage, which is defined as the actual resource transfer received by the government from the central bank. The theoretical analysis examines the short-run and long-run relationship between these two measures. The empirical analysis for Germany and Great Britain shows that there are substantial gaps between monetary and fiscal seigniorage.

PD November 1989. TI Seigniorage: What Is It and Who Gets It?. AU Klein, Martin; Neumann, Manfred J. M. AA University of Bonn. SR Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: B-124; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 22. PR no charge. JE 311, 322, 432, 321. KW Monetary Policy. Money Supply. European Monetary System. Government Revenue.

AB The paper points out the distinction between the fiscal and the monetary aspect of seigniorage. From a fiscal point of view, seigniorage is the government's revenue from the creation of money; from the point of view of monetary theory it is the private sector's cost from holding money. The accounts of the government and the central bank are then integrated in a general accounting framework which can be used to explore the implications of this distinction in a variety of institutional setups. The general result that emerges is that the government's receipts of seigniorage depend critically on the institutional and operational details of base money creation.

Kleit, Andrew N.

PD October 1989. TI An Analysis of Vertical Relationships Among Railroads: Why Competitive Access Should Not Be An Antitrust Concern. AA Federal Trade Commission. SR Federal Trade Commission Bureau of Economics Working Paper: 176; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Ave. NW, Washington, D.C. 20580. PG 25. PR no charge. JE 611, 612, 615. KW Railroads. Transportation. Regulation. Vertical Integration. Public Policy. Competition. Antitrust.

AB Competitive access has been an important antitrust issue for the ICC since the Staggers Act of 1980 largely deregulated the railroad industry. This paper looks at the reasons why competitive access should and should not be an antitrust issue. Given the economics of vertical relationships and contracting, it would appear that in the vast majority of cases, if it is efficient for competitive access to be granted, it will be without government action. If competitive access is to remain an antitrust question, then several conditions should be met before

intervention occurs.

Kleitman, D. J.

TI Applications of Antilexicographic Order II. How to Sharpen the Lym Inequality. **AU** Erdos, Peter L.; Frankl, P.; Kleitman, D. J.; Saks, M. E.; Szekely, L. A.

Koh, Annie

PD August 1989. **TI** Synthetic Eurocurrency Interest Rate Futures Contracts: Theory and Evidence. **AU** Koh, Annie; Levich, Richard. **AA** Koh: National University of Singapore. Levich: New York University. **SR** National Bureau of Economic Research Working Paper: 3055; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 50. **PR** \$2.00. **JE** 441, 432. **KW** Futures Market. Arbitrage. Asset Pricing Model. Hedging. Eurocurrency. Interest Rates.

AB In this paper, we develop a theoretical (arbitrage) pricing model for a Eurocurrency interest rate futures contract and measure its hedging effectiveness. This synthetic Eurocurrency interest rate futures contract is obtained by combining existing Eurodollar interest rate futures contracts with near term and far term currency futures contracts based on the covered interest rate parity relationship. In theory, the cash flows of the synthetic contract perfectly replicate the cash flows of a Eurocurrency interest rate futures contract. Our empirical results show that the synthetic contracts are relatively efficient in hedging non-dollar borrowing rates. These results have implications for the practice of hedging non-dollar interest rate risk and for the development of actual Eurocurrency interest rate futures markets.

Koray, Semih

PD June 1989. **TI** Limit Theorems for Recursive Delegation Equilibria. **AU** Koray, Semih; Sertel, Murat. **AA** Koray: Middle East Technical University. Sertel: Bogazici University and University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 89-17; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 18. **PR** no charge. **JE** 611, 511, 022. **KW** Duopoly. Cournot Equilibrium. Delegation Games.

AB Delegation games are studied in the context of a symmetric linear Cournot duopoly where redelegation is permissible. In the absence of extraneous delegation costs, the following results are demonstrated: (1) Each principal has an incentive to redelegate, increasing the length of his delegation chain. (2) As the length of the delegation chain grows beyond bound, (i) total output at the (Cournot) equilibrium on the industry floor converges in monotonically increasing fashion to the socially efficient one, and (ii) the maximand delegated by each primal delegator converges in monotonically decreasing fashion to the (true) profit function. As a consequence it is suggested that in a linear duopoly context socially efficient and truthful outcomes can be arbitrarily closely approximated by the use of Pretend-but-Perform Mechanisms of order sufficiently large.

Kornhauser, Lewis A.

PD September 1989. **TI** Apportioning Damages Among Potentially Insolvent Actors. **AU** Kornhauser, Lewis A.;

Revesz, Richard L. **AA** New York University. **SR** New York University Economic Research Reports: 89-22; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 105. **PR** no charge. **JE** 916, 722, 024. **KW** Law. Social Welfare. Hazardous Waste. Pollution.

AB This paper studies the relative social welfare of rules for imposing liability and apportioning damages among potentially insolvent actors. In the model, each of two actors choose an input level that yields private benefits but imposes an external cost, the size of which depends on the input choices of both actors. For each of three legal rules--negligence with joint and several liability (with contribution), strict liability with joint and several liability (with contribution) and strict liability with non-joint, several only liability--we study how the equilibria of the game vary with the initial solvencies of the parties.

Korte, B.

TI Globale und Lokale Verdrahtungsalgorithmen für Sea-of-Cells Design. **AU** Hetzel, A.; Korte, B.; Krieger, R.; Promel, Hans Jürgen; Radicke, U.; Steger, A.

Kottmann, Thomas

PD January 1990. **TI** Learning to Become Rational in Simultaneous Equations Linear Models with Forecast Feedback. **AA** University of Bonn. **SR** Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: B-133; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 25. **PR** no charge. **JE** 132, 211, 023. **KW** Simultaneous Equations. Rational Expectations. Linear Model. Forecasting.

AB Although considerable work has been done on learning procedures towards rational expectations in linear single equation models with forecast feedback, virtually nothing has been known up to now for simultaneous equations systems. In this paper, instead of assuming rational expectations, we stipulate that present or future values of the endogenous variables are predicted by means of observed auxiliary variables which are fitted to the observations (e.g. by ordinary least squares (OLS)) without knowledge of any model parameters. We investigate to what extent and under what conditions convergence of these forecasts to rational expectations is possible. Under the assumption of stationary ergodic auxiliary variables for a class of learning procedures (including OLS learning) sufficient and in a sense necessary convergence conditions are given. These conditions simply impose bounds on the linear parameters of the model's forecast terms, thereby requiring that the forecast part does not become dominant.

Kovenock, Dan

TI Capacity-Constrained Price Competition When Unit Costs Differ. **AU** Deneckere, Raymond J.; Kovenock, Dan.

Krane, Spencer

PD March 1990. **TI** Production Smoothing Evidence from Physical-Product Data. **AU** Krane, Spencer; Braun, Steven. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper Series: 103; Economic Activity Section, Stop #80, Federal Reserve Board, Washington, D.C. 20551. **PG** 67. **PR** no charge.

JE 131, 133, 522, 521. **KW** Inventories. Production Smoothing. Production.

AB Many studies have found that the variance of detrended production usually exceeds that of shipments, casting doubt on the empirical validity of production smoothing models of inventory and production behavior. Most of these studies have used value-based data derived from Commerce Department surveys, which are reported at the two-digit SIC code level. There are several well known caveats concerning the use of these data to measure physical product concepts. This paper exploits data on disaggregated physical product measures of production, inventories, and shipments to measure more directly the relative variability of production and sales in a variety of industries.

Krieger, R.

TI Globale und Lokale Verdrahtungsalgorithmen für Sea-of-Cells Design. **AU** Hetzel, A.; Korte, B.; Krieger, R.; Promel, Hans Jürgen; Radicke, U.; Steger, A.

Krishna, Kala

PD September 1989. **TI** The Non-Optimality of Optimal Trade Policies: The U.S. Automobile Industry Revisited, 1979-1985. **AU** Krishna, Kala; Hogan, Kathleen; Swagel, Phillip. **AA** Krishna: National Bureau of Economic Research and Harvard University. Swagel: Harvard University. **SR** National Bureau of Economic Research Working Paper: 3118; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 36. **PR** \$2.00. **JE** 422, 411, 132. **KW** Imperfect Competition. Trade Policy. Model Selection. International Trade.

AB We examine the sensitivity of simple calibration models of trade in imperfectly competitive industries to changes in model specification, as well as to changes in the calibration parameters. We find that not just the magnitude, but also the sign of the optimal trade policies is very sensitive to the change in model specification. Indeed, use of policies derived from the "wrong" model can reduce welfare from the status quo. However, the welfare gains to be obtained from application of the "correct" model remain limited. Calibration models nonetheless provide useful estimates of firm and market behavior over time, as well as disaggregated elasticities of demand. We conclude that careful empirical work is necessary to guide model selection. For the present, the case for activist trade policy on the basis of calibration models should not be made.

PD January 1990. **TI** Export Restraints with Imperfect Competition: A Selective Survey. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 3244; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 40. **PR** \$2.00. **JE** 422, 411. **KW** Exports. Imperfect Competition. Trade Theory. Export Restraints.

AB This paper is a selective survey of the work on the effects of export restraints with imperfect competition. Although there are a number of excellent surveys of strategic trade theory as a whole. Not much attention is paid in these to the effects of export restraints per se. This survey provides a stylized overview of the area which serves as a guide to the work. Short run effects are contrasted to long run effects. The short run effects usually studied are on pricing behavior. Long run effects are multidimensional. These include effects on quality choice

and investment which often work in the opposite direction to the short run effects.

PD January 1990. **TI** Making Altruism Pay in Auction Quotas. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 3230; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 29. **PR** \$2.00. **JE** 612, 022, 024. **KW** Product Markets. Quotas. Auctions. Free Trade. Imperfect Competition.

AB With imperfectly competitive product markets, producers react to the auction of quota licenses by adjusting price upwards from the free trade level. As a result, license revenues are significantly lower than if markets were perfectly competitive. In fact, they are often zero unless quotas are very restrictive. In such markets, giving part of these revenues to the producers reduces the incentive to raise product prices and leads to the reappearance of revenues from auctioning quota licenses. With a foreign monopoly and no price discrimination, such a policy can lead to a Pareto improvement over free trade. The conditions under which such altruism raises welfare both from free trade and from the status quo are explored.

Krueger, Alan B.

PD January 1990. **TI** Workers' Compensation Insurance and the Duration of Workplace Injuries. **AA** Princeton University and National Bureau of Economic Research. **SR** Princeton Industrial Relations Section Working Paper: 261; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 45. **PR** \$1.50. **JE** 822. **KW** Compensation Insurance. Workers' Compensation. Public Policy. Welfare Analysis.

AB This paper uses a new administrative micro data set to examine the effect of a legislated increase in the minimum and maximum workers' compensation benefit on the duration of workplace injuries in Minnesota. As a result of legislation, workers in some earnings groups received higher benefits if they were injured after the effective date of the benefit increase, while workers in other earnings groups received the same benefit regardless of when they were injured. The analysis compares the change in mean log injury duration for workers who were affected by the benefit increase to that of workers who were not affected by the benefit increase. The findings indicate that the duration of injuries increased by 8 percent more for the group of workers that experienced a 5 percent increase in benefits than for the group of workers that had no change in their benefit.

PD February 1990. **TI** Workers' Compensation Insurance and the Duration of Workplace Injuries. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3253; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 32. **PR** \$2.00. **JE** 822, 911. **KW** Workers' Compensation. Occupation Safety. Public Policy.

AB This paper uses a new administrative micro-data set to examine the effect of a legislated increase in the minimum and maximum workers' compensation benefit on the duration of workplace injuries in Minnesota. As a result of legislation, workers in some earnings groups received higher benefits if they were injured after the effective date of the benefit increase. While workers in other earnings groups received the same benefit regardless of when they were injured. The analysis compares the change in mean log injury duration for workers

who were affected by the benefit increase to that of workers who were not affected by the benefit increase.

Krugman, Paul

PD March 1990. **TI** Increasing Returns and Economic Geography. **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 3275; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** \$2.00. **JE** 615, 941, 112, 021. **KW** Location Theory. Manufacturing. Agriculture. Transportation Costs.

AB This paper develops a two region, two sector general equilibrium model of location. The location of agricultural production is fixed, but monopolistically competitive manufacturing firms choose their location to maximize profits. If transportation costs are high, returns to scale weak, and the share of spending on manufactured goods low, the incentive to produce close to the market leads to an equal division of manufacturing between the regions. With lower transport costs, stronger scale economies, or a higher manufacturing share, circular causation sets in: the more manufacturing is located in one region, the larger that region's share of demand, and this provides an incentive to locate still more manufacturing there. Thus when the parameters of the economy lie even slightly on one side of a critical "phase boundary", all manufacturing production ends up concentrated in only one region.

Kumar, Manmohan S.

TI Efficiency in Commodity Futures Markets. **AU** Kaminsky, Graciela; Kumar, Manmohan S.

Labadie, Pamela

TI Asset Prices and Interest Rates in Cash-in-Advance Models. **AU** Giovannini, Alberto; Labadie, Pamela.

Lach, Saul

TI Innovation and Product Differentiation. **AU** Dutta, Prajit K.; Lach, Saul; Rustichini, Aldo.

Ladoux, N.

TI Analyse Microeconomique de la Demande d'Energie Application aux Industries Laitieres. **AU** Bousquet, A.; Ivaldi, M.; Ladoux, N.

Laffont, Jean-Jacques

PD August 1989. **TI** Provision of Quality and Power of Incentive Schemes in Regulated Industries. **AU** Laffont, Jean-Jacques; Tirole, Jean. **AA** Laffont: GREMAQ, Universite des Sciences Sociales. Tirole: Harvard University and Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 528; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 42. **PR** not available. **JE** 611, 514, 022. **KW** Monopoly. Product Quality. Contracts.

AB We study the incentives of a regulated monopoly to supply quality. For an experience good, the current level of sales yields no information about quality and the cost reimbursement rule is the only instrument to achieve the conflicting goals of provision of quality and cost reduction. A high concern for quality moves optimal contracts toward cost-plus contracts; and an increase in the discount factor raises the

power of incentive schemes. In contrast, for a search good, direct sales incentives can be provided to supply quality; whether a high quality concern drives optimal contracts toward cost-plus or fixed price contracts then depends on whether quantity and quality are net substitutes or net complements.

Lagunoff, Roger

PD December 1989. **TI** Fully Endogenous Mechanism Selection. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 89-24; 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** 025, 024, 022, 026. **KW** Game Theory. Social Welfare Function. Social Choice. Mechanism Design.

AB This paper defines a choice process over social outcomes in which agents choose the institutional rules or mechanism themselves without outside interference. Truly "endogenizing" the mechanism selection process in this way, however, involves facing an infinite regress problem in which outcomes are chosen by games which are themselves chosen by games, ad infinitum. This paper allows the possibility of such an infinite regress which we call fully endogenous mechanism selection. We introduce the notion of Free Choice which restricts the class of mechanism in the regress to those which prevent agents from being "locked in" to an equilibrium outcome by the actions of others. Under this condition the infinite regress is shown to get truncated with the number of selection "iterations" endogenously determined.

PD December 1989. **TI** Contracts and Coalitional Hierarchies: I. A Model with Nonintermediation. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 89-25; 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** 022, 511, 611. **KW** Coalitional Hierarchies. Industrial Organization. Insurance. Cooperation.

AB In structures as diverse as reinsurance, firm structure, and family and community organization, coalitions of agents often form coalitional hierarchies: coalitions contract with other coalitions as separate entities resulting in coalitions of coalitions, coalitions of coalitions of coalitions and so on. A model is presented here in which coalitional hierarchies form endogenously as part of a "core like" arrangement. The allocations resulting from this arrangement are shown to constitute the set of Pareto efficient, equal treatment outcomes. We specify as a canonical example a simple insurance economy in which cooperative outcomes are only attainable by partitions of the agents into finite coalitions.

Lahiri, S.

TI An Economy Wide Energy Model for Egypt. **AU** Blitzer, Charles R.; Eckaus, R. S.; Lahiri, S.

Laidler, David

PD June 1988. **TI** Taking Money Seriously. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 8804; Department of Economics, Social Sciences Center,

University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 47. PR not available. JE 311, 023. KW Walrasian Markets. Monetary Economy. Money Demand. Prices.

AB This survey paper argues that Walrasian markets and monetary exchange are alternative, not complementary, arrangements for coordinating economic activity; that if we realize this, many informational anomalies and price rigidities which appear "irrational" in a Walrasian context can be understood as the outcome of maximizing behavior in a monetary economy; and that the precautionary approach to modelling the demand for money takes on a particular importance in this way of looking at things. Empirical evidence on the demand for money is cited in support of this point of view, which tends to re-instate the quantity of money as an important economic variable, in contrast to the New Classical vision of the economy which downgrades money's importance.

Lang, Gunther

PD January 1990. TI Intergenerational Contracts and Their Decomposition: A Comment. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-274; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 7. PR no charge. JE 915, 321, 113, 111. KW Public Policy. Pensions. Social Security. Pension Insurance.

AB Pay-as-you-go systems as means for public pension insurance seem to lose their attraction: economic growth is too slow to guarantee an internal rate of return which compares to the real rate of interest. Therefore, it would have been better never to introduce such systems. Unfortunately, a transition from a pay-as-you-go system to a capital funded pension scheme is shown to be not Pareto-improving.

Lapson, Robert

TI Aggregation of Semi-Orders: Intransitive Indifference Makes a Difference. AU Gilboa, Itzhak; Lapon, Robert.

Laroque, G.

PD January 1990. TI Estimating the Canonical Disequilibrium Model: Asymptotic Theory and Finite Sample Properties. AU Laroque, G.; Salanie, Bernard. AA INSEE. SR Unite de Recherche Document de Travail ENSAE/INSEE: 9005; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. PG 68. PR no charge. JE 211, 132. KW Maximum Likelihood. Disequilibrium. Asymptotic Theory. Monte Carlo.

AB The purpose of this paper is to review the various available estimation techniques for the canonical disequilibrium model. In addition to full information maximum likelihood (FIML), we consider three pseudo-maximum likelihood methods and their simulated counterparts. The use of the latter was advocated by Laroque-Salanie (1989) when the model is analytically untractable. We provide some new asymptotic results for all of these methods and compare their behavior on finite samples using Monte Carlo simulations. We identify two sources of spurious maxima for all methods under study; it appears that the simulated PML methods are less liable to these spurious maxima.

Leahy, John

TI State-Dependent Pricing and the Dynamics of Money and

Output. AU Caplin, Andrew; Leahy, John.

LeBaron, Blake

TI Liquidity Constraints in Production Based Asset Pricing Models. AU Brock, William A.; LeBaron, Blake.

Lebow, David E.

PD February 1990. TI The Covariability of Productivity Shocks Across Industries. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Economic Activity Section Working Paper Series: 102; Economic Activity Section, Stop #80, Federal Reserve Board, Washington, D.C. 20551. PG 27. PR no charge. JE 131, 825, 133. KW Productivity Shocks. Business Cycles. Labor Productivity. Economic Fluctuations. Dynamic Model.

AB This paper provides evidence on whether productivity shocks could be of quantitative importance as a driving force of business cycles, as is assumed, for example, in real business cycle theory. This paper first examines the covariability of productivity shocks across industries. In general, shocks which are sector specific at a fairly disaggregated level cannot explain aggregate fluctuations, as these independent shocks would "wash out" in the aggregate. Following Hall's insight, productivity shocks are measured by purging total factor productivity of its component which is spuriously procyclical due to market power (or labor hoarding).

PD March 1990. TI Imperfect Competition and Business Cycles: An Empirical Investigation. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Economic Activity Section Working Paper Series: 104; Economic Activity Section, Stop #80, Federal Reserve Board, Washington, D.C. 20551. PG 40. PR no charge. JE 131, 611, 133, 635. KW Business Cycles. Market Power. Manufacturing. Economic Fluctuations. Output. Employment.

AB This paper examines whether the variability of output and employment in U.S. manufacturing industries over the business cycle are related to the degree of market power in that industry. Three results are stressed. First, and contrary to the predictions of much theoretical literature, industries with high price-marginal cost margins tend to display less variability of employment (and of output, although this result is less robust). Second, and in contrast, highly concentrated industries do display more variability of employment and output. Finally, I confirm the finding of previous studies that industries with high price-cost margins display less price variability, which implies that these industries display less variability of both prices and quantities.

Lee, Henry

TI Summary of Symposium on Health Aspects of Exposure to Asbestos in Buildings. AU Spengler, John D.; Ozkaynak, Haluk; McCarthy, John F.; Lee, Henry.

Lehrer, Ehud

TI Rational Learning Leads to Nash Equilibrium. AU Kalia, Ehud; Lehrer, Ehud.

Levich, Richard

TI Synthetic Eurocurrency Interest Rate Futures Contracts: Theory and Evidence. AU Koh, Annie; Levich, Richard.

Levine, David K.

TI An Approximate Folk Theorem with Imperfect Private Information. **AU** Fudenberg, Drew; Levine, David K.

TI The Folk Theorem with Imperfect Public Information. **AU** Fudenberg, Drew; Levine, David K.; Maskin, Eric.

TI Equilibrium Payoffs with Long-Run and Short-Run Players and Imperfect Public Information. **AU** Fudenberg, Drew; Levine, David K.

TI Monopoly and Credibility in Asset Markets: An Example. **AU** Fudenberg, Drew; Levine, David K.

Levinsohn, James A.

TI Distance, Demand, and Oligopoly Pricing. **AU** Feenstra, Robert C.; Levinsohn, James A.

Levy, Anat

PD March 1990. **TI** Individual and Collective Wage Bargaining. **AU** Levy, Anat; Shapley, Lloyd S. **AA** Shapley: University of California, Los Angeles. Levy: Tel Aviv University. **SR** University of California at Los Angeles Department of Economics Working Paper: 590; Department of Economics, 2263 Bunche, Los Angeles, CA 90024. **PG** 39. **PR** \$2.50. **JE** 832, 831, 833. **KW** Bargaining. Labor Unions. Collective Bargaining. Negotiations. Unions.

AB Wage negotiation is modeled as an "oceanic" game. The employer and the union or unions (if any) are represented as atomic players while the unorganized workers are represented as a non-atomic continuum. For simplicity, the workers are assumed to be homogeneous in the employer's production function, but heterogeneous in their outside opportunities. The total surplus that each coalition of players is capable of generating serves as a measure of its bargaining power. (Thus, any coalition that does not include the employer is powerless). A cooperative game in characteristic function form is thereby defined, and its Shapley-value solution, which averages the marginal surpluses of the players in all possible alignments, distributes the maximum available surplus in a way that reflects these coalitional potentials and yields a plausible "negotiated" wage settlement. Several different levels of unionization are examined and contrasted.

Lewis, Tracy R.

PD October 1989. **TI** On the Boundaries of the Firm: Self Provision vs. Subcontracting. **AU** Lewis, Tracy R.; Sappington, David E. M. **AA** Bellcore. **SR** Bellcore Economics Discussion Paper: 62; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. **PG** 21. **PR** not available. **JE** 621, 611, 616, 511. **KW** Technological Change. Subcontracts. Industrial Policy. Industrial Organization.

AB We examine a firm's decision to either subcontract for or self produce an essential input. We demonstrate how this decision is affected by technological change in the industry. In general, cost reducing technological change leads to more self provision. The firm's calculus is shown to depend on whether the subcontractor's skills are idiosyncratic or transferable. In the latter case, technological progress can even be detrimental to the firm.

PD October 1989. **TI** On the Boundaries of the Firm: Self Provision vs. Subcontracting. **AU** Lewis, Tracy R.;

Sappington, David E. M. **AA** Bellcore. **SR** Bellcore Economics Discussion Paper: 62; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. **PG** 21. **PR** not available. **JE** 621, 611, 616, 511. **KW** Technological Change. Subcontracts. Industrial Policy. Industrial Organization.

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TI Distributing the Gains from Trade with Incomplete Information. **AU** Feenstra, Robert C.; Lewis, Tracy R.

TI Designing Policies for Open Trade. **AU** Feenstra, Robert C.; Lewis, Tracy R.; McMillan, John.

Lichtenberg, Frank R.

PD January 1990. **TI** Industrial De-Diversification and Its Consequences for Productivity. **AA** Bard College and Columbia University. **SR** National Bureau of Economic Research Working Paper: 3231; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 39. **PR** \$2.00. **JE** 511, 514, 611, 226. **KW** Takeovers. Economic Integration. Productivity. Market Structure. Industrial Organization.

AB Due in large part to intense takeover activity during the 1980s, the extent of American firms' industrial diversification declined significantly during the second half of the decade. The mean number of industries in which firms operated declined 14 percent, and the fraction of single-industry firms increased 54 percent. Firms that were "born" during the period were much less diversified than those that "died", and "continuing" firms reduced the number of industries in which they operated. Using plant-level Census Bureau data, we show that productivity is inversely related to the degree of diversification.

Lindsey, Robin

TI Does Providing Information to Drivers Reduce Traffic Congestion?. **AU** Arnott, Richard J.; de Palma, Andre; Lindsey, Robin.

TI A Temporal and Spatial Equilibrium Analysis of Commuter Parking. **AU** Arnott, Richard J.; de Palma, Andre; Lindsey, Robin.

Loebl, M.

PD September 1989. **TI** An Unprovable Ramsey-Type Theorem. **AU** Loebl, M.; Nesetril, J. **AA** Charles University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89598-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 10. **PR** no charge. **JE** 213. **KW** Ramsey Theorem. Ramsey Functions.

AB We present yet another unprovable (in PA) combinatorial statement inspired by Ramsey theorem. This implies Paris-Harrington unprovability result and it yields a particularly short proof of Ketonen-Solovay result on rapidly growing Ramsey functions.

PD October 1989. **TI** Partial Postorder. **AA** Charles

University, Prague. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89604-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 11. **PR** no charge. **JE** 213. **KW** Finite Set Theory. Algorithms. Disjoint Sets.

AB We present an instance of Disjoint Set Union Problem (DSUP) called Partial Postorder. We show that standard pointer-machine solution is nonlinear on Partial Postorder input sequences. However we propose another algorithm called PP-procedure whose nonlinearity cannot be proved in Finite Set Theory. Our approach is based on an unprovability result of Loeb1 and Nesetril concerning the time-complexity of Local Postorder procedure. As a by-product we give a new "greedy" proof of nonlinearity of standard pointer-machine solution to general DSUP.

PD October 1989. **TI** Subgraph Packing - A Survey. **AU** Loeb1, M.; Poljak, S. **AA** Charles University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89599-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 13. **PR** no charge. **JE** 213. **KW** Graph Theory. Subgraph Packing. Packing Problem. Matching Theory.

AB The research on factors of graphs concentrated mostly on factors satisfying certain local degree conditions, like regular factors or factors with degrees within prescribed intervals. More recently, also other kinds of factors have been investigated. Here we survey results on factors with prescribed components.

TI A Decomposition of Strongly Unimodular Matrices into Incidence Matrices of Digraphs. **AU** Crama, Y.; Loeb1, M.; Poljak, S.

Lomonosov, Michael V.

PD 1988. **TI** Cycles Through Prescribed Elements in a Graph. **AA** Ben Gurion University of the Negev. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88533-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 20. **PR** no charge. **JE** 213. **KW** A-Cycle Problem. Arbitrary Graph.

AB In these notes we discuss a possible approach to the following A-Cycle Problem: Given a graph G with a distinguished subset A of $(V(G) \cup E(G))$ find a cycle of G containing A (shortly, an A-Cycle) or a proof that it does not exist. "Cycle" here is always simple, i.e. a connected 2-regular graph. A graph with terminal (1-valent) vertices is always regarded as "open": we assume that these vertices - called ends - do not belong to the graph. In this way we speak about chains, trees, flows, etc.. In particular, disjoint graphs may have common ends.

Lorusso, Rosanna

PD December 1989. **TI** Note Sur la Construction d'Une Serie Pour le Revenu Cantonal Vaudois de 1886 a 1987. **AA** Universite de Lausanne. **SR** Universite de Lausanne Cahiers de Recherches Economiques: 8906; Departement d'Econometrie et d'Economie Politique, Universite de Lausanne, BFSH-Dorigny, CH-1015 Lausanne/SWITZERLAND. **PG** 40. **PR** no charge. **JE** 324, 221. **KW** National Income. Accounting. Switzerland.

AB As part of a research project devoted to the financial history of the University of Lausanne, we sought to establish what proportion of the Canton of Vaud's "national" income has been attributed to its University since 1886. As the oldest available data concerning Cantonal revenue date from 1950, we decided to construct a series based on our own estimates. By comparing various aggregates-economic, demographic, geographic, etc.-for the Canton of Vaud and Switzerland, we find they tend to confirm the hypothesis at the heart of this research, namely that the Canton of Vaud is close to the Swiss national average in most respects. From 1950 to 1987, for example, the income per inhabitant of Switzerland is very close to that of the Canton of Vaud. That is why we decided to use the ratio of the Canton's population to that of Switzerland as a whole in order to estimate the Cantonal income on the basis of Swiss national income.

Louri, Helen

TI Modelling U.K. Corporations: A Portfolio Analysis. **AU** Hay, Donald A.; Louri, Helen.

Lowenstein, Marti A.

TI Self-Enforcing Contracts with Costly Mobility. **AU** Black, Dan A.; Lowenstein, Marti A.

Luzadis, Rebecca A.

PD August 1989. **TI** Explaining Pension Dynamics. **AU** Luzadis, Rebecca A.; Mitchell, Olivia S. **AA** Luzadis: Miami University. Mitchell: Cornell University. **SR** National Bureau of Economic Research Working Paper: 3084; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 32. **PR** \$2.00. **JE** 918, 921, 824, 821. **KW** Aging. Elderly. Pensions. Labor Turnover. Retirement.

AB Some contend the US labor market will fail to adapt smoothly to an aging workforce, whereas others argue that employee pensions can and will play an important role in helping companies induce desired turnover patterns. This paper undertakes a longitudinal examination of pension retirement incentives in several dozen plans observed between about 1960 to 1980.

Maccini, Louis J.

TI The Dynamic Interaction of Inventories, Temporary and Permanent Layoffs. **AU** Haltiwanger, John C.; Maccini, Louis J.

TI The Dynamic Interaction of Inventories, Temporary and Permanent Layoffs. **AU** Haltiwanger, John C.; Maccini, Louis J.

MacDonald, Glenn M.

PD 1990. **TI** A First Graduate Course in Economic Theory and Game Theory. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 9001; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 66. **PR** not available. **JE** 012. **KW** Game Theory. Economic Theory. Microeconomics.

AB The pages following contain suggested readings, some problems and a collection of notes. This material was assembled over the last few years in the course of instructing

first year M.A. and Ph.D students in Economics at the University of Western Ontario. I circulate it in hopes that someone may find it useful. This is not a text, and so makes no claim to include all topics or to be comprehensive. Rather, its intent is simply to provide information sufficient to give the student familiarity with the main concepts found in the best general economics journals. Readings are those I found helpful in achieving this goal.

Maeda, Yasuo

PD October 1989. **TI** Fiat Money in a Pairwise-Trading, Multi-Good Overlapping Generations Model. **AA** University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 250; 1035 Management & Economics, Department of Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 15. **PR** free. **JE** 023, 311. **KW** Fiat Money. Overlapping Generations Model. Trading. Monetary Model.

AB This paper studies a stationary, pure exchange overlapping generations model with a particular kind of randomly generated pairwise trading pattern. This model, in contrast to the usual overlapping generations models, has the following implications. As regards existence, it is shown that a standard boundary condition on preferences is sufficient to imply the existence of a stationary monetary equilibrium. As regards properties of the equilibrium, for some specifications, my model has a stationary equilibrium in which claims bear a higher rate of return than fiat money. It is also proved that this stationary equilibrium is conditionally Pareto optimal.

Magill, Michael

PD December 1989. **TI** The Non-neutrality of Money in a Production Economy with Nominal Assets. **AU** Magill, Michael; Quinzii, Martine. **AA** University of Southern California. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-267; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 36. **PR** no charge. **JE** 021, 311, 023. **KW** Incomplete Markets. General Equilibrium Model. Monetary Policy.

AB In a general equilibrium model with money we show that anticipated changes in monetary policy have real effects if markets are incomplete and have no real effects if markets are complete. Unanticipated changes in monetary policy always have real effects.

Mailath, George J.

PD January 1990. **TI** Extensive Form Reasoning in Normal Form Games. **AU** Mailath, George J.; Samuelson Larry; Swinkels, Jeroen. **AA** Mailath: University of Pennsylvania. Samuelson: Pennsylvania State University. Swinkels: Princeton University. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 90-01; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia PA 19104-6297. **PG** 54. **PR** no charge. **JE** 026. **KW** Game Theory. Information Set. Sequential Equilibrium.

AB Because information sets and subgames in different extensive forms with the same reduced normal form can differ, there is a tension between a belief in the strategic relevance of information sets and subgames and a belief in the sufficiency of

the reduced normal form. We suggest a resolution to this tension by developing structures in the reduced normal form which we argue capture the central properties of extensive form information sets and subgames. We prove a close relationship between these normal form structures and their extensive form antecedents. Using these structures, we are able both to motivate and to implement solution concepts corresponding to subgame perfection, sequential equilibrium, and forward induction entirely in the reduced normal form.

TI Financing Losers in Competitive Markets. **AU** Abel, Andrew B.; Mailath, George J.

PD January 1990. **TI** Extensive Form Reasoning in Normal Form Games. **AU** Mailath, George J.; Samuelson, Larry; Swinkels, Jeroen. **AA** Mailath: University of Pennsylvania. Samuelson: Pennsylvania State University. Swinkels: Princeton University. **SR** John M. Olin Program for the Study of Economic Organization and Public Policy: 43; Department of Economics/Woodrow Wilson School of Public & International Affairs, Princeton University, Princeton, New Jersey 08544. **PG** 60. **PR** no charge. **JE** 026. **KW** Game Theory. Information Set. Subgame Perfect. Sequential Equilibrium. Normal Form Game.

AB Because information sets and subgames in different extensive forms with the same reduced normal form can differ, there is a tension between a belief in the strategic relevance of information sets and subgames and a belief in the sufficiency of the reduced normal form. We suggest a resolution to this tension by developing structures in the reduced normal form which we argue capture the central properties of extensive form information sets and subgames. We prove a close relationship between these normal form structures and their extensive form antecedents. Using these structures, we are able both to motivate and to implement solution concepts corresponding to subgame perfection, sequential equilibrium, and forward induction entirely in the reduced normal form.

Manelli, Alejandro M.

PD June 1990. **TI** Core Convergence Without Monotone Preferences or Free Disposal. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 891; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 21. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 021, 213. **KW** Preferences. Commodities. Finite Economies. Convergence Theorems.

AB We prove some core convergence theorems for finite economies without monotone preferences of free disposal of commodities. When these assumptions are relaxed, the relationship between the continuum and the large finite economies is lost. Extra conditions are needed, in general, to obtain convergence results.

Mankiw, N. Gregory

PD February 1990. **TI** A Quick Refresher Course in Macroeconomics. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3256; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 40. **PR** 2.00. **JE** 023, 133. **KW** Macroeconomics. Rational Expectations. Business Cycle. Economic Policy.

AB This paper presents a non-technical discussion of some of the important developments in macroeconomics over the past twenty years. It considers three broad categories of research. First, it discusses how the notion of rational expectations has affected economists' views on the role of economic policy, the debate over rules versus discretion, and empirical work in macroeconomics. Second, it discusses various new classical approaches to the business cycle, including imperfect information theories, real business cycle theories, and sectoral shift theories. Third, it discusses various new Keynesian approaches to the business cycle, includes theories based on general disequilibrium, labor contracting, and menu costs.

Mansoorian, Arman

PD 1989. **TI** Resource Discoveries and "Excessive" External Borrowing. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 8912; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 25. **PR** not available. **JE** 721, 522, 521, 411. **KW** Natural Resources. Corporate Debt. Business Finance.

AB Well known three sector models from the Dutch Disease literature are incorporated into the overlapping generations framework of Blanchard (1985), and it is shown that if the extraction of natural resources is capital intensive, then a resource discovery may shift income away from labor. If this happens then the asset holders at the time of the discovery will incur such a large debt that, in order to pay the interest on the debt, aggregate expenditure in the new steady state would have to be smaller than it was originally. The country may then experience both real depreciation and pro-industrialization.

PD 1989. **TI** Current Account Dynamics in a Heckscher-Ohlin Economy with Finite Horizons. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 8913; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 20. **PR** not available. **JE** 431, 411, 023. **KW** Terms of Trade. Exchange Rates. Current Account. Overlapping Generations Model.

AB The Heckscher-Ohlin model is incorporated into the overlapping generations framework of Blanchard (1985), and the effects of a terms of trade change on the current account are studied. As financial wealth is insurable, the rate of discount for future income for capital is smaller than the rate of discount for future labor income. Thus, factor intensities play an important role in the current account dynamics. The size of the rate of time preference plays an important role as well because agents work throughout their lives.

PD 1989. **TI** Budget Deficits, Corporate Income Taxes, and Tax Reforms. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 8916; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 12. **PR** not available. **JE** 322, 323, 321. **KW** Government Spending. Taxation. Tax System. Government Debt. Current Account.

AB The effects of budget deficits financed by taxing corporate and personal incomes are compared and contrasted. Households are finitely lived, as in Blanchard (1985), so that transfers and taxes on personal incomes are discounted at a

higher rate than the interest on government debt. However, as corporations are infinitely lived, taxes on corporations are discounted at the same rate as the interest on government debt. Thus, unanticipated deficits financed by taxing corporate incomes are neutral. In a small open economy, anticipated deficits financed by taxing corporations lead to a current account surplus, as transfers are then discounted at a higher rate than the taxes. Tax reforms involving shifting taxes from personal incomes to corporate incomes lead to a current account surplus.

Mao-cheng, Cai

PD September 1989. **TI** Edge-Forwarding Indices of 2-edge-Connected Graphs. **AA** Institute of Systems Science, China. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89590-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 4. **PR** no charge. **JE** 213. **KW** Connected Graphs.

AB For a given graph G of order n , a routing R is a set of $n(n-1)$ elementary paths, one for every ordered pair of distinct vertices in G . Let $\pi(G,R)$ denote the maximum number of paths of R passing through any edge of G . The edge-forwarding index $\pi(G)$ is minimum of $\pi(G,R)$ over all the routings R of G . In this note it is proved that $\pi(G)$ is less than or equal to $(n^2-1)/4$ for any 2-edge-connected graph G of order n , which was conjectured by Heydemann et al.

Marcus, Alan J.

PD September 1989. **TI** An Equilibrium Theory of Excess Volatility and Mean Reversion in Stock Market Prices. **AA** Federal Home Loan Mortgage Corporation. **SR** National Bureau of Economic Research Working Paper: 3106; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 13. **PR** \$2.00. **JE** 313, 311, 023. **KW** Stock Market. Stock Prices. Efficient Market Hypothesis. Portfolio.

AB Apparent mean reversion and excess volatility in stock market prices can be reconciled with the Efficient Market Hypothesis by specifying investor preferences that give rise to the demand for portfolio insurance. Therefore, several supposed macro anomalies can be shown to be consistent with a rational market in a simple and parsimonious model of the economy. Unlike other models that have derived equilibrium mean reversion in prices, the model in this paper does not require that the production side of the economy exhibit mean reversion. It also predicts that mean reversion and excess volatility will differ substantially across subperiods.

Marin, Dalia

PD January 1990. **TI** Is the Export-Led Growth Hypothesis Valid for Industrialized Countries?. **AA** Institute fur Hohere Studien, Vienna. **SR** Centre for Economic Policy Research Discussion Paper: 362; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PG** 21. **PR** 2 pounds (\$4.00). **JE** 122, 226, 423, 431. **KW** Developed Countries. Growth Model. Exports. Productivity. Growth Rates.

AB The comovement between exports and productivity observed in many countries suggests a direct link between these two variables. This paper tries to establish whether such a causal link exists for four developed market economies, using co-integration and Granger-causality techniques. These

techniques offer a means to overcome serious problems encountered in previous attempts to examine this relationship, while recent trade theory suggests that the relationship between trade and productivity is fundamentally ambiguous. Both reasons call for more empirical evidence. The findings of the econometric analysis suggest that exports, productivity and the terms of trade move together in the long run in all countries except the United Kingdom.

Masahiro, Okuno-Fujiwara

TI Refining Cheap-Talk Equilibria. **AU** Matthews, Steven A.; Masahiro, Okuno-Fujiwara; Postlewaite, Andrew.

Maskin, Eric

TI The Folk Theorem with Imperfect Public Information. **AU** Fudenberg, Drew; Levine, David K.; Maskin, Eric.

Masson, Paul R.

PD January 1990. **TI** Macroeconomic Effects of Projected Population Aging in Industrial Countries. **AU** Masson, Paul R.; Tryon, Ralph W. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/5; International Monetary Fund, Washington, DC 20431. **PG** 30. **PR** not available. **JE** 841, 224, 918. **KW** Aging. Demographic Economics. Interest Rates. Elderly. National Wealth.

AB The effects of population aging are examined with the aid of a theoretical model and simulations of MULTIMOD. An older population will consume more of aggregate disposable income, require higher government expenditure, and decrease labor supply. These effects should raise real interest rates and lower the capital stock and output. Effects on current balances will depend on the relative speed and extent of aging. Simulations of projected demographic changes suggest that by 2025, real interest rates would be increased by several percentage points and net foreign assets increased in the United States, and decreased in Japan and Germany, as a result.

Mathieson, Donald J.

PD January 1990. **TI** Financial Market Integration and Exchange Rate Policy. **AU** Mathieson, Donald J.; Rojas-Suarez, Liliana. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/2; International Monetary Fund, Washington, DC 20431. **PG** 61. **PR** not available. **JE** 431, 423, 441, 411. **KW** Exchange Rates. Financial Markets. International Trade. Economic Integration.

AB This paper examines how a country's exchange rate policy should be adjusted when the degree of integration between domestic and external financial markets increases as a result of both domestic financial liberalization and the relaxation of capital controls. As the financial structure is opened and liberalized, the optimal scale of exchange market intervention changes as the relative importance of different domestic and foreign shocks for output and price stability is altered. Nonetheless, the response of the optimal degree of intervention to increases in the variances of the various domestic and foreign shocks is similar across all financial structures.

Matsui, Akihiko

TI A Model of Random Matching. **AU** Gilboa, Itzhak; Matsui, Akihiko.

Matsuyama, Kiminori

PD January 1989. **TI** Complicated Topological Structure of the Set of Equilibrium Prices. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 826; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 13. **PR** no charge. **JE** 311, 022, 213. **KW** Chaos. Brock Model. Prices. Monetary Model.

AB The set of price levels consistent with perfect foresight equilibrium conditions in Brock's (1974, 1975) "Simple Perfect Foresight Monetary Model" may have a very complicated topological structure. This paper shows, for certain parameter values, that the set of equilibrium prices is uncountable, that it contains no nontrivial interval, or no isolated point, that its Lebesgue measure is zero and that it is a fractal (i.e., it is self-similar under magnification). It also characterizes the dynamic behavior of the price level using symbolic dynamics.

PD March 1989. **TI** Serial Correlation of Sunspot Equilibria (Rational Bubbles) in Two Popular Models of Monetary Economies. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 827; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 18. **PR** no charge. **JE** 023, 131, 311. **KW** Serial Correlation. Sunspot Equilibrium. Money. Monetary Model.

AB This paper first shows a simple way of determining serial correlation of stationary sunspot equilibria (i.e., rational bubbles). This result is then applied to two models of money: an overlapping generations model and a model of money-in-the-utility-function.

Matthews, Steven A.

PD June 1990. **TI** Refining Cheap-Talk Equilibria. **AU** Matthews, Steven A.; Masahiro, Okuno-Fujiwara; Postlewaite, Andrew. **AA** Matthews: Northwestern University. Postlewaite: University of Pennsylvania. Masahiro: Tokyo University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 892; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. **PG** 27. **PR** \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. **JE** 026. **KW** Cheap Talk. Asymmetric Information. Game Theory.

AB Several conceptual points are made concerning communication in games of asymmetric information. Equilibrium refinements of Sender-Receiver cheap talk games that are based on the concept of a putative equilibrium, and which rely on the presence of a rich language with literal meanings, are discussed. Three nested criteria are proposed: strong announcement proofness, announcement proofness, and weak announcement proofness.

Maurel, F.

TI Least Squares and Fractionally Integrated Regressors. **AU** Gourieroux, C.; Maurel, F.; Monfort, A.

McAfee, R. Preston

TI Externalities and Asymmetric Information. **AU** Greenwood, Jeremy; McAfee, R. Preston.

McCarthy, John F.

TI Summary of Symposium on Health Aspects of Exposure to Asbestos in Buildings. **AU** Spengler, John D.; Ozkaynak, Haluk; McCarthy, John F.; Lee, Henry.

McDiarmid, Colin

TI Star Arboricity. **AU** Alon, Noga; McDiarmid, Colin; Reed, Bruce.

McKelvey, Richard D.

PD May 1990. **TI** An Experimental Study of the Centipede Game. **AU** McKelvey, Richard D.; Palfrey, Thomas R. **AA** California Institute of Technology. **SR** Caltech Social Science Working Paper: 732; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, California 91125. **PG** 35. **PR** no charge. **JE** 026, 215. **KW** Experimental Economics. Game Theory. Reputation. Incomplete Information.

AB We report on a series of experiments in which individuals play a version of the centipede game. In this game, two players alternately get a chance to take the large portion of a continually escalating pile of money. As soon as one person takes, the game ends with the taker getting the large portion of the pile, and the other player getting the small portion. If we treat the experiment as a complete information game, all game theoretic equilibrium concepts predict the first mover should take the large pile on the first round. The experimental results show that this does not occur.

McKibbin, Warwick J.

PD September 1989. **TI** The McKibbin-Sachs Global Model: Theory and Specification. **AU** McKibbin, Warwick J.; Sachs, Jeffrey D. **AA** McKibbin: The Brookings Institution. Sachs: Harvard University. **SR** National Bureau of Economic Research Working Paper: 3100; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 51. **PR** \$2.00. **JE** 132, 133, 123. **KW** World Economy. Simulation Model. Intertemporal Constraints. Expectations.

AB This paper presents the theoretical underpinnings of the MSG2 simulation model of the world economy. The MSG2 model is a dynamic general equilibrium model of the world economy which pays particular attention to the relation between stocks and flows and intertemporal constraints. The formation of expectations also plays an important role in the model. In the version presented here the world is divided into the U.S., Japan, Germany, the rest of the EMS, and the rest of the OECD, non-oil developing countries and OPEC.

McLaren, John

TI Tax Compliance and Corruption Deterrence: The Role of Wage Incentives. **AU** Besley, Timothy; McLaren, John.

McMillan, John

TI Designing Policies for Open Trade. **AU** Feenstra, Robert C.; Lewis, Tracy R.; McMillan, John.

Meade, J. E.

PD September 1989. **TI** The International Application of National Macroeconomic Control Rules: A Note. **AA** University of Cambridge. **SR** University of Cambridge Department of Applied Economics Working Paper:

8911; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 34. **PR** \$4.00; checks payable to University of Cambridge. **JE** 432, 311, 321, 113, 023. **KW** Policy Coordination. Exchange Rates. European Monetary System. International Policy. Monetary Policy.

AB A recent study, "Macroeconomic Policy: Inflation, Wealth and the Exchange Rate," by Martin Weale, Andrew Blake, Nicos Christodoulakis, James Meade and David Vines, recommended fiscal and monetary policies, together with an intermediate foreign exchange rate target, designed to keep the country's Money GDP and National Wealth on given target paths. The analysis was applied to the UK considered as a small country operating independently in a large world. This paper considers two implications of this study. First, it suggests that the adoption by a number of countries of the national policies outlined in the study constitute a satisfactory international system. Second, it discusses the relevance of the macroeconomic policy proposals to regional monetary arrangements with special reference to membership of the European Monetary System.

Meese, Richard A.

PD November 1989. **TI** An Empirical Assessment of Non-Linearities in Models of Exchange Rate Determination. **AU** Meese, Richard A.; Rose, Andrew K. **AA** University of California, Berkeley. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 367; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 42. **PR** no charge. **JE** 431, 131, 122. **KW** Exchange Rates.

AB This paper examines the empirical relation between nominal exchange rates and macroeconomic fundamentals for five major OECD countries. Five theoretical models of exchange rate determination are considered. Potential nonlinearities are examined using a variety of parametric and nonparametric techniques. We find that the poor explanatory power of the models considered cannot be attributed to nonlinearities arising from time deformation or improper functional form.

Mehlhorn, Kurt

TI Routing Problems in Grid Graphs. **AU** Kaufmann, Michael; Mehlhorn, Kurt.

Metcalf, Gilbert E.

PD February 1990. **TI** Federal Taxation and the Supply of State Debt. **AA** Princeton University. **SR** National Bureau of Economic Research Working Paper: 3255; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 30. **PR** \$2.00. **JE** 324, 325, 323. **KW** Public Debt. Taxation. Municipal Bonds.

AB This paper presents a model of debt finance at the sub-national level from which municipal bond supply equations are derived. Federal tax considerations are shown to be important determinants of the price entering the bond supply equation. Using data on 40 state governments over a seven year period in the 1980s. I show that federal tax rates have an important effect on the supply of municipal bonds - independent of the demand side effect that is usually considered in the literature. Furthermore, the effect persists after controlling for capital expenditures, thereby suggesting that municipal bond proceeds

are fungible at the margin. This has implications for the measurement of the tax expenditure associated with tax exempt debt.

Middendorf, M.

PD July 1989. **TI** On the Complexity of the Disjoint Path Problem. **AU** Middendorf, M.; Pfeiffer, F. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89585-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 23. **PR** no charge. **JE** 213. **KW** Disjoint Path Problem. Flow Problem. Planar Graphs. **AB** By a well known theorem of Seymour the edge-disjoint path problem is polynomially solvable if the union of "supply" and "demand" edges forms an Eulerian planar graph G. We show that one can drop neither planarity nor the Eulerian condition on G without "loosing" polynomial time solvability. In fact, we give a "negative" answer to the basic question whether there is a good characterization and a polynomial time algorithm for the planar edge-disjoint path problem. We present counterexamples for a conjecture of A. Frank which would imply a good characterization for the more general integral planar multicommodity flow problem.

Miller, Marcus

PD February 1990. **TI** Currency Bands, Target Zones, and Cash Limits: Thresholds for Monetary and Fiscal Policy. **AU** Miller, Marcus; Weller, Paul **AA** Miller: University of Warwick. Weller: Centre for Economic Policy Research. **SR** International Monetary Fund Working Paper: WP/90/6; International Monetary Fund, Washington, DC 20431. **PG** 22. **PR** not available. **JE** 431, 311, 321. **KW** Exchange Rates. Monetary Policy. Fiscal Policy. **AB** Exchange rate behavior is analyzed in the context of a stochastic rational expectations model in which there are random shocks to the price setting mechanism and in which the authorities choose to impose either nominal or real exchange rate bands. Results are compared to those which emerge from a simple monetary model subject to velocity shocks. The effects of a realignment of the Band, and of fiscal policy used in conjunction with monetary policy to defend the band, are also examined.

Mincer, Jacob

PD December 1989. **TI** Human Capital Resources to Technological Change in the Labor Market. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 455; Department of Economics, Columbia University, New York, New York 10027. **PG** 31. **PR** \$5.00. **JE** 851, 621, 111. **KW** Human Capital. Economic Growth. Factors of Production. Innovation. Wage Differentials. **AB** In my view, human capital plays a dual role in the process of economics growth: (1) As a stock of skills, produced by education and training, it is a factor of production, coordinates with physical capital and with "raw" (unimproved, unskilled) labor, in producing total output. (2) As a stock of knowledge it is a source of innovation, a basic cause of economic growth. A particular elaboration of the view of human capital as a factor of production implies that the marginal contribution of human capital to output is greater the larger the volume of physical capital. This is so, if physical capital is more complementary with human capital than with

unskilled labor.

PD December 1989. **TI** Job Training: Costs, Returns, and Wage Profiles. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 454; Department of Economics, Columbia University, New York, New York 10027. **PG** 23. **PR** \$5.00. **JE** 851, 824, 821. **KW** Job Training. Human Capital. Wages. Wage Profiles. **AB** Using information on time costs of training and gains in wages attributable to training I computed rates of return on training investments. The range of estimates based on several data sets generally exceeds the magnitudes of rates of return usually observed for schooling investments. It is not clear, however, that the difference represents underinvestment in job training. Two methods were used to estimate total annual costs of job training in the U.S. economy, for 1958, 1976, and 1987. The "direct" calculation uses information on time spent in training and on wages. In the "indirect" method training costs were estimated from wage functions fitted to PSID data. The estimates indicate a slower growth of training than of school expenditures in the past decades. Substitution of schooling for job training is a likely cause.

Mitchell, Olivia S.

TI Explaining Pension Dynamics. **AU** Luzadis, Rebecca A.; Mitchell, Olivia S.

PD February 1990. **TI** The Effects of Mandating Benefits Packages. **AA** Cornell University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3260; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 34. **PR** \$2.00. **JE** 821, 822. **KW** Labor Market. Employee Benefits. Public Policy. Government Regulation. **AB** This paper identifies and, where possible, quantifies potential labor market consequences of government mandating of employee benefits. The author argues that mandating benefits could increase benefit coverage and generosity for numerous workers and their families. However, even when mandating benefits does improve benefit provision, there will be offsetting effects including wage and other benefits cuts, reduced work hours, reduced employment, and possibly output reductions in covered sectors. Employer bias against "expensive to insure" workers may also result, producing labor market sorting and segmentation. In addition, many workers currently without benefit coverage are employees of small firms, women, part-time and minimum wage workers. Frequently, mandated benefit proposals exclude or reduce coverage for these workers to alleviate the financial burden on small firms.

Monfort, A.

TI Least Squares and Fractionally Integrated Regressors. **AU** Gourieroux, C.; Maurel, F.; Monfort, A. **TI** Econometrics of Count: The ALDP Model. **AU** Gourieroux, C.; Monfort, A.

Montgomery, Edward B.

TI Asymmetries and Rigidities in Wage Adjustments by Firms. **AU** Holzer, Harry J.; Montgomery, Edward B.

Montgomery, Edward E.

TI The Effects of Colleges and Universities on Local Labor Markets. **AU** Beeson, Patricia; Montgomery, Edward E.

Moore, John

TI Default and Renegotiation: A Dynamic Model of Debt.
AU Hart, Oliver; Moore, John.

Moreau, A.

PD January 1990. **TI** Duration of Youth Unemployment in France. **AU** Moreau, A.; Visser, M. **AA** Moreau: INSEE. Visser: ENSAE-CREST. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9006; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. **PG** 42. **PR** no charge. **JE** 824, 821. **KW** Job Search. Reservation Wages. Unemployment. Search Theory.

AB We estimate a stationary job search model on a sample of young french unemployed. We give estimates for the structural parameters (mean duration between offers, acceptance probabilities) and the reservation wages distribution, using all the restrictions implied by the search theory. Estimation results of a Cox Model with piece-wise constant hazard don't allow us to reject the stationarity assumption.

Moulin, Herve

TI Implementing a Public Project and Distributing its Cost.
AU Jackson, Mathew O.; Moulin, Herve.

Mueller, Dennis C.

TI A Model of Electoral Competition with Interest Groups.
AU Coughlin, Peter; Mueller, Dennis C.; Murrell, Peter.

Murota, Kazuo

PD October 1989. **TI** Disturbance Decoupling and Structure at Infinity of Structured Descriptor Systems. **AU** Murota, Kazuo; van der Woude, Jacob W. **AA** Murota: University of Tokyo. van der Woude: Center for Mathematics and Computer Science, The Netherlands. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89605-0R; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 23. **PR** no charge. **JE** 213. **KW** Decoupling Problem. Descriptor System. Matroid Algorithm.

AB The generic solvability of the disturbance decoupling problem for a descriptor system is investigated under the physically reasonable assumption that the coefficients in the equations are classified into independent physical parameters and dimensionless constants. The generic structure at infinity of such a structured descriptor system is characterized in terms of an independent assignment (or weighted matroid intersection) problem. This leads to a necessary and sufficient condition for the generic solvability of the disturbance decoupling problem which can be checked by efficient matroid-theoretic algorithms.

Murphy, Kevin J.

TI Relative Performance Evaluation for Chief Executive Officers. **AU** Gibbons, Robert; Murphy, Kevin J.

Murrell, Peter

PD September 1989. **TI** The Effect of (the Absence of) Multinational Corporations on the Level of Eastern European Trade. **AA** University of Maryland, College Park. **SR** University of Maryland Department of Economics

Working Paper Series: 89-28; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 17. **PR** no charge. **JE** 052, 124, 441, 411. **KW** Europe. Multinational Corporations. International Trade. Trade Model.

AB By estimating a gravity trade model, this paper considers why the Eastern European countries have relatively low levels of international trade flows. The absence of multinational corporations can explain those low levels, without recourse to other effects of economic system.

TI A Model of Electoral Competition with Interest Groups.
AU Coughlin, Peter; Mueller, Dennis C.; Murrell, Peter.

PD October 1989. **TI** Can Neoclassical Economics Underpin the Economic Reform of the Centrally-Planned Economies?. **AA** University of Maryland, College Park. **SR** University of Maryland Department of Economics Working Paper Series: 89-32; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 35. **PR** no charge. **JE** 027, 052, 022. **KW** Centrally Planned Economies. Economic Reform. Market Socialism. Socialism.

AB The paper reviews theoretical and empirical evidence generated within the neoclassical paradigm that reflects upon the performance of the centrally-planned economies. There is a total absence of evidence that would justify using neoclassical economics to underpin economic reform in these economies.

Nadiri, M. Ishaq

PD March 1989. **TI** Dynamic Factor Demand Models, Productivity Measurement, and Rates of Return: Theory and an Empirical Application to the U.S. Bell System. **AU** Nadiri, M. Ishaq; Prucha, Ingmar R. **AA** Nadiri: New York University and National Bureau of Economic Research. Prucha: University of Maryland, College Park and National Bureau of Economic Research. **SR** University of Maryland Department of Economics Working Paper Series: 89-26; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 48. **PR** no charge. **JE** 635, 621, 226. **KW** Production. Technology. Factor Productivity. Factor Demand.

AB Prucha and Nadiri (1982, 1986, 1988) introduced a methodology to estimate systems of dynamic factor demand that allows for considerable flexibility in both the choice of the functional form of the technology and the expectation formation process. This paper applies this methodology to estimate the production structure, and the demand for labor, materials, capital and R&D by the U.S. Bell System. The paper provides estimates for short-, intermediate- and long-run price and output elasticities of the inputs, as well as estimates on the rate of return on capital and R&D. The paper also discusses the issue of the measurement of technical change if the firm is in temporary rather than long-run equilibrium and the technology is not assumed to be linear homogeneous.

Nalebuff, Barry

TI Aggregation and Social Choice: A Mean Voter Theorem.
AU Caplin, Andrew; Nalebuff, Barry.

TI Aggregation and Imperfect Competition: On the Existence of Equilibrium. **AU** Caplin, Andrew; Nalebuff, Barry.

TI Aggregation and Social Choice: A Mean Voter Theorem.
AU Caplin, Andrew; Nalebuff, Barry.

TI Aggregation and Imperfect Competition: On the

Existence of Equilibrium. AU Caplin, Andrew; Nalebuff, Barry.

Nerlove, Marc

PD December 1989. TI Von Thunen's Model of the Dual Economy. AU Nerlove, Marc; Sadka, Efraim. AA Nerlove: University of Pennsylvania. Sadka: Tel Aviv University. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-269; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 49. PR no charge. JE 112, 615, 111. KW Economic Development. Dual Economy. Transportation Costs. Location Theory.

AB Although von Thunen is widely regarded as the father of location theory and now appreciated as the independent discoverer of the marginal productivity theory of distribution, he is also, in our view, the author of the first, and in some ways the best, model of the dual economy, a model which, with a little effort can be turned into a model of dual economic development having considerable relevance to the developing economies of the world today in which high costs of transport are pervasive and significant determinants of relative commodity prices.

PD December 1989. TI Unit Roots in Economic Time Series: An Introduction. AA University of Pennsylvania. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-268; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 24. PR no charge. JE 211. KW Unit Roots. Asymptotic Theory. Nonstationarity. Time Series. Time Dependent.

AB It is widely believed that many important economic time series are nonstationary. In series looked at one at a time, such nonstationarity implies that the moments, if they exist, are time dependent. The moments of greatest interest econometrically are the first and second moments, or the mean and variance of the time series in question. I will deal here with nonstationarity in the form of time dependent variances, only insofar as such time dependence results from roots on or inside the unit circle, although general second-moment nonstationarity appears important in many types of asset prices.

Nesetril, J.

TI An Unprovable Ramsey-Type Theorem. AU Loeb, M.; Nesetril, J.

Nett, Lorenz

TI Employee Share Ownership and Privatisation: A Comment. AU Bos, Dieter; Nett, Lorenz.

Neumann, Manfred J. M.

TI Seigniorage: What Is It and Who Gets It?. AU Klein, Martin; Neumann, Manfred J. M.

Neumann, Michael

PD 1989. TI Nonnegative Group Inverses. AU Neumann, Michael; Werner, Hans Joachim. AA Neumann: University of Connecticut. Werner: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-134; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND.

PG 11. PR no charge. JE 213. KW Matrix Inverse. Nonnegative Matrix. Drazin Inverse.

AB For a nonnegative block lower triangular matrix we characterize when it possesses a nonnegative group inverse and, when it does, we give this inverse an explicit formula. As a consequence we show that a necessary condition for the existence of such an inverse is that the eigenspace of the matrix corresponding to its Perron root is spanned by eigenvectors only. Actually we deduce a stronger result. Namely, that a necessary condition for a nonnegative matrix to have a nonnegative Drazin inverse is that its eigenspace corresponding to its Perron root is spanned by eigenvectors only.

Newbery, David M. G.

TI Commodity Bonds With Put Options for Consumption Smoothing by Commodity-Dependent Exporters. AU Wright, Brian D.; Newbery, David M. G.

Newey, Whitney K.

PD October 1989. TI Locally Efficient, Residual-Based Estimation of Nonlinear Simultaneous Equations. AA Princeton University. SR Bellcore Economics Discussion Paper: 59; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. PG 46. PR not available. JE 211. KW Simultaneous Equations. Nonlinear Models. Transformation Models. Semiparametric Estimators.

AB Nonlinear simultaneous equations models are important in both statistics and econometrics. They are useful in econometric applications, such as estimation of supply and demand systems, and the special case, where there is one dependent variable, is a transformation model that has long been of interest in statistics, including as a special case the Box-Cox transformation. Maximum likelihood methods for these models are sensitive to distributional assumptions. This paper uses independence of the disturbance or conditional symmetry to derive residual based estimators. The estimator for the independence case is formed from a V-statistic and for conditional symmetric from an antithetic symmetrization. In an empirical and Monte Carlo transformation example these estimators perform much better than recently suggested alternatives.

Nicolas B.

TI Forecasting French Postal Financial Services in France - I The National Model. AU Chapuis, G.; Nicolas B.; Renaudon, P.; Villa, P.

Nilles, Delia

PD December 1989. TI Construction d'Une Serie M1 Provisoire Pour la Suisse. AA Universite de Lausanne. SR Universite de Lausanne Cahiers de Recherches Economiques: 8908; Departement d'Econometrie et d'Economie Politique, Universite de Lausanne, BFSH-Dorigny, CH-1015 Lausanne/Switzerland. PG 22. PR no charge. JE 311, 223. KW Money Supply. Monetary Aggregates. Switzerland.

AB This paper proposes a provisional M1 series for Switzerland from January 1965 up to the present. It includes two thirds of the "salary accounts" until 1984 and an estimation of this part after 1984 whereas salary accounts are entirely excluded from the official M1 series, because the data for these accounts stopped being gathered at the end of 1984.

Furthermore, the series is adjusted from 1965.1 to 1984.12 to take into account the Fürstentum Liechtenstein which has been included in the official monetary aggregate since 1985 only. The paper tries to show that a gap has opened up between the official M1 series and reality, a gap which can be filled with the help of the proposed provisional series constructed by the author.

Norrbin, Stefan C.

PD January 1990. **TI** The Identification of the Causes of Business Cycles Across Countries. **AU** Norrbin, Stefan C.; Schlagenhauf, Don E. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/4; International Monetary Fund, Washington, DC 20431. **PG** 22. **PR** not available. **JE** 131, 133, 423, 122. **KW** Business Cycle. Output. Economic Fluctuations. Economic Integration. Developed Country.

AB Empirical research has been conducted on the various theories of the business cycle over many countries. However, very little research has attempted to undertake a multi-country disaggregate investigation into the sources of output change. This paper decomposes fluctuations in industry output in a particular country into: (1) a nation specific shock; (2) an industry specific shock; (3) a world shock; and (4) an idiosyncratic factor. Using a dynamic factor analysis state-space approach, the paper finds that the nation specific shock is the most important impulse.

Nyarko, Yaw

PD January 1990. **TI** Stochastic Dynamic Resource Models with Stock-Dependent Rewards. **AU** Nyarko, Yaw; Olson, Lars J. **AA** Nyarko: New York University. Olson: University of California, Riverside. **SR** New York University Economic Research Reports: 90-08; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 68. **PR** no charge. **JE** 111, 023, 026, 213. **KW** Growth Models. Optimal Control. Uncertainty.

AB This paper examines the behavior of optimal consumption and investment policies in aggregate stochastic growth models with stock-dependent rewards. Such models arise in the study of renewable resources, monetary growth, and growth with public capital. Under certain complementary conditions optimal policies are monotonic and converge to a unique limiting distribution. Two examples illustrate the possibility of multiple limiting distributions when these conditions are violated. It is shown that adding sufficient randomness to production transforms multiple limiting distributions into a unique limiting distribution.

PD January 1990. **TI** Learning in Mis-Specified Models and the Possibility of Cycles. **AA** New York University. **SR** New York University Economic Research Reports: 90-03; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 47. **PR** no charge. **JE** 022, 026, 132, 611. **KW** Infinite Horizon Models. Monopoly. Learning. Optimal Control. Dynamic Programming.

AB This paper studies the problem of learning by agents in infinite horizon models when agents use Bayesian updating techniques but where their models are possibly misspecified. It is shown in the context of the problem of a monopolist maximizing a sum of discounted profits facing a linear demand curve whose slope and intercept are unknown that if the

monopolist has a mis-specified model-- i.e., if the true slope and intercept lie outside of the support of the monopolist's prior beliefs -- then actions and beliefs may cycle on every sample path. This behavior is shown to be robust to perturbations in the prior, true parameter and actions. Such behavior is not possible if the agent's model is correctly specified; instead actions and beliefs necessarily converge.

PD January 1990. **TI** On Bayesian Learning in Optimal Control Problems. **AA** New York University. **SR** New York University Economic Research Reports: 90-02; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 48. **PR** no charge. **JE** 022, 026, 611. **KW** Monopoly. Learning. Optimal Control. Dynamic Programming.

AB We study Bayesian learning in infinite horizon optimal control problems. Blackwell's Theorem is applied to compare the solutions to the active and passive learning problems. Conditions are given for the value function to be strictly convex and for information to be strictly valuable in terms of whether there exist actions that are optimal for a large set of priors. Explicit models, which includes the monopolist problem, are solved which illustrate the possibility of incomplete learning caused by agents choosing the same actions on the boundary of their compact action spaces at each date.

PD January 1990. **TI** On the Convergence of Bayesian Posterior Processes in Linear Economic Models: Counting Equations and Unknowns. **AA** New York University. **SR** New York University Economic Research Reports: 90-01; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 47. **PR** no charge. **JE** 022, 026, 611. **KW** Linear Regression. Demand Curve. Learning. Monopoly. Optimal Control. Dynamic Programming.

AB We propose a technique, counting "equations" and "unknowns". For determining when the posterior distributions of the parameters of a linear regression process converge to their true values. We also study the infinite horizon optimal control of this linear regression process with learning, and illustrate the results obtained with an example of a monopolist seeking to maximize profits with unknown demand curve. Such a monopolist has a tradeoff between choosing an action to maximize the current period reward, and choosing an action to maximize the information value of the next period's observations. We use the technique of counting the number of equations and unknowns to study the asymptotic behavior of the monopolist's actions and to determine whether in the limit the monopolist learns the true parameter values of the demand curve.

O'Rourke, Kevin

PD November 1989. **TI** Did the Great Irish Famine Matter?. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-89-17; First Boston Series, Graduate School of Business, Columbia University, New York, New York 10027. **PG** 65. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** 044, 823, 711, 712. **KW** Famine. Migration. Ireland. Agriculture.

AB It has been suggested that the Irish famine of 1845-49

was of no importance in bringing about the long run depopulation of Ireland, in the sense that in the absence of the famine, price shocks would have led farmers to switch from tillage to pasture, forcing farm laborers to emigrate. This hypothesis is tested by constructing a model of the pre-famine Irish agricultural economy, and then subjecting the model to the price shocks that occurred between 1845 and 1876. Far from reducing agricultural employment, the price shocks would actually have increased employment. Ways in which the famine would have affected Irish agriculture both in the short run and the long run are also examined.

PD November 1989. **TI** A Positive Theory of Factor Flows. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-89-19; First Boston Series, Graduate School of Business, Columbia University, New York, New York 10027. **PG** 45. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** 044, 823, 411. **KW** Capital Flows. Labor Mobility.

AB Why did labor flow from Ireland to Britain in the nineteenth century, when capital could have moved in the opposite direction? I address this question in a general two country trade theoretic framework, linking it with the contemporary debate about the relative quality of emigrants and those who stayed behind. Dividing the population into shirkers and non-shirkers, it can be shown (given certain assumptions) that all non-shirkers migrate to the capital abundant country, and that capital may flow in the same direction as labor. A switch from cottage industry to the factory system may have initiated such factor flows.

PD November 1989. **TI** The Causes of Depopulation in a Small Open Economy: Ireland 1856-1876. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-89-18; First Boston Series, Graduate School of Business, Columbia University, New York, New York 10027. **PG** 45. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** 044, 823, 711, 712. **KW** Migration. Ireland. Agriculture. Labor Demand. Wages.

AB The paper asks whether Irish emigration between 1856 and 1876 was due to labor being pulled out of Ireland by higher wages abroad, or to labor being pushed off the land as a result of price shocks in international commodity markets favoring pasture over tillage. A computational general equilibrium model of the Irish agricultural sector is constructed, and subjected to the wage and price shocks experienced by the economy over the period. It is found that all of the rural depopulation occurring during this period was due to wage shocks (i.e., foreign labor demand), and not to commodity price shocks.

Obstfeld, Maurice

TI Intrinsic Bubbles: The Case of Stock Prices. **AU** Froot, Kenneth A.; Obstfeld, Maurice.

Olson, Lars J.

TI Stochastic Dynamic Resource Models with Stock-Dependent Rewards. **AU** Nyarko, Yaw; Olson, Lars J.

Olson, Mancur

TI Changing Unemployment Rates in Europe and the U.S.: Institutional Structure and Regional Variation. **AU** Kendix, Michael; Olson, Mancur.

Ortuno-Ortin, Ignacio

PD March 1990. **TI** Market Socialism. **AU** Ortuno-Ortin, Ignacio; Roemer, John E.; Silvestre, Joaquim. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 355; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 53. **PR** no charge. **JE** 027, 052, 113. **KW** Market Socialism. Public Ownership. Socialism. Investment. Taxes.

AB We characterize market socialism by the features: (a) labor and goods are allocated through markets; (b) firms are publicly owned; (c) the firms' managers are instructed to maximize profits; (d) the state has instruments to control the sectoral pattern of investment. We consider a two period economy, with one investment good, one type of labor (inelastically supplied) and N consumer goods. We study the range of investment vectors that can be achieved by the following instruments: (i) interest rates faced by firms, as suggested by Lange; (ii) direct investment by the state and (iii) sales tax rates.

PD March 1990. **TI** Appendix to "Market Socialism". **AU** Ortuno-Ortin, Ignacio; Roemer, John E.; Silvestre, Joaquim. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 356; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 39. **PR** no charge. **JE** 027, 052, 113. **KW** Market Socialism. Public Ownership. Investment. Socialism. Taxes.

AB This paper is the last one in a two-paper series. The first paper, Series #355, offers the main text, both verbal and mathematical. The present paper gives detailed proofs of the formal results.

Osano, Hiroshi

PD April 1989. **TI** Coordination Failure and Long Run Growth. **AA** Shiga University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 831; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 33. **PR** no charge. **JE** 511, 111. **KW** Knowledge. Growth Rates. Production.

AB This paper explores the long run implications of the coordination problem between the firm and workers which arises from a shared accumulation process of the stock of knowledge in the stage of production. Coordination failure emerging from the accumulation process of the stock of knowledge can produce multiple, Pareto-ranked equilibrium balanced growth paths in which identical economies can converge to steady states with different rates of growth. A reform of the internal organization of firms can increase the long run growth rate of an economy not only by improving the efficiency of production but also by changing the expectations of one agent about the other agents' input decisions in the accumulation process of the stock of knowledge.

Ostry, Jonathan D.

TI Tariffs and the Macroeconomy: Evidence from the USA.

AU Rose, Andrew K.; Ostry, Jonathan D.

Oswald, Andrew J.

TI Working Internationally. AU Blanchflower, David G.; Oswald, Andrew J.

TI Unemployment and the Demand for Unions. AU Blanchflower, David G.; Crouchley, Robert; Estrin, Saul; Oswald, Andrew J.

TI What Makes a Young Entrepreneur?. AU Blanchflower, David G.; Oswald, Andrew J.

TI What Makes a Young Entrepreneur?. AU Blanchflower, David G.; Oswald, Andrew J.

Ozkaynak, Haluk

TI Report on Ambient Exposures to Volatile Organic Compounds in the Kanawha Valley. AU Spengler, John D.; Sullivan, Nancy; Ozkaynak, Haluk; Ware, James H.; Cohen, Martin A.; Ryan, P. Barry.

TI Report on Ambient Exposures to Volatile Organic Compounds in the Kanawha Valley. AU Spengler, John D.; Sullivan, Nancy; Ozkaynak, Haluk; Ware, James H.; Cohen, Martin A.; Ryan, P. Barry.

TI Summary of Symposium on Health Aspects of Exposure to Asbestos in Buildings. AU Spengler, John D.; Ozkaynak, Haluk; McCarthy, John F.; Lee, Henry.

Paarsch, Harry J.

TI Piecewise Maximum Likelihood Estimation in Empirical Models of Auctions. AU Donald, Stephen G.; Paarsch, Harry J.

Pakes, Ariel

TI An Alternative Theory of Firm and Industry Dynamics. AU Ericson, Richard; Pakes, Ariel.

Palfrey, Thomas R.

TI Ratifiable Mechanisms: Learning from Disagreement. AU Cramton, Peter C.; Palfrey, Thomas R.

TI An Experimental Study of the Centipede Game. AU McKelvey, Richard D.; Palfrey, Thomas R.

Palm, Franz C.

TI Asymmetric Adjustment Costs in Labor Demand Models with Empirical Evidence for the Dutch and UK Manufacturing Sectors. AU Pfann, Gerard A.; Palm, Franz C.

Papageorgiou, Yorgos Y.

TI Toward an Endogenous Central Place Theory. AU de Palma, Andre; Papageorgiou, Yorgos Y.

Parkin, Michael

PD March 1988. TI A Method for Determining Whether Parameters in Aggregative Models are Structural. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 8803; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 32. PR not available. JE 133, 131, 023. KW Business Cycles. Economic Fluctuations. Technology.

AB This paper takes a fresh and unusual look at a popular example of the class of models that form the basis of "real business cycle theory", an approach that seeks to understand aggregate fluctuations as the equilibrium outcome of the choices of rational maximizing representative agents responding to stochastic technology shocks. This new class of models is the outgrowth of a prototype proposed by Kydland and Prescott (1982) which in turn can be seen as an application of Brock and Mirman (1972). Almost simultaneously, Long and Plosser (1983) proposed a real business cycle model that emphasized interactions between sectors in a multi-sector economy.

Pascoa, Mario Rui

PD November 1989. TI Local Concavifiability of Preferences and Determinacy of Equilibrium. AU Pascoa, Mario Rui; Werlang, Sergio Ribeiro de Costa. AA Pascoa: University of Pennsylvania. Werlang: Fundacao Getulio Vargas, Rio de Janeiro. SR University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 89-19; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. PG 21. PR no charge. JE 022, 021, 213. KW Utility Function. Preferences. Demand Theory. Exchange Economy. Price Equilibrium.

AB In this paper we consider strictly convex monotone continuous complete preorderings on the positive real numbers that are locally representable by a concave utility function. By Alexandroff's (1939) theorem, this function is twice differentiable almost everywhere. We show that if the bordered hessian determinant of a concave utility representation vanishes on a null set, then demand is countably rectifiable, that is, except for a null set of bundles, it is a countable union of $c(1)$ manifolds. This property of consumer demand is enough to guarantee that the equilibrium prices of a pure exchange economy will be locally unique, for almost every endowment. We give an example of an economy satisfying these conditions but not the Katzner (1968) - Debreu (1970, 1972) smoothness conditions.

PD November 1989. TI On the Differentiability of Consumer Demand Functions. AU Pascoa, Mario Rui; Werlang, Sergio Ribeiro de Costa. AA Pascoa: University of Pennsylvania. Werlang: Fundacao Getulio Vargas, Rio de Janeiro. SR University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 89-20; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. PG 8. PR no charge. JE 022, 213. KW Demand Functions. Utility Functions. Demand Theory.

AB In this note we consider strictly convex monotone continuous preferences R in $IR(\text{positive in } n \text{ space})$ and show that the consumer's demand function is differentiable, in almost every price and income, if (i) R is representable by a differentiable utility function u such that the gradient is locally Lipschitzian and $\| \text{gradient} \|$ converges to positive infinity as the boundary of $IR(\text{positive in } n \text{ space})$ is approached, or (ii) R is representable by a transferable-utility function $u(x) = x(1) + v(x(2), \dots, x(n))$, where v is a concave function.

Pashardes, Panos

TI Abstention and Aggregation: Demand for Tobacco in the

United Kingdom. AU Fry, Vanessa; Pashardes, Panos.

Pearce, David

TI Renegotiation and Symmetry in Repeated Games. AU Abreu, Dilip; Pearce, David; Stacchetti, Ennio.

Peck, James

PD March 1988. TI On the Nonequivalence of the Arrow-Securities Game and the Contingent-Commodities Game. AU Peck, James; Shell, Karl. AA Peck: Northwestern University. Shell: Cornell University. SR Cornell Center for Analytic Economics Working Paper: 88-12; Cornell University, Uris Hall, Floor 4, Ithaca, NY 14853-7601. PG 35. PR not available. JE 021, 022, 026. KW Imperfect Competition. Nash Equilibrium. Equilibrium Allocation. Market Structure. Commodities. Insurance.

AB We analyze two imperfectly competitive economies which face intrinsic and/or extrinsic uncertainty. The economies differ only in the structure of the markets for insurance. One economy is the Arrow-securities market game and the other is the contingent-commodities market game. We show that for each of the games there is a Nash equilibrium in which all markets are open. The games are not equivalent even though the corresponding competitive economies are. In particular, we show that no Nash equilibrium allocation from the Arrow-securities game in which some income is transferred across states of nature is a Nash equilibrium allocation for the contingent-commodities game.

Perloff, Jeffrey M.

TI The Creation of Dominant Firm Market Power in the Coconut Oil Export Market. AU Buschena, David E.; Perloff, Jeffrey M.

Perry, Martin K.

TI The Logit Model of Monopolistic Competition. AU Besanko, David; Perry, Martin K.; Spady, Richard H.

TI Exclusive Dealing in a Spatial Model of Retail Competition. AU Besanko, David; Perry, Martin K.

TI The Logit Model of Monopolistic Competition: Brand Diversity. AU Besanko, David; Perry, Martin K.; Spady, Richard H.

Pesaran, Bahram

TI A Simulation Approach to the Problem of Computing Cox's Statistic for Testing Non-nested Models. AU Pesaran, M. Hashem; Pesaran, Bahram.

Pesaran, M. Hashem

PD February 1989. TI A Unified Approach to Estimation and Orthogonality Tests in Linear Single Equation Econometric Models. AU Pesaran, M. Hashem; Smith, Richard J. AA Pesaran: Trinity College, Cambridge. Smith: University of Manchester. SR University of Cambridge Department of Applied Economics Working Paper: 8910; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CD3 9DE, UNITED KINGDOM. PG 35. PR \$4.00; checks payable to University of Cambridge. JE 211. KW Maximum Likelihood Estimation. Instrumental Variables. Asymptotic Theory. Orthogonality Tests. Specification Tests.

AB Maximum likelihood estimation is considered for a generalization of the model of Anderson and Rubin (1949) in which the exogenous variables in the structural equation may not be included in the reduced form equations. Classical and specification tests are derived for orthogonality hypotheses. A necessary and sufficient condition for their equivalence is presented. The classical tests are compared using Bahadur's asymptotic relative efficiency criterion. It is shown that a generalization of the Durbin-Wu-Hausman T(2) statistic is asymptotically Bahadur-efficient.

PD March 1989. TI Consistency of Short-Term and Long-Term Expectations. AA Trinity College, Cambridge. SR University of Cambridge Department of Applied Economics Working Paper: 8909; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. PG 12. PR \$4.00; checks payable to University of Cambridge. JE 211. KW Cross-Equation Restrictions. Expectations. Consistency.

AB This paper provides an alternative derivation of the cross-equation restriction obtained by Froot and Ito in this issue, for the purpose of testing the consistency of short-term and long-term expectations. The derivation offered here is more generally applicable and yields restrictions that are much simpler to deal with in practice.

PD May 1989. TI On the Volatility and Efficiency of Stock Prices. AA Trinity College, Cambridge. SR University of Cambridge Department of Applied Economics Working Paper: 8908; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. PG 49. PR \$4.00; checks payable to University of Cambridge. JE 313, 311, 522, 521. KW Volatility Tests. Stock Prices. Asset Pricing Model. Efficient Market Hypothesis. Variance Bounds Tests.

AB This paper offers a synthesis of the literature on the volatility tests and re-examines the evidence on stock price volatility. It proposes new variance bounds tests that are applicable to a wide class of dividend processes. The paper also considers the relationship between the variance bound and the regression tests and argues that the variance bounds tests are generally less powerful than the regression based tests. Using Standard and Poor's price indices the paper presents a number of empirical results on the volatility and the predictability of stock returns.

PD August 1989. TI A Simulation Approach to the Problem of Computing Cox's Statistic for Testing Non-nested Models. AU Pesaran, M. Hashem; Pesaran, Bahram. AA Pesaran, M.: Trinity College, Cambridge and University of California, Los Angeles. Pesaran, B.: Bank of England. SR University of Cambridge Department of Applied Economics Working Paper: 8912; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. PG 27. PR \$4.00; checks payable to University of Cambridge. JE 211, 132. KW Non-nested Hypotheses. Cox Statistic. Consumption Function.

AB This paper proposes a new procedure for computing the Cox statistic for tests of non-nested hypotheses using the method of stochastic simulation. The procedure is applicable to a wide class of probability distributions, is relatively simple to implement and does not require the derivation of the pseudo-

true estimators that enter the Cox test statistic. The paper also contains an application of the proposed method to the test of linear versus the log-linear formulations of the aggregate consumption function. The empirical results show that the simulation method works reasonably well even for a moderate number of replications.

Peters, Wolfgang

PD June 1989. **TI** Reform oder Privatisierung der Alterssicherung Spielraum der Umlagenfinanzierung und Chancen des Kapitaldeckungsverfahrens. **AA** University of Bonn. **SR** Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: A-240; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 26. **PR** no charge. **JE** 313, 918. **KW** Pensions. Pension System. **AB** Paper in German.

Pfann, Gerard A.

PD February 1990. **TI** Asymmetric Adjustment Costs in Labor Demand Models with Empirical Evidence for the Dutch and UK Manufacturing Sectors. **AU** Pfann, Gerard A.; Palm, Franz C. **AA** Pfann: Universite Catholique de Louvain, Belgium. Palm: University of Limburg, The Netherlands. **SR** Oxford Applied Economics Discussion Paper: 87; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. **PG** 33. **PR** not available. **JE** 824, 821, 631. **KW** Labor Demand. Adjustment Costs. Manufacturing.

AB The costs of hiring a worker generally differ in size from the firing costs. This paper investigates optimal labor demand schedules for production and nonproduction workers in firms that operate under uncertainty and face asymmetric costs of adjustment of their workforce. In the empirical part generalized methods of moments (GMM) estimates of the structural parameters of the Euler conditions for production and nonproduction workers are presented, together with specification and structural stability tests, using time series data of the Dutch and UK manufacturing sectors.

Pfeiffer, F.

TI On the Complexity of the Disjoint Path Problem. **AU** Middendorf, M.; Pfeiffer, F.

Phillips, Peter C. B.

PD October 1989. **TI** Asymptotics for Linear Processes. **AU** Phillips, Peter C. B.; Solo, Victor. **AA** Phillips: Yale University. Solo: Johns Hopkins University. **SR** Yale Cowles Foundation Discussion Paper: 932; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 40. **PR** \$2.00. **JE** 211. **KW** Central Limit Theory. Asymptotic Theory. Linear Processes.

AB A method of deriving asymptotics for linear processes is introduced which uses an explicit algebraic decomposition of the linear filter. The method leads to substantial simplifications in the asymptotics and offers a unified approach to strong laws and central limit theory for linear processes. Sample means and sample covariances are covered. The results also accommodate both homogeneous and heterogeneous innovations as well as innovations with undefined means and variances.

TI Testing for a Unit Root in the Presence of Deterministic Trends. **AU** Schmidt, Peter; Phillips, Peter C. B.

Pietra, Tito

PD May 1989. **TI** Indeterminacy in General Equilibrium Economies with Incomplete Financial Markets: Mixed Asset Returns. **AA** Rutgers University. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 89-21; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 35. **PR** no charge. **JE** 021, 022, 311. **KW** General Equilibrium Model. Exchange Economy. Equilibrium Allocations. Incomplete Markets. Spot Markets. Asset Prices. **AB** The paper considers the structure of the set of equilibrium allocations in a two period, general equilibrium, pure exchange economy with incomplete financial markets. Financial activities are allowed to be affine functions of spot commodity prices, i.e., the model allows for pure financial assets, real assets and assets whose returns are partly real, partly nominal. For an open, dense set of economies in endowment-structure of returns space, it is established that the set of equilibrium allocations contains a smooth N -dimensional manifold (N is the number of spot markets in the second period), provided that there are enough consumers and that $(N-M)/M$ is greater than or equal to N , where M is the number of assets.

Piore, Michael J.

PD September 1989. **TI** Corporate Reform in American Manufacturing and the Challenge to Economic Theory. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 533; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 37. **PR** not available. **JE** 511, 514, 611. **KW** Corporations. Organization. Decision Theory. Industrial Organization.

AB The interviews yielded three different types of findings. First, the companies were in the process of introducing a series of deliberate, self-conscious reforms, which they themselves viewed as fundamental changes in organizational structure and practice. Second, the interviews revealed a widespread consensus among the managers in all of these companies about the way in which the geographic dispersion of production and authority within the organization would evolve over the next ten years. Finally, the interviews suggested a variety of tensions surrounding the reforms. These tensions are frustrating the attempt to revise the corporate structure and might ultimately lead to unintended and unanticipated outcomes.

Pisaruk, N. N.

PD December 1989. **TI** Faces of Submodular Functions and Related Topics. **AA** University of Minsk, USSR. **SR** Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: 89615-OR; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** no charge. **JE** 213. **KW** Submodular Functions. Linear Programming. Scheduling Problems.

AB There are several different polyhedra that can be naturally associated with a submodular function. In this paper we study the structure of faces of yet another polyhedron associated with submodular functions. This polyhedron is the

feasible domain of a linear program that is equivalent to the problem of submodular function minimization. We also solve a submodular problem which has an analogy to continuous variational problems. Applications of this problem to approximation of some scheduling problems are considered. The worst case analysis of the approximation is given as well.

Plehn, Jurgen

PD November 1988. **TI** Preemptive Scheduling of Independent Jobs with Release Times and Deadlines on a Hypercube. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89608-0R; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 10. **PR** no charge. **JE** 213. **KW** Hypercube. Preemptive Scheduling. Release Times.

AB It is shown that the problem of preemptive scheduling of independent jobs with release times and deadlines on a hypercube can be formulated as a linear program.

Poljak, S.

TI Subgraph Packing - A Survey. **AU** Loebel, M.; Poljak, S.

TI A Decomposition of Strongly Unimodular Matrices into Incidence Matrices of Digraphs. **AU** Crama, Y.; Loebel, M.; Poljak, S.

Ponsati-Obiols, Clara

PD February 1989. **TI** Two-Sided Incomplete Information Bargaining with a Finite Set of Possible Agreements. **AA** Bellcore. **SR** Bellcore Economics Discussion Paper: 57; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. **PG** 39. **PR** not available. **JE** 026. **KW** Bargaining. Incomplete Information. Concession Games. Game Theory.

AB Two-sided incomplete information bargaining is studied as a multi-stage concession game in continuous time. If no compromises are possible, uncertainty on whether players can concede implies existence of a unique equilibrium persists as an equilibrium, although not necessarily unique. Symmetric semi-pooling equilibria with compromises and delay are characterized and sufficient conditions for their existence are given. The results support the perception that mediators, restricting direct communication and coordinating the timing of concessions, enhance the efficiency of bargaining.

PD September 1989. **TI** Unique Equilibrium in a Model of Bargaining Over Many Issues. **AA** Bellcore. **SR** Bellcore Economics Discussion Paper: 58; Room 2Q-338, Bellcore, 435 South Street, Morristown, New Jersey 07960-1961. **PG** 22. **PR** not available. **JE** 026. **KW** Bargaining. Incomplete Information. Bayesian Equilibrium. Concession Games. Noncooperative Game.

AB A noncooperative game of two parties bargaining an agreement involving n issues, each of which can be resolved in only two possible ways, is presented. Conditions under which there is a unique Perfect Bayesian Equilibrium (PBE) are provided. Along this equilibrium bargainers usually reach an agreement by means of trading a favorable solution on some of the issues in exchange for an unfavorable solution on the others, and some delay is necessary.

Poole, Keith T.

PD September 1989. **TI** Patterns of Congressional Voting. **AU** Poole, Keith T.; Rosenthal, Howard. **AA** Poole: Carnegie Mellon University. Rosenthal: Carnegie Mellon University and Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 536; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 34. **PR** not available. **JE** 025. **KW** Voting. Congress. Legislature.

AB Congressional roll call voting has been highly structured for most of American history. The structure was disclosed by a dynamic, spatial analysis of the entire roll call voting record from 1789 to 1985. In the modern era legislators exhibit very stable voting patterns throughout their Congressional careers. This stability is such that, under certain conditions, short run forecasting of roll call votes is possible. Since the end of World War II, changes in Congressional voting patterns have occurred almost entirely through the process of replacement of retiring or defeated legislators with new members. Politically, selection is far more important than adaptation.

Porter, David

PD May 1990. **TI** Bargaining Costs and Failures in the Sealed-Bid Double Auction. **AU** Porter, David; Rosenthal, Jean-Laurent. **AA** Porter: California Institute of Technology. Rosenthal: University of California, Los Angeles. **SR** Caltech Social Science Working Paper: 733; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, California 91125. **PG** 43. **PR** no charge. **JE** 022, 026. **KW** Bargaining Theory. Auction Theory. Dynamic Game. Negotiations.

AB This paper analyzes bilateral bargaining in the sealed-bid double auction with bargaining costs. There exists a multiplicity of equilibria to this game, all of which have unsatisfactory properties. Since anything seems possible, we focus on the completely mixed strategy equilibria (C.M.S.) but find that such equilibria require that the negotiator with the higher bargaining cost receive higher profits. Allowing the bargaining process to be dynamic does not entirely solve the problem because the offers in the dynamic game can demonstrate chaotic behavior. Moreover when failure costs are low there exist many infinite horizon C.M.S. equilibria. One feature of the C.M.S. equilibrium is the existence of a significant probability of delay which is consistent with empirical reality.

Postlewaite, Andrew

TI Refining Cheap-Talk Equilibria. **AU** Matthews, Steven A.; Masahiro, Okuno-Fujiwara; Postlewaite, Andrew.

Poterba, James M.

PD April 1989. **TI** Dividends, Capital Gains, and the Corporate Veil: Evidence from Britain, Canada, and the United States. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 519; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 24. **PR** not available. **JE** 921, 521, 522. **KW** Dividends. Capital Gains. Consumption. Tax Rates. Business Finance.

AB This paper investigates the effects of increased cash dividend payout, and of "forced realizations" of capital gains in

corporate control transactions, on the level of aggregate consumption. The results support the proposition that investors respond differently to cash receipts from firms and to accruing capital gains. Consistent but weak evidence for the United States, Great Britain, and Canada suggests that higher dividend tax rates lower consumption. This is consistent with such tax rates increasing corporate saving, while households fail to completely pierce the corporate veil and therefore reduce their consumption. Time series evidence from the U.S. and the U.K. also suggests that "forced realizations" of capital gains in takeovers may spur consumption, indicating a relatively unexplored link between corporate financial decisions and aggregate consumption.

PD April 1989. **TI** Inflation and Taxation with Optimizing Governments. **AU** Poterba, James M.; Rotemberg, Julio J. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 521; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 26. **PR** not available. **JE** 134, 323, 311. **KW** Inflation. Taxes. Tax Rates. Monetary Policy.

AB This paper examines the empirical validity of the prediction that if governments minimize the deadweight loss from raising revenue through inflation and tax finance, there should be 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.

TI Speculative Dynamics and the Role of Feedback Traders. **AU** Cutler, David M.; Poterba, James M.; Summers, Lawrence H.

TI Speculative Dynamics. **AU** Cutler, David M.; Poterba, James M.; Summers, Lawrence H.

Potscher, Benedikt M.

PD August 1989. **TI** On the Formulation of Uniform Laws of Large Numbers: A Truncation Approach. **AU** Potscher, Benedikt M.; Prucha, Ingmar R. **AA** Potscher: University of Maryland, College Park and Technische Universität Wien, Vienna. Prucha: University of Maryland, College Park. **SR** University of Maryland Department of Economics Working Paper Series: 89-27; Department of Economics, University of Maryland, College Park, MD 20742. **PG** 30. **PR** no charge. **JE** 211. **KW** Central Limit Theory.

AB The paper develops a general framework for the formulation of generic uniform laws of large numbers. In particular, we introduce a basic generic uniform law of large numbers that contains recent uniform laws of large numbers by Andrew and Hoadley as special cases. We also develop a truncation approach that makes it possible to obtain uniform laws of large numbers for the functions under consideration from uniform laws of large numbers for truncated versions of those functions. The point of the truncation approach is that uniform laws of large numbers for the truncated versions are typically easier to obtain. By combining the basic uniform law of large numbers and the truncation approach we also derive

generalization of recent uniform laws of large numbers introduced in Potscher and Prucha.

Pound, John

PD May 1988. **TI** Shareholder Activism and Share Values: The Causes and Consequences of Counter-Solicitations Against Management Antitakeover Proposals. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 169D; J.F. Kennedy School of Government, 79 J.F.K. Street, Cambridge, MA 02138. **PG** 36. **PR** no charge. **JE** 512, 511, 514. **KW** Proxy Contests. Shareholder Voting. Corporations. Takeovers.

AB Proxy contests in which outside, dissident shareholders actively oppose management proposals potentially serve as a check on managerial power to set the corporate agenda. This paper examines a sample of such contests, involving management antitakeover amendment proposals. The results suggest that counter-solicitations are in the interests of outside shareholders, but are costly and uncertain. When dissidents win counter-solicitation campaigns, share prices invariably rise, while when they lose, share prices invariably fall. But dissidents win only about 25% of the time. Counter-solicitations appear to arise only when management proposals impose particularly high costs on specific shareholders.

Powell, Andrew

PD May 1989. **TI** Commodity and Developing Country Terms of Trade, What Does the Long Run Show?. **AA** Nuffield College, Oxford. **SR** Oxford Applied Economics Discussion Paper: 80; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. **PG** 17. **PR** not available. **JE** 711, 132, 133, 121. **KW** Commodities. Commodity Prices. Terms of Trade. Developing Countries.

AB The hypothesis of a stable declining commodity price terms of trade implies the terms of trade is "trend stationary" and implies co-integrating relationship between commodity prices and manufactured goods prices. However, commodity prices are highly leptokurtic and the distribution of commodity price changes exhibit a small number of significant outliers. Once these "jumps" or "breaks" are allowed for the terms of trade is stationary with no trend. Given co-integration an error correction model is developed and shown to be a stable interpretation of the data.

Prager, Jonas

PD January 1990. **TI** Market Failure and Public Sector Failure: Is Privatization a Panacea?. **AA** New York University. **SR** New York University Economic Research Reports: 90-09; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 47. **PR** no charge. **JE** 614, 612, 611. **KW** Industrial Organization. Public Enterprises. Public Sector. Market Failure.

AB Although market failure is the primary economic justification for government intervention in the economy, the efficiency enhancement thought to stem from government involvement--especially in the form of public ownership-- is not necessarily realized in practice. This paper argues that public sector inefficiency is attributed to a number of factors that share a common root: the absence of efficiency-promoting incentives. In contrast, the private sector incentive mechanism

is more likely to encourage efficiency, suggesting that the privatization of state-owned enterprises may be the antidote to "public sector failure". Three privatization scenarios are then reviewed: (a) a private monopoly replaces a public monopoly, (b) a competitive market supplants a public monopoly, and (c) the public sector employs private enterprise to provide the service.

Prescott, Edward C.

TI The Firm and the Plant in General Equilibrium Theory.
AU Hornstein, Andreas; Prescott, Edward C.

Promel, Hans Jurgen

TI Partitioning Graphs into Dense Subgraphs.
AU Garbers, Jörn; Promel, Hans Jurgen; Steger, Angelika.

PD July 1989. TI Aspects of Ramsey-Theory V: Topological Ramsey Theory. AU Promel, Hans Jurgen; Voigt, Bernd. AA University of Bonn. SR Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: 88546-OR; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 102. PR no charge. JE 213. KW Ramsey Theory. Topology. Infinite Trees.

AB This is a continuation of the previous parts "Aspects of Ramsey Theory I-IV". We survey developments related to Ramsey Theory for uncountable structures. Chapter one presents Carlson's main lemma. Various notions of infinite trees and subtrees are discussed in chapter two. Basic concepts from topology and measure are introduced in chapter three. Ramsey type results for finite and infinite dimensional spaces are treated in chapters four and five respectively.

PD July 1989. TI Aspects of Ramsey-Theory III: Parameter Sets. AU Promel, Hans Jurgen; Voigt, Bernd. AA University of Bonn. SR Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: 88545-OR; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 72. PR no charge. JE 213. KW Parameter Sets. Ramsey Theory. Topology.

AB This is a continuation of "Aspects of Ramsey Theory I: Sets" and "Aspects of Ramsey Theory II: Arithmetic progressions". We survey developments which are related to the concept of parameter sets. In chapter one the concept of Graham Rothschild parameter sets is introduced. Chapter two covers Hales Jewett's theorem. In chapter three the Graham Rothschild theorem is proved. Canonical partitions and canonical orders are described in chapters four and five respectively.

TI Globale und Lokale Verdrahtungsalgorithmen für Sea-of-Cells Design. AU Hetzel, A.; Korte, B.; Krieger, R.; Promel, Hans Jurgen; Radicke, U.; Steger, A.

PD October 1989. TI The Asymptotic Number of Graphs not Containing a Fixed Color-Critical Subgraph. AU Promel, Hans Jurgen; Steger, Angelika. AA University of Bonn. SR Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: 89587-OR; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 14. PR no charge. JE 213. KW Finite Graphs. Subgraph.

AB For a finite graph H let $\text{Forb}(H)$ denote the class of all finite graphs which do not contain H as a (weak) subgraph. In

this paper we characterize the class of those graphs H which have the property that almost all graphs in $\text{Forb}(H)$ are 1-colorable. We show that this class corresponds exactly to the class of graphs whose extremal graph is the Turan-graph. An earlier result of Simonovits (Extremal graph problems with symmetrical extremal graphs. Additional chromatic conditions, *Discrete Math.* 7 (1974), 349-376) showed that these are exactly the $(l + 1)$ -chromatic graphs which contain a color critical edge.

Prucha, Ingmar R.

TI Dynamic Factor Demand Models, Productivity Measurement, and Rates of Return: Theory and an Empirical Application to the U.S. Bell System. AU Nadiri, M. Ishaq; Prucha, Ingmar R.

TI On the Formulation of Uniform Laws of Large Numbers: A Truncation Approach. AU Potscher, Benedikt M.; Prucha, Ingmar R.

Quah, Danny

PD July 1989. TI An Improved Rate for Nonnegative Definite Consistent Covariance Matrix Estimation with Heterogeneous Dependent Data. AA Massachusetts Institute of Technology and National Bureau of Economic Research. SR Massachusetts Institute of Technology Department of Economics Working Paper: 529; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 9. PR not available. JE 211. KW Covariance Matrix. Dependent Data. Asymptotic Theory. Consistency.

AB This paper improves on previous rates at which lag lengths are allowed to grow for consistent covariance matrix estimation with heterogeneous dependent data. Using a WLLN, we give a consistency result for growth rates of $O(\text{cube root of } n)$; the previous rate was $O(\text{fourth root of } n)$. This new rate equals that of Berk's autoregressive spectral density estimator for well-behaved stationary contexts, and thus may be possible outside of very special cases.

PD September 1989. TI Permanent and Transitory Movements in Labor Income: An Explanation for "Excess Smoothness" in Consumption. AA Massachusetts Institute of Technology. SR Massachusetts Institute of Technology Department of Economics Working Paper: 535; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 38. PR not available. JE 921, 131, 023. KW Wages. Consumption. Permanent Income Hypothesis.

AB Many have argued that if labor income is difference stationary, the permanent income hypothesis predicts consumption should be relatively volatile. In US aggregate data, labor income is well-characterized as having a unit root; however consumption turns out to be relatively smooth. This anomaly is known as Deaton's paradox. We resolve Deaton's paradox by providing decompositions of labor income into permanent and transitory components. These preserve the univariate dynamic properties of labor income. However, when agents distinguish permanent and transitory movements in their labor income-as the rational expectations hypothesis asserts they should-the permanent income hypothesis correctly predicts the observed smoothness in consumption.

Quandt, Richard E.

TI Rationing, Defective Inputs and Bayesian Updates Under

Central Planning. AU Goldfeld, Stephen M.; Quandt, Richard E.

PD January 1990. TI On the Distribution of Horse Qualities at Racetracks: An Analysis of Cournot-Nash Equilibria. AA Princeton University. SR Princeton Financial Research Center Memorandum: 112; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. PG 24. PR \$3.00. JE 026. KW Nash Equilibrium. Cournot Equilibrium. Horse Racing. Track Betting.

AB The fractions of moneys bet on the various horses in a race exhibit characteristic patterns. The paper attempts to show that the empirically observed patterns are compatible with an optimizing framework in which each stable selects a horse of such ability to be entered in a race as will maximize its expected profit. If n horses are selected in this fashion, it is possible to define Cournot-Nash and maximin equilibria for the n -person game. In numerical simulations the Cournot-Nash solution appears to be a better representation of the facts.

Quinzii, Martine

TI The Non-neutrality of Money in a Production Economy with Nominal Assets. AU Magill, Michael; Quinzii, Martine.

Radicke, U.

TI Globale und Lokale Verdrahtungsalgorithmen für Sea-of-Cells Design. AU Hetzel, A.; Korte, B.; Krieger, R.; Promel, Hans Jurgen; Radicke, U.; Steger, A.

TI Globale und Lokale Verdrahtungsalgorithmen für Sea-of-Cells Design. AU Hetzel, A.; Korte, B.; Krieger, R.; Promel, Hans Jurgen; Radicke, U.; Steger, A.

Ramey, Garey

TI Oligopoly Limit Pricing. AU Bagwell, Kyle; Ramey, Garey.

TI Capacity, Entry, and Forward Induction. AU Bagwell, Kyle; Ramey, Garey.

Rausser, Gordon C.

TI A Political-Economic Rationale for Coupled Welfare Transfer Policies. AU Foster, William E.; Rausser, Gordon C.

TI An Assessment of the Agricultural Economics Profession. AU Just, Richard E.; Rausser, Gordon C.

Razin, Assaf

PD August 1989. TI Optimal Incentives to Domestic Investment in the Presence of Capital Flight. AU Razin, Assaf; Sadka, Efraim. AA Tel Aviv University. SR National Bureau of Economic Research Working Paper: 3080; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 27. PR \$2.00. JE 441, 422, 431, 411. KW Open Economy. Taxes. Capital Market. Exports. Public Goods.

AB This paper develops a model of an open economy which employs distortionary taxes to finance public consumption, and with an access to the world capital market. The paper examines the efficiency of quantity restrictions on capital exports and the accompanying set of taxes. A distinction is made between a benchmark case where the government can fully tax foreign-source income and a more realistic case where the government cannot effectively tax foreign-source income.

Reed, Bruce

TI Star Arboricity. AU Alon, Noga; McDiarmid, Colin; Reed, Bruce.

Rees, Daniel

TI Faculty Turnover at American Colleges and Universities: Analyses of AAUP Data. AU Ehrenberg, Ronald; Kasper, Hirschel; Rees, Daniel.

Reid, Alastair J.

TI Trade Unions and Labour Productivity: The British Shipbuilding Industry, 1870-1950. AU Hilditch, Peter J.; Reid, Alastair J.

Reiss, Peter C.

PD August 1989. TI Economic and Financial Determinants of Oil and Gas Exploration Activity. AA Stanford University. SR National Bureau of Economic Research Working Paper: 3077; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 26. PR \$2.00. JE 632, 522, 723. KW Oil. Energy. Inflation. Natural Gas. Business Investment.

AB This paper studies the investment activities of 44 independent oil and gas firms from 1978 to 1986. It develops a dynamic model of oil and gas exploration and development. The model predicts less of a decline in exploration activity than actually occurred in 1985-86. I consider the extent to which financial factors may have affected firms' investment plans during the 1985-86 deflation. There is some evidence that credit constraints in this industry did place important limitations on firms' abilities to respond to the energy price deflation. These constraints were imposed because lenders could not separately distinguish between unfavorable industry developments and poor individual firm performance.

TI Corporate Payouts and the Tax Price of Corporate Retentions: Evidence From the Undistributed Profits Tax of 1936-1938. AU Hubbard, R. Glenn; Reiss, Peter C.

Renaudon, P.

TI Forecasting French Postal Financial Services in France - I The National Model. AU Chapuis, G.; Nicolas B.; Renaudon, P.; Villa, P.

Revesz, Richard L.

TI Apportioning Damages Among Potentially Insolvent Actors. AU Kornhauser, Lewis A.; Revesz, Richard L.

Rey, Philippe

TI Renegotiation Design Under Symmetric Information. AU Aghion, Philippe; Dewatripont, Mathias; Rey, Philippe.

TI Renegotiation Design with Unverifiable Information. AU Aghion, Philippe; Dewatripont, Mathias; Rey, Philippe.

Riddell, W. Craig

TI Economic of Women's Wages in Canada. AU Gunderson, Morley; Riddell, W. Craig.

Rob, Rafael

PD December 1989. TI Learning and Capacity Expansion under Demand Uncertainty. AA University of Pennsylvania. SR University of Pennsylvania Center for

Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 90-07; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. PG 46. PR no charge. JE 611, 022. KW Market Structure. Industrial Organization. Competitive Markets. Free Entry.

AB A competitive, dynamic model of entry into a new industry is set up and both its positive and normative aspects are studied. The main assumptions are that entry is sequential, that it occurs under imperfect information on the size of the market and that better information becomes available as time goes on. The gradual improvement in information is due to the fact that later waves of entrants are able to observe the profitability of earlier entrants. The major results reported here (under suitable restrictions) are that the equilibrium rate of entry is monotonically decreasing over time, and that at any given point in time, it is smaller than the socially optimal one.

Robertson, Neil

PD 1988. **TI** Representativity of Surface Embeddings. **AU** Robertson, Neil; Vitray, Richard. **AA** Robertson: Ohio State University. Vitray: Appalachian State University. **SR** Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: 89557-OR; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 39. PR no charge. JE 213. **KW** Graph Minors. Embeddings.

AB The concept of representativity of a surface embedding was developed by one of the authors and Paul Seymour in connection with a series of papers on the subject of graph minors. In the graph minor context bounded representativity, for classes of embeddings on a fixed surface other than the sphere, is analogous to bounded grid minor size for embeddings on the sphere. Embeddings of unbounded grid minor size on the sphere generate all sphere embeddings by taking minors. Similarly, embeddings of unbounded representativity on another fixed surface generate all embeddings on that surface by taking minors. In this expository article an elementary theory of this embedding invariant will be developed, some recent developments due to Dan Archdeacon, Scott Randby, Carsten Thomassen, Klaus Truemper and the authors will be outlined, and connections with the graph minor project will be discussed.

Robin, J. M.

PD January 1990. **TI** Econometric Analysis of the Short-run Fluctuations of Households' Purchases. **AA** INRA et CREST. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9007; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. PG 48. PR no charge. JE 921, 229. **KW** Consumption. Household Expenditures. Households.

AB In frequency of purchase models are alternative models to those derived from the classical "utility maximization with binding nonnegativity constraints" scheme for modelling infrequent purchase in a stable environment. A multinomial extension of those models is proposed to take into account a possibly existing information about the exact number of times households purchased during the survey period. Various ways of estimation are described and an empirical illustration is presented with data drawn from the French Food Expenditure Survey (INSEE).

Robinson, Sherman

TI Productivity and Externalities: Models of Export-Led Growth. **AU** de Melo, Jaime; Robinson, Sherman.

PD January 1990. **TI** Analyzing Agricultural Trade Liberalization with Single-Country Computable General Equilibrium Models. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 524; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. PG 27. PR \$5.40. JE 422, 713, 712, 411. **KW** International Trade. Trade Policy. Tariffs. Agriculture. Agricultural Policy.

AB This paper surveys recent work with single country computable general equilibrium (CGE) models to analyze issues of agricultural trade liberalization. This work has drawn heavily on earlier work with CGE models of developing countries designed to analyze issues of "structural adjustment" to external shocks. The paper argues that most trade focused, single country CGE models are based on the Salter-Swan "Australian" trade model, which incorporates non-traded goods. A two sector, three commodity analytic model is presented which incorporates imperfect substitution and transformability between goods produced for the domestic and world markets. This model represents an extension of the Salter-Swan model and provides the analytic core for most trade focused CGE models.

TI Economywide Implications of Agricultural Liberalization in the United States. **AU** Kilkenny, Maureen; Robinson, Sherman.

Rodrik, Dani

PD May 1988. **TI** Closing the Technology Gap: Does Trade Liberalization Really Help?. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 170D; J.F. Kennedy School of Government, 79 J.F.K. Street, Cambridge, MA 02138. PG 32. PR no charge. JE 422, 611, 411. **KW** Trade Policy. Oligopoly. Technology.

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.

PD May 1988. **TI** The Welfare Economics of Debt Service. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 171D; J.F. Kennedy School of Government, 79 J.F.K. Street, Cambridge, MA 02138. PG 29. PR no charge. JE 431, 422, 433, 443. **KW** External Debt. Devaluation. Exchange Rates. Trade Policy.

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 non-traded goods are not 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.

PD September 1988. **TI** Some Policy Dilemmas in Turkish Macroeconomic Management. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 173D; J.F. Kennedy School of Government, 79 J.F.K. Street, Cambridge, MA 02138. **PG** 33. **PR** no charge. **JE** 113, 112, 121, 133. **KW** Turkey. Macroeconomic Policy. Exchange Rates. Debt Crisis. Subsidies. Exports.

AB This paper highlights three areas where policies pursued by the Turkish government have had conflicting effects on macroeconomic balance. The first area is exchange rate policy, wherein continuous real depreciations are now working at cross purposes with respect to the fiscal constraint. Second, financial liberalization and the opening of the capital account have created severe dilemmas with respect to the management of the government's domestic debt. Third, the privatization effort currently under way also undermines in subtle ways the fiscal discipline necessary to maintain external debt service. An appendix presents estimates of the magnitude of "fictitious" exports spurred by generous export subsidies during the 1980s.

PD October 1988. **TI** Trade Policy Issues Facing Sub-Saharan Africa. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 172D; J.F. Kennedy School of Government, 79 J.F.K. Street, Cambridge, MA 02138. **PG** 25. **PR** no charge. **JE** 121, 113, 112, 422. **KW** Africa. Trade Policy. Developing Countries. Trade Reform. Economic Development.

AB Africa faces a severe macroeconomic crisis and a much deeper developmental crisis. This paper discusses the modest role that trade policy can play in alleviating these dual crises. The conventional resource allocation benefits of trade reform are not sufficiently compelling to make it a top priority in the reform process. Instead, the contribution that trade reform can make is to provide a transparent, predictable, and credible set of incentives to entrepreneurs. The stability and predictability of incentives are much more important than their overall bias. Since the case for reform is largely independent of developments in the world economy, the latter should not enter as a consideration. Also, trade regimes should be reformed in a way that reduces the demand on scarce administrative resources. The ultimate goal of reform should be rationalization rather than liberalization.

Roemer, John E.

TI Market Socialism. **AU** Ortuno-Ortin, Ignacio; Roemer, John E.; Silvestre, Joaquim.

TI Appendix to "Market Socialism". **AU** Ortuno-Ortin, Ignacio; Roemer, John E.; Silvestre, Joaquim.

PD April 1990. **TI** The Possibility of Market Socialism. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper:

357; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 25. **PR** no charge. **JE** 052, 027. **KW** Public Ownership. Market Socialism. Socialism. Political Parties. Economic Systems.

AB It is claimed that the failure of the Eastern European economies is due not to public ownership (or the absence of private ownership), but to the non-use of markets. In the spirit of Oskar Lange, a model of a market socialist economy (with private goods) is outlined in which (i) firms are publicly owned, (ii) all goods are allocated via markets, and (iii) the state posts discounts on interest rates to influence the level and pattern of investment in the economy. Firms are publicly owned when the use and distribution of profits are decided by a political process in which the public participates (e.g., multi-party democracy). These firms maximize profits in the model. Various challenges to the feasibility of the model are briefly discussed.

Rogerson, William P.

PD September 1989. **TI** Incentives, the Budgetary Process, and Inefficiently Low Production Rates in Defense Procurement. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 851; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 95. **PR** no charge. **JE** 114, 641, 616. **KW** Weapons Systems. Military Spending. Production Capacity. Defense Spending.

AB There appears to be a consensus within the defense community that production of weapons systematically occurs in plants which are of a large scale relative to the levels of output actually produced. The important consequence of this phenomena which this paper will focus on is that this means that existing output levels could be produced more cheaply in plants of a smaller scale. Thus the current debate over low production rates which focuses on whether output choices are being made correctly ignores an important aspect of the phenomena of low production rates. This is that defense production appears to systematically occur at inefficiently high scales. The purpose of this paper is to highlight this as a separate issue, to describe a theory of why it occurs, and to suggest a number of possible policy approaches to dealing with it which follow from the theory.

PD September 1989. **TI** Optimal Depreciation Schedules for Regulated Utilities. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 852; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 52. **PR** no charge. **JE** 635, 614, 613. **KW** Electricity. Depreciation. Investment. Utilities.

AB Production and distribution of electricity requires investment in long lived specialized facilities capital. The bulk of electricity in the United States is supplied by investor owned utilities. In this case the utility will initially purchase the facilities capital. It will then be allowed to recover its investment cost through the prices it charges consumers. Economists have long recognized the fact that the goal of fairly reimbursing the firm for its asset purchases can be accomplished using any depreciation schedule so long as a fair rate of return is paid on the remaining book value. This raises the question of what depreciation schedule should be chosen.

Rojas-Suarez, Liliana

TI Financial Market Integration and Exchange Rate Policy.
AU Mathieson, Donald J.; Rojas-Suarez, Liliana.

Romer, Paul

PD September 1989. **TI** Increasing Returns and New Developments in the Theory of Growth. **AA** University of Chicago. **SR** National Bureau of Economic Research Working Paper: 3098; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 37. **PR** \$2.00. **JE** 111, 023. **KW** Growth Theory. Growth Models. Macroeconomics.

AB From the beginning, growth theory has been faced with technically challenging questions about increasing returns and the way to capture ideas in a model of market exchange. Initially, reliance on perfect competition forced growth theory to narrow its scope. Recently, new tools for studying dynamic equilibria with nonconvexities, externalities, and imperfect competition have allowed growth theory to address broader questions like: Why have growth rates tended to increase over time? Why is it that flows of capital are not sufficient to equalize wages in different countries? How is it that trade policy, or aggregate research and development expenditure, or the extent of patent protection influences the rate of growth?.

Rose, Andrew K.

TI An Empirical Assessment of Non-Linearities in Models of Exchange Rate Determination. **AU** Meese, Richard A.; Rose, Andrew K.

PD November 1989. **TI** Tariffs and the Macroeconomy: Evidence from the USA. **AU** Rose, Andrew K.; Ostry, Jonathan D. **AA** Rose: University of California, Berkeley. Ostry: International Monetary Fund. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 365; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 41. **PR** no charge. **JE** 422, 431, 411. **KW** Tariffs. Trade Balance. Exchange Rates.

AB This paper examines the macroeconomic impact of tariffs. The effects of unilateral tariff changes are reviewed in a variety of theoretical models. Three different sets of data are consistent with the hypothesis that tariff rates have no significant effect on a system consisting of the real exchange rate, the real trade balance, and real output (both foreign and domestic).

TI Why Hasn't Trade Grown Faster Than Income? Inter-Industry Trade Over the Past Century. **AU** Gagnon, Joseph E.; Rose, Andrew K.

Rosenthal, Howard

TI Patterns of Congressional Voting. **AU** Poole, Keith T.; Rosenthal, Howard.

TI Moderating Elections. **AU** Alesina, Alberto; Rosenthal, Howard.

Rosenthal, Jean-Laurent

PD March 1989. **TI** Credit Markets in Southeastern France 1650-1788. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 589; Department of

Economics, 2263 Bunche, Los Angeles, CA 90024. **PG** 33. **PR** \$2.50. **JE** 044, 315. **KW** Credit. Loans. Borrowing. Credit Markets. France.

AB The paper analyzes a data set taken from a sample of long-term loan contracts, rentes. First, I examine the legal constraints on credit in Old-Regime France. Second, I describe how the market for credit functioned given high enforcement costs and difficult information transmission. The paper seeks to suggest that the market was able to overcome institutional difficulties and functioned quite efficiently. Borrowing seems to have occurred increasingly between individuals in different occupations and social classes. By the end of the period, artisans and farmers received 98% of their loans from individuals in occupations other than their own, and 85% from elite groups. Moreover the data suggests that there were dramatic changes in the local economy in the last three decades of the Old Regime. Nobles and other elites loaned large sums of money to artisans presumably to finance the expansion of the textile industry and agriculture.

TI Bargaining Costs and Failures in the Sealed-Bid Double Auction. **AU** Porter, David; Rosenthal, Jean-Laurent.

Rotemberg, Julio J.

TI Inflation and Taxation with Optimizing Governments. **AU** Poterba, James M.; Rotemberg, Julio J.

Roubini, Nouriel

TI Financial Integration, Liquidity and Exchange Rates. **AU** Grilli, Vittorio; Roubini, Nouriel.

TI Financial Integration. Liquidity and Exchange Rates. **AU** Grilli, Vittorio; Roubini, Nouriel.

Rudin, Jeremy R.

PD June 1990. **TI** What Do Private Agents Believe About the Time Series Properties of GNP?. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-11; #997-1873 East Mall, Vancouver, British Columbia V6T 1W5. **PG** not available. **PR** not available. **JE** 224, 131, 132. **KW** Output. Forecasting. Economic Fluctuations. Gross National Product.

AB This paper presents estimates of private agents' beliefs about the univariate time series properties of U.S. real output that have been derived from a survey of forecasts made by professional economic forecasters. The results imply that most of the participants in the survey do not take the standard view of the time series properties of real GNP. In addition, there is evidence that participants' beliefs about the time series properties of real output differ widely.

Rustichini, Aldo

TI A New Class of Solutions to Dynamic Programming Problems Arising in Growth Theory and Applications to Dynamic Games. **AU** Benhabib, Jess; Rustichini, Aldo.

TI Vintage Capital, Investment and Growth. **AU** Benhabib, Jess; Rustichini, Aldo.

TI Innovation and Product Differentiation. **AU** Dutta, Prajit K.; Lach, Saul; Rustichini, Aldo.

Saari, Donald G.

PD April 1989. **TI** On the Design of Complex

Organizations and Distributive Algorithms. AA Northwestern University. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 830; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. PG 19. PR no charge. JE 022, 511, 514. KW Communication Networks. Decision Theory. Labor Market. Organization.

AB To efficiently realize a specified goal in a distributive fashion, there needs to be an appropriate "division of labor." This is true for distributive algorithms that take advantage of the concurrent features of the new generation of computers. This is true in the design of a complex organization intended to realize a specified goal. The problem is to determine what is the appropriate division of labor. Here, a geometric characterization of all possible divisions of labor, or communications networks, is given. It is illustrated how this characterization can be used to design the communication networks.

Sachs, Jeffrey D.

TI The McKibbin-Sachs Global Model: Theory and Specification. AU McKibbin, Warwick J.; Sachs, Jeffrey D.

Sadka, Efraim

TI Optimal Incentives to Domestic Investment in the Presence of Capital Flight. AU Razin, Assaf; Sadka, Efraim.

TI Von Thunen's Model of the Dual Economy. AU Nerlove, Marc; Sadka, Efraim.

Sadoulet, Elisabeth

TI The Political Feasibility of Rural Poverty Reduction. AU de Janvry, Alain; Sadoulet, Elisabeth.

TI Efficient Share Tenancy Contracts Under Risk: The Case of Three Rice-Growing Villages in Thailand. AU de Janvry, Alain; Fukui, Seiichi; Sadoulet, Elisabeth.

TI Path Dependent Policy Reforms: From Land Reform to Rural Development in Colombia. AU de Janvry, Alain; Sadoulet, Elisabeth.

Safra, Zvi

TI Delayed Agreements and Non-Expected Utility. AU Fershtman, Chaim; Safra, Zvi; Vincent, Daniel R.

PD January 1990. TI Multivariate Nonexpected Utility Preferences. AU Safra, Zvi; Segal, Uzi. AA Safra: Tel Aviv University. Segal: University of Toronto. SR University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 90-04; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. PG 26. PR no charge. JE 022, 213. KW Preferences. Utility Theory. Utility Functions. Portfolios. Expectations.

AB This paper deals with preference relations over multivariate distributions, when the expected utility assumptions are not assumed. We present two equivalent dominance axioms that imply (and are implied by) an additively separable structure of the local utility functions. This structure is relatively convenient in applications since it also implies that the non-expected utility function directly depends on the marginals of the given multivariate distributions. We

then define an invariance axiom, show that it is equivalent to the property that all local utility functions are ordinally equivalent, and prove that it implies an additively separable expected utility functional when the dominance axiom is also assumed.

Saks, M. E.

TI Applications of Antilexicographic Order II. How to Sharpen the Lym Inequality. AU Erdos, Peter L.; Frankl, P.; Kleitman, D. J.; Saks, M. E.; Szekely, L. A.

Salanie, Bernard

TI Estimating the Canonical Disequilibrium Model: Asymptotic Theory and Finite Sample Properties. AU Laroque, G.; Salanie, Bernard.

TI Speculation, Prix et Bien-etre. AU Gregoir, Stephane; Salanie, Bernard.

Salehi-Isfahani, Djavad

PD May 1989. TI Population Pressure, Intensification of Agriculture, and Rural-Urban Migration. AA Virginia Polytechnic Institute and State University. SR Virginia Polytechnic Institute and State University Working Paper in Economics: E88-07-01; Working Paper Coordinator, Department of Economics, Sandy Hall, Blacksburg, Virginia 24061. PG not available. PR free by request. JE 717, 823, 121, 716. KW Population. Migration. Agriculture. Cultivation.

AB This paper is an attempt to understand the problems of labor absorption in the agricultural sector of the less densely populated areas. There is considerable evidence that, counterintuitively, labor absorption in rural areas with relatively low population density, such as Africa, is less than in areas with higher density, such as Asia. The explanation offered in this paper is essentially technological. I first argue that low population density results in the adoption of extensive techniques of cultivation. Then, using a two-sector model, I show that intensity of land use and the rate of rural-urban migration are negatively correlated, hence explaining why low population density may be associated with a low rate of labor absorption.

Samuelson Larry

TI Extensive Form Reasoning in Normal Form Games. AU Mailath, George J.; Samuelson Larry; Swinkels, Jeroen.

Samuelson, Larry

TI Extensive Form Reasoning in Normal Form Games. AU Mailath, George J.; Samuelson, Larry; Swinkels, Jeroen.

Sandmann, Klaus

PD December 1989. TI A Term Structure Model and the Pricing of Interest Rate Options. AU Sandmann, Klaus; Sonderman, Dieter. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-129; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 28. PR no charge. JE 313, 521, 311. KW Term Structure. Interest Rates. Hedging. Spot Rates.

AB The paper deals with the valuation of interest rate options. Typical examples are financial instruments as Caps

and Floors. The obvious connection of these interest rate options to the traditional options over stocks suggests the use of a dynamic hedge strategy to duplicate these options. The main problem is that the underlying instrument is the interest rate. In order to prevent arbitrage opportunities, it is necessary to model the whole term structure.

Sappington, David E. M.

TI Prenegotiated Labor Buyouts Can Resolve Double Moral Hazard Problems. **AU** Demski, Joel S.; Sappington, David E. M.

TI On the Boundaries of the Firm: Self Provision vs. Subcontracting. **AU** Lewis, Tracy R.; Sappington, David E. M.

TI On the Boundaries of the Firm: Self Provision vs. Subcontracting. **AU** Lewis, Tracy R.; Sappington, David E. M.

Scharfstein, David S.

TI Herd on the Street: Informational Inefficiencies in a Market with Short-Term Speculation. **AU** Froot, Kenneth A.; Scharfstein, David S.; Stein, Jeremy C.

Schiantarelli, Fabio

TI Investment, Financial Factors and Cash Flow: Evidence From UK Panel Data. **AU** Devereux, Michael; Schiantarelli, Fabio.

Schinasi, Garry J.

PD October 1989. **TI** European Integration, Exchange Rate Management and Monetary Reform: A Review of the Major Issues. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 364; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 50. **PR** no charge. **JE** 423, 431, 432. **KW** Economic Integration. Monetary Reform. Exchange Rates. Policy Coordination. European Monetary System.

AB Since the adoption of the Single European Act in 1986, doubts have been expressed about the ability of the European Monetary System as presently structured to ensure an efficient and effective monetary system for the single European market. The further adoption by the European Council (June 1989) of the Report on Economic and Monetary Union (the Delors report) moves the European Community towards even greater monetary integration. Policy discussions have focussed on perceived problems with the current institutional and political structure of the European Monetary System and its exchange rate mechanism.

PD October 1989. **TI** Savings Rates and Output Variability in Industrial Countries. **AU** Schinasi, Garry J.; Gagnon, Joseph E. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 363; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 34. **PR** no charge. **JE** 122, 131, 133. **KW** Business Cycle. Fluctuations. Developed Countries. Savings Rate. Output.

AB The economics literature offers competing hypotheses about the relationship between savings rates and output

variability. This paper examines data for eight industrial countries to determine if there is a discernible pattern between savings rates and cyclical volatility of output. We find a striking coincidence of high gross savings rates and high output variability when real GDP gaps are estimated from a constant growth trend. But there is also strong evidence that this coincidence is an artifact. The major conclusion is that there is not a robust relationship between average gross savings rates and the variability of real GDP gaps (measured as deviations from trends) between 1960-Q1 and 1988-Q4.

Schlagenhauf, Don E.

TI Intertemporal Asset-Pricing Relationships in Barter and Monetary Economies: An Empirical Analysis. **AU** Finn, Mary G.; Hoffman, Dennis L.; Schlagenhaut, Don E.

TI The Identification of the Causes of Business Cycles Across Countries. **AU** Norrbin, Stefan C.; Schlagenhaut, Don E.

Schmidt, Peter

PD October 1989. **TI** Testing for a Unit Root in the Presence of Deterministic Trends. **AU** Schmidt, Peter; Phillips, Peter C. B. **AA** Schmidt: Michigan State University. Phillips: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 933; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 37. **PR** \$2.00. **JE** 211. **KW** Unit Root. Time Series. Random Walk. Co-integration.

AB This paper provides a new unit root test based on an alternative parameterization which has previously been considered by Bhargava (1986). This parameterization allows for trend under both the null and the alternative, without introducing any parameters that are irrelevant under either. This is not so in the Dickey-Fuller parameterizations. The new test is extracted from the score or LM principle under the assumption that the errors are iid $N(0, \sigma^2(\epsilon))$, but our asymptotics hold under more general assumptions about the errors. Two forms of the test (a coefficient test and a t-test) are derived.

Schnitzer, Monika

PD January 1990. **TI** The Anticompetitive Potential of Best Price Clauses. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-277; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** no charge. **JE** 026, 022. **KW** Game Theory. Durable Goods. Collusion. Contracts. Overlapping Generation Model.

AB The game theoretic discussion of best price clauses has always implicitly been based on a durable good model with one generation of consumers. This paper argues that the intuition derived from this set up is misleading. By comparison with an overlapping generation model it is shown that the one generation model underestimates the anticompetitive potential of best price clauses in the durable good case. Furthermore best price clauses are also used in a perishable good context with long term contracts. It is pointed out that in this context the collusion facilitating impact relies on a different mechanism which is much less effective than in the durable good context.

Scholes, Myron S.

PD September 1989. **TI** The Effects of Changes in Tax Laws on Corporate Reorganization Activity. **AU** Scholes, Myron S.; Wolfson, Mark A. **AA** Stanford University. **SR** National Bureau of Economic Research Working Paper: 3095; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 36. **PR** \$2.00. **JE** 323, 611, 514. **KW** Tax Policy. Taxation. Tax Reform. Takeover. Market Structure. Mergers.

AB We present evidence that changes in tax laws passed in the 1980s, culminating with the Tax Reform Act of 1986, had a first order effect on observed merger and acquisition activity in the US. We also present evidence of increased reliance on certain institutional arrangements (unit management buyouts and going-private transactions) used to effect mergers and acquisitions that were designed to reduce the nontax costs of transacting, thereby enabling tax benefits to be realized in a larger number of mergers and acquisitions than might otherwise have occurred.

PD September 1989. **TI** Employee Stock Ownership Plans and Corporate Restructuring: Myths and Realities. **AU** Scholes, Myron S.; Wolfson, Mark A. **AA** Stanford University. **SR** National Bureau of Economic Research Working Paper: 3094; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** \$2.00. **JE** 522, 521, 511, 514. **KW** Corporations. Taxation. Shareholders. Common Stock. Takeovers.

AB During the first six months of 1989 U.S. corporations acquired over \$19 billion of their own stock to establish employer stock ownership plans (ESOPs). We evaluate the common claims that there exist unique tax and incentive contracting advantages to establishing ESOPs. Our analysis suggests that, particularly for large firms, where the greatest growth in ESOPs has occurred, the case is very weak for taxes being the primary motivation to establish a ESOP. The case is also weak for employee incentives being the driving force behind their establishment. We conclude that the main motivation for the growth of ESOPs is their anti-takeover characteristics.

PD September 1989. **TI** Decentralized Investment Banking: The Case of Discount Dividend-Reinvestment and Stock-Purchase Plans. **AU** Scholes, Myron S.; Wolfson, Mark A. **AA** Stanford University. **SR** National Bureau of Economic Research Working Paper: 3093; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 41. **PR** \$2.00. **JE** 313, 522. **KW** Business Investment. Shareholders. Capital. Stock Market.

AB Discount dividend-reinvestment and stock-purchase plans allow shareholders to capture part of the underwriting fees incurred in new stock offerings and save sponsoring firms some of the usual underwriting costs. We tested the degree to which individual investors can profitably serve this investment banking function by implementing simple investment/trading strategies designed to capture the discounts and distribute the shares in the market. The large profits earned by our strategies raise serious questions about why it takes firms so long to raise the target level of capital and why many eligible shareholders do not participate in these discount plans.

PD September 1989. **TI** Converting Corporations to Partnerships Through Leverage: Theoretical and Practical Impediments. **AU** Scholes, Myron S.; Wolfson, Mark A.

AA Stanford University. **SR** National Bureau of Economic Research Working Paper: 3092; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** \$2.00. **JE** 522, 521, 611, 323. **KW** Corporate Tax. Corporations. Corporate Debt. Taxation.

AB We explore the degree to which debt financing can reduce the corporate level tax on income in the US. Although we show that debt is capable of shielding the competitive rate of return on projects from the corporate level tax, debt financing cannot shield the positive net present value portion of project returns. Since nontax factors preclude corporate activities from being 100% debt-financed, a portion of the competitive return to corporate activity is also subject to double taxation. We also consider alternative mechanisms that serve to convert the corporate tax to a personal tax (or a partnership tax). These include other claims that give rise to tax deductible payments to the corporation such as obligations to employees, lessors and suppliers. As we show, all of these alternatives are limited in their ability to eliminate the corporate level tax.

Schurger, Klaus

PD March 1990. **TI** A Limit Theorem for Random Matrices with a Multiparameter. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-142; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 8. **PR** no charge. **JE** 211. **KW** Ergodic Theorem. Random Matrices. Limit Theory.

AB Based on multiparameter ergodic theorems of Akcoglu-Krengel and Schurger we derive an almost sure limit theorem for families of random matrices with a multiparameter which satisfy a supermultiplicativity condition. This extends results of Furstenberg-Kesten and Kingman to the multiparameter case. It turns out that a Borel-Cantelli argument in Kingman has to be replaced by a projection argument.

Schwartz, Anna J.

TI Alternative Approaches to Analyzing Economic Data. **AU** Friedman, Milton; Schwartz, Anna J.

Schweizer, Urs

PD July 1989. **TI** Calculus of Consent: A Game-Theoretic Perspective. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-234; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** no charge. **JE** 026, 025. **KW** Noncooperative Games. Social Choice. Political Theory. Uncertainty.

AB This paper departs from equilibrium concepts as provided by the theory of noncooperative games to describe the outcome under rational behavior if the decision problems of different individuals are interdependent. These concepts are taken to explore Buchanan's and Tullock's attempt to extend the market paradigm to the field of political theory in a formal framework. This effort at formalization is meant to disclose ambiguities and gaps that the original verbal argument did not. Problems of social choice are assumed to arise at just two levels. At the operational level, decisions must be taken with respect to public projects. At the constitutional level, choice concerns the rules which will be effective for decisions at the operational level. It is explored in which sense the veil of uncertainty confines conflicts of interest and, hence, allows us to reach

unanimous consent at the constitutional level.

Scotchmer, Suzanne

PD August 1989. **TI** Monotonicity in Games that Exhaust Gains to Scale. **AU** Scotchmer, Suzanne; Wooders, Myrna Holtz. **AA** Scotchmer: University of California, Berkeley and Hoover Institution. Wooders: University of Toronto. **SR** Stanford Hoover Institute Working Paper in Economics: E-89-23; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 43. **PR** not available. **JE** 026, 022. **KW** Cooperative Games. Game Theory. Exchange Economies.

AB We compare core payoffs in two cooperative games in which coalitions contained in both player sets have the same feasible payoffs 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 extend our results to games derived from exchange economies.

TI Technological Licensing and the Novelty Requirement in Patent Law. **AU** Green, Jerry; Scotchmer, Suzanne.

Scott, Louis

PD February 1990. **TI** Pricing Floating-Rate Debt and Related Interest Rate Options. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/7; International Monetary Fund, Washington, DC 20431. **PG** 17. **PR** not available. **JE** 443, 313, 411. **KW** Developing Countries. Public Debt. Interest Rates. Debtor Nation. Debt Default.

AB Most developing country debt is denominated in U.S. dollars and has a floating interest rate. The pricing of floating rate debt and related interest rate options are examined in this paper. Formulas for pricing ceilings and floors on floating rate debt are derived for several different models of interest rate variability. A framework for pricing risky debt and loan guarantees is presented, and the implications of the debtor country's default option are analyzed. The elimination of large principal repayments, by collateralizing the principal, serves to reduce the debtor country's incentive to use its default option.

Segal, Uzi

TI Multivariate Nonexpected Utility Preferences. **AU** Safra, Zvi; Segal, Uzi.

Sengupta, Jati K.

PD February 1990. **TI** Measuring Efficiency by a Fuzzy Statistical Approach. **AA** University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 4-90; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 16. **PR** no charge. **JE** 222, 211. **KW** Linear Programming. Linear Regressions. Game Theory.

AB Methods of measuring economic efficiency of input-output systems by employing a fuzzy statistical approach are

explored here in the context of the recent technique of data envelopment analysis, which utilizes a nonparametric approach to measure efficiency. Three applied fuzzy measures are illustrated here, e.g., fuzzy linear programs, fuzzy linear regressions and finally the fuzzy entropy measures in the context of a two-person game theory model.

PD March 1990. **TI** Evaluating Dynamic Efficiency by Optimal Control. **AA** University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 5-90; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 22. **PR** no charge. **JE** 211. **KW** Production Frontiers. Data Analysis. Dynamic Model.

AB A set of control-theoretic models is developed here for specifying dynamic efficiency frontiers. These emphasize new issues which are usually ignored by the existing econometric methods of estimating static production frontiers. The techniques of data envelopment analysis which are currently used in estimating static efficiency are considerably generalized by the dynamic formulations proposed here.

Sertel, Murat

TI Limit Theorems for Recursive Delegation Equilibria. **AU** Koray, Semih; Sertel, Murat.

Shapiro, Carl

TI Asset Ownership and Market Structure in Oligopoly. **AU** Farrell, Joseph; Shapiro, Carl.

Shapley, Lloyd S.

TI Individual and Collective Wage Bargaining. **AU** Levy, Anat; Shapley, Lloyd S.

Sharkey, William W.

TI The Economics of Deregulation of Local Exchange Telecommunications. **AU** Greenwald, Bruce C.; Sharkey, William W.

Sharma, Sunil

PD March 1990. **TI** Stochastic Dominance Under Bayesian Learning. **AU** Sharma, Sunil; Uzi, Segal; Sushil, Bikhchandani. **AA** Segal: University of Toronto. Sharma and Sushil: University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 581; Department of Economics, 2263 Bunche, Los Angeles, CA 90024. **PG** 48. **PR** \$2.50. **JE** 022, 026. **KW** Stochastic Dominance. Bayesian Learning. Search Theory. Comparative Statics.

AB The concept of first-order stochastic dominance defined on distributions is inadequate in models with learning. We extend this concept to the space of distributions on distributions. The question we ask is under what conditions do one person's beliefs dominate by first-order stochastic dominance another person's beliefs regardless of what they both observe. We obtain sufficient conditions for this partial order, and show that the sufficient conditions are also necessary provided that the underlying distributions satisfy an additional assumption. These conditions can be verified without taking any observations. Applications to search models and to bandit problems are discussed.

PD March 1990. **TI** Optimal Search with Learning. **AU** Sharma, Sunil; Bikhchandani, Sushil. **AA** University

of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 580; Department of Economics, 2263 Bunche, Los Angeles, CA 90024. **PG** 44. **PR** \$2.50. **JE** 022, 026. **KW** Search Theory. Search Models. Learning.

AB The sequential search problem, without the assumption that the searcher knows the underlying distribution, is investigated. The approach adopted is nonparametric in the sense that we do not assume that the true underlying distribution belongs to any finite dimensional parameter space. Both search with recall and without recall are examined. Sufficient conditions for the existence of optimal stopping rules with the reservation property are provided. Comparative static results with respect to stochastic dominance (appropriately defined) are obtained.

Shavell, Steven

PD August 1989. **TI** Specific Versus General Enforcement of Law. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 3062; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** \$2.00. **JE** 916. **KW** Law Enforcement. Crime. Criminal Activity. Law.

AB The problem of optimal public enforcement of law is examined in a model in which two types of enforcement effort are distinguished: specific enforcement effort, activity devoted to apprehending and penalizing individuals who have committed a single type of harmful act; and general enforcement effort, activity affecting the likelihood of apprehension of individuals who have committed any of a range of harmful acts. If all enforcement effort is specific, then under wide assumptions it is optimal for sanctions to be extreme for all acts. However, if all enforcement effort is general, optimal sanctions are low for acts of small harmfulness, increase with the degree of harmfulness, and reach the extreme only for the most harmful acts.

Sheffrin, Steven M.

TI Causation, Spending and Taxes: Sand in the Sandbox or Tax Collector for the Welfare State. **AU** Hoover, Kevin D.; Sheffrin, Steven M.

Shell, Karl

TI On the Nonequivalence of the Arrow-Securities Game and the Contingent-Commodities Game. **AU** Peck, James; Shell, Karl.

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

PD November 1989. **TI** Indivisibilities, Lotteries and Sunspot Equilibria. **AU** Shell, Karl; Wright, Randall. **AA** Shell: Cornell University. Wright: University of Pennsylvania and Stanford University. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CAESS) Working Paper: 89-28; 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** 021, 023, 026. **KW** Commodities. Competitive Equilibrium. Competitive Economy. General Equilibrium Theory. Lotteries. Sunspots. Unemployment.

AB We analyze economies with indivisible commodities.

There are two reasons for doing so. First, we extend and provide new insights into sunspot equilibrium theory. Finite competitive economies with perfect markets and convex consumption sets do not allow sunspot equilibria; these same economies with nonconvex consumption sets do, and they have several properties that can never arise in convex environments. Second, we provide a reinterpretation of the employment lotteries used in contract theory and in macroeconomic models with indivisible labor. We show how socially optimal employment lotteries can be decentralized as competitive equilibria once sunspots are introduced.

Shepard, Andrea

PD June 1989. **TI** Price Discrimination and Retail Configuration. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 526; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 45. **PR** not available. **JE** 611, 632, 514, 511. **KW** Price Discrimination. Gasoline. Oil. Prices. Price Level.

AB The hypothesis that price discrimination exploiting the consumer's willingness to pay for quality can occur in multi-firm industries is confirmed using microdata on retail gasoline prices. A test based on the price differentials at stations providing only one service quality (full or self service) and stations providing both qualities is developed and implemented with controls for variations in outlet, brand and local market characteristics. The data suggest that price discrimination at the retail level adds at least ten cents per gallon on average to the price of full service gasoline.

Shobe, William

TI The Tax Elasticity of Capital Gains Realizations: Evidence From a Panel of Taxpayers. **AU** Slemrod, Joel; Shobe, William.

Silvestre, Joaquim

TI Market Socialism. **AU** Ortuno-Ortin, Ignacio; Roemer, John E.; Silvestre, Joaquim.

TI Appendix to "Market Socialism". **AU** Ortuno-Ortin, Ignacio; Roemer, John E.; Silvestre, Joaquim.

PD April 1990. **TI** Market Power and Unemployment. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 358; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 91. **PR** no charge. **JE** 611, 831, 023, 113. **KW** Unemployment. Market Power. Macroeconomic Policy. Imperfect Competition. Monetary Policy. Externalities.

AB This paper surveys recent literature (1980's) on the appearance of unemployment and on the efficacy of macroeconomic policy in models where some product or labor markets are imperfectly competitive. Its introduction emphasizes the distinctions between, on the one hand, the long and short run approaches, and, on the other, between noncooperative inefficiency and coordination problems.

Sinn, Hans-Werner

PD January 1990. **TI** Tax Harmonization and Tax Competition in Europe. **AA** University of Munich. **SR** National Bureau of Economic Research Working Paper: 3248; National Bureau of Economic Research, 1050

Massachusetts Avenue, Cambridge, MA 02138. PG 17. PR \$2.00. JE 423, 411, 323, 122. KW Taxation. Tax Systems. Capital Flows. Developed Countries.

AB Opening Europe's borders in 1993 makes the allocation of resources more vulnerable to differences in the national tax rates. The first part of the paper demonstrates that direct consumer purchases will imply distortions resulting from diverging VAT rates and it clarifies why the frequently cited exchange rate argument is of no help. The second part shows that, in the case of direct taxation, a harmonization of tax bases is more important than a harmonization of tax rates. Either the combination of true economic depreciation and residence taxation or the combination of immediate write-off and source taxation will result in an efficient international allocation of capital, independent of the national tax rates. The paper concludes with a verdict on tax competition arguing that free migration renders a policy of income redistribution, which is interpreted as insurance against the risk of lifetime careers, impossible.

PD February 1990. TI Can Direct and Indirect Taxes be Added for International Comparisons of Competitiveness?. AA University of Munich. SR National Bureau of Economic Research Working Paper: 3263; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 25. PR \$2.00. JE 441, 431, 411. KW Tax Systems. Capital Flows. Taxes. International Trade.

AB While it is usually argued that direct and indirect taxes should be added for meaningful international comparisons of country competitiveness, this paper argues that the opposite may be true. It is possible that a country with a high value-added tax needs a high capital income tax to maintain its international competitiveness and vice versa. Which view is correct depends on which combination of the origin, destination, source and residence principles prevail and whether or not accelerated depreciation is allowed. Using a Heckscher-Ohlin model with international capital movements the paper studies the relevant alternatives in detail.

Skinner, Jonathan

PD February 1990. TI The Impact of the 1986 Tax Reform Act on Personal Saving. AU Skinner, Jonathan; Feenberg, Daniel. AA Skinner: University of Virginia. Feenberg: National Bureau of Economic Research. SR National Bureau of Economic Research Working Paper: 3257; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 40. PR \$2.00. JE 323, 224. KW Tax Reform. Taxation. Savings. National Wealth.

AB Many critics believed that the Tax Reform Act of 1986 (TRA86) would discourage saving. We consider three alternative ways by which the Tax Reform Act could have affected personal saving. First, the cutbacks in IRA eligibility were viewed by some as discouraging saving. Second, the phasing out of personal credit interest deductions in TRA86 could have discouraged borrowing and thereby stimulated national saving. Finally, saving could have been reduced in 1986 if taxpayers, rushing to realize capital gains before TRA86, spent their proceeds on bit-ticket consumption goods. In sum, TRA86 had more impact on the composition than on the overall level of saving.

Slemrod, Joel

PD January 1990. TI A North-South Model of Taxation

and Capital Flows. AA University of Michigan. SR National Bureau of Economic Research Working Paper: 3238; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 25. PR \$2.00. JE 441, 411, 023. KW Capital Flows. Developing Countries. Taxation. Investment.

AB This paper presents a simple two-country model of the role of taxation in capital flows between developed countries ("The North") and developing countries ("The South"). The Southern country is assumed to be unable to enforce a tax on its residents' foreign-source income, and the Northern country chooses not to impose a withholding tax on portfolio income earned in its country. The world equilibrium in the model is characterized by excessive (by the standard of global efficiency and Southern welfare) flows of capital across borders, and insufficient investment located in the South.

PD January 1990. TI The Tax Elasticity of Capital Gains Realizations: Evidence From a Panel of Taxpayers. AU Slemrod, Joel; Shobe, William. AA Slemrod: University of Michigan. Shobe: University of North Carolina. SR National Bureau of Economic Research Working Paper: 3237; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 35. PR \$2.00. JE 323, 321. KW Capital Gains. Tax Elasticity. Taxation. Investment.

AB This paper examines a newly available six-year panel of tax return data to see what light it sheds on the tax elasticity of capital gains realizations. Panel data are a particularly valuable source of evidence for this question, because they can help to distinguish short-run from long-run effects and because they track the behavior of individuals when faced with varying tax systems. We find consistent, although not overwhelming, support for an inverse response of capital gains realizations to changes in their rate of taxation. The response to deviations from past tax rates generally exceeds the response to persistent tax changes.

PD January 1990. TI The Impact of the Tax Reform Act of 1986 on Foreign Direct Investment To and From the United States. AA University of Michigan. SR National Bureau of Economic Research Working Paper: 3234; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 37. PR \$2.00. JE 323, 441, 311. KW Taxation. Foreign Investment. Tax Policy.

AB Since the passage of the Tax Reform Act of 1986, foreign direct investment (FDI) both into and from the United States has surged. This paper addresses to what extent tax reform has been responsible for the surge in FDI, and how it has affected the mix of investment, its financing, and its timing. The link between tax policy and aggregate FDI is difficult to make, both because the net incentive effect of several new provisions is not clear and because it is impossible, with less than three years of post-TRA86 data, to sort out any tax effect from other influences on FDI. Several aspects of recent FDI performance are, however, consistent with the effect of TRA86 on incentives, including the strength of outward FDI to low-tax countries, and the increase in net transfers of debt abroad.

Slutsky, Steven M.

TI Dynamic Optimal Income Taxation With Government Commitment. AU Brito, Dagobert L.; Hamilton, Jonathan H.; Slutsky, Steven M.; Stiglitz, Joseph E.

TI Dynamic Optimal Income Taxation With Government

Commitment. AU Brito, Dagobert L.; Hamilton, Jonathan H.; Slutsky, Steven M.; Stiglitz, Joseph E.

Smith, Eric

PD February 1990. TI Why is Automobile Insurance in Philadelphia so Damn Expensive?. AU Smith, Eric; Wright, Randall. AA Smith: University of Pennsylvania. Wright: Hoover Institution and University of Pennsylvania. SR Stanford Hoover Institute Working Paper in Economics: E-90-4; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. PG 43. PR not available. JE 933, 615. KW Insurance. Automobiles. Auto Insurance.

AB This paper analyzes automobile insurance. We first document that the price of coverage not only can be high, but varies dramatically across local markets. Our thesis is that high premiums can be attributed to the large number of uninsured motorists in some cities, while at the same time, the number of uninsured motorists can be attributed to the high premiums. This circularity is made explicit in a simple noncooperative equilibrium framework. A key assumption is that of limited liability, which introduces a non-convexity for low income individuals. This potentially allows for equilibria with uninsured drivers, and high (yet actuarially fair) premiums. These equilibria are not efficient and are dominated by full insurance. For certain parameterizations, both an optimal full insurance equilibrium and inferior high price equilibria with uninsured motorists exist simultaneously, consistent with the observed variability in premiums across seemingly similar cities.

Smith, Richard J.

TI A Unified Approach to Estimation and Orthogonality Tests in Linear Single Equation Econometric Models. AU Pesaran, M. Hashem; Smith, Richard J.

Smith, Ron

TI Military Expenditure and Unemployment in the OECD. AU Dunne, Paul; Smith, Ron.

Smith, William T.

TI Pricing, Capacity and Regulation with Random Correlated Demands. AU Eckel, Catherine C.; Smith, William T.

Solo, Victor

TI Asymptotics for Linear Processes. AU Phillips, Peter C. B.; Solo, Victor.

Sonderman, Dieter

TI A Term Structure Model and the Pricing of Interest Rate Options. AU Sandmann, Klaus; Sonderman, Dieter.

Spady, Richard H.

TI The Logit Model of Monopolistic Competition. AU Besanko, David; Perry, Martin K.; Spady, Richard H.

TI The Logit Model of Monopolistic Competition: Brand Diversity. AU Besanko, David; Perry, Martin K.; Spady, Richard H.

Spencer, Barbara J.

TI Trade Adjustment Assistance: Welfare and Incentive

Effects of Payments to Displaced Workers. AU Brander, James A.; Spencer, Barbara J.

Spengler, John D.

PD August 1989. TI Report on Ambient Exposures to Volatile Organic Compounds in the Kanawha Valley. AU Spengler, John D.; Sullivan, Nancy; Ozkaynak, Haluk; Ware, James H.; Cohen, Martin A.; Ryan, P. Barry. AA Harvard University. SR Harvard Energy and Environmental Policy Center Discussion Paper: E-89-06; Energy and Environmental Policy Center, J.F. Kennedy School of Government, Harvard University, 79 John F. Kennedy St., Cambridge, MA 02138. PG 41. PR \$7.50. JE 631, 722, 913. KW Chemicals. Manufacturing. Pollution. Health Risks.

AB The Kanawha Valley is one of the largest centers of chemical manufacturing in the United States. Many of the plants are close to residential areas. Further, the plants handle thousands of tons of chemicals each year and the topography and climate of the Valley make it likely that residents will be exposed to air pollutants when they are released during manufacturing processes. Although many measures have been adopted to reduce risks, residents, public officials, and industry leaders remain concerned about the impact of chemical emissions on the health of the community. The memory of Bhopal and the Chemical release at Institute, West Virginia Linger in the minds of many residents.

PD August 1989. TI Summary of Symposium on Health Aspects of Exposure to Asbestos in Buildings. AU Spengler, John D.; Ozkaynak, Haluk; McCarthy, John F.; Lee, Henry. AA Spengler: Harvard School of Public Health. Ozkaynak and Lee: Harvard University. McCarthy: Environmental Health and Engineering Inc. SR Harvard Energy and Environmental Policy Center Discussion Paper: M-89-01; Energy and Environmental Policy Center, J.F. Kennedy School of Government, Harvard University, 79 John F. Kennedy St., Cambridge, MA 02138. PG 36. PR \$7.50. JE 913. KW Health. Asbestos. Health Risks.

AB The Energy and Environmental Policy Center of Harvard University's John F. Kennedy School of Government held a three day symposium on the Health Aspects of Asbestos in Buildings on December 14-16, 1988. The purpose of the symposium was to assess the health risk that buildings with asbestos containing materials (ACM) present to occupants, facility maintenance personnel, and workers engaged in asbestos removal activities. Internationally recognized experts addressed a series of questions, including: What is the extent of the health risk posed by asbestos in buildings? Who in the population is being exposed? How do we measure the level of exposure and how do we communicate the extent of the associated risk?.

Spiegel, Mark

TI Debt Write-Downs and Debt-Equity Swaps in a Two Sector Model. AU Goldberg, Linda S.; Spiegel, Mark.

Spiegel, Matthew

TI Insiders, Outsiders and Market Breakdowns. AU Bhattacharya, Utpal; Spiegel, Matthew.

Stacchetti, Ennio

TI Renegotiation and Symmetry in Repeated Games.

AU Abreu, Dilip; Pearce, David; Stacchetti, Ennio.

Staiger, Robert W.

TI The Sensitivity of Strategic and Corrective R&D Policy in Battles for Monopoly. AU Bagwell, Kyle; Staiger, Robert W.

TI The Sensitivity of Strategic and Corrective R&D Policy in Oligopolistic Industries. AU Bagwell, Kyle; Staiger, Robert W.

TI The Sensitivity of Strategic and Corrective R&D Policy in Oligopolistic Industries. AU Bagwell, Kyle; Staiger, Robert W.

TI The Sensitivity of Strategic and Corrective R&D Policy in Battles for Monopoly. AU Bagwell, Kyle; Staiger, Robert W.

TI The Sensitivity of Strategic and Corrective R&D Policy in Oligopolistic Industries. AU Bagwell, Kyle; Staiger, Robert W.

PD February 1990. TI The Effect of Domestic Antidumping Law in the Presence of Foreign Monopoly. AU Staiger, Robert W.; Wolak, Frank A. AA Stanford University. SR National Bureau of Economic Research Working Paper: 3254; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 40. PR \$2.00. JE 421, 422, 411, 916. KW Monopoly. Excess Capacity. International Trade. Imports. Trade Relations. Commercial Policy.

AB We consider the effects of antidumping law when utilized by competitive domestic petitioners against a foreign monopolist. The foreign monopolist must set capacity before the realization of random foreign demand, but can reduce the cost of holding excess capacity in periods of slack foreign demand by dumping on the domestic market. With the introduction of antidumping law in the domestic market, domestic firms are shown to file suits in periods of sufficiently slack foreign demand, reducing the volume of imports directly in such periods. Moreover, this occasional filing activity raises the cost to the foreign monopolist of holding excess capacity and, in so doing, results in a scaling back of foreign capacity.

Stavins, Robert

TI Harvard University's John F. Kennedy School of Government/Project 88 Conference: Harnessing Market Forces to Protect the Environment. AU Bittenbender, Sheri; Stavins, Robert.

Stegeman, Mark

PD May 1989. TI The Conditions Permitting Speculation. AA University of North Carolina, Chapel Hill. SR University of North Carolina Working Paper Series: 89-4; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. PG 49. PR not available. JE 021, 026. KW Speculation. Exchange Economy. Incomplete Markets. Allocation Equilibrium.

AB This paper investigates the possibility of speculation in a pure exchange economy: agents exchange claims for two periods, and consume in the third and final period. An initial result shows that speculation requires asymmetric prior information, irrational expectations, or incomplete opening markets, in a precise sense. Five subsequent propositions

extend and modify the initial result, yielding five quite different theories of speculation. The propositions show that several distinct kinds of market completeness are relevant to the possibility of speculation, in different circumstances; asymmetric prior information, asymmetric anticipated information, and asymmetric prior beliefs likewise play quite distinct roles.

PD June 1989. TI Monopoly Pricing with Visiting Costs. AA University of North Carolina, Chapel Hill. SR University of North Carolina Working Paper Series: 89-5; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. PG 53. PR not available. JE 022, 611. KW Monopoly. Prices. Price Coordination. Ratchet Equilibrium.

AB A consumer in the real world typically must visit (e.g., phone) a monopoly to observe its price, even though the consumer may have correct expectations about that price. The standard textbook procedure for calculating the monopolist's price generates incorrect predictions in such markets. This paper derives equilibrium prices for a monopolist. If the monopolist's costs are fixed, then the Nash price is bounded away from the textbook price even as visiting costs approach zero. In a repeated game trigger strategy equilibria support an interval of prices, including the textbook price, but consumers and the firm do not agree on the best price. A ratchet equilibrium solves the price coordination problem in a natural way, using continuous strategies.

PD July 1989. TI Excess Advertising in a Bilateral Search Market. AA University of North Carolina, Chapel Hill. SR University of North Carolina Working Paper Series: 89-6; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. PG 27. PR not available. JE 531, 022. KW Advertising. Search Theory. Free Entry. Prices.

AB This paper investigates markets of bilateral search in which small firms sell a homogeneous good to small consumers under conditions of free entry. Firms advertise their prices and consumers search for low prices. It is shown that every firm buys less advertising than is socially optimal if consumer search costs are large, but at least the highest-priced firms buy too much advertising if consumer search costs are small.

Steger, Angelika

TI Partitioning Graphs into Dense Subgraphs. AU Garbers, Jorn; Promel, Hans Jurgen; Steger, Angelika.

TI The Asymptotic Number of Graphs not Containing a Fixed Color-Critical Subgraph. AU Promel, Hans Jurgen; Steger, Angelika.

Stegwee, Maarten G.

PD February 1990. TI Efficiency Wages, Unemployment and Productivity in U.K. Manufacturing. AA St. Antony's College and Pembroke College, Oxford. SR Oxford Applied Economics Discussion Paper: 89; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL. PG 33. PR not available. JE 825, 824, 821. KW Efficiency Wages. Unemployment. Productivity. Labor Markets.

AB This paper is concerned with testing a key prediction of efficiency wage models, namely that there exists a positive relationship between unemployment and productivity. The

basic idea is that, by working as a "worker discipline device", unemployment results in greater effort by inter-industry wage differentials. Using industry-level estimation, we show that the level of unemployment has a substantial positive effect on the level of productivity but only in high-wage industries and further that this result is robust with respect to a number of alternative specifications.

Stein, Jeremy C.

TI Herd on the Street: Informational Inefficiencies in a Market with Short-Term Speculation. **AU** Froot, Kenneth A.; Scharfstein, David S.; Stein, Jeremy C.

Steinberg, Richard S.

PD February 1988. **TI** Tax Credits for Charitable Giving. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E89-05-11; Working Paper Coordinator, Department of Economics, Blacksburg, Virginia 24061. **PG** 12. **PR** free by request. **JE** 323, 921. **KW** Tax Credits. Donations. Charities. Taxes. Tax System. Tax Reform.

AB I briefly consider the rationale for subsidizing donations through the tax system, then concentrate upon the proper form for this subsidy to take. Substitution of a tax credit for the current tax deduction would insulate charities from unintended consequences of tax reform, but would change the allocation of donations across types of charities. Whether a credit is fairer in that it eliminates an "upside-down subsidy" is unclear. I consider several variations in the credit, and some political factors affecting feasibility of reform.

PD September 1988. **TI** Economic Analysis of Commercial Activities by Nonprofit Organizations: Review and Research Suggestions. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E89-05-13; Working Paper Coordinator, Department of Economics, Blacksburg, Virginia 24061. **PG** 16. **PR** free by request. **JE** 612, 636, 323, 613. **KW** Tax Policy. Nonprofit Organizations. Taxes. Government Regulation. Regulation.

AB Nonprofit firms compete with profit firms both directly (as in the case of hospitals) and through their "unrelated" business activities (as when a nonprofit university bookstore sells computers in competition with a for-profit computer store). I summarize the literature and suggest further research on modelling the impacts of the differing tax and regulatory treatment of the two sectors. Specifically, I consider how competition affects behavior and the efficiency and equity aspects of resulting equilibria.

PD September 1988. **TI** Economic Perspectives on Regulation of Charitable Solicitation. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E89-05-14; Working Paper Coordinator, Department of Economics, Blacksburg, Virginia 24061. **PG** 17. **PR** free by request. **JE** 613, 636. **KW** Nonprofit Organizations. Charities. Regulation.

AB I examine the laws which seek to reduce fraud against donors or charities or to enhance economic efficiency by restricting the allowable fundraising percentage (solicitation expenditure divided by contributions) or by requiring informational disclosures. I conclude that these regulations

would stem fraud only by sheerest coincidence, but may have some beneficial effects on social efficiency. The chief source of inefficiency is overentry, and alternative regulatory mechanisms would seem more appropriate. Nonetheless, any solution to overentry is likely to seriously conflict with the constitutional right of free speech.

PD April 1989. **TI** The Market for Drug Abuse Treatment. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E89-05-10; Working Paper Coordinator, Department of Economics, Blacksburg, Virginia 24061. **PG** 53. **PR** free by request. **JE** 913. **KW** Drug Abuse. Health Economics. Government Policy.

AB Consumer sovereignty faces one of its severest tests in the market for the drug abuse treatment of addicts. I consider various rationales for governmental intervention and the effects of various policies upon market equilibrium (considering the interrelated markets for treatment and for insurance coverage). I conclude by examining policies to enhance supply, policies to enhance efficiency, and policies to regulate insurance coverage.

PD May 1989. **TI** Econometric Analysis of the Relations Between Government Social Social Service Expenditures and Private Donations. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E89-05-09; Working Paper Coordinator, Department of Economics, Blacksburg, Virginia 24061. **PG** 41. **PR** free by request. **JE** 321, 322, 921. **KW** Public Goods. Charity. Government Spending. **AB** I summarize and synthesize the literature on the "crowdout" effects of government spending. To the extent that public spending discourages private giving, public spending is ineffective. I consider econometric problems resulting from multi-level structures of government, the merits of various sources of data, and problems with construction of the price vector appropriate for voter/donors and other control variables.

Steinmeier, Thomas L.

TI Changing the Social Security Rules for Workers Over 65: Proposed Policies and Their Effects. **AU** Gustman, Alan L.; Steinmeier, Thomas L.

TI The Stampede Toward Defined Contribution Pension Plans: Fact or Fiction?. **AU** Gustman, Alan L.; Steinmeier, Thomas L.

TI Evaluating Pension Policies in a Model with Endogenous Contributions. **AU** Gustman, Alan L.; Steinmeier, Thomas L.

Stevens, Guy V. G.

PD December 1989. **TI** A Substitute for the Capital Stock Variable in Investment Functions. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 368; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 11. **PR** no charge. **JE** 229, 522. **KW** Capital Stock. Investment. Inventory.

AB Capital stock variables appearing in investment and other equations are almost always constructed by the "perpetual inventory method." The initial real capital stock, $K(0)$, that is implicitly a component of every measure of the capital stock calculated by this method can rarely be measured, however, with an degree of accuracy. As demonstrated in this paper, the

measurement error can frequently lead to severe bias in the estimated coefficients of investment functions. This paper proposes a method to bypass this source of measurement error. In important cases it is then possible to estimate unbiased and consistent coefficients.

Stiglitz, Joseph

TI The Informational Content of Initial Public Offerings. AU Gale, Ian; Stiglitz, Joseph.

Stockman, Alan C.

TI Self-Fulfilling Expectations, Speculative Attacks and Capital Controls. AU Dellas, Harris; Stockman, Alan C.

TI Specialization, Transactions Technologies, and Money Growth. AU Cole, Harold L.; Stockman, Alan C.

Stokey, Nancy L.

PD May 1990. TI Human Capital, Product Quality, and Growth. AA Northwestern University. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 883; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. PG 44. PR \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. JE 111, 851, 621. KW Human Capital. Growth Theory. Product Quality.

AB A growth model is developed in which finite-lived individuals invest in human capital, and investments have a positive external effect on the human capital of later cohorts. Heterogeneous labor is the only factor of production, and higher-quality labor produces higher-quality goods. Stationary growth paths, along which human capital and the quality of consumption goods grow at a common, constant rate, are studied. It is also shown that if a small economy is very advanced or very backward relative to the rest of the world, then its rate of investment in human capital is lower under free trade than under autarky.

Subramanian, Shankar

TI The Mean and Variance of the Mean-Variance Decision Rule. AU Chalfant, James A.; Collender, Robert N.; Subramanian, Shankar.

Sueyoshi, Glenn T.

PD September 1989. TI Social Security and the Determinants of Full and Partial Retirement: A Competing Risks Analysis. AA University of California, San Diego. SR National Bureau of Economic Research Working Paper: 3113; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 41. PR \$2.00. JE 915, 918, 824. KW Retirement. Social Security. Elderly. Employment.

AB Empirical analysis of retirement typically assume a single form of retirement. In this paper, I consider the determinants of retirement in a competing risks model which allows for full and partial retirement. Simulation results indicate that the large increase in Social Security benefits in the early 1970s has had moderate effects upon retirement, increasing the probability of early full retirement (before age 65) by less than 5 percent and reducing the probability of partial retirement by 1-2 percent.

Sullivan, Nancy

TI Report on Ambient Exposures to Volatile Organic Compounds in the Kanawha Valley. AU Spengler, John D.; Sullivan, Nancy; Ozkaynak, Haluk; Ware, James H.; Cohen, Martin A.; Ryan, P. Barry.

Summers, Lawrence H.

TI Consumption Growth Parallels Income Growth: Some New Evidence. AU Carroll, Chris; Summers, Lawrence H.

TI Speculative Dynamics and the Role of Feedback Traders. AU Cutler, David M.; Poterba, James M.; Summers, Lawrence H.

TI Speculative Dynamics. AU Cutler, David M.; Poterba, James M.; Summers, Lawrence H.

Sun, L.

TI Recognizing Dart-free Perfect Graphs. AU Chvatal, V.; Sun, L.

Sundaram, Rangarajan, K.

TI Bayesian Economists...Bayesian Agents II: Evolution of Beliefs in the Single Sector Growth Model. AU El-Gamal, Mahmoud A.; Sundaram, Rangarajan, K.

Sundaresan, Suresh M.

PD June 1989. TI Valuation of Swaps. AA Columbia University. SR Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-89-15; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. PG 37. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE 521, 432, 311. KW Swap Markets. Interest Rates. Money Markets. Corporations. Business Finance. International Markets.

AB This paper provides a framework for the valuations of swaps in general with applications to interest rate swaps, foreign currency swaps and options on swaps. Many important features of swap contracts including discrete reset dates, lags between reset dates and payment dates, arbitrary index maturities, various averaging rules and option features are explicitly modeled and incorporated into the valuation procedure. The use of Eurodollar futures contracts and Treasury Note futures to respectively implement swaps and hedge swap positions is also illustrated in the paper. The paper also treats default risk consequences on swap valuation. The swap spreads due to default are computed for different credit risks and interpreted. The differential effects of credit risk under different term structure scenarios are characterized.

PD June 1989. TI A Simple Equilibrium Model of Consumption and Term Structure. AA Columbia University. SR Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-89-16; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. PG 22. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE 022. KW Production Economy. Interest Rates. Output. Technological Change.

AB An equilibrium model of a stochastic production economy similar to Cox, Ingersoll and Ross (1985b) is developed in this paper. The model presented here admits productivity shocks that are identical to the Cox, Ingersoll and

Ross (1985b) model, but requires that the production technology for the consumption good uses another factor, say labor. When labor is supplied inelastically and costlessly, it is found that the instantaneously riskless rate and pure discount bond prices are direct functions of both the stock of consumption good and the productivity shock. As a result, there is a link between the output of the economy, technological changes and interest rates.

Sushil, Bikhchandani

TI Stochastic Dominance Under Bayesian Learning.
AU Sharma, Sunil; Uzi, Segal; Sushil, Bikhchandani.

Suzumura, Kotaro

TI Taxation and Welfare in an Oligopoly with Strategic Commitment. AU Besley, Timothy; Suzumura, Kotaro.

Swagel, Phillip

TI The Non-Optimality of Optimal Trade Policies: The U.S. Automobile Industry Revisited, 1979-1985. AU Krishna, Kala; Hogan, Kathleen; Swagel, Phillip.

Swinkels, Jeroen

TI Extensive Form Reasoning in Normal Form Games.
AU Mailath, George J.; Samuelson Larry; Swinkels, Jeroen.

TI Extensive Form Reasoning in Normal Form Games.
AU Mailath, George J.; Samuelson, Larry; Swinkels, Jeroen.

Symons, James

TI Ten Years of Mrs T. AU Bean, Charles; Symons, James.

Szekely, L. A.

TI Applications of Antilexicographic Order II. How to Sharpen the Lym Inequality. AU Erdos, Peter L.; Frankl, P.; Kleitman, D. J.; Saks, M. E.; Szekely, L. A.

Tauchen, Helen V.

PD August 1989. TI Tax Compliance: An Investigation Using Individual TCMP Data. AU Tauchen, Helen V.; Witte, Ann Dryden; Beron, Kurt J. AA Tauchen: University of North Carolina. Witte: Wellesley College. Beron: University of Texas. SR National Bureau of Economic Research Working Paper: 3078; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 35. PR \$2.00. JE 921, 323, 916. KW Taxation. Tax Audits. Income Taxes.

AB In this paper, we analyze the tax compliance behavior of US taxpayers by using a 1979 data set that combines information from a random sample of individual tax returns each of which has been thoroughly audited. IRS administrative records, and sociodemographic data from the Census. We find evidence that both audits and tax code provisions affect compliance. However, the effects are significant for only the low and high income groups. Interestingly, previous research has shown that these groups also participate most actively in underground economic activities, the income from which is not reported on any tax returns. Our results for audits suggest that the "ripple" or general deterrent effect of audits may be many times larger than the direct revenue yield of audits for high income taxpayers.

Tavlas, George S.

PD January 1990. TI On the International Use of Currencies: The Case of the Deutsche Mark. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/90/3; International Monetary Fund, Washington, DC 20431. PG 55. PR not available. JE 432, 423, 431. KW Currency. International Trade.

AB This paper assesses the role of the deutsche mark as a key international currency. It first investigates the theoretical basis underlying the international use of a currency. Theoretical considerations indicate that several factors relating to the issuing country combine to propagate the international use of its currency. The paper then discusses these factors as they relate to the deutsche mark and identifies trends in several of these determinants of international currency use that presage an expanding role for the mark. Finally, data are presented on the extent of the internalization of the deutsche mark during the 1980s which corroborate the theoretical findings.

Taylor, J. Edward

TI Is Structural Adjustment with a Human Face Possible? The Case of Mexico. AU Adelman, Irma; Taylor, J. Edward.

Taylor, John B.

PD September 1989. TI Solving Nonlinear Stochastic Growth Models: A Comparison of Alternative Solution Methods. AU Taylor, John B.; Uhlig, Harald. AA Taylor: Stanford University. Uhlig: University of Minnesota, Minneapolis. SR National Bureau of Economic Research Working Paper: 3117; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 22. PR \$2.00. JE 211, 212. KW Nonlinear Model. Rational Expectations. Growth Model.

AB The purpose of this paper is to report on a comparison of several alternative numerical solution techniques for nonlinear rational expectations models. The comparison was made by asking individual researchers to apply their different solution techniques to a simple representative agent, optimal, stochastic growth model. Decision rules as well as simulated time series are compared. The differences among the methods turned out to be quite substantial for certain aspects of the growth model. Therefore, researchers might want to be careful not to rely blindly on the results of any chosen numerical solution method in applied work.

Thomas, Lacy Glenn

PD March 1989. TI Asymmetries in Entry Competence: A Revisionist Analysis of the RTE Cereals Industry. AA Columbia University. SR Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-89-14; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. PG 43. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE 631, 611, 531, 511. KW Manufacturing. Cereal. Product Innovation. Barriers to Entry. Advertising.

AB This study examines all new brands of ready-to-eat (RTE) cereals introduced in the U.S. during 1950-1982. Econometric analysis of advertising, pricing, and distribution data for these new brands indicates that smaller firms and new entrants more aggressively market their brands. Thus claims that larger RTE cereals firms have a strategic incentive to

proliferate excessive numbers of new brands are empirically contradicted. Instead, a separate econometric analysis documents strong, stable asymmetries in the competencies of firms to successfully market new RTE cereals brands. These asymmetries persist for the full 33 years of this study. Thus the question as to why only existing firms successfully introduce new cereals has an especially simple answer: potential entrants are differentially incompetent.

Thompson, T. Scott

PD September 1989. **TI** Identification of Semiparametric Discrete Choice Models. **AA** University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 249; 1035 Management & Economics, Department of Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 53. **PR** free. **JE** 211. **KW** Semiparametric Models. Identification. Discrete Choice. Index Models. Isotonic Functions.

AB The question of model identification is analyzed for the semiparametric random utility model of discrete choice. Attention is focused on settings where agents face a common choice between a set of $J+1$ alternatives, but where actual choices are only partially observed. Necessary conditions are derived for the setting where the only data on actual choices consists of a binary indicator for one of the alternatives. Sufficient conditions are developed in this setting for a linear in parameters specification of indirect utility.

Tirole, Jean

TI Provision of Quality and Power of Incentive Schemes in Regulated Industries. **AU** Laffont, Jean-Jacques; Tirole, Jean.

Tobin, James

PD December 1989. **TI** On the Theory of Macroeconomic Policy. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 931; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 18. **PR** \$2.00. **JE** 023, 031, 113, 025. **KW** Public Policy. Social Welfare. Macroeconomic Policy.

AB Jan Tinbergen was and is of course a scientist, full of curiosity about how the world works. But his motivation has always been more than curiosity. He wants to know how the world works so that he can make it work better. Knowledge is the foundation of policy. It was natural for Tinbergen to set forth a formal theory of policy nearly fifty years ago and it was equally natural for him to relate the theory to practical problems of policy in the Netherlands and elsewhere and to implement it and illustrate it with the help of theoretical and econometric models. Thus Tinbergen was the originator of the subject on which I propose to speak to you today.

PD January 1990. **TI** Growth and Distribution: A Neoclassical Kaldor-Robinson Exercise. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 934; Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. **PG** 22. **PR** no charge. **JE** 111, 023. **KW** Growth Model. Technology. Income Distribution.

AB Kaldor's capital/labor income distribution theory relied on differential saving propensities from profits and wages. Robinson's growth models typically specified constant-coefficient technologies in which marginal productivities cannot determine distribution. Here these two insights are combined in a two-sector (capital goods, consumption goods)

economy. Two technologies are available, but only as either-or alternatives. The choice of technology and the income distribution depend on the saving propensities. Steady-state consumption need not be greater when the economy is more capitalized and profit rates are lower.

Todd, Richard M.

PD November 1989. **TI** Periodic Linear-Quadratic Methods for Modeling Seasonality. **AA** Federal Reserve Bank of Minneapolis. **SR** Federal Reserve Bank of Minneapolis Staff Report: 127; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55480. **PG** 29. **PR** no charge. **JE** 131, 132, 211. **KW** Seasonality. Time Series Model.

AB Optimal linear regulator methods are used to represent a class of models of endogenous equilibrium seasonality that has so far received little attention. Seasonal structure is built into these models in either of two equivalent ways: periodically varying the coefficient matrices of a formerly nonseasonal problem or embedding this periodic-coefficient problem in a higher-dimensional sparse system whose time-invariant matrices have a special pattern of zero blocks. The former structure is compact and convenient computationally; the latter can be used to apply familiar convergence results from the theory of time-invariant optimal regulator problems. The new class of seasonality models provides an equilibrium interpretation for empirical work involving periodically stationary time series.

Trajtenberg, Manuel

PD February 1990. **TI** Product Innovations, Price Indices and the (Mis) Measurement of Economic Performance. **AA** Tel Aviv University, and Harvard University. **SR** National Bureau of Economic Research Working Paper: 3261; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** \$2.00. **JE** 621, 227. **KW** Product Innovations. Technology. Price Index. Economic Indicators.

AB The goal of this paper is to address the problem of "product innovations" (i.e. new goods, increased variety, and quality change) in the construction of price indices and, by extension, in the measurement of economic performance. The premise is that a great deal of technical progress takes the form of product innovations, but conventional economic statistics fail by and large to reflect them. The approach suggested here consists of two stages: first, the benefits from innovations are estimated with the aid of discrete choice models and second, those benefits are used to construct "quality adjusted" price indices.

Trejo, Stephen J.

PD February 1990. **TI** Public Sector Unions and Municipal Employment. **AA** University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 6-90; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 25. **PR** no charge. **JE** 831, 822, 824. **KW** Unions. Employment. Public Sector. Labor Demand.

AB This paper reexamines recent empirical findings of a positive association between public sector unionization and municipal employment. Several researchers have interpreted this correlation as evidence that public employee unions

successfully exert political pressure to raise the demand for municipal services. Alternative explanations are available, however, including the possibility of reverse causality due to economies of scale in union organizing. Using data on four categories of municipal employment from a large sample of cities, least square regressions confirm previous work by finding that unionization is associated with both higher wages and increased employment among police and fire workers.

Tryon, Ralph W.

TI Macroeconomic Effects of Projected Population Aging in Industrial Countries. AU Masson, Paul R.; Tryon, Ralph W.

Tuza, Zsolt

PD November 1989. TI Graph Coloring in Linear Time. AA Hungarian Academy of Sciences. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 89609-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 8. PR no charge. JE 213. KW Algorithms. Vertex Colorings.

AB Introducing directed and weighted variants of depth-first-search, we provide fast algorithms for finding proper vertex colorings of a graph with a small number of colors, when a suitable orientation is given on the edges. Moreover, generalizing Minty's and Gallai and Roy's classic results, we prove new sufficient conditions insuring that a graph is k-colorable.

Uhlig, Harald

TI Solving Nonlinear Stochastic Growth Models: A Comparison of Alternative Solution Methods. AU Taylor, John B.; Uhlig, Harald.

Uzi, Segal

TI Stochastic Dominance Under Bayesian Learning. AU Sharma, Sunil; Uzi, Segal; Sushil, Bikhchandani.

van der Woude, Jacob W.

TI Disturbance Decoupling and Structure at Infinity of Structured Descriptor Systems. AU Murota, Kazuo; van der Woude, Jacob W.

Velasco, Andres

PD December 1989. TI Real Interest Rates and Government Debt During Stabilization. AA New York University. SR New York University Economic Research Reports: 89-34; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. PG 31. PR no charge. JE 134, 431, 311, 321. KW Inflation. Fiscal Deficits. Government Debt. Interest Rates. Exchange Rates.

AB High real interest rates typically accompany successful disinflations. The phenomenon is often attributed to lack of credibility. This first part of this paper derives the conditions under which real rates rise during disinflation even under full credibility. The exchange rate regime matters. The second part of this paper analyzes the consequences of such interest rate behavior for the "monetarist arithmetic" problem first raised by Sargent and Wallace (1981). Rules for fiscal and/or monetary policies are developed to ensure that the economy reaches a new steady in the aftermath of a disinflation.

Villa, P.

TI Forecasting French Postal Financial Services in France - I The National Model. AU Chapuis, G.; Nicolas B.; Renaudon, P.; Villa, P.

Vincent, Daniel R.

TI Delayed Agreements and Non-Expected Utility. AU Fershtman, Chaim; Safra, Zvi; Vincent, Daniel R.

PD July 1990. TI Modelling Competitive Behavior. AA Northwestern University. SR Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 893; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, Illinois 60208-2014. PG 23. PR \$3.00 in the U.S.A. or Canada; \$5.00 via international mail. JE 026. KW Dynamic Games. Bayesian Equilibrium. Collusion. Game Theory.

AB A single seller of an indivisible object wishes to sell the good to one of many buyers. The seller has zero value for the good, the buyers have a commonly known identical value of one. This paper attempts to determine strategic environments which ensure the seller's ability to exploit the competitive behavior of the buyers to extract all the surplus in the game. It is shown that in many simple dynamic games, there are subgame perfect equilibria which involve the seller giving up the good for free. Even if the seller has an informational advantage which allows him to keep bidders from learning the bidding behavior of their opponents, there still exist (perfect Bayesian) equilibria which involve a sale at the price of zero. However, in this case, a simple refinement in the spirit of sequential equilibria can be used to rule out such collusive behavior and to show that the unique equilibrium outcome satisfying this refinement involves a price of one.

Viscusi, W. Kip

TI The Nature of Utility Functions for Minor Health Effects. AU Evans, William N.; Viscusi, W. Kip.

Visser, M.

TI Duration of Youth Unemployment in France. AU Moreau, A.; Visser, M.

Vitray, Richard

TI Representativity of Surface Embeddings. AU Robertson, Neil; Vitray, Richard.

Voigt, Bernd

TI Aspects of Ramsey-Theory V: Topological Ramsey Theory. AU Promel, Hans Jurgen; Voigt, Bernd.

TI Aspects of Ramsey-Theory III: Parameter Sets. AU Promel, Hans Jurgen; Voigt, Bernd.

von Ungern-Sternberg, Thomas

PD January 1990. TI Swiss Auctions. AA University of Lausanne. SR Universite de Lausanne Cahiers de Recherches Economiques: 9001; Departement d'Econometrie et d'Economie Politique, Universite de Lausanne, BFSH-Dorigny, CH-1015 Lausanne/ SWITZERLAND. PG 25. PR no charge. JE 022. KW Auction Theory. Auctions. Cost Curves. Prices.

AB This paper studies a model of simultaneous sealed-bid multi-object auctions where the designated winner has the

possibility of withdrawing his bid. It is shown that when the bidders face rising marginal costs (a capacity constraint) the introduction of such a withdrawal option may lead to lower equilibrium prices. Furthermore an increase in the slope of the marginal cost curve may lead to lower equilibrium prices.

Wachtel, Paul

TI A Modern Look at Asset Pricing and Short-Term Interest Rates. **AU** Evans, Martin; Wachtel, Paul.

Walls, Margaret A.

PD August 1988. **TI** Welfare Cost and Regional Incidence of an Oil Import Fee. **AA** Resources for the Future. **SR** Resources for the Future Energy and Materials Division Discussion Paper: EM88-03; Energy and Materials Division, Resources for the Future, 1616 P St. NW, Washington D.C. 20036. **PG** 57. **PR** \$5.00 (U.S. funds only). **JE** 723, 941, 721, 422. **KW** Oil. Tariffs. Imports. Energy. Regional Economics.

AB This paper examines the impacts on the United States oil market of a \$5 per barrel tariff on imported crude oil. It is shown that the U.S. is currently a price-taker in the world oil market. This implies that the price for all crude oil consumed in the U.S. would rise by \$5 as a result of the tariff. A domestic oil supply model developed elsewhere by this author, and summarized in the appendix here, is used to forecast the effects of the tariff on domestic production. The resulting gains in producer surplus are calculated and combined with an estimate of consumer surplus losses and government revenues to yield an estimate of the welfare cost of the tariff. The share of total U.S. production and consumption in each region is used to allocate the national welfare cost number to different regions.

Weller, Paul

TI Currency Bands, Target Zones, and Cash Limits: Thresholds for Monetary and Fiscal Policy. **AU** Miller, Marcus; Weller, Paul

Werlang, Sergio Ribeiro de Costa

TI Local Concavifiability of Preferences and Determinacy of Equilibrium. **AU** Pascoa, Mario Rui; Werlang, Sergio Ribeiro de Costa.

TI On the Differentiability of Consumer Demand Functions. **AU** Pascoa, Mario Rui; Werlang, Sergio Ribeiro de Costa.

Werner, Hans Joachim

TI Nonnegative Group Inverses. **AU** Neumann, Michael; Werner, Hans Joachim.

PD 1989. **TI** Some Further Results on Matrix Monotonicity. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-135; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 18. **PR** no charge. **JE** 213. **KW** Monotonicity. Nonnegativity. Linear Algebra. Matrix Algebra.

AB In this paper we survey various generalizations of matrix monotonicity. Of much interest to us are relations between {1}-monotonicity, weak r-monotonicity, strong r-monotonicity, semimonotonicity, weak monotonicity, and Drazin-monotonicity. Certain special matrices such as nonnegative matrices and property-n matrices will also be considered.

Weymark, John A.

TI A Welfarist Proof of Arrow's Theorem. **AU** Blackorby, Charles; Donaldson, David; Weymark, John A.

Whalley, John

PD August 1989. **TI** Recent Trade Liberalization in the Developing World: What is Behind it, and Where is it Headed?. **AA** University of Western Ontario. **SR** National Bureau of Economic Research Working Paper: 3057; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 53. **PR** \$2.00. **JE** 121, 422, 421, 112. **KW** Developing Countries. Trade Policy. Economic Development. Asia. Africa.

AB This paper documents recent external sector liberalization in developing countries, evaluates what is behind it, and assesses whether it is likely to persist, accelerate or reverse itself. It draws heavily upon material collected during a recent Ford Foundation supported research project on developing countries and the global trading system (see Whalley (1989)) covering eleven developing countries (Argentina, Brazil, China, Costa Rica, India, Kenya, Mexico, Nigeria, The Philippines, Republic of Korea and Tanzania). Many factors underlie these liberalizations. These include rethinking of the basic approach towards trade policy in a number of countries, with less commitment than earlier to import substitution and more interest in outward oriented development strategies.

Wiesmeth, Hans

PD January 1990. **TI** Linear Income Taxes: The Interaction Between State and Tax Payers. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-273; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** no charge. **JE** 323, 321, 921, 022. **KW** Income Taxes. Tax Policy. Income.

AB In an economy with a finite population or with a finite number of homogeneous groups, taxpayers may either act competitively or react strategically to linear income tax schedule. Strategic reaction to the tax policy of the government leads to an implementability problem for marginal tax rates with subsequent consequences for feasible tax policies. Also, efficiency properties of the strategic solution are compared to those of the competitive outcome. Strategic behavior yields an increase in total income, and, at least for small values of the marginal tax rate, a Pareto superior allocation.

Wilkie, Simon

TI The Bargaining Problem Without Convexity. **AU** Conley, John P.; Wilkie, Simon.

Wilkinson, Max

PD September 1989. **TI** Power Monopolies and the Challenge of the Market. American Theory and British Practice. **AA** Harvard University. **SR** Harvard Energy and Environmental Policy Center Discussion Paper: E-89-12; Energy and Environmental Policy Center, J.F. Kennedy School of Government, Harvard University, 79 John F. Kennedy St., Cambridge, MA 02138. **PG** 108. **PR** \$7.50. **JE** 635, 613, 612. **KW** Electricity. Monopoly. Regulation.

AB This study is about the opening of traditional monopolies in the electricity supply industry to competition, focusing

particularly on the problems of adapting integrated transmission networks to the demands of free trade. It considers some of the main practical and theoretical issues raised in the debate about the deregulation of electricity in the US and relates them to the privatization plans of Mrs. Margaret Thatcher's government in the UK. When this paper was completed, in September 1989, the privatization plans were in some turmoil as the industry and the government were revising many of their ideas as to how the new system would work. The need for hasty revisions reflected an earlier neglect of some of the difficult issues raised in this paper.

Wilson, Charles

TI A Model of Inspection and Repair With An Endogenous Number of Projects. AU Gifford, Sharon; Wilson, Charles.

Witte, Ann Dryden

TI Tax Compliance: An Investigation Using Individual TCMP Data. AU Tauchen, Helen V.; Witte, Ann Dryden; Beron, Kurt J.

Wolak, Frank A.

TI The Effect of Domestic Antidumping Law in the Presence of Foreign Monopoly. AU Staiger, Robert W.; Wolak, Frank A.

Wolfson, Mark A.

TI The Effects of Changes in Tax Laws on Corporate Reorganization Activity. AU Scholes, Myron S.; Wolfson, Mark A.

TI Employee Stock Ownership Plans and Corporate Restructuring: Myths and Realities. AU Scholes, Myron S.; Wolfson, Mark A.

TI Decentralized Investment Banking: The Case of Discount Dividend-Reinvestment and Stock-Purchase Plans. AU Scholes, Myron S.; Wolfson, Mark A.

TI Converting Corporations to Partnerships Through Leverage: Theoretical and Practical Impediments. AU Scholes, Myron S.; Wolfson, Mark A.

Won, Yunhi

TI Introducing Risky Housing and Endogenous Tenure Choice into Portfolio-Based General Equilibrium Models. AU Hendershott, Patric H.; Won, Yunhi.

Wooders, Myrna Holtz

TI Monotonicity in Games that Exhaust Gains to Scale. AU Scotchmer, Suzanne; Wooders, Myrna Holtz.

Wooldridge, Jeffrey M.

PD September 1989. TI Some Alternatives to the Box-Cox Regression Model. AA Massachusetts Institute of Technology. SR Massachusetts Institute of Technology Department of Economics Working Paper: 534; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 53. PR not available. JE 211. KW Nonlinear Model. Least Squares Regression. Asymptotic Theory. Lagrange Multiplier Test.

AB A nonlinear regression model is proposed as an alternative to the Box-Cox regression model for nonnegative variables. The functional form contains as special cases the

linear, exponential, constant elasticity, and generalized CES specifications, as well as other functional forms used by applied econometricians. The model can be derived from but is more general than a particular modification of the Box-Cox model. Because the model is specified directly in terms of $E(y|x)$, the parameters are easy to interpret and economic quantities are straightforward to compute.

Wright, Brian D.

PD December 1989. TI Commodity Bonds With Put Options for Consumption Smoothing by Commodity-Dependent Exporters. AU Wright, Brian D.; Newbery, David M. G. AA Wright: University of California at Berkeley. Newbery: University of Cambridge. SR University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 519; 207 Giannini Hall, University of California, Berkeley, Berkeley, California 94720. PG 18. PR \$5.00. JE 441, 431. KW Put Options. Investment Bonds. Commodities. Contracts. Exports.

AB Loans and other investment contracts are widely perceived as legally enforceable in lender countries but not in debtor countries. In that context, this paper shows how novel financing arrangements using commodity bonds with put options for the seller can be used for stabilization of risks associated with export prices.

Wright, Randall

TI A Contribution to the Pure Theory of Money. AU Kiyotaki, Nobuhiro; Wright, Randall.

TI Indivisibilities, Lotteries and Sunspot Equilibria. AU Shell, Karl; Wright, Randall.

TI More on Money as a Medium Exchange. AU Kehoe, Timothy J.; Kiyotaki, Nobuhiro; Wright, Randall.

TI Why is Automobile Insurance in Philadelphia so Damn Expensive?. AU Smith, Eric; Wright, Randall.

Yang, Chun-Lei

PD January 1990. TI Unique Implementation of the King Solomon Dilemma by Successive Elimination of Dominated Strategies. AA University of Dortmund. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-275; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 19. PR no charge. JE 026. KW Dominant Strategies. Game Theory. Incomplete Information. Sequential Equilibrium.

AB The problem of awarding a prize to the person with the highest private value without any sidepayment is identified as the King Solomon dilemma by Glazer and Ma. We solve this problem in an incomplete information setting using the solution concept of successive elimination of weakly dominated strategies. We also show that the unique outcome is the only invariant one with respect to different elimination procedures. A class of unreasonable sequential equilibria yielding some undesired outcomes is constructed, and the notion of successive elimination is given some further justification in light of common knowledge theory.

Yoo, Chin Bang

TI Reserve-Currency Preferences of Central Banks: The

Case of Korea. AU Deltas, Harris; Yoo, Chin Bang.

Yun, Yuo-Jin Eugene

PD June 1990. TI Production and Neutral Currency. AA University of British Columbia. SR University of British Columbia Department of Economics Discussion Paper: 90-13; #997-1873 East Mall, Vancouver, British Columbia V6T 1W5. PG 57. PR not available. JE 023, 311, 026. KW Business Cycles. Monetary Theory. Phillips Curve. Money Supply. Information. Monetary Policy. Monetary Shocks.

AB Endogenous labor supply is introduced into a cash-in-advance model with infinitely lived agents. Uncertainty arises from real and nominal random shocks which are modelled to closely resemble Luca's (1972) complete and incomplete information economies. The unique stationary equilibrium in the complete information economy has the property that money is neutral. However, the unique equilibrium in the incomplete information economy admits a connection between monetary disturbances and fluctuations in employment. In general, equilibrium allocations fail to be optimal. Monetary policies, such as the k-percent rule, designed to eliminate monetary uncertainty do not correct the suboptimality.

PD June 1990. TI Optimal Return on Fiat Currency. AA University of British Columbia. SR University of British Columbia Department of Economics Discussion Paper: 90-14; #997-1873 East Mall, Vancouver, British Columbia V6T 1W5. PG 40. PR not available. JE 023, 311. KW Cash-In-Advance Model. Money Supply. Monetary Policy.

AB Labor supply decisions are introduced in a stochastic cash-in-advance model. In the absence of government intervention, the equilibrium possesses two classic defects that the theory of the optimal quantity of money is concerned with: (i) real allocations are suboptimal and (ii) currency is dominated in the rate of return by other assets. It is shown that these defects can be overcome through a monetary policy of paying interest on reserves financed by lump-sum taxes. For success, these interest payments must be carefully specified to match the market rates of return which are determined endogenously in this general equilibrium framework.

PD June 1990. TI Interest on Reserves Sans Sunspots. AA University of British Columbia. SR University of British Columbia Department of Economics Discussion Paper: 90-15; #997-1873 East Mall, Vancouver, British Columbia V6T 1W5. PG 27. PR not available. JE 023, 311, 321. KW Sunspots. Overlapping Generations Model. Interest Rates. Government Portfolio.

AB The proposal to pay interest on reserves is studied in a general equilibrium framework in the context of an overlapping generations model with a storage technology. The Sargent-Wallace (1985) indeterminacy problem is avoided here since market interest rates are pinned down by the technology. Moreover, paying interest, financed through a hybrid strategy of taxing and earnings on the government portfolio, is welfare improving. As found by Smith (1988b), paying interest opens the economy to sunspot equilibria. We argue, however, that the sunspot activity can only be transmitted through the actions of the government, and as such the policy maker has the means to eliminate sunspot equilibria simply by ignoring any extrinsic randomness.

Zaman, Asad

TI What Do Heteroskedasticity Tests Detect?. AU Dutta, Jayasri; Zaman, Asad.

PD October 1989. TI Asymptotic Suprema of Averaged Random Functions. AA Columbia University. SR Columbia Department of Economics Working Paper: 446; Department of Economics, Columbia University, New York, New York 10027. PG 18. PR \$5.00. JE 211. KW Asymptotic Theory. Random Functions. Maximum Likelihood.

AB In the case that the function $y(X, \theta)$ can be discretely approximated, a modification of Huber's (1967) conditions provides necessary and sufficient conditions for consistency when local dominance holds. Our conditions are typically easier to check than Perlman's (1970); however, Perlman's results hold even when discrete approximation fails. Our conditions are also readily applicable to parameter spaces which are not locally compact. These results do not seem to be applicable to the case where local dominance fails. For some results in this case, see Wang (1985).

Zapatero, Fernando

TI Optimal Consumption-Portfolio Policies with Habit Formation. AU Detemple, Jerome B.; Zapatero, Fernando.

Zilcha, Itzhak

PD October 1989. TI Efficiency in Economic Growth Models with Stochastic Production. AA Tel Aviv University and University of Maryland, College Park. SR University of Maryland Department of Economics Working Paper Series: 89-29; Department of Economics, University of Maryland, College Park, MD 20742. PG 17. PR no charge. JE 021, 024, 111. KW Infinite Horizon Economy. Production. Consumption. Growth Theory.

AB We consider an infinite horizon economy with stochastic production and consumption. Two types of efficiency for feasible production-consumption programs are defined, using the first and second degree stochastic dominance. A complete characterization of inefficiency (of type I) is obtained. Equivalence between type II efficiency and certain "optimality" is proved when the number of states of nature is finite in each date.