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.
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Abdou, J.

PD 1988. **TI** Correlated Effectivity Functions. **AU** Abdou, J.; Mertens, J. F. **AA** Abdou: Universite Paris I. Mertens: Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8823; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 6. **PR** No Charge. **JE** 026. **KW** Coalitions. Game Theory. Supergames.

AB We introduce the alpha and beta-effectivity functions of game forms with random outcomes and where coalitions are allowed to use correlated strategies. Several nice properties of the alpha and beta effectivity functions appear in this context. Mainly a supergame form is defined and it is proved that its effectivity function alpha or beta is the same as the beta-effectivity function of the original game form. As a consequence the latter is super additive and is the best of the two to represent the power of coalitions.

Abreu, Dilip

PD May 1988. **TI** Information and Timing in Repeated Partnerships. **AU** Abreu, Dilip; Milgrom, Paul; Pearce, David. **AA** Abreu: Harvard University. Milgrom: Stanford University. Pearce: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 875; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 36. **PR** $2.00. **JE** 026. **KW** Monitoring. Repeated Game. Partnership. Incentives. Folk Theorem.

AB In a repeated partnership game with imperfect monitoring, we distinguish among the effects of (1) shortening the period over which actions are held fixed, (2) increasing the frequency with which accumulated information is reported, and (3) reducing the amount of discounting of payoffs between successive periods. While reducing the amount of discounting generally improves incentives for cooperation, the other two changes can have the reverse effect. When the game is specified in the customary way with information reported at the end of each period of fixed action, the net effect of shortening the period length can be to destroy all incentives for cooperation, reversing the usual conclusion associated with the Folk Theorem for repeated games. Moreover, when interest rates are low, reducing the frequency of information reporting can greatly enhance the efficiency of equilibrium.

Adelman, Irma

PD July 1988. **TI** Food Security Policy in a Stochastic World. **AU** Adelman, Irma; Berck, Peter. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 478; Department of Agricultural and Resource Economics, 207 Giannini Hall University of California, Berkeley, CA 94720. **PG** 50p. **PR** $10.00. **JE** 713, 914, 112. **KW** Developing Countries. Poverty. Food Aid. Starvation. Economic Development. Policy Evaluation.

AB Food security may be increased by variance-reducing strategies, by food aid, or by development strategies. This paper uses a Korea CGE model, subjected to random fluctuation in world-prices and domestic food productivity, to evaluate these policies. We find that poverty-reducing development strategies are the most effective food-security strategies.

PD September 1988. **TI** U.S. Competitiveness and the Exchange Rate: A General Equilibrium Analysis of the U.S. Economy, 1982-1986. **AU** Adelman, Irma; Robinson, Sherman. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 485; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 36p. **PR** $7.20. **JE** 411, 431, 321, 311, 021. **KW** Competitiveness. Exchange Rates. General Equilibrium. Debtor Nation. Deficit Spending. Fiscal Policy.

AB In this paper, we use a computable general equilibrium (CGE) model of the United States economy to analyze the impact of the swings in macro balances on the structure of relative prices, production, trade, income, and demand. The model is designed to focus on foreign trade issues, incorporating sectoral demand elasticities for imports and supply elasticities for exports. One issue we consider is the impact of different assumptions about these elasticities on the structural adjustments induced by the changes in macro balances. In the next section, we present a summary of the CGE model. We next discuss calibration of the model for 1982 and a base solution for 1986. We then analyze experiments in which we consider the impact of alternative macro policies designed to finance the increase in government expenditure observed during the period without recourse to increased foreign borrowing. Finally, we present some sensitivity analyses on the elasticities relevant to the study of United States competitiveness.

Aghion, Philippe

PD November 1988. **TI** An 'Incomplete Contract' Approach to Bankruptcy and the Financial Structure of the Firm. **AU** Aghion, Philippe; Bolten, Patrick. **AA** Massachusetts Institute of Technology. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 536; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 49. **PR** $4.00. **JE** 514, 521, 511, 022. **KW** Voting Equity. Debt Contracts. Bankruptcy. Liquidation. Reorganization. Business Finance.

AB In contrast to Modigliani and Miller, who distinguish between debt and equity contracts only in terms of the return-streams of the two types of assets, we emphasize the differences between debt and equity in terms of the rights of control the two assets give investors. Our theory of the firm's financial structure is based on the following considerations: Suppose that the firm must raise external funds to finance an investment. Ideally, the owners of the firm would like to issue non-voting shares, but this is usually unacceptable to outside investors since this amounts to giving full control to the initial owners. Two options are then open: Either issue debt and face the risk of bankruptcy (this involves a transfer of control from the owners to the outside investors) or issue equity and dilute their ownership rights. Both types of assets involve different allocations of control among investors and owners. We argue that the choice of control allocation determines the financial structure of the firm.

Aizenman, Joshua

PD May 1988. **TI** Debt and Conditionality under Endogenous Terms of Trade Adjustment. **AU** Aizenman, Joshua; Borensztein, Eduardo. **AA** Aizenman: International Monetary Fund. Borensztein: The Hebrew University at Jerusalem and NBER. **SR** International Monetary Fund Working Paper: WP/88/38; International Monetary Fund, Washington D.C. 20431. **PG** 32. **PR** No Charge. **JE** 431, 443, 432, 433, 441. **KW** Developing Countries. International Lending. Terms of Trade. Exchange Rate. Bankup.

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

PD October 1988. **TI** Trade Dependency, Bargaining and External Debt. **AA** The Hebrew University. **SR** National Bureau of Economic Research Working Paper: 2726; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 441, 421, 443, 411. **KW** International Trade. International Investment. Debtor Nation. Public Debt.

AB This paper analyzes the factors determining the effective payment on outstanding debt in the presence of partial defaults, and the feasibility of renewed investment. We show that the bargaining outcome, which determines the repayment, is dictated by the trade dependency, as measured by the substitutability of domestic and foreign products. A higher relative size of sectors with lower substitutability between domestic and foreign products will increase the trade dependency of the nation, reducing its bargaining power and thereby increasing the resource transfer ceiling. The resultant increase in the ceiling makes the nation less risky, increasing the willingness of creditors to lend. Thus, while a strategy of outward growth has the cost of increasing trade dependency, it has the benefit of increasing the availability of external finance. Even with a partial default, investment in highly trade dependent sectors with high productivity may be warranted. This investment can be implemented by a marginal relief of the present debt service, in exchange for investment in the proper sector.

Alesina, Alberto

PD August 1988. **TI** External Debt, Capital Flight and Political Risk. **AU** Alesina, Alberto; Tabellini, Guido. **AA** Alesina: Harvard University. Tabellini: University of California, Los Angeles. **SR** Centre for Economic Policy Research Discussion Paper: 253; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PG** 31. **PR** 2.00 sterling pound ($4.00). **JE** 432, 112, 411, 443. **KW** Capital Flight. External Debt. Fiscal Policy. Developing Countries. Political Economy. Debt Repudiation. Capital Controls.

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

TI Voting on the Budget Deficit. **AU** Tabellini, Guido; Alesina, Alberto.

PD September 1988. **TI** Partisan Cycles in Congressional Elections and the Macroeconomy. **AU** Alesina, Alberto; Rosenthal, Howard. **AA** Carnegie-Mellon University. **SR** National Bureau of Economic Research Working Paper: 2706; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 025. **KW** Political Economy. Social Choice. Rational Expectations. Elections.

AB The post-war United States exhibits two rather strong politico-economic regularities. The political regularity is that the party of the President has always lost votes in mid-term Congressional elections, relative to its Congressional vote in the previous elections; the economic regularity is that Republican administrations exhibit below average economic growth in the first half of each term and Democratic administrations are associated with above average growth in their first half. In the second halves economic growth is similar under the two administrations. We provide a rational expectations model which can explain these two regularities.

Allen, Steven G.

PD October 1988. **TI** Human Resource Policies and Union-Nonunion Productivity Differences. **AA** North Carolina State University. **SR** National Bureau of Economic

Research Working Paper: 2744; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 825, 831, 833. **KW** Unions. Productivity. Human Resources. Union Policy.

AB Many researchers in both economics departments and business schools recently have become interested in examining how much of an effect human resource decisions and policies have on firm performance. This paper surveys the literature on unionism and productivity and discusses its implications for future research on more general issues. The main focus is on (1) conclusions as to whether unions raise or lower productivity and (2) procedures used to identify the channels through which unions affect productivity.

Alogoskoufis, George

PD July 1988. **TI** Traded Goods, Competitiveness and Aggregate Fluctuations in the United Kingdom. **AA** Birkbeck College, University of London. **SR** Centre for Economic Policy Research Discussion Paper: 256; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 36. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 131, 431, 421, 411. **KW** Traded Goods. Competitiveness. Wages. Fluctuations. United Kingdom.

AB In this paper I investigate the relationships between wage adjustment, competitiveness, and aggregate fluctuations in the United Kingdom. This is done in the context of a model based on the distinction between internationally traded and nontraded goods, which is estimated and thoroughly tested. The traded goods sector is assumed to be a price-taker, and the focus is on the supply side. Competitiveness is defined as the relative price of traded to nontraded goods. The model can account quite well for fluctuations in UK competitiveness, output, wages and the terms of trade, and is used to examine the macroeconomic effects of a variety of disturbances. The results suggest that the UK economy is characterized by output flexibility and wage-price rigidity, a combination that produces patterns of macroeconomic adjustment which parallel the predictions of Keynesian demand-side models.

Altman, Edward

PD June 1988. **TI** Measuring Corporate Bond Mortality and Performance. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 468; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 28. **PR** No Charge. **JE** 313, 311, 026. **KW** Survival Rate. Bonds. Risk. Bond Default.

AB This study seeks to explore further the notion of default risk by developing an alternative way to measure that risk and to suggest an appropriate method to assess the performance of fixed-income investors over the entire spectrum of credit-quality classes. This approach, a kind of "mortality rate" concept, seeks to measure the expected mortality of bonds in a manner similar to the way actuaries assess mortality of human beings. Our term mortality refers specifically to a life expectancy or survival rate for various periods of time, not necessarily for one year.

Altshuler, Rosanne

PD March 1988. **TI** A Dynamic Analysis of the Research and Experimentation Credit. **AA** Columbia University. **SR** Columbia International Economics Research Center Discussion Paper: 382; Department of Economics, Columbia University, New York, NY 10027. **PG** 36. **PR** $5.00. **JE** 323. **KW** Tax Credit. Incentives. Income Taxes.

AB This study uses tax return data to investigate the incentive effects of the incremental research and experimentation credit. We use a dynamic model that takes into account unused tax benefits to evaluate the marginal incentives effects of the credit. We estimate that the average effective rate of credit in 1981 was less than one-tenth of the statutory credit rate. We find that the incremental structure of the credit gives rise to effective credit rates that may be zero or negative.

Amihud, Yakov

PD June 1988. **TI** Inventory Behavior and Market Power: An Empirical Investigation. **AU** Amihud, Yakov; Mendelson, Haim. **AA** Amihud: New York University. Mendelson: University of Rochester. **SR** New York University Salomon Brothers Center Working Paper: 470; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 19. **PR** No Charge. **JE** 611, 631, 616, 521. **KW** Inventory. Market Power. Market Share.

AB This paper examines the empirical relation between the market power of a firm and the level and variability of its inventories. We suggest that firms with greater market power hold more inventories and that their inventories are more volatile. These hypotheses were tested on a large sample of industrial firms, using two different measures of market power and applying a number of estimation techniques. The results strongly support our hypotheses.

Anand, Ritu

PD October 1988. **TI** Inflation, External Debt and Financial Sector Reform: A Quantitative Approach to Consistent Fiscal Policy with an Application to Turkey. **AU** Anand, Ritu; van Wijnbergen, Sweder. **AA** Anand: Finance Commission, Government of India. van Wijnbergen: World Bank. **SR** National Bureau of Economic Research Working Paper: 2731; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 321, 322, 134, 121, 443. **KW** Fiscal Deficits. Inflation. Output Growth. Government Spending. Fiscal Policy. External Debt.

AB This paper presents and applies an integrated framework to assess the consistency between fiscal deficits and other macroeconomic targets, such as output growth and the rate of inflation. The model centers around the government budget constraint and can be used to either derive the financeable deficit given inflation targets, or to derive an equilibrium inflation rate for which no fiscal adjustment would be necessary. The financeable deficit is defined as the deficit that does not require more financing than is compatible with sustainable external and internal borrowing, and existing targets for inflation and output growth. The model can assess the impact on the relation between fiscal adjustment and sustainable inflation rates of financial sector reforms affecting base money demand, of changes in interest rates paid on foreign and domestic public sector debt, of output growth targets and of exchange rate policy. The analysis furthermore incorporates an approach, due to Cohen (1986), to the derivation of a sustainable external debt policy.

Anderson, G. M.

TI The Long Good-bye: The Great Transformation of the British Columbia Hospital System. **AU** Evans, R. G.; Barer, M. L.; Hertzman, C.; Anderson, G. M.; Pulcins, I. R.; Lomas, J.

Andrews, Donald W. K.

PD May 1988. **TI** Asymptotic Normality of Series Estimators for Various Nonparametric and Semiparametric Models. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 874; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 73. **PR** $2.00. **JE** 211. **KW** Nonparametric Models. Asymptotic Theory. Estimators. Normality.

AB This paper establishes the asymptotic normality of series estimators for nonparametric regression models. Gallant's Fourier flexible form estimators and trigonometric series estimators are prime examples of the estimators covered by the results. The results apply to a wide variety of estimands in the regression model under consideration, including derivatives and integrals of the regression function. The errors in the model may be homoskedastic or heteroskedastic. The estimators may be based on fixed or data-dependent truncation rules. In addition, this paper introduces a new class of nonparametric regression models called additive interactive regression (AIR) models and shows that series estimators of these models are consistent and asymptotically normal. The paper also introduces series estimators for semiparametric regression and semiparametric index regression models and shows them to be consistent and asymptotically normal. Among others, the latter models include censored and truncated regression models and discrete choice models whose latent errors have distributions that are unspecified.

PD July 1988. **TI** Heteroskedasticity and Autocorrelation Consistent Covariance Matrix Estimation. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 877; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 80. **PR** No Charge. **JE** 211. **KW** Heteroskedasticity. Kernel Estimation. Autocorrelation. Asymptotic Theory. Mean Squared Error. Monte Carlo Simulation.

AB This paper is concerned with the estimation of covariance matrices in the presence of heteroskedasticity and autocorrelation of unknown forms. Currently available estimators that are designed for this context depend upon the choice of a lag truncation parameter and a weighting scheme. Results in the literature provide a condition on the growth rate of the lag truncation parameter as T tends to infinity that is sufficient for consistency. No results are available, however, regarding the choice of lag truncation parameter for a fixed sample size, regarding data-dependent automatic lag truncation parameters, or regarding the choice of weighting scheme. In consequence, available estimators are not entirely operational and the relative merits of the estimators are unknown. This paper addresses these problems. Upper and lower bounds on the asymptotic mean squared error of each estimator in a given class are determined and compared. Asymptotically optimal kernel/weighting scheme and bandwidth/lag truncation parameters are obtained using a minimax asymptotic mean squared error criterion. Higher order asymptotically optimal corrections to the first order optimal bandwidth/lag truncation parameters are introduced. Using these results, data-dependent automatic bandwidth/lag truncation parameters are defined and are shown to possess certain asymptotic optimality properties. Finite sample properties of the estimators are analyzed via Monte Carlo simulation.

Antle, Rick

PD July 1988. **TI** Why Are Auditors Conservative: Or Are They. **AU** Antle, Rick; Nalebuff, Barry. **AA** Antle: Yale University. Nalebuff: Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 141; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 20. **PR** No Charge. **JE** 541, 022, 026. **KW** Auditing. Conservatism. Negotiation. Incentives.

AB Our results challenge the perception that auditors are conservative. We examine incentives for auditor conservatism when the financial report is the result of negotiations between auditor and client. If the client has better knowledge of the "true" state of financial affairs, he can take advantage of an auditor's mistakes. Clients who seek larger current income reports will protest any understatements and attempt to correct these "mistakes" in extended audit procedures. The only auditor's mistakes left uncorrected are the ones which result in overstatement of income. Rational conservatism is the protection against this "auditor's curse". Those who use financial reports see only the final negotiated outcome. Here it is less clear whether conservatism reigns. The auditor errs on the side of caution. The management corrects the most glaring understatements. Is the final negotiated result biased upward or downward. We demonstrate that when auditing contracts are designed to maximize joint auditor-client welfare, the expected ex-post bias is always upward. Even an auditor's conservative bark belies a generous heart.

Appleyard, Dennis R.

TI Trade Agreements vs. Unilateral Tariff Reductions: Evidence from Modeling with a Continuum of Goods. **AU** Conway, Patrick J.; Appleyard, Dennis R.; Field, Jr Alfred J.

Arnott, Richard J.

PD June 1988. **TI** Housing Vacancies, Thin Markets, and Idiosyncratic Tastes. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 722; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 40. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 932, 931, 921, 022. **KW** Housing. Vacancies. Monopoly. Renting. Households. Urban Economics.

AB This paper presents a model with rental housing vacancies in equilibrium. Because of the indivisibility and multi-dimensional heterogeneity of housing units, the housing market is thin. As a result, a typical household entering the market is willing to pay a premium for its most-preferred over its second most-preferred available (vacant) unit. This confers monopoly power on landlords, which they exploit by setting rents above costs. Free entry and exit force profits to zero, with vacancies as the equilibrating mechanism. A nice feature of the model is that housing vacancies are socially useful in expanding the choice set of entering households, though there is no presumption that the market vacancy rate is socially optimal. Thin markets are modelled by assuming an idiosyncratic component to households' tastes over housing units. The positive and normative properties of the basic model, which assumes costless search, are investigated. Then the model is extended to treat costly search. Finally, directions in which the model could usefully be extended are discussed.

Arrow, Kenneth J.

PD August 1988. **TI** Ricardo's Work As Viewed By Later Economists. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 531; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 15. **PR** $4.00. **JE** 031. **KW** Ricardo. Classical Economics. Economic Thought.

AB Ricardo has long been considered a dominant figure in the development of economic theory, yet his influence has been ambiguous and challenged almost from the time of his death. I trace briefly both overt opposition and subversion by self-proclaimed supporters, such as Marshall. In particular, the long Cambridge involvement with Ricardo has culminated in the "neo-Ricardian" school, with its ambiguous relations to Keynes.

Asch, Peter

PD September 1988. **TI** Betting Bias in the Daily Double. **AU** Asch, Peter; Quandt, Richard E. **AA** Asch: Rutgers University. Quandt: Princeton University. **SR** Princeton Financial Research Center Memorandum: 96; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 14. **PR** $3.00. **JE** 212. **KW** Daily Double. Betting Bias. Efficiency.

AB The paper employs daily double data from Meadowlands Racetrack to estimate the subjective winning probabilities implicit in the bets made at the track as well as the objective probabilities that certain daily double pairs will win. On the average, the subjective probabilities are excellent predictors of the objective probabilities. The type of betting bias encountered in win betting, where favorites tend to be underbet and long shots overbet, cannot be confirmed.

Auerbach, Alan J.

PD January 1988. **TI** Investment Tax Incentives and Frequent Tax Reforms. **AU** Auerbach, Alan J.; Hines, James R. Jr. **AA** Auerbach: University of Pennsylvania. Hines: Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 135; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 12. **PR** No Charge. **JE** 522, 323. **KW** Tax Reform. Tax Credit. Adjustment Costs. Investment. Expectations.

AB Despite the frequency of tax changes and their potential importance to investors, almost all of the analysis of tax-based investment incentives assumes investors never anticipate any tax changes. We depart from this approach by analyzing the historical pattern of United States corporate investment incentives over the priod 1953-86, incorporating the feature of investor awareness that the tax code may change. Our analysis incorporates a predictive equation for future tax variables into a model of optimal investment subject to adjustment costs and uncertainty. We find that expectations of future tax changes significantly affect the incentive to invest only if adjustment costs are low. In this case, the incentive to invest in 1986 was strong, as investors are estimated to have anticipated the coming reduction in investment incentives.

Ausubel, Lawrence

PD April 1988. **TI** Partially-Revealing Rational Expectations Equilibrium in a Competitive Economy. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 774; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 52. **PR** No Charge. **JE** 021. **KW** Exchange Economy. Private Information. Rational Expectations.

AB A class of pure exchange economies is considered in which some agents are informed of private information and others are uninformed. Existence of a partially-revealing rational expectations equilibrium is proved -without restricting attention to particular functional forms for utility functions and probability distributions, without introducing "noise" into the model, and without departing from the standard definition of REE. The equilibrium is robust in the sense that if the primitives of the economy are slightly perturbed, the economy continues to have a qualitatively-similar REE. With somewhat stronger assumptions placed on the economy, the equilibrium is also the unique measurable REE.

Azzalini, A.

PD August 1988. **TI** On the Use of Nonparametric Regression for Model Checking. **AU** Azzalini, A.; Bowman, A. W.; Hardle, W. **AA** Azzalini: University of Padua. Bowman: University of Glasgow. Hardle: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-195; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** No Charge. **JE** 211. **KW** Binary Data. Nonparametric regression. Residuals. Outliers. Likelihood Ratio Test. Autoregressive Time Series.

AB The use of nonparametric regression is explored in the context of checking the fit of a parametric regression model. The principal aim is to check the validity of the regression curve rather than necessarily to detect outliers. A pseudo likelihood ratio test is developed to provide a global assessment of fit and simulation bands are used to indicate the nature of departures from the model. The types of data considered include discrete response variables, where standard diagnostic techniques are often not appropriate, and first order autoregressive series. Several numerical examples are given.

Backus, David K.

TI Risk Premiums in Asset Prices and Returns. **AU** Gregory, Allan W.; Backus, David K.

Bagwell, Kyle

PD May 1987. **TI** The Role of Export Subsidies when Product Quality is Unknown. **AU** Bagwell, Kyle; Staiger, Robert. **AA** Bagwell: Northwestern University. Staiger: Stanford University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 758; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 35. **PR** No Charge. **JE** 431, 323, 422, 421, 411. **KW** Exports. Subsidies. International Trade. Product

Quality.
AB We explore in this paper a different motive for export subsidies, based on the notion that goods arriving from foreign countries may initially be of unknown quality to domestic consumers, who learn about their quality only through consumption. Nelson (1970) refers to goods whose quality can be known only after they have been purchased as "experience goods". Examples of such goods would typically include technologically sophisticated consumer products, consumer durables, and services that have an element of custom design. If, when confronted with such goods, consumers view price as a signal of quality, a role for export subsidies can arise.

Bailey, Martin J.

PD May 1988. **TI** Trade and Investment Performance Under Floating Exchange Rates: The U.S. Experience. **AU** Bailey, Martin J.; Tavlas, George S. **AA** Bailey: University of Maryland and U.S. Department of State. Tavlas: International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/37; International Monetary Fund, Washington D.C. 20431. **PG** 22. **PR** No Charge. **JE** 411, 431, 441. **KW** Exchange Rates. International Trade. Foreign Investment.
AB Contrary to the arguments of several scholars, we have failed to find either a conclusive theoretical case or clear empirical evidence of an effect, harmful or otherwise, of exchange rate variability (as measured by either short-term volatility or long-run misalignment) on overall levels of international trade. In this paper, after reviewing the theories and evidence on this issue, we go on to consider the impact of exchange rate variability on direct foreign investment. We summarize and amplify upon the scant theoretical literature of this issue, and proceed to test U.S. data for the presence of such an impact. We find none.

Baillie, Richard T.

PD October 1988. **TI** Stock Returns and Volatility. **AU** Baillie, Richard T.; DeGennaro, Ramon P. **AA** Baillie: Michigan State University. DeGennaro: Department of Finance, Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8803; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 18. **PR** No Charge. **JE** 313, 311. **KW** ARCH. Asset Pricing Model. Portfolio. Stock Market. Risk.
AB Most asset pricing models postulate a positive relationship between a stock portfolio's expected returns and risk, which is often modeled by the variance of the asset price. This paper uses GARCH-in-mean models to examine the relationship between mean returns on a stock portfolio and its conditional variance. After estimating a variety of models from daily and monthly portfolio return data we conclude that any relationship between mean returns and own variance is weak. The results suggest that investors consider some other risk measure to be more important than the variance of portfolio returns.

PD October 1988. **TI** The Impact of Delivery Terms on Stock Return Volatility. **AU** Baillie, Richard T.; DeGennaro, Ramon P. **AA** Baillie: Michigan State University. DeGennaro: Department of Finance, Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8804; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 20. **PR** No Charge. **JE** 313, 311. **KW** ARCH. Stock Market. Stock Prices. Asset Returns.
AB The application of generalized ARCH models to daily stock returns shows changes in delivery and payment terms to be an important factor in determining measured volatility. In contrast, the holding period between trading days when markets are closed is relatively unimportant. This new approach allows fresh insights into stock return volatility and indicates that subsequent research on stock return volatility should incorporate the effects of payment delays.

PD October 1988. **TI** Economic Tests of Rationality and Market Efficiency. **AA** Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8805; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 52. **PR** No Charge. **JE** 212, 313. **KW** Vector Autoregressions. Rational Expectations. Market Efficiency. Co-Integration. Time Series.
AB Many economic theories give rise to restrictions between the future rational expectations of a set of variables. This paper describes how such theories can be tested from vector time series models. Particular attention is given to problems of nonstationarity and the use of the concept of cointegration in the modeling and testing procedure.

Baker, Joanna

TI An Empirical Assessment of Alternative Models of Risky Decision Making. **AU** Lattimore, Pamela; Witte, Ann D.; Baker, Joanna.

Banerjee, Anindya

PD August 1988. **TI** Moral Hazard and Limited Liability in the Market for Loans: Credit Restriction Versus Credit Rationing. **AU** Banerjee, Anindya; Besley, Timothy. **AA** Banerjee: Jesus College, Oxford. Besley: All Souls College, Oxford. **SR** Centre for Economic Policy Research Discussion Paper: 261; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PG** 33. **PR** 2.00 pound sterling ($4.00). **JE** 315, 311. **KW** Credit Rationing. Liability. Loans. Moral Hazard. Credit Market.
AB This paper develops a model of equilibrium in the market for loans. It focuses on the effects on equilibrium of (i) differences in the liability of the lender and the borrower for losses; and (ii) differences in the information available to the lender. We examine the different types of imperfection in the credit market which arise as a consequence of these differences and draw a distinction between outcomes where credit is rationed (the borrower would wish to borrow more at some interest rate) and those where credit is restricted (the borrower is able to borrow less than he would be able to were some imperfection removed). We demonstrate unambiguous propositions about credit restriction, but in the model we examine, this need not necessarily be accompanied by credit rationing.

PD September 1988. **TI** Dynamic Specification with the General Error-Correction Form. **AU** Banerjee, Anindya; Galbraith, John W.; Dolado, Juan. **AA** Banerjee: Jesus College. Galbraith: McGill University. Dolado: Banco de Espana, Madrid. **SR** Oxford Applied Economics Discussion Paper: 53; Institute of Economics and Statistics, Saint Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND.

PG 14. **PR** No Charge. **JE** 211. **KW** Error Correction Model. Multipliers. Transformations. Long Run Equilibrium.
AB We show that, interpreted broadly, the error correction form is a member of a class of transformations including Bewley (1979) which give numerically equivalent estimates of long-run multipliers. As the advantage of the Bewley form is well known, we emphasize the advantage of the error-correction form in providing readily interpretable estimates of short-run responses to disequilibrium. We then describe briefly methods of calculating approximate standard errors of the long-run multiplier for the autoregressive distributed lag form and error correction form.

TI Does GNP Have a Unit Root. A Detailed Examination Using Recursive Methods. **AU** Dolado, Juan; Banerjee, Anindya; Galbraith, John W.

Barahona, Francisco

PD January 1988. **TI** On Cuts and Matching in Polanar Graphs. **AA** University of Waterloo. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88503-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 12. **PR** No Charge. **JE** 213. **KW** Max Cut Problem. Planar Graphs. Linear Program.
AB We study the max cut problem in graphs not contractible to K K(5) 5, and optimum perfect matchings in planar graphs. We prove that both problems can be formulated as a linear program with a polynomial number of variables and a polynomial number of inequalities.

Barer, M. L.

TI The Long Good-bye: The Great Transformation of the British Columbia Hospital System. **AU** Evans, R. G.; Barer, M. L.; Hertzman, C.; Anderson, G. M.; Pulcins, I. R.; Lomas, J.

Barnekov, Christopher C.

PD May 1988. **TI** The Costs of Railroad Regulation: A Further Analysis. **AU** Barnekov, Christopher C.; Kleit, Andrew N. **AA** Barnekov: Interstate Commerce Commission. Kleit: Bureau of Economics, Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 164; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Ave. NW, Washington, D.C. 20580. **PG** 21. **PR** No Charge. **JE** 615, 612, 613. **KW** Railroad. Deregulation.
AB The Staggers Act of 1980 largely ended almost a century of government regulation of railroads. This paper presents evidence that deregulation has had a positive impact on the economy. Specifically, deregulation has generated billions of dollars worth of efficiency gains, contrary to the relatively modest gains estimated by Boyer (1987). In performing the analysis the paper examines several aspects of railroad deregulation, and uses a reduced form econometric model to measure the effect of deregulation on rail rates.

Barro, Robert J.

PD August 1988. **TI** Fertility Choice in a Model of Economic Growth. **AU** Barro, Robert J.; Becker, Gary S. **AA** Barro: Harvard University. Becker: University of Chicago and Economics Research Center/NORC. **SR** Economics Research Center/NORC Discussion Paper: 88-8; Economics Research Center/NORC, 1155 East 60th Street, Chicago, IL 60637. **PG** 41. **PR** $2.00; Send requests to Librarian, Economics Research Center. **JE** 111, 113, 921. **KW** Family Size. Closed Economy. Population Growth. Economic Growth. Fertility.
AB Altruistic parents make choices of family size along with decisions about consumption and intergenerational transfers. We apply this framework to a closed economy, where the determination of interest rates and wage rates is simultaneous with the determination of population growth and the accumulation of capital. Thus, we extend the literature on optimal economic growth to allow for optimizing choices of fertility and intergenerational transfers. We use the model to assess the effects of child-rearing costs, the tax system, the conditions of technology and preferences, and shocks to the initial levels of population and the capital stock.

PD August 1988. **TI** The Ricardian Approach to Budget Deficits. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2685; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 321, 023. **KW** Fiscal Policy. Ricardian Equivalence. Budget Deficits. Government Spending.
AB See additional entry under this author and title.

PD October 1988. **TI** The Ricardian Approach to Budget Deficits. **AA** Harvard University. **SR** Queen's Institute for Economic Research Discussion Paper: 728; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 40. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 321, 322, 023. **KW** Budget Deficits. Ricardian Neutrality. Debt Neutrality. Fiscal Policy.
AB Persistent budget deficits have increased economists' interest in theories and evidence about fiscal policy. This paper develops the Ricardian approach and contrasts it with standard models. The discussion considers from major theoretical objections to Ricardian equivalence -finite lifetimes, imperfect capital markets, uncertainty about future taxes and incomes, and the distorting effects of taxation. Then the paper considers empirical evidence on interest rates, consumption and saving, and current-account deficits. The conclusion is that the Ricardian approach is a useful first-order approximation, and that this approach will probably become the benchwork model for assessing fiscal policy.

Barsky, Robert

PD August 1988. **TI** The Seasonal Cycle and the Business Cycle. **AU** Barsky, Robert; Miron, Jeffrey. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2688; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 133. **KW** Fluctuations. Business Cycle. Seasonality. Trends.
AB Almost all recent research on macroeconomic fluctuations has worked with seasonally adjusted or annual data. This paper takes a different approach by treating seasonal fluctuations as worthy of study in their own right. We document the quantitative importance of seasonal fluctuations, and we present estimates of the seasonal patterns in a set of standard macroeconomic variables. The paper demonstrates that, with respect to each of several major stylized facts about business cycles, the seasonal cycle displays the same characteristics as the business cycle, in some cases even more dramatically than the business cycle. That is, we find that at

seasonal frequencies as well as at business cycle frequencies, output movements across broadly defined sectors move together, the timing of production and sales coincide closely, labor productivity is procyclical, nominal money and real output are highly correlated, and prices vary less than quantities.

Bartel, Ann

PD October 1988. **TI** Technical Change, Learning, and Wages. **AU** Bartel, Ann; Lichtenberg, Frank. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 2732; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 621, 824, 912, 811. **KW** Technology. Learning. Education. Wages.

AB This paper examines the relationship between technological change and wages using pooled cross-sectional industry-level data and several alternative indicators of the rate of introduction of new technology. Our main finding is that industries with a high rate of technical change pay higher wages to workers of given age and education, compared to less technologically advanced industries. This is consistent with the notion that the introduction of new technology creates a demand for learning, that learning is a function of employee ability and effort, and that increases in wages are required to elicit increases in ability and effort. A related finding is that the wages of highly educated workers (especially recent graduates) relative to those of less educated workers are highest in technologically advanced industries; this is consistent with the notion that educated workers are better learners.

Baxter, Marianne

PD August 1988. **TI** Business Cycles and the Exchange Rate System: Some International Evidence. **AU** Baxter, Marianne; Stockman, Alan C. **AA** University of Rochester. **SR** National Bureau of Economic Research Working Paper: 2689; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 311, 131, 133, 023. **KW** Exchange Rates. Economic Fluctuations. Business Cycle.

AB This paper investigates empirically the differences in time-series behavior of key economic aggregates under alternative exchange rate systems. We use a postwar sample of 49 countries to compare the behavior of output, consumption, trade flows, government consumption spending, and real exchange rates under alternative exchange rate systems (pegged, floating, and systems such as the EMS). We then examine evidence from two particular episodes, involving Canada and Ireland, of changes in the exchange rate system. Aside from greater variability of real exchange rates under flexible than under pegged nominal exchange rate systems, we find little evidence of systematic differences in the behavior of other macroeconomic aggregates or international trade flows under alternative exchange rate systems.

Bean, Charles R.

TI Why Does Unemployment Persist. **AU** Layard, Richard; Bean, Charles R.

Beath, John

PD October 1988. **TI** Strategic R&D Policy. **AU** Beath, John; Katsoulacos, Yannis; Ulph, David. **AA** Beath and Ulph: University of Bristol. Katsoulacos: University of Liverpool. **SR** Centre for Economic Policy Research Discussion Paper: 276; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PR** pound sterling 2.00 ($4.00). **JE** 621, 616, 612. **KW** Innovation. R & D. Joint Ventures. Industrial Policy. Duopoly.

AB The outcome of technological competition between firms (or countries) depends on the resolution of two forces: the profit incentive and the competitive threat. This is illustrated using a simple duopoly model. This model is then used to analyze two policy issues: subsidizing R & D and collaborative research ventures. In evaluating the second of these, some use is made of numerical simulations.

Becker, Abraham

PD December 1987. **TI** Ogarkov's Complaint and Gorbachev's Dilemma - The Soviet Defense Budget and Party-Military Conflict. **AA** The Rand Corporation. **SR** Rand Report: R-3541-AF; The Rand Corporation, 1700 Main Street P.O. Box 2138, Santa Monica, CA 90406-2138. **PG** 52. **PR** No Charge. **JE** 114, 113, 052, 027. **KW** Communist System. Military. Defense Spending. Soviet Union.

AB This report attempts to illuminate the conflict within the Soviet Union between the Communist Party and the military high command over resource allocation in the early 1980s. It examines the measures of resource growth that the two sides could have used in the debate. It also considers Gorbachev's approach to the same problem in the last half of the 1980s and the connections between the two episodes. The author suggests that, in the future, Gorbachev's ability to maneuver may be limited by the growing harshness of military-Party relations. Furthermore, his failure to make good on his promises could aggravate the military-Party conflict.

Becker, Gary S.

TI Fertility Choice in a Model of Economic Growth. **AU** Barro, Robert J.; Becker, Gary S.

Behrman, Jere R.

PD June 1987. **TI** Intrahousehold Allocation of Nutrients in Rural India: Are Boys Favored. Do Parents Exhibit Inequality Aversion. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-3; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PR** 3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 913, 914, 921, 121. **KW** Household Allocation. Gender Bias. India. Nutrition. Health.

AB In almost every society, most of the nutrients for most children are obtained through intrahousehold food allocations. For South Asia there are a number of indices of health outcomes (e.g., mortality rates, weight for age) that suggest that the intrafamilial allocation of nutrients favors boys over girls, particularly in northern areas. In contrast, Rosenzweig and Schultz argue that it is consistent with a parental maximizing response to differential labor-market returns to investments in boys and girls and some others -- such as Sen and Sengupta -- recognize that differential labor-market returns by sex may play an important role in nutrient allocations. However existing studies do not examine the nature of parental preferences underlying the intrahousehold distribution of nutrients between sons and daughters. This paper helps to fill this void in the literature by using rich new Indian data to estimate an extension of the BPT (Behrman, Pollak and Taubman, 1982) intrahousehold allocation model, adapted to consider multiple health-related outcomes and multiple nutrient inputs.

Benhabib, Jess

PD May 1988. **TI** Endogenous Fluctuations in the Barro-Becker Theory of Fertility. **AU** Benhabib, Jess; Nishimura, Kazuo. **AA** Benhabib: New York University. Nishimura: Kyoto Institute of Economic Research, Kyoto University. **SR** New York University Economic Research Reports: 88-15; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 14. **PR** No Charge. **JE** 921, 841. **KW** Fertility. Children. Altruism.

AB The results on fertility choice of Barro and Becker are generalized by allowing a broader class of preferences. It is shown that fertility rates and the capital stock will change either monotonically or in an oscillatory way, depending on the elasticity of the parameter of altruism toward children. The possibility of multiple steady states is also noted. If a certain elasticity condition is satisfied, capital and fertility rates will be positively correlated.

PD May 1988. **TI** Joint Exploitation of a Productive Asset: A Game-Theoretic Approach. **AU** Benhabib, Jess; Radner, Roy. **AA** Benhabib: New York University. Radner: AT&T Bell Laboratories. **SR** New York University Economic Research Reports: 88-17; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 61. **PR** No Charge. **JE** 026. **KW** Dynamic Games. Commitment. Cooperative Games. Pareto Optimal. Repeated Games.

AB It is generally believed that when two or more economic agents jointly exploit a common productive asset, there will be a tendency towards overuse or overconsumption, if there is no possibility of making binding commitments regarding the rates of use or consumption. Lancaster (1973) and Levhari and Mirman (1980) have studied specific examples of this phenomenon from a game-theoretic point of view, and in each case demonstrated the existence of a Pareto-inefficient Nash equilibrium of the corresponding dynamic game. However, dynamic games often have multiple equilibria, and the question remains whether the games studied by these authors - and generalizations of those games - have efficient as well as inefficient equilibria. Indeed, the theory of repeated games suggests this possibility, although it must be emphasized that these games are not strictly repeated, since there is a state variable, namely the current stock of the productive asset, that changes through time in response to the players' actions. In the present paper we explore the set of equilibria of a game-theoretical model of this type. We do find, in fact, that under certain circumstances there may be efficient as well as inefficient equilibria. Moreover, some of these equilibria have interesting features that are not present in repeated games.

Benjamin, B.

TI Health Insurance and the Demand for Medical Care - Evidence from a Randomized Experiment. **AU** Manning, W. G.; Newhouse, J. P.; Duan, N.; Keeler, E.; Benjamin, B.; Leibowitz, A. Marquis-M-S; Zwanziger-J.

Benjamin, Dwayne

PD November 1988. **TI** Household Composition and Labor Demand: A Test of Rural Labor Market Efficiency. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 244; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 70. **PR** $2.00. **JE** 824, 718, 713, 826, 921. **KW** Labor Markets. Developing Countries. Labor Demand. Agriculture. Households. Farming. Rural Economics.

AB A central issue in agricultural taxation and pricing policy analysis is the degree to which the rural labor market can be characterized by a competitive supply and demand framework, and if so, what is the magnitude of the elasticity of demand for labor. The primary focus of this paper is to determine the degree to which farm household behavior is consistent with a competitive, clearing external labor market. In order to implement this program, the old observation that in the absence of labor markets, household composition is an important determinant of farm labor use, is formalized by incorporating household structure into the general framework of agricultural household models. The conditions under which specific market distortions, such as off-farm employment rationing, will lead to household demographic composition affecting farm labor demand are derived. After completing this theoretical discussion, an empirical model is developed which tests the proposition that household labor demand is independent of family composition.

Berck, Peter

PD June 1988. **TI** Dynamic Dumping. **AU** Berck, Peter; Perloff, Jeffrey M. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 476; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 39. **PR** $7.80. **JE** 422, 323, 421, 411. **KW** Price Path. Tariff. Dynamic Model. Static Analysis. Comparative Statics.

AB A low-cost foreign firm lowers its initially high price -- dumping if necessary -- until it drives the higher cost domestic firms out of business, whereupon it raises its price. At no time, however, does the foreign firm predate (price below its marginal cost). Tariffs, quotas, and other policies that mandate a minimum number of domestic firms do not qualitatively change the price path (high price, low price, and limit price). The optimal tariff in this dynamic analysis is lower than the optimal tariff in a static analysis (to allow consumers to take advantage of the low-price period).

TI Food Security Policy in a Stochastic World. **AU** Adelman, Irma; Berck, Peter.

PD August 1988. **TI** Adjusting Prices for Volume: A Test of the Hotelling Valuation Principle. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 480; 207 Giannini Hall, University of California, Berkeley 94720. **PG** 21p. **PR** $5.00. **JE** 721, 227. **KW** Hotelling's Theory. Prices. Nonparametric Regression. Natural Resources.

AB This paper tests the hypothesis that the net of extraction cost price of a natural resource does not change with volume. The hypothesis is shown to be a consequence of Hotelling's theory. The tests are performed on equations estimated by a nonparametric regression (ACE), and we show that the usual least squares estimation techniques are not general enough to successfully perform the test. The test rejects the pure form of the Hotelling theory and shows that it is necessary to adjust sale prices for volume sold.

Bernheim, B. Douglas

PD September 1988. **TI** How Do The Elderly Form Expectations. An Analysis of Responses to New Information. **AA** Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2719; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 915, 918, 921. **KW** Expectations. Elderly. Social Security. Retirement.

AB In this paper, I outline and test a simple theory that describes the evolution of expectations concerning social security benefits during the pre-retirement period. After correcting for the presences of measurement error, I obtain results that are consistent with this theory: expectations appear to evolve as a random walk, and innovations in this process are unrelated to previously available information. I also estimate responses of expectations to the arrival of new information. Although previous research indicates that individuals do not form expectations on the basis of all available information (and in particular ignore much of the information contained in concurrent statutory entitlements to social security benefits), responses to new information during the period immediately preceding retirement appear to be highly rational. The bulk of information affects the evolution of expectations only through its impact on actual benefit calculations. Furthermore, the data support the view that individuals form accurate assessments of the ultimate impact of new information on actual benefits.

Besley, Timothy

TI Moral Hazard and Limited Liability in the Market for Loans: Credit Restriction Versus Credit Rationing. **AU** Banerjee, Anindya; Besley, Timothy.

Bester, Helmut

PD March 1988. **TI** Sequential Competition in Bertrand-Edgeworth Oligopoly. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-165; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 19. **PR** No Charge. **JE** 611, 022, 514. **KW** Oligopoly. Price Competition. Subgame Perfect Equilibrium. Bertrand Model. Corporate Strategy.

AB The paper considers a Bertrand-Edgeworth model of a single market in which consumers enter successively. At each consumer's arrival the firms compete by setting prices. They are endowed with exogenously given initial capacities, and so each consumer's purchasing decision determines the available remaining capacities in the next price setting stage. The market always has a subgame perfect equilibrium in pure strategies. When the market is sufficiently large, the equilibrium approaches the perfectly competitive outcome as the time between the consumers' arrivals or the firms' discount rate tend to zero.

Bhandari, Jagdeep S.

PD August 1988. **TI** Trade Reform Under Partial Currency Convertibility: Some Suggestive Results. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/69; International Monetary Fund, Washington, D.C. 20431. **PG** 25. **PR** No Charge. **JE** 422, 431, 421, 323, 411. **KW** Trade Reform. Capital Account. Exchange Rate. Tariffs. Devalnation.

AB This paper discusses the macroeconomic implications of trade reform in the presence of capital account restrictions. The latter is modelled by recognizing prior constraints on free currency convertibility that are imposed via the use of a multiple exchange rate system. The results of the analysis indicate that the preferred sequence of liberalization need not be of the commonly advocated "current account first" variety, and that real depreciation rather than real appreciation is in fact a more probable outcome following domestic tariff liberalization.

Bhargava, Alok

PD August 1988. **TI** Estimating Short and Long Run Income Elasticities of Foods and Nutrients for Rural South India. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-10; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 37. **PR** $3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 914, 913, 112, 121. **KW** Engel Curves. Food. Demand Systems. Hierarchial Systems. Quality Differentials. Subsistence Level. Dynamic Models.

AB This paper estimates expenditure/income elasticities of six categories of foods using the ICRISAT panel data on households from rural South India. The results underscore the importance of distinguishing between the short and long run effects particularly for groups like milk and meat. The demand for intake of nutrients is next analyzed using two time observations on individuals under three formulations. A simple dynamic demand system is specified for five nutrient groups which is then extended to incorporate the differences in quality of foods consumed by expressing the intake of nutrients as ratios to energy intake by the individuals. Lastly, an interdependent formulation incorporating some suggestions of Stigler (1945) is estimated and the exogeneity tests indicate a hierarchical structure in the demand for nutrients. The limited length of the panel raises some econometric problems of identification in the latter cases which are resolved.

Bhaskar, V.

PD September 1988. **TI** Pricing and Employment in the U.K. an Open Economy Model. **AA** Nuffield College, Oxford. **SR** Oxford Applied Economics Discussion Paper: 51; Institute of Economics and Statistics, Saint Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 22. **PR** No Charge. **JE** 134, 431, 824, 023, 111. **KW** Prices. Employment. Open Economy Model. Oligopoly. Inflation.

AB In an open economy framework we condition upon the foreign price level in order to derive aggregate employment and price equations which differ from existing specifications and fit the United Kingdom data significantly better. The inclusion of the capital-labor force ratio in the employment equation reduces the equation standard error and alters the estimated coefficients substantially in comparison with models such as Layard and Nickell's (1986). Strategic oligopolistic interaction between domestic and foreign firms plays an important role in pricing, while profit-tax shifting and the absence of aggregate demand effects suggest an insensitivity to marginal cost calculations. Nominal inertia declines in the period of high cost inflation.

Bickford, Adam

TI The Effect of Public Housing on Black Segregation in U.S. Metropolitan Areas. **AU** Massey, Douglas; Bickford, Adam.

Black, Stanley W.

PD February 1988. **TI** FIML Estimation of the Risk Premium in a Portfolio Model of the D-Mark. **AU** Black, Stanley W.; Salemi, Michael K. **AA** University of North Carolina, Chapel Hill. **SR** University of North Carolina Working Paper Series: 88-1; Department of of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 34. **PR** No Charge. **JE** 441, 431. **KW** Portfolio. Foreign Assets. Exchange Rate. Risk Premium.

AB The purpose of this paper is to construct a test of the null hypothesis of a constant risk premium against a sharply constructed alternative in which the risk premium is allowed to shift with a change in regime. Our model is a portfolio model of the private market for foreign assets in which relative interest rates and relative prices are assumed to follow stochastic but exogenous autoregressive processes. The interest-responsiveness of the demand for foreign assets depends on the coefficient of risk aversion and a measure of foreign exchange risk. The net supply of foreign assets to the private sector depends on current account flows and exchange market intervention. With expectations formed rationally, we require saddle path solutions and we require that the measure of foreign exchange risk be equal to the one-step-ahead forecast error variance of the spot exchange rate implied by the model.

Blackburn, McKinley L.

PD January 1988. **TI** Income Inequality, Business Cycles, and Female Labor Supply. **AU** Blackburn, McKinley L.; Bloom, David E. **AA** Blackburn: University of South Carolina. Bloom: Columbia University. **SR** Columbia Department of Economics Working Paper: 377; Department of Economics, Columbia University, New York, NY 10027. **PG** 25. **PR** $5.00. **JE** 921, 824, 826. **KW** Income Distribution. Business Cycle. Labor Supply. Family Income.

AB This paper analyzes trends in family income inequality in the United States during the period 1967 to 1985. In contrast to related research showing little trend in earnings inequality measured across individuals, we find that the distribution of income measured across families has become increasingly unequal over time, although the magnitude of the change is rather modest. Although increased labor market activity among married women has depressed income inequality among married couples, it has widened the average income difference between married couples and other types of families, the net result being little effect on total income inequality. Nonetheless, our results suggest that the labor supply behavior of nonprincipal earners -- a declining fraction of whom are married women -is an important determinant of family income inequality. In addition, we find no evidence that the business cycle exerts an important influence on the level of inequality.

Blackorby, Charles

PD January 1988. **TI** The Case Against the Use of the Sum of Compensating Variations in Cost-Benefit Analysis. **AU** Blackorby, Charles; Donaldson, David. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 88-01; #997-1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PR** **JE** 024, 022. **KW** Welfare Theory. Social Welfare. Economic Efficiency.

AB At first blush, it seems reasonable to think that a positive sum of compensating variations must enable the gainers to compensate the losers and have something left over for themselves. Such a change is called a Potential Pareto Improvement. When this principle is extended to allow for social indifference (the gainers are indifferent after compensating the losers) we call it the Potential Pareto Principle. Indeed the use of the sum of compensating variations as a cost-benefit test is often justified by appealing to this principle, and a positive sum of compensating variations is thought to characterize a Potential Pareto Improvement. In this paper, we review the known theoretical results that illumine the relationship between sums of Hicksian consumers' surpluses and the Potential Pareto Principle both analytically and geometrically. In the process, we believe that we make a very strong case against the compensating variation test.

PD April 1988. **TI** Will the Real Elasticity of Substitution Please Stand Up. (A Comparison of the Allen/Uzawa and Morishima Elasticities). **AU** Blackorby, Charles; Russell, R. Robert. **AA** Blackorby: University of British Columbia. Russell: University of California, Riverside. **SR** University of British Columbia Department of Economics Discussion Paper: 88-05; #997-1873 East Mall, Vancouver, BC V6T 1W5. **PG** 35. **PR** **JE** 213, 022. **KW** Elasticity. Input Substitution. Production Function. Technology. Factor Shares.

AB The objective of this paper is to provide a thoroughly convincing demonstration that the Morishima elasticity dominates the Allen elasticity as a purveyor of information about the technology (or preference ordering) and about the comparative statics of relative factor shares. The Morishima elasticity is the natural generalization of the original two-variable elasticity of substitution, and the Allen elasticity has few, if any, redeeming features.

PD May 1988. **TI** The Implications of Additive Community Preferences in a Multi-Consumer Economy. **AU** Blackorby, Charles; Schworm, William E. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 88-20; #997-1873 East Mall, Vancouver, BC V6T 1W5. **PG** 27. **PR** **JE** 022. **KW** Representative Agent Model. Economic Modeling. Additive Preferences. Consumer Theory.

AB The assumption that there is but a single consumer is an extreme simplification that is widely used in economic modeling. Tractability is the pragmatic justification for this assumption. The true interest is in multi-consumer economies and one hopes that for the purposes of the model the simplification from many to one consumer is not important. However, there must be at least an implicit claim that the implications of such models carry over to multi-consumer economies. In particular, one would want the key results or insights of the model to remain true if adequately reexpressed in a multi-consumer setting. In this paper, we investigate the consequences of imposing additivity on community preferences. In doing so, we are studying the ability of single consumer models to adequately represent multi-consumer economies. We show that there are important implications of additive community preferences which are not implied by the additivity of a single consumer's preferences. Therefore, single consumer models can not represent important aspects of multi-consumer economies.

PD July 1988. **TI** On the Observational Equivalence of Models with Infinitely Lived Agents and Models with Overlapping Generations. **AU** Blackorby, Charles; Russell, R. Robert. **AA** Blackorby: University of British Columbia. Russell: University of California, Riverside. **SR** University of British Columbia Department of Economics Discussion Paper: 88-18; #997-1873 East Mall, Vancouver, BC V6T 1W5. **PG** 51. **PR** **JE** 023, 022, 133. **KW** Representative Agent. Consumer Theory. Intertemporal Models. Business Cycle.
AB The assumption that there is but one representative consumer whose preferences determine the demands in an economy is ubiquitous. In the study of intertemporal economic models, the existence of a single infinitely lived agent is equally common. The rationale for and the robustness of this assumption are not frequent subjects of analysis. This issue is not one of abstract theoretical interest only. Rather, it is of some consequence for a variety of policy questions currently of interest. One of the most interesting issues in equilibrium business cycle theory is the argument that cycles are merely the outcome of rational agents engaged in the intertemporal substitution of leisure (or labor) time. Typically, however, there is but one infinitely lived agent in these models. For this claim to be plausible, it ought to extend to an overlapping-generations model of the same sort. These models have three compelling advantages over a model with an infinitely lived agent: (1) the fiction that people live forever is discarded, (2) at any point in time there are at least two people -- i.e., at least two generations with at least one person in each generation, and (3) the issue of intertemporal transfer of wealth is explicitly confronted.

Blanchard, Olivier Jean

PD July 1988. **TI** Unemployment: Getting the Questions Right -- and some of the Answers. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 502; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 39. **PR** No Charge. **JE** 824, 522, 131, 133, 822. **KW** Labor Supply. Capital. Unemployment. Europe.
AB This paper analyzes the issue of persistent high unemployment. It focuses on two channels of persistence. The first is capital accumulation. The paper analyzes investment decisions under imperfect competition, focusing in particular on the effects of demand and cost shocks on investment, capital composition and bankruptcies, and their effect on employment and unemployment. The second is labor supply. The paper analyzes the various channels through which the unemployed may become disenfranchized, leading to higher equilibrium unemployment. In both cases, it briefly reviews and assesses the available empirical evidence. It ends by drawing potential policy implications.

PD September 1988. **TI** Unemployment: Getting the Questions Right - and Some of the Answers. **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2698; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 522, 131, 133, 821. **KW** Unemployment. Investment. Imperfect Competition. Labor Supply.
AB This paper analyzes the issue of persistent high unemployment. It focuses on two channels of persistence. The first is capital accumulation. The paper analyzes investment decisions under imperfect competition, focusing in particular on the effects of demand and cost shocks on investment, capital composition and bankruptcies, and their effect on employment and unemployment. The second is labor supply. The paper analyzes the various channels through which the unemployed may become disenfranchised, leading to higher equilibrium unemployment. In both cases, it briefly reviews and assesses the available empirical evidence. It ends by drawing several implications.

PD October 1988. **TI** The Dynamic Effects of Aggregate Demand and Supply Disturbances. **AU** Blanchard, Olivier Jean; Quah, Danny. **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2737; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 133. **KW** Fluctuations. Unemployment. Output. Gross National Product.
AB We interpret fluctuations in Gross National Product and unemployment as due to two types of disturbances: disturbances that have a permanent effect on output and disturbances that do not. We interpret the first as supply disturbances, the second as demand disturbances. We find that demand disturbances have a hump shaped effect on both output and unemployment; the effect peaks after a year and vanishes after two to five years. Up to a scale factor, the dynamic effect on unemployment of demand disturbances is a mirror image of that on output. The effect of supply disturbances on output increases steadily over time, to reach a peak after two years and a plateau after five years. "Favorable" supply disturbances may initially increase unemployment. This is followed by a decline in unemployment, with a slow return over time to its original value.

Blank, Rebecca

PD November 1988. **TI** Recent Trends in Insured and Uninsured Unemployment: Is There an Explanation. **AU** Blank, Rebecca; Card, David. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 243; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 63. **PR** $2.00. **JE** 822, 824. **KW** Unemployment Insurance. Unemployment. Unemployment Benefits.
AB This paper presents new evidence on the reasons for the recent decline in the fraction of unemployed workers who receive unemployment insurance benefits. Using samples of unemployed workers from the March Current Population Survey, we estimate the fraction of unemployed workers who are potentially eligible for benefits in each year and compare this to the fraction who actually receive unemployment compensation. Perhaps surprisingly, we find that the decline in the fraction of insured unemployment is due to a decline in the takeup rate for benefits. Our estimates indicate that takeup rates declined abruptly between 1980 and 1982, leading to a 6 percentage point decline in the fraction of the unemployed who receive benefits. We go on to analyze the determinants of the

takeup rate for unemployment benefits, using both aggregated state-level data and micro-data from the Panel Study of Income Dynamics. Changes in the regional distribution of unemployment account for roughly one-half of the decline in average takeup rates. The remainder of the change is largely unexplained.

Blau, David M.

PD July 1988. **TI** Search for Nonwage Job Characteristics: A Test of the Reservation Wage Hypothesis. **AA** University of North Carolina at Chapel Hill. **SR** University of North Carolina Working Paper Series: 88-6; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 35. **PR** No Charge. **JE** 824, 821. **KW** Job Search. Reservation Wage. Monte Carlo Simulation. Employment. Unemployment.

AB Previous structural models of job search behavior have all been based upon the reservation wage property. This paper estimates a more general search model which nests models with the reservation wage property. The estimates lead to rejection of the hypothesis that job search behavior is characterized by the reservation wage property. The specific version of the model estimated in the paper includes hours of work in the utility function but the estimation method can handle other nonwage job characteristics if data on such characteristics are available. A Monte Carlo experiment based upon the estimated parameters indicates that a fairly high proportion of job offers would be mistakenly predicted to be accepted or rejected under the restrictions implied by the reservation wage property.

Bloch, Ernest

PD May 1988. **TI** How the Investment Banking Industry Keeps Changing Again. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 465; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 15. **PR** No Charge. **JE** 312, 511, 512. **KW** Banking. Innovation. Commercial Banks.

AB In the early part of the decade of the 1980s, the surge of interest rates to record levels and to record volatility induced the SEC to permit bond issuers to move to shelf registration. To underwrite these instant bond issues, and to support the increasingly large size of institutional secondary trading, investment banking firms tripled capital, in part by shifting from partnerships to the corporate form of organization. The process of introduction of new security types grew organically out of these (more conventional) market making activities of full service investment banking firms. All these firms grew in capital, in personnel, and in multiplicity of outputs, thereby placing a strain on the management of each firm. This article explores the interactive process of multiplying innovations and the related difficulties of managerial control. The development of specialized boutiques out of full service firms is discussed as an organic outgrowth of internal control problems, and of the unpredictability of competitive reactions by other industry members. The article concludes that the process can best be understood as a "finance ecology".

Bloom, David E.

PD January 1988. **TI** The Economic Impact of AIDS in the United States. **AU** Bloom, David; Carliner, Geoffrey. **AA** Bloom: Columbia University. Carliner: NBER. **SR** Columbia International Economics Research Center Discussion Paper: 387; Department of Economics, Columbia University, New York, NY 10027. **PG** 23. **PR** $5.00. **JE** 913. **KW** Medicine. AIDS. Medical Costs. Medical Insurance.

AB This analysis of several previous studies of the cost of AIDS suggests that the lifetime cost of medical care per patient will not exceed $80,000, an amount similar to the cost of treating other serious illnesses. If current projections of future AIDS cases are accurate, the cumulative lifetime costs of 270,000 cases diagnosed between 1981 and the end of 1991 will not exceed $22 billion. This amount is small compared with total United States medical spending. The economic impact of AIDS on San Francisco, New York, and some other cities, however, is likely to be more serious. The AIDS epidemic will also highlight the financial problems of Americans who face large medical bills without adequate insurance.

TI Income Inequality, Business Cycles, and Female Labor Supply. **AU** Blackburn, McKinley L.; Bloom, David E.

Blundell, Richard

PD January 1988. **TI** Consumer Behaviour: Theory and Empirical Evidence - A Survey. **AA** University College London. **SR** University College London Discussion Paper: 88-05; Department of Economics, University College London, Gower Street, LONDON, WC1E 6BT. **PG** 92. **PR** 1.50 pound sterling. **JE** 022, 229, 211. **KW** Consumer Behavior. Aggregation. Microdata.

AB This survey is designed to emphasize the relationship between empirical and theoretical considerations in the analysis of consumer behavior. Although it focuses primarily on analysis at the individual or micro level it tries, where possible, to draw implications for the estimation of aggregate relationships. The importance of micro level analysis stems from the rapid expansion in available panel and survey data sets. This development has generated its own theoretical and empirical issues many of which are raised in this survey.

Bollerslev, Tim

PD November 1988. **TI** Quasi-Maximum Likelihood Estimation of Dynamic Models with Time/Varying Covariances. **AU** Bollerslev, Tim; Wooldridge, Jeffrey M. **AA** Bollerslev: Northwestern University. Wooldridge: Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 505; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 50. **PR** No Charge. **JE** 211. **KW** Quasi-Maximum Likelihood. Dynamic Models. Robustness. Asymptotic Theory. Monte Carlo.

AB This paper studies the properties of the quasi-maximum likelihood estimator (QMLE) and related test statistics in dynamic models that jointly parameterize conditional means and conditional covariances when a normal log likelihood is maximized but the assumption of normality is violated. Because the score of the normal log likelihood has the martingale difference property under fairly general regularity conditions provided only that the first two conditional moments are correctly specified, the QMLE is generally consistent and has a limiting normal distribution. Easily computable formulas for asymptotic standard errors that are valid under nonnormality are also available. Further, we show how robust LM tests for the adequacy of the jointly parameterized mean and variance can be computed from simple auxiliary regressions.

Bolten, Patrick

TI An 'Incomplete Contract' Approach to Bankruptcy and the Financial Structure of the Firm. **AU** Aghion, Philippe; Bolten, Patrick.

Bonanno, Giacomo

PD November 1988. **TI** A Set Theoretic Approach to Non-Cooperative Games: Part I. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 330; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 37. **PR** No Charge. **JE** 026. **KW** Noncooperative Games. Sequential Structure. Logic. Perfect Information. Game Representation.

AB In this paper we raise two questions: (1) given two noncooperative games, G and T, how can we tell if they are alternative representations of the same object, that is, if they are in fact the same game. (Note that we want the answer not to depend on a particular solution concept); (2) Given a noncooperative game, is there a natural and rigorous way of translating it into a set of sentences in propositional logic, which can be considered as a full description of the game. In order to answer these questions we put forward a new definition of noncooperative game based on the idea that taking an action essentially means narrowing down the set of possible outcomes. Hence an action can be considered as a subset of the set of all possible outcomes. We show that the usual notions of perfect versus imperfect information, simultaneous versus sequential game, etc. can be recast in this framework. This paper deals mainly with games of perfect information. The analysis of imperfect information games is the object of part II.

Bonnisseau, J. M.

PD March 1988. **TI** Equilibrium with Quantity Targets. **AA** Universite Catholique de Louvain and Universite Paris I Pantheon-Sorbonne. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8816; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 18. **PR** No Charge. **JE** 022, 213. **KW** Returns to Scale. Microeconomic Theory. Equilibrium. Existence.

AB The purpose of this paper is to study a new concept of equilibrium, called equilibrium with quantity targets, in an economy with increasing returns to scale. This concept is introduced by Dierker and Neuefeind (1988). We extend this definition to the case of a general production model and we provide an existence theorem. Furthermore we state an existence result in the particular model considered by Dierker and Neuefeind which improves their result.

Booth, Karen

TI Migration, Gender and Social Change: A Review and Reformulation. **AU** Tienda, Marta; Booth, Karen.

Borensztein, Eduardo

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

Bos, Dieter

PD June 1988. **TI** Arguments on Privatization. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-164; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 25. **PR** No Charge. **JE** 612, 614. **KW** Privatization. Public Firms. Efficiency. Monopolistic Profits.

AB Large-scale privatization of public firms changes the distribution of power within an economy. Therefore, the primary reasons for privatization are ideological in nature: political power of entrenched bureaucracies, and of labor unions is reduced; more widespread ownership of shares, in particular of people with modest means, is strived for. Economic reasoning has to emphasize the allocational trade-off between higher efficiency, lower quality, and monopolistic or oligopolistic profits of the privatized firms. Adherents to traditional public enterprise economics will deplore the loss of the pursuit of distributional and stabilizational objectives, which results from privatization.

PD July 1988. **TI** Volksaktien. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-178; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 18. **PR** No Charge. **JE** 614.
AB Paper in German.

Boughton, James M.

PD May 1988. **TI** Policy Assignment Strategies with Somewhat Flexible Exchange Rates. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/40; International Monetary Fund, Washington, D.C. 20431. **PG** 33. **PR** No Charge. **JE** 431, 311, 321. **KW** Exchange Rate. Monetary Policy. Fiscal Policy. Current Account.

AB The choice of assigning monetary or fiscal policy to external balance is complicated when the authorities are concerned with both the current account balance and the exchange rate. A strategy of using monetary policy to control the current account via the exchange rate may fail, because the relative-price effect is likely to be offset by the effect of monetary policy on aggregate demand. An alternative strategy, in which fiscal policy is assigned to limit shifts in the current account while the exchange rate is not directly targeted, may have a better chance of having favorable effects on both variables.

Bound, John

TI The Extent of Measurement Error in Longitudinal Earnings Data: Do Two Wrongs Make a Right. **AU** Krueger, Alan B.; Bound, John.

Bovenberg, Lans

TI Economic Interdependence and the International Implications of Supply-Side Policies. **AU** Tanzi, Vito; Bovenberg, Lans.

Bover, Olympia

PD July 1988. **TI** Housing, Wages and UK Labour Markets. **AU** Bover, Olympia; Muellbauer, John; Murphy, Anthony. **AA** Nuffield College, Oxford. **SR** Centre for

Economic Policy Research Discussion Paper: 268; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 68. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 932, 824, 821. **KW** Wage Determination. Labor Mobility. Housing Tenure. House Prices. Labor Markets. Unemployment.

AB There is a considerable literature concerning the effects on labor mobility of imperfections in United Kingdom markets for rented housing (such as the 1987 book by Minford et al. and several articles by Hughes and McCormick). This paper examines the interaction of labor and housing markets, including the owner-occupied sector, in a more general framework. Our analysis has implications for the behavior of aggregate wages in the UK and for the relationship between aggregate unemployment and unfilled vacancies, which in part reflects mismatch between jobs and people. Our empirical analysis reveals that lagged values of regional differentials in the ratio of house prices to earnings play an important role in both the wage and the unemployment/vacancies equations. In addition, lagged values of average house prices have a significant 'cost-of-living' effect on wages. Our evidence is consistent with cross-sectional evidence on the effects of tenure structure on mobility; we find some effects from the 1965 and 1974 Rent Acts.

Bowman, A. W.

TI On the Use of Nonparametric Regression for Model Checking. **AU** Azzalini, A.; Bowman, A. W.; Hardle, W.

Bowman, David

TI A State Space Model of the Economic Fundamentals. **AU** Craine, Roger; Bowman, David.

Brandenburger, Adam

PD September 1988. **TI** Correlated Equilibrium with Generalized Information Structures. **AU** Brandenburger, Adam; Dekel, Eddie; Geanakoplos, John. **AA** Brandenburger: Harvard Business School. Dekel: University of California at Berkeley. Geanakoplos: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 884; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven CT 06520. **PG** 28. **PR** $2.00. **JE** 213, 026. **KW** State Space Models. Common Knowledge. Information Set. Game Theory.

AB Following the work of Harsanyi, Aumann, and others it has become commonplace in economics to model a situation of differently informed players in terms of partitions of a state space. Recently, Shin '1987(, Samet '1987(, and Brown and Geanakoplos '1988(have investigated the implications of generalizing partitions for various phenomena relating to common knowledge. Geanakoplos '1988(has introduced a definition of state equilibrium for games with generalized information structures which is a natural extension of the conventional definition. Our purpose in this paper is to investigate the relationship between this equilibrium concept and the traditional notion of equilibrium for games with partitions.

Brenner, Menachem

PD May 1988. **TI** Options on Stock Indices and Options on Futures. **AU** Brenner, Menachem; Courtadon, Georges; Subrahmanyam, Marti. **AA** Brenner: The Hebrew University. Courtadon: Shearson, Lehman, Hutton Incorporated. Subrahmanyam: New York University. **SR** New York University Salomon Brothers Center Working Paper: 467; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 17. **PR** No Charge. **JE** 313, 311. **KW** Options. Stock Market. Interest Rates.

AB This paper analyzes and compares the valuation of stock index options and stock index futures options. The early exercise privilege plays a central role in explaining the differences between the values of the two options. It is shown that the difference in value depends on the difference between the dividend yield and interest rates. Using numerical procedures, we compute the options values and find that the difference in values is larger for longer maturities and in-the-money options.

PD August 1988. **TI** Stock Index - Futures Arbitrage in the Japanese Markets. **AU** Brenner, Menachem; Subrahmanyam, Marti G.; Uno, Jun. **AA** Brenner: Hebrew University and New York University. Subrahmanyam: New York University. Uno: Nihon Keizai Shimbun Inc. **SR** New York University Salomon Brothers Center Working Paper: 488; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 41. **PR** No Charge. **JE** 313, 311. **KW** Futures. Stock Market. Trading. Innovations. Contracts.

AB The purpose of the present study is to examine the behavior of the prices of the two existing futures contracts on Japanese stock price indices, the NSA and the OSF50. We analyze the evidence on the prices of the futures contracts, both in relation to the respective underlying indices and in relation to each other, in the early months of trading, to see if there were significant deviations from "fair" pricing. An important feature of the analysis is the incorporation of the effects of transactions costs and the settlement procedures of the two contracts.

Bronars, Stephen

PD March 1988. **TI** Nonparametric Tests of the Efficiency of Union Employment Contracts. **AA** University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 279; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 41. **PR** No Charge. **JE** 832, 831, 824, 833. **KW** Collective Bargaining. Labor Unions. Labor Contracts.

AB The labor union is one of the institutions most often studied by labor economists, yet union models have not reached a consensus about the objective function of unions or the nature of union/firm bargaining. In particular, there is considerable disagreement over models of employment determination in unionized firms. Models of union employment determination range from a wage-setting union that allows the firm to determine employment, to a strongly efficient contracting model, in which employment is set at the efficient (profit maximizing) level and wages are used to divide the profits between workers and shareholders of the firm. This paper presents simple nonparametric tests that can be used to distinguish between competing models of union employment determination and applies this test to the market for typographers in the newspaper industry.

Brown, Bryan W.

PD February 1988. **TI** Measures of Deterministic Prediction Bias in Nonlinear Models. **AU** Brown, Bryan W.; Mariano, Roberto S. **AA** Brown: Rice University. Mariano: University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-1; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 23. **PR** 1.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211, 132. **KW** Forecasting. Simultaneous Equations. Stochastic Simulations.

AB In this paper, techniques are developed for assessing the magnitude and importance of the prediction bias in deterministic predictions from an estimated nonlinear model. Since this bias results from the nonlinearity of the system, indirect measures are proposed which indicate the extent of nonlinearity with respect to the disturbances in the system. These measures are based on the proportion of the generalized variance of the endogenous variables explained by a linear relationship with the disturbances. Direct estimates of the deterministic prediction bias are obtained as the difference between the deterministic and the stochastic predictors. As a measure of the practical importance of the deterministic prediction bias, the estimates of the bias are compared with the variance of the endogenous variables in a quadratic form. Formal tests of the statistical significance of the estimated deterministic prediction bias are developed for specific and general values of the exogenous variables.

PD February 1988. **TI** Reduced Variance Prediction in Nonlinear Models. **AU** Brown, Bryan W.; Mariano, Roberto S. **AA** Brown: Rice University. Mariano: University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-2; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 20. **PR** 3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211, 132. **KW** Stochastic Simulations. Monte Carlo. Forecasting. Asymptotic Theory.

AB In this paper, the impact of variance-reduction techniques on the asymptotic behavior of stochastic predictors in a nonlinear model is examined analytically. The residual-based and Monte Carlo stochastic predictors, which have been previously studied, are modified through the use of antithetic variates and control variates. A comparative analysis of these various procedures is carried out in terms of a loss function which formalizes the trade-off between statistical prediction efficiency and computer costs. The use of antithetic variates is found to result in asymptotic prediction efficiency gains for the Monte Carlo procedure. However, it may or may not be preferred, in terms of our specific loss function, to the standard Monte Carlo because of the additional calculations required.

TI Stochastic Simulations, Prediction, and Validation of Nonlinear Models. **AU** Mariano, Roberto S.; Brown, Bryan W.

TI Prediction in Dynamic Nonlinear Models: Large-Sample Behavior. **AU** Mariano, Roberto S.; Brown, Bryan W.

TI Predictors in Dynamic Nonlinear Models: Finite-Sample Behavior. **AU** Mariano, Roberto S.; Brown, Bryan W.

Bruno, Michael

PD September 1988. **TI** Econometrics and the Design of Economic Reform. **AA** Bank of Israel. **SR** National Bureau of Economic Research Working Paper: 2718; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 134, 133, 113, 121. **KW** Economic Reform. Stabilization Theory. Israel. Inflation.

AB The concept of Economic Reform is described as a planned shift from one, Pareto inefficient, but quasi-stable, equilibrium (or 'trap') to a new Pareto superior equilibrium which is, or is designed to become, stable too. The concept is applied to recent 'shock' stabilization programs, with special reference to Israel, where the economy was credibly shifted from a 3-digit inflationary process with considerable inertia, to relative price stability with higher real growth, at only small adjustment costs, by means of a 'heterodox' plan. This two-pronged stabilization program consisted of a substantial correction of budget and external account 'fundamentals' together with a synchronized, wage-price-exchange rate freeze. The idea is theoretically rationalized within a simple dual equilibrium inflation model, for which some econometric estimates are also given.

Buchanan, J. L.

TI The Demand for Episodes of Medical Treatment in the Health Insurance Experiment. **AU** Keeler, E. B.; Buchanan, J. L.; Rolph, J. E.; Hanley, J. M.; Reboussin, D. M.

Bui, Nhuong

PD September 1987. **TI** Excessive Exchange Rate Volatility. **AU** Bui, Nhuong; Pippenger, John. **AA** University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 276; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 27. **PR** No Charge. **JE** 431. **KW** Exchange Rates. Fluctuations.

AB After the adoption of flexible exchange rates by the United States in the early 1970s, exchange rate fluctuations increased substantially. Indeed, fluctuations have been so large that they are widely regarded as 'excessive'. Richard Levich (1981) and Jeffrey Bergstrand (1983) have challenged the idea of excessive fluctuations in exchange rates. They show that the variability of a wide range of prices, including some commodity prices, exceeds the variability of exchange rates. Our research extends this work in three ways. First, it uses weekly data rather than the monthly observations used by Bergstrand and it covers a longer interval than Levich. Second, it uses spectral analysis to compare the short-run variability in exchange rates and commodity prices. Third, it uses the variability in exchange rates implied by the law of one price as a yardstick by which to measure the variability in actual exchange rates.

Buiter, Willem

PD August 1988. **TI** Some Thoughts on the Role of Fiscal Policy in Stabilization and Structural Adjustment in Developing Countries. **AA** Yale University. **SR** Centre for Economic Policy Research Discussion Paper: 260; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 63. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 311, 321, 431, 133, 121.

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

Burton, John F.

TI The Employers' Costs of Workers' Compensation Insurance: Magnitudes and Determinants. **AU** Krueger, Alan B.; Burton, John F.

Caballero, Ricardo

PD August 1988. **TI** The Behavior of Expenditure on Durable Goods: Disentangling Its Disturbance. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 402; Department of Economics, Columbia University, New York, NY 10027. **PG** 51. **PR** $5.00. **JE** 023. **KW** Consumption. Durable Goods. Income Effect. Permanent Income.
AB The homogeneous-representative agent model is the most widely used model in macroeconomic studies of consumption. This paper exploits a very simple property that stems from the microfoundations of this model: the effect of almost every shock can be decomposed into a wealth (or income) and a substitution (slope) effect. This decomposition gives substantial flexibility for studying the behavior of expenditure on durable goods under a broad set of alternatives and provides a natural metric to assess the relative importance of the results found in the literature rejecting the life cycle/permanent income hypothesis. The main conclusions are: (i) whatever is causing the rejections is almost as important as the component explained by the life cycle/permanent income hypothesis and, (ii) the rejection seems to be very robust.

PD August 1988. **TI** Consumption Expenditures: A Case for Slow Adjustment. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 400; Department of Economics, Columbia University, New York, NY 10027. **PG** 49. **PR** $5.00. **JE** 023. **KW** Consumption. Permanent Income. Rational Expectations. Durables. Life Cycle Model.
AB When the life cycle/permanent income model is put together with the rational expectations hypothesis, the stochastic behavior of consumption is subject to strong restrictions. So strong, in fact, that they are often rejected, specially in the case of durable goods. This paper shows that once a reasonable amount of slowness in the response of some consumers to news about the economic environment is admitted, the data become fully consistent with the implications of the life cycle/permanent income model. The adjustment seems to take approximately three years, with expenditure on durables adjusting more slowly than expenditure on non-durables and services.

PD August 1988. **TI** Consumption Puzzles and Precautionary Savings. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 399; Department of Economics, Columbia University, New York, NY 10027. **PG** 37. **PR** $5.00. **JE** 023. **KW** Consumption. Precautionary Savings. Savings. Labor Income. Permanent Income.
AB When marginal utility is convex, agents accumulate savings as a precautionary measure against labor income eventualities. This paper shows that the implications for the empirical consumption literature of this type of behavior, can be dramatic. The first part of the paper demonstrates that the excess of consumption growth puzzle (Deaton 1986) can be perfectly rationalized by precautionary savings. It also sheds some light on a possible source of negative estimates for the intertemporal substitution parameter. The second part of the paper shows that the marriage of precautionary savings and conditional heteroskedasticity of labor income, provides sensible explanations for the excess smoothness (Deaton 1986 and, Campbell and Deaton 1987) and the excess sensitivity (Flavin 1987) of consumption to income changes. The fact that all these consumption puzzles can be explained by a single argument, is certainly encouraging for the precautionary savings hypothesis.

PD August 1988. **TI** A Non Life Cycle Model of Wealth Accumulation. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 401; Department of Economics, Columbia University, New York, NY 10027. **PG** 38. **PR** $5.00. **JE** 023. **KW** Labor Income. Savings. Wealth. Bequests.
AB This paper addresses several issues related to individual and aggregate savings behavior in the presence of non-insurable labor income and length of life uncertainty. Among other things, it is shown that: (i) precautionary motives can generate steady state levels of wealth far beyond those of the United States economy, (ii) the coefficient of risk aversion and the timing of bequests play a crucial role, not only on the level of wealth and importance of intergenerational transfers, but also on the response of savings to changes in the probability of dying early, and (iii) in most of the cases labor income stabilization policies benefit not only current but also future generations, even when individuals are completely selfish.

Campbell, John Y.

PD August 1988. **TI** Smart Money, Noise Trading and Stock Price Behavior. **AU** Campbell, John Y.; Kyle, Albert S. **AA** Campbell: Princeton University. Kyle: University of Berkeley. **SR** Princeton Financial Research Center Memorandum: 95; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 88. **PR** $3.00. **JE** 313. **KW** Stock Prices. Kalman Filter. Investment. Dividends. Stock Market. Volatility.
AB This paper derives and estimates an equilibrium model of stock price behavior in which exogenous "noise traders" interact with risk-averse "smart money" investors. The model assumes that changes in exponentially detrended dividends and prices are normally distributed, and that smart money investors have constant absolute risk aversion. In equilibrium, the stock price is the present value of expected dividends, discounted at the riskless interest rate, less a constant risk premium, plus a term which is due to noise trading. The model expresses both stock prices and dividends as sums of unobserved components in continuous time. The model is able to explain the volatility

and predictability of United States stock returns in the period 1871-1986 in either of two ways. Either the discount rate is 4 per cent or below, and the constant risk premium is large; or the discount rate is 5 per cent or above, and noise trading, correlated with fundamentals, increases the volatility of stock prices. The data are not well able to distinguish between these explanations.

Card, David

TI Recent Trends in Insured and Uninsured Unemployment: Is There an Explanation. **AU** Blank, Rebecca; Card, David.

Carliner, Geoffrey

TI The Economic Impact of AIDS in the United States. **AU** Bloom, David; Carliner, Geoffrey.

Carraro, Carlo

PD August 1988. **TI** Can International Policy Coordination Really be Counterproductive. **AU** Carraro, Carlo; Giavazzi, Francesco. **AA** Carraro: University of Venice. Giavazzi: University of Bologna. **SR** Centre for Economic Policy Research Discussion Paper: 258; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 23. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 431, 432, 311, 422. **KW** International Cooperation. Monetary Policy. Institutions. Sequential Games.

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

Carroll, R. J.

PD April 1988. **TI** Second Order Effects in Semiparametric Weighted Least Squares Regression. **AU** Carroll, R. J.; Hardle, W. **AA** Carroll: Texas. Hardle: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-170; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 10. **PR** No Charge. **JE** 211. **KW** Linear Regression. Generalized Least Squares. Kernel Regression. Bandwidth Selection.

AB We consider a heteroskedastic linear regression model with normally distributed errors in which the variances depend on an exogenous variable. It is well known that, under mild regularity conditions, the weighted least squares estimate with consistently estimated weights has the same limit distribution as if exogenous variable were known. The covariance of this estimate can be expanded to terms of order 1/n. If the variance function is unknown but smooth, the problem is adaptable, i.e., one can estimate the variance function nonparametrically in such a way that the resulting generalized least squares estimate has the same first order normal limit distribution as if the variance function were completely specified. We compute an expansion for the covariance in this semiparametric context, and find that the rate of convergence is slower than for its parametric counterpart. More importantly, we find that there is an effect due to how well one estimates the variance function. For kernel regression, we find that the optimal bandwidth is of the usual order, but that the constant depends on the variance function as well as the particular linear combination being estimated.

Casella, Alessandra

PD September 1988. **TI** Management of a Common Currency. **AU** Casella, Alessandra; Feinstein, Jonathan. **AA** Casella: University of California, Berkeley. Feinstein: Stanford University. **SR** University of California at Berkeley Working Paper in Economics: 8891; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley 94720. **PG** 30. **PR** $3.50. **JE** 411, 431, 432. **KW** Currency. International Coordination. Public Good. Welfare Theory.

AB See additional entry under this author and title.

PD October 1988. **TI** Management of a Common Currency. **AU** Casella, Alessandra; Feinstein, Jonathan. **AA** Casella: University of California, Berkeley. Feinstein: Stanford University. **SR** National Bureau of Economic Research Working Paper: 2740; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 021, 024, 411. **KW** General Equilibrium. Public Good. Exchange Rates. Two Country Model. Common Currency.

AB This paper presents a simple general equilibrium model of two countries using a common currency. The goal is to study how the monetary arrangement influences the optimum financing of a public good. If the two countries are allowed to print the common currency autonomously, they will finance their fiscal spending with money, oversupplying the public good and crowding out the private sector. The possibility to export part of the inflation creates a distortion in incentives such that the resulting equilibrium is strictly welfare inferior to the one prevailing under flexible exchange rates. If the management of the common currency is deferred to an international central bank, each country will try to use domestic policy variables (taxes) to manipulate in its favor the actions of the bank. With no independent domestic taxes, the bank can improve welfare. However, its policies naturally support the larger country, and to induce the smaller one to participate requires giving it a disproportionately large, politically unrealistic, representation in the bank's objective function.

Cass, D.

TI Lecture Notes in Incomplete Markets. **AU** Duffie, D.; Shafer, W.; Cass, D.; Magill, M.; Quinzii, M.; Geanakoplos, J.

Cave, J. K.

PD February 1988. **TI** The Interdictor's Lot: A Dynamic Model of the Market for Drug Smuggling Services. **AU** Cave, J. K.; Reuter, P. H. **AA** The Rand Corporation. **SR** Rand Note: N-2632-USDP; The Rand Corporation, 1700 Main Street, PO Box 2138, Santa Monica, CA 90406-2138. **PG** 61. **PR** No Charge. **JE** 916. **KW** Dynamic Models. Drugs. Law Enforcement. Smugglers.

AB This note presents a stylized dynamic model of the market for drug smugglers' services. The model is based on the observation that experienced smugglers may benefit from learning by doing, although the information (and the resulting cost advantage) may be subject to obsolescence. The authors analyze the effects of several variables, including different law enforcement strategies on smugglers of varying degrees of experience, the degree of competitiveness in the supply of smugglers' services, and the conditions governing entry of novice smugglers. The theoretical analysis is supplemented by a Lotus-based simulation model, which is included with the note, and illustrated by several numerical examples.

Chalfant, James A.

PD April 1988. **TI** The Mean and Variance of the Mean-Variance Decision Rule. **AU** Chalfant, James A.; Collender, Robert N.; Subramanian, Shankar. **AA** Chalfant: University of California at Berkeley. Collender: North Carolina State University. Subramanian: University of California, San Diego. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 466; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 45. **PR** $9.00. **JE** 026, 022. **KW** Risk. Land Allocation. Decision Theory. 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.

Chase, Lansdale P. Lindsay

TI Mother or Market. Effects of Maternal Employment on Cognitive Development of Four-Year-Old Children. **AU** Desai, Sonalde; Chase, Lansdale P. Lindsay; Michael, Robert T.

Chiarini, Bruno

PD 1988. **TI** A Note on the Optimization of Economic Policy. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8810; Department of Economics, University of Southampton, Southampton S09 5NH, ENGLAND. **PG** 15. **PR** No Charge. **JE** 113, 023, 213. **KW** Optimal Control Theory. Optimization Theory. Economic Policy.

AB Optimal control application to large-scale econometric models, does not well represent the policy maker economic problem. This latter is reduced to find optimal values for a small subset of control variables. Furthermore, it allows a large subset of "nongoal" variables to change as much as is required by the optimal solution. As a result the optimal policy will show unstable trajectories. Optimal control approach should be utilized just for its extreme solutions not available by any other approach, in other to have a benchmark with which other policies can be compared.

Choe, Yoonjae

PD November 1988. **TI** Anticipated Stopping of Hyperinlation: Can We Really Rule Out Speculative Bubbles. **AA** Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8806; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 47. **PR** No Charge. **JE** 134, 311, 133, 023. **KW** Rational Expectations. Indeterminacy. Hyperinflation. Money Supply.

AB This paper shows that policies of stopping hyperinflations as studied by Sargent (1982), Obstfeld and Rogoff (1983), and Minford and Peel (1983) may validate bubble paths in rational expectations models of forward-looking variables. When policymakers stop any explosion that occurs, the usual distinction between market fundamentals and bubbles disappears, as the future money supply becomes endogenously determined. Any explosive path can be a rational expectations path without an infinite explosion.

Chou, Chien fu

PD September 1988. **TI** The Power of Commitment. **AU** Chou, Chien fu; Geanakoplos, John. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 885; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven CT 06520. **PG** 44. **PR** $2.00. **JE** 026. **KW** Commitment. Credible Threat. Repeated Games. Game Theory.

AB History has seen many examples of the lone man -- like Christ, Luther, Gandhi, or Hitler -- who without initial wealth or position, succeeds in changing the behavior of an entire society, for good or for ill. Whence comes this power. No doubt such leaders have possessed extraordinary ability, and have formulated original ideas with great appeal which others could readily follow. But there is another striking similarity among these leaders; namely their single-minded devotion to their ideals, and their uncompromising attitude toward those who opposed them, no matter what the personal cost. There is hardly any need to document this facet of their personalities, so widely is it known. But we cannot help recalling Gandhi's threat to starve himself to death if the fighting between Hindus and Muslims did not stop. Indeed the whole-hearted commitment of these leaders to their ideals was often reflected in their followers' commitment to them. The purpose of this paper is to show how significant is the power to make commitments, perhaps in the name of some ideal.

Christiano, Lawrence

PD August 1988. **TI** Searching for a Break in Gap. **AA** Federal Reserve Bank of Minneapolis. **SR** National Bureau of Economic Research Working Paper: 2695; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 133. **KW** Income. GNP. Trends.

AB It has been suggested that existing estimates of the long-run impact of a surprise move in income may have a substantial upward bias due to the presence of a trend break in post war United States GNP data. This paper shows that the statistical evidence does not warrant abandoning the no trend null hypothesis. A key part of the argument is that conventionally computed significance levels overstate the likelihood of the trend break alternative hypothesis. This is because they do not take into account that, in practice, the break date is chosen based on pre-test examination of the data.

PD September 1988. **TI** Is Theory Really Ahead of Measurement. Current Real Business Cycle Theories and Aggregate Labor Market Fluctuations. **AU** Christiano,

https://doi.org/10.1017/S0951007900001376 Published online by Cambridge University Press

Lawrence; Eichenbaum, Martin. **AA** Christiano: Federal Reserve Bank of Minneapolis. Eichenbaum: Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2700; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 133, 023. **KW** Business Cycles. Technology Shocks. Labor Market. Government Spending.

AB In the 1930s, Dunlop and Tarshis observed that the correlation between hours and wages is close to zero. This classic observation has become a litmus test by which macroeconomic models are judged. Existing real business cycle models fail this test dramatically. Based on this result, we argue that technology shocks cannot be the sole impulse driving post-war United States business cycles. We modify prototypical real business cycle models by allowing government spending shocks to influence labor market dynamics in a way suggested by Aschauer (1985), Barro (1981, 1987) and Kormendi (1983). This modification can, in principle, bring the models into closer conformity with the data. While the empirical performance of the models is significantly improved, they still fail to account for the Dunlop-Tarshis observation. Accounting for that observation will require further advances in model development. Consequently, we conclude that theory is behind, not ahead of, business cycle measurement.

Christodoulakis, Nicos M.

PD October 1988. **TI** Macroeconomic Policy Design Using Large Econometric Rational Expectations Models: Methodology and Application. **AU** Christodoulakis, Nicos M.; Gaines, Jessica; Levine, Paul. **AA** Christodoulakis: Athens School of Economics and Business Science. Gaines, Levine: London Business School. **SR** Centre for Economic Policy Research Discussion Paper: 274; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 61. **PR** 1 pound ($2) individuals; 1.50 pounds ($3) companies, libraries, institutions. **JE** 133, 212, 311, 321, 023. **KW** Macroeconomic Policy. Econometric Models. Rational Expectations. Time Inconsistency. Credibility.

AB This paper proposes and applies to the London Business School (LBS) model a general methodology for the design of macroeconomic policy using large rational expectations models. Design proceeds through the following four stages: first, a small, linear representation of the original large, nonlinear model is obtained. Second, control techniques adapted to ration al expectations models are applied. These result in optimal, open-loop trajectories for both the instruments and the endogenous variables, plus a feedback rule which stabilizes the economy about its open-loop path. The optimal policy is only optimal ex ante. Ex post it ceases to be optimal and there exists an incentive to renege. This is the problem of time inconsistency. In the absence of a reputation for precommitment the optimal policy will lack credibility and the policy-maker must be constrained to a sub-optimal policy from which there is no incentive to renege. The paper examines the possibility that a concern to maintain reputation may be sufficient to sustain the optimal, but time-inconsistent, policy.

Coate, Douglas

PD September 1988. **TI** Carbon Monoxide in the Ambient Air and Blood Pressure: Evidence from Nhanes II and the Saroad System. **AU** Coate, Douglas; Grossman, Michael. **AA** Coate: Rutgers University. Grossman: City University of New York Graduate School. **SR** National Bureau of Economic Research Working Paper: 2711; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 913, 722. **KW** Air Pollution. Epidemiology. Carbon Monoxide. Heart Disease.

AB In this paper data from the National Health and Nutrition Examination Survey, 1976-1980, and from the United States Environmental Protection Agency's SAROAD system are used in an empirical analysis of the effects of carbon monoxide in the ambient air on blood pressure. There is evidence in these data of a positive effect of carbon monoxide exposure on diastolic and systolic blood pressure. This effect is stable and statistically important across a large number of alternative specifications, including those with additional criteria air pollutants. There is little evidence of relationships between the other criteria pollutants and blood pressure, which is consistent with epidemiological literature that identifies carbon monoxide as the primary threat to cardiovascular health among ambient air pollutants. The carbon monoxide effect on blood pressure implied by the regression results is small, but likely biased toward zero by measurement error.

Cochrane, John H.

PD October 1988. **TI** The Sensitivity of Tests of the Intertemporal Allocation of Consumption to Near-Rational Alternatives. **AA** University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2730; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 212, 921. **KW** Consumption. Intertemporal Models. Aggregation. Rationality.

AB This paper presents calculations of the utility cost to consumers of following alternative decision rules in the environments specified by tests of the intertemporal allocation of consumption on aggregate data. The alternatives include excess and inadequate sensitivity to income and interest rate changes and ignoring information. The calculations find that the costs of large deviations from the optimal decision rule -- consumption equal to current income, for example -- are on the order of 1U to $1 per quarter. They are interpreted to suggest that the theory does not make predictions that are robust to small inaccuracies of modelling, including small costs of transactions and information, and that those small costs can account for rejections of the theory as it is applied to aggregate United States data.

Cockerline, Jon

PD October 1988. **TI** Multicountry Modelling of Financial Markets. **AU** Cockerline, Jon; Helliwell, John F.; Lafrance, Robert. **AA** Cockerline: Department of Finance, Ottawa, Ontario. Helliwell: University of British Columbia. Lafrance: Bank of Canada. **SR** National Bureau of Economic Research Working Paper: 2736; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 432, 431, 441, 411. **KW** Financial Markets. Rational Expectations. Exchange Rate.

AB After a survey of alternative theoretical approaches to modelling financial markets, the domestic and international financial linkages of major multicountry models are examined and assessed. The properties of these models are compared by calculating the slopes of their LM and BP curves for the United States, Germany, and Japan. The BP curves (horizontal by assumption in several models) are almost always found to be flatter than the estimated LM curves. International differences in LM slopes are not generally greater than intermodel differences in the estimated slopes of LM curves for any given country. Models with rational or model-consistent expectations in their financial markets tend to show more appreciation of the United States dollar, in response to fiscal expansion, than do models with adaptive expectations, although in both types of model the induced nominal exchange rate changes play a modest role in the transmission linking domestic spending to the current account.

Cole, Harold

PD September 1988. **TI** Specialization, Transactions Technologies, and Money Growth. **AU** Cole, Harold; Stockman, Alan C. **AA** Cole: University of Pennsylvania. Stockman: University of Rochester. **SR** National Bureau of Economic Research Working Paper: 2724; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 311. **KW** Monetary Trade. Monetary Theory. Differentiated Product. General Equilibrium.

AB With some models of money and a representative-agent there is no reason for monetary trade because identical individuals can consume their own production. Lucas proposed a parable involving differentiated products in a cash-in-advance model to avoid this problem. This paper studies Lucas's suggestion by developing a differentiated product model with money, a cash-in-advance constraint for market purchases, and endogenous specialization. Individuals who are identical ex ante choose to differ ex post in equilibrium. Monetary exchange involves differentiated goods at a point in time, so a nonzero balance of trade is not a prerequisite for a monetary equilibrium. In contrast to results in some other models, we find that consumption of goods that are not purchased with money (analogous to leisure services or credit goods) can either rise or fall with a rise in the money growth rate. Finally, we allow for costly barter and examine individuals' choices of the method of payment.

Collender, Robert N.

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

Conway, Patrick J.

PD May 1988. **TI** Trade Agreements vs. Unilateral Tariff Reductions: Evidence from Modeling with a Continuum of Goods. **AU** Conway, Patrick J.; Appleyard, Dennis R.; Field, Jr Alfred J. **AA** University of North Carolina at Chapel Hill. **SR** University of North Carolina Working Paper Series: 88-5; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 47. **PR** No Charge. **JE** 411, 422, 431, 026, 022. **KW** Exchange Rate. Tariffs. Trading Agreements. Cooperative Games. Trade Model.

AB The relative merits of preferential trading agreements and unilateral tariff reduction are investigated, yielding the conclusion that preferential agreements are superior for plausible specifications of tastes and endowments. The attractiveness of agreements, however, depends crucially on general-equilibrium effects on intra-union and external terms of trade. Game-theoretic differences between the alternative policy strategies are emphasized: agreements are cooperative equilibria while unilateral action defines a non-cooperative Stackelberg equilibrium. The analytical framework is a three-country variant of the Dornbusch-Fischer-Samuelson classical trade model. Numerical simulations also illustrate that agreements may enhance government revenue and "learning-by-doing".

PD August 1988. **TI** The Economics of Debt Rescheduling. **AA** University of North Carolina. **SR** University of North Carolina Working Paper Series: 88-8; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 27. **PR** No Charge. **JE** 432, 433, 441, 442. **KW** International Finance. International Debt. Developing Countries. Debt Repayment.

AB Debt rescheduling is an ubiquitous feature of international financial markets meant to maintain the net present value of debt obligations during periods of repayment difficulties. This feature, either explicit or implicit in most relations with heavily indebted developing countries, can be a destabilizing one and conducive to recurrent default. An alternative formulation that avoids these pitfalls is one in which periodic shortfalls in ability to service debt are forgiven. This lowers net present value of debt obligations, but raises the expected return on the debt obligation to the creditor. It also can improve borrower productive efficiency.

PD August 1988. **TI** The Optimality of Contingent Contracts in International Finance. **AA** University of North Carolina at Chapel Hill. **SR** University of North Carolina Working Paper Series: 88-7; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 39. **PR** No Charge. **JE** 433, 432, 441, 022. **KW** Contingent Contracts. International Finance. Debt Rescheduling. Credit Market. Uncertainty.

AB The present stock of debt contracts in international finance introduces distortions into debtor decision-making that lead to sub-optimal production and consumption decisions and to a reduced desire by lenders to continue voluntary lending. I demonstrate in a theoretical model of risk-neutral borrowers and possibly risk-averse lenders that greater reliance on contingent contracts can reduce these distortions of debtor behavior and possibly increase the level of voluntary lending. The type of contingent contract is crucial to these conclusions; non-manipulable contracts are defined that unambiguously have these properties, while manipulable contracts may be preferred to the present debt cum rescheduling system.

Cooper, Russel J.

PD September 1988. **TI** Regular Alternatives to the Almost Ideal Demand System. **AU** Cooper, Russel J.; McLaren, Keith R. **AA** Cooper: Macquarie University. McLaren: Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 12/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 40. **PR** No Charge. **JE** 212, 214. **KW** Demand Systems. Duality. Aggregation. Regularity. Consumer Demand. Cost Functions.

AB While the Almost Ideal Demand System has received increasing attention in empirical studies of consumer demand, the fact that the underlying PIGLOG (and PIGL) cost function is not globally regular has often led to violation of concavity in the estimated Slutsky matrix. This violation typically occurs at many points within the actual sample. Although the estimating form of AIDS is attractive, it is also obvious that it can be at best a local approximation to a regular form since, beyond an arbitrarily restrictive regularity region, the implied AIDS shares must fall outside the (0, 1) interval. This paper suggests a modification to the PIGLOG class of preferences which preserves regularity in a much wider region of expenditure-price space. The Modified AIDS, termed MAIDS, may be shown to contain AIDS as a local linear approximation.

Copeland, Brian

PD October 1987. **TI** On Negotiated Quotas, Tariffs, and Transfers. **AU** Copeland, Brian; Tower, Edward; Webb, Michael. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-35; #997-1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PG** 12. **PR** **JE** 422, 411, 026. **KW** Cooperative Games. Protectionism. Quotas. Tariffs.

AB In this paper we extend the analysis of Mayer (1981) and Webb (1984) to further consider negotiated tariff and quota equilibria for protection games played between two large countries and between one large country and one small one. Using the Nash bargaining solution, we rank the outcome of various negotiated games played with the two instruments from the viewpoints of the two countries. Our major conclusion is that, contrary to earlier analyses of tariff and quota warfare, one cannot necessarily dismiss quotas as being inferior to tariffs from the standpoint of both countries.

Corden, W. Max

PD April 1988. **TI** Debt Relief and Adjustment Incentives: A Theoretical Exploration. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/36; International Monetary Fund, Washington D.C. 20431. **PG** 11. **PR** No Charge. **JE** 433, 443, 432. **KW** Debtor Nation. Debt Relief. Incentives.

AB The purpose of this paper is to analyze the argument that debt relief would increase the incentive of a debtor country to make an adjustment effort (to invest) and that for this reason creditors may benefit by granting relief. It is shown that there are actually opposing incentive effects of debt relief and that the argument could be valid in particular circumstances. A distinction is made between exogenous and endogenous relief, the latter compelled by low capacity to pay caused by low investment earlier.

Courtadon, Georges

TI Options on Stock Indices and Options on Futures. **AU** Brenner, Menachem; Courtadon, Georges; Subrahmanyam, Marti.

Craine, Roger

PD July 1988. **TI** A State Space Model of the Economic Fundamentals. **AU** Craine, Roger; Bowman, David. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8884; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 29. **PR** $3.50. **JE** 023, 131, 133, 212. **KW** Dynamic Programming. State Space. Nonstationary. Unit Root. Competitive Equilibrium. Resource Allocation.

AB This paper presents a state space model of the economic fundamentals. In theory the economic fundamentals -- tastes, technology, stochastic shocks, and initial wealth -- determine the allocation of real resources and the values of financial assets. We show that in a recursive competitive equilibrium the minimal dimensional dynamic programming state vector is a sufficient statistic for the economic fundamentals. The dynamic programming state vector drives the allocation of real resources and the values of financial assets. We test this representation using the state space time series techniques recently introduced by Aoki. Financial and real capital do not have the same state space representation.

PD October 1988. **TI** Raiders, Junk Bonds and Risk. **AU** Craine, Roger; Steigerwald, Douglas. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8893; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley 94720. **PG** 24. **PR** $3.50. **JE** 026, 521, 514, 611. **KW** Takeover. Asymmetric Information. Business Finance. Rational Expectations.

AB This paper examines the effect of financing on risk in a disciplinary takeover. The famous Modigliani-Miller theorem on the irrelevance of the firm's financial structure assumes agents possess full information about the activities of the firm. We assume only insiders have full knowledge of the activities of the firm. Asymmetric information creates the opportunity for a rational disciplinary takeover and makes the debt-to-equity ratio and the operating strategy endogenous and interdependent. The buyers of junk bonds financing a takeover precommit to a risk premium and then the raider chooses an operating strategy. The sequential decision pattern induces a game between the raider and the lenders with a second best rational expectations equilibrium. The raider has an incentive to precommit, but no feasible instrument. Instead he sends a credible signal to lenders by increasing the equity stake in the takeover.

Crane, K. W.

PD July 1987. **TI** Polish Economic Policy and Western Economic Leverage. **AA** The Rand Corporation. **SR** Rand Note: N-2585-OSD/FF; The Rand Corporation, 1700 Main Street, PO Box 2138, Santa Monica, CA 90406-2138. **PG** 27. **PR** No Charge. **JE** 432, 422, 113, 112. **KW** Economic Policy. Poland. Market System. Communist System.

AB This note considers ways in which Western policy can influence the Polish economic debate. Western leverage in Poland is limited, as that country lies in the overwhelming political, economic, and military shadow of the Soviet Union. Nonetheless, economic policy instruments have some potential for influencing economic and other policies in Poland. Two Western economic policy goals stand out: the eventual servicing of the Polish hard-currency debt and the implementation of a more efficient, market-based economic system within the country. The latter would make it easier for Poland to service its debt and could lead to increased trade and, possibly, a more open political system. Western economic leverage appears to lie in its willingness to ease Polish debt repayment and to lower barriers to Polish exports, accomplished perhaps by trading concessions for concessions. International institutions not representing national policy interests would be best situated to provide pressure in the desired direction.

TI Specialization and Cooperation Agreements Within the Motor Vehicle Industry of the Council for Mutual Economic Assistance. **AU** Skoller, D. L.; Crane, K. W.

PD February 1988. **TI** Specialization Agreements in the Council For Mutual Economic Assistance. **AU** Crane, K. W.; Skoller, D. L. **AA** The Rand Corporation. **SR** Rand Report: R-3518; The Rand Corporation, 1700 Main Street P.O. Box 2138, Santa Monica, CA 90406-2138. **PG** 74. **PR** No Charge. **JE** 423, 422, 421, 616. **KW** Economic Integration. International Trade. Comparative Advantage. Economies of Scale. Commercial Policy.
AB This report assesses the effectiveness of specialization agreements for increasing economic integration and achieving other policy goals of the Council for Mutual Economic Assistance (CEMA). Under these agreements, one of the participating countries agrees to satisfy the needs of the group for a particular product and the other (nonspecializing) countries agree to either limit or stop production of the product. Specialization agreements are designed to encourage countries to develop a comparative advantage in the production of particular commodities by constructing plants that exploit economies of scale, by developing technical expertise, and by concentrating research and development in the industry of specialization. The Soviet Union is the motivating force in most multilateral specialization agreements, but some of the smaller, more industrially advanced East European countries participate more actively in bilateral specialization agreements than the Soviet Union does. The evidence suggests that specialization agreements have not been successful in achieving many of the policy goals for which they were designed.

Cremer, H.

PD May 1988. **TI** Evading, Auditing and Taxing: The Equity-Compliance Tradeoff. **AU** Cremer, H.; Marchand, M.; Pestieau, P. **AA** CORE. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8827; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 26. **PR** No Charge. **JE** 323, 321, 024. **KW** Auditing. Tax Evasion. Income Taxes. Taxes. Tax Policy.
AB In this paper, we encompass the reality of tax evasion and auditing into a model of optimal linear income taxation. We interject a third party between the taxpayers who minimize expected tax payments and the government which maximizes social welfare, namely the tax administation which adopts the audit policy aimed at maximizing expected net revenue. We thus derive an audit policy which is optimal for revenue maximization under the restriction of only two audit rates per group of taxpayers. We then analyze the optimal income tax that should be adopted by the government given the particular reaction functions of both taxpayers and tax administrators. The problem is particularly interesting when dealing with several groups of taxpayers, each characterized by a given distribution of pretax income and specific audit policy parameters. The paper concludes with a numerical example which illustrates the intricacies of optimal linear income taxation and the complex tradeoff between equity and compliance in such a setting of heterogeneous groups of taxpayers.

dAspreymont, Claude

PD February 1988. **TI** Unemployment in a Cournot Oligopoly Model with Ford Effects. **AU** dAspreymont, Claude; Ferreira, Rodolphe Dos Santos. Gerard-Varet-Louis-Andre. **AA** d'Aspremont: Universite Catholique de Louvain. Ferreira: Faculte des Sciences Economiques et de Gestion. Gerard-Varet: Ecole des Hautes Etudes en Sciences Sociales. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8818; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 29. **PR** No Charge. **JE** 021, 022, 023, 821. **KW** General Equilibrium. Cournot Equilibrium. Imperfect Competition. Labor Market.
AB A simple general equilibrium model of imperfect competition is introduced with special attention given to the labor market. An extended Cournot equilibrium is defined for any money wage taken as given by the producers. Under some assumptions involuntary unemployment may arise, that is unemployment whatever the given money wage. Specific examples are considered.

David, Paul A.

PD August 1988. **TI** Path-Dependence: Putting The Past Into The Future of Economics. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 533; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 61. **PR** $4.00. **JE** 011, 036, 041. **KW** Path-Dependence. Stochastic Process. Feedback Mechanisms. Economic History.
AB The future of economics as an intellectually exciting discipline lies in its becoming an historical social science. A strong sense of how "history matters" can be gained by studying the behavior of stochastic systems whose outcomes are path-dependent. This property arises where a stochastic process of resource allocation cannot be described by a first-order Markov chain; and also in dynamical systems where the transition probabilities are strictly state dependent (first-order Markovian) but there exists a multiplicity of absorbing states. Path-dependent processes are non-ergodic and their outcomes need not be globally efficient. But, in some instances, they arise under conditions in which ex ante prediction of the outcome is quite feasible.

Davidson, Russell

PD May 1988. **TI** A New Form of the Information Matrix Test. **AU** Davidson, Russell; MacKinnon, James G. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 724; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 32. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 211. **KW** Specification Test. Monte Carlo Simulation. Asymptotic Theory. Nonlinear Models.
AB We develop a new form of the information matrix test for a wide variety of statistical models, and present full details for the special case of univariate nonlinear regression models. Chesher (1984) showed that the implicit alternative of the information matrix test is a model with random parameter variation. We exploit this fact by constructing the test against an explicit alternative of this type. The new test is computed using a double-length artificial regression, instead of the more conventional outer product of the gradient regression, which,

although easy to use, is known to give test statistics with distributions very far from the asymptotic nominal distribution even in rather large samples. The new form on the other hand performs remarkably well, at least in the context of regression models. Some approximate finite-sample distributions are calculated and lend support to the use of the new form of the test.

de Gorter, Harry

TI Endogenizing Policy in Models of Agricultural Markets.
AU Rausser, Gordon C.; de Gorter, Harry.

de Jong, Philip

PD October 1988. **TI** Labor and Transfer Incomes and Older Women's Work: Estimates from the United States. **AU** de Jong, Philip; Haveman, Robert; Wolfe, Barbara. **AA** de Jong: University of Leiden. Haveman, Wolfe: University of Wisconsin. **SR** National Bureau of Economic Research Working Paper: 2728; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 911, 918, 921. **KW** Labor Force. Women. Elderly. Labor Supply. Transfer Programs.

AB This paper deals with the effects of labor and transfer incomes as determinants of older women's labor force participation. It examines the responsiveness of women aged 48-62 to the level of income available from both work and public transfer programs when deciding between work and nonwork options. The main focus is on whether the availability and generosity of disability-related transfers affects the labor supply of these women. A maximum-likelihood model is estimated separately for heads of household and wives. The results suggest income opportunities have a significant effect only on the work choices of wives. The responsiveness to the availability and generosity of public transfers is largest among older, disabled women who have low expected earnings.

de Kock, Gabriel

PD August 1988. **TI** Fiscal Uncertainty, Informational Externalities and the Welfare Cost of Speculation. **AU** de Kock, Gabriel; Grilli, Vittorio. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 561; Economic Growth Center, Yale University, Box 1987 Yale Station, New Haven, CT 06520. **PR** $2.00. **JE** 322, 321, 024. **KW** Government Spending. Welfare Analysis. Seigniorage. Finance Markets. Fiscal Policy. Asymmetric Information.

AB This paper analyzes the welfare consequences of stochastic government budgetary policies, using a model in which private agents can devote real resources to learn about future seigniorage. In this environment, if financial markets are not informationally efficient in the strong sense, the private return to information exceeds its social value because informed individuals can redistribute wealth from those who are less informed. Thus stochastic government policies, and seigniorage in particular, may give rise to socially wasteful speculative acquisition of information. Two specific models are used to explore the welfare costs of the speculative acquisition of information. The first model assumes that agents are identical but nevertheless trade in order to develop a simple framework for expositional purposes and to analyze comparative statics. The second model endogenizes the decision to trade by assuming that individuals differ with respect to the time profiles of their endowments.

De Long, J. Bradford

PD September 1988. **TI** The Survival of Noise Traders in Financial Markets. **AU** De Long, J. Bradford; Shleifer, Andrei; Summers, Lawrence. Waldmann-Robert. **AA** De Long: Boston University. Shleifer: University of Chicago. Summers, Waldmann: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2715; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 313. **KW** Financial Markets. Stock Markets. Portfolio. Noise Traders. Risk.

AB We present a model of portfolio allocation by noise traders who form incorrect expectations about the variance of the return distribution of a particular asset. We show that for many types of misperceptions, as long as such noise traders do not affect prices, they earn higher expected returns than do rational investors with similar degrees of risk aversion. Moreover, many such noise traders survive and dominate the market in terms of wealth in the long run, in the sense that the probability that noise traders will eventually have a high share of the economy's wealth is arbitrarily close to one. Noise traders come to dominate the market despite the fact that they take excessive risk that skews the distribution of their long run wealth and despite their excessive consumption. We conclude that the theoretical case against the long run viability of noise traders is by no means as clearcut as is commonly supposed.

PD September 1988. **TI** On the Existence and Interpretation of a "Unit Root" in U.S. GNP. **AU** De Long, J. Bradford; Summers, Lawrence. **AA** De Long: Boston University. Summers: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2716; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 133, 023. **KW** Unit Root. Gross National Product. Trends. Random Walk. Fluctuations. Output Growth.

AB We use the revised estimates of United States Gross National Product constructed by Christina Romer (1989) to assess the time-series properties of United States output per capita over the past century. We reject at conventional significance levels the null that output is a random walk in favor of the alternative that output is a stationary autoregressive process about a linear deterministic trend. The difference between the lack of persistence of output shocks either before World War II or over the entire century, on the one hand, and the strong signs of persistence of output shocks found by Campbell and Mankiw (1987) and by Nelson and Plosser (1982) for more recent periods is striking. It suggests to us a Keynesian interpretation of the large unit root in post-WWII United States output: perhaps post-WWII output shocks appear persistent because automatic stabilizers and other demand-management policies have substantially damped the transitory fluctuations that made up the pre-WWII Burns-Mitchell business cycle.

De Marzo, Peter M.

PD May 1988. **TI** Coalitions and Sustainable Social Norms in Repeated Games. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 529; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 36. **PR** $4.00. **JE** 026, 022. **KW** Repeated Games. Folk Theorem. Coalitions. Cooperative Games.

Renegotiation. Punishment.

AB This paper develops a solution concept for repeated games when players can communicate and form coalitions. It differs from other work in this area by focusing on environments in which equilibria represent social norms or customs, and are therefore codes of behavior to which players can commit. In such an environment, any credible deviation by a coalition must be sequentially rational for its members. This observation allows us to define the notion of a Strong Sequential Equilibrium (SSE) in repeated games. First it is applied to finitely repeated games, and is shown to be equivalent to a dynamic programming formulation in terms of one-shot deviations. Also, all such equilibria can be supported by a simple penal code, which selects a single member of a coalition to be held accountable for a deviation. For infinitely repeated games, one-shot deviations are no longer sufficient for the analysis. It is shown that by using both punishments and rewards, a folk theorem obtains in the two player case.

PD November 1988. **TI** Majority Voting and Corporate Control: The Rule of the Dominant Shareholder. **AA** Stanford University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-210; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 45. **PR** No Charge. **JE** 514, 511, 021, 025. **KW** Incomplete Markets. Shareholders. Majority Rule. Corporate Control. General Equilibrium.

AB This paper incorporates a model of corporate control into a general equilibrium framework for production economies with incomplete markets. Various firm objectives are considered. First, the notion of value maximization is extended to incomplete markets and is shown to be consistent with all mechanisms of shareholder control satisfying the Pareto criterion. Next, the particular institution of majority voting by shareholders is examined. It is shown that for generic economies, a majority rule equilibrium for a firm implies that production is optimal for the largest, or dominant, shareholder. Finally, more realistic control forms are considered in which majority voting by shareholders is constrained by a group of shareholders, or Board of Directors, who control the voting agenda. The result is that shareholders not on the Board have no influence on the equilibrium production choice of the firm.

DeGennaro, Ramon P.

TI Stock Returns and Volatility. **AU** Baillie, Richard T.; DeGennaro, Ramon P.

TI The Impact of Delivery Terms on Stock Return Volatility. **AU** Baillie, Richard T.; DeGennaro, Ramon P.

Dekel, Eddie

TI Correlated Equilibrium with Generalized Information Structures. **AU** Brandenburger, Adam; Dekel, Eddie; Geanakoplos, John.

Demers, Fanny

PD October 1987. **TI** A Privately Revealing Rational Expectations Equilibrium for the Futures Market. **AU** Demers, Fanny; Demers, Michel. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-37; #997-1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PG** 23. **PR** **JE** 313, 311, 024. **KW** Futures Market. Speculation. Rational Expectations.

AB This paper develops a model of the futures market with two types of participants: farmers and speculators. Farmers undertake production decisions and face both output and spot price risk as opposed to speculators who face only spot price risk. Agents have constant absolute risk aversion von Neumann-Morgenstern utility functions and form rational expectations about the future output shock and spot price. We assume that traders specialize in information collection. In our model, the futures price is not a sufficient statistic for the market information. We show that the rational expectations equilibrium (REE) futures price is privately revealing to traders who purchase costly information. This REE is efficient in the sense that in equilibrium traders are in possession of all market information. We demonstrate that traders (a) have an incentive to collect costly information and (b) are better-off by specializing in collecting the information in which they have a comparative advantage (in terms of the quality of the information that they can obtain). Finally, we show that the futures market stabilizes the spot price.

Demers, Michel

TI A Privately Revealing Rational Expectations Equilibrium for the Futures Market. **AU** Demers, Fanny; Demers, Michel.

Desai, Padma

PD April 1988. **TI** Alternative Measures of Import Shares: Theory and Estimates for the Soviet Union. **AA** Columbia University. **SR** Columbia International Economics Research Center Discussion Paper: 388; Department of Economics, Columbia University, New York, NY 10027. **PG** 28. **PR** $5.00. **JE** 431, 221. **KW** Imports. Soviet Union. National Income.

AB Alternative measures of import shares are defined in this paper. Specific problems of adapting these conceptual measures to the Soviet case relating to the choice of an appropriate exchange rate, the differential definition of Soviet national income and the special Soviet practice of incorporating foreign trade balances in domestic income are also addressed. The estimates of the ratio for 1970 and 1980 suggest that while it has more than doubled, it has remained dramatically lower than the comparable measure for the OECD countries.

PD June 1988. **TI** Perestroika in Perspective: The Design and Dilemmas of Soviet Reform. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 396; Department of Economics, Columbia University, New York, NY 10027. **PG** 91. **PR** $5.00. **JE** 124, 052, 027. **KW** Central Planning. Russia. Soviet Reform.

AB In the final years of the Brezhnev leadership, the Soviet Union was by all accounts going downhill. The decay was slow but visible on all fronts. While economists cited the declining growth rate of the economy as a surefire index of the malaise, others concentrated on recurring shortages, increasing corruption and massive alienation as the hallmark of the Brezhnev legacy. Spiritual values, a theme of enduring concern in the Russian tradition, were widely held to be in jeopardy.

Desai, Sonalde

PD October 1988. **TI** Mother or Market. Effects of Maternal Employment on Cognitive Development of Four-Year-Old Children. **AU** Desai, Sonalde; Chase, Lansdale P.

Lindsay; Michael, Robert T. **AA** Desai: The Rand Corporation. Chase-Lansdale: George Washington University Medical Center. Michael: University of Chicago and NORC. **SR** Economics Research Center/NORC Discussion Paper: 88-11; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 41. **PR** $2.00; send requests to Librarian, NORC. **JE** 921, 914, 851. **KW** Working Mothers. Children. Child Development. Family.

AB This paper uses the 1986 Children of the National Longitudinal Survey of Youth dataset to investigate the impact of maternal employment on the cognitive development of children, measured at age four. The multivariate regression analysis, conducted for boys and girls separately, suggests that the partial effects of mother's employment on the child's PPVT score is not statistically significant overall. When the effect is estimated separately for high income and low income families, however, the finding is different. The theoretical considerations suggest that for children in high income families there is a strong negative correlation between mother's employment soon after the child's birth and the child's test score; this correlation is found only for boys, which is consistent with prior findings. The impact of other demographic trends in recent years -- declining fertility and rising marital instability -- are also investigated. Several family background factors are found to be highly correlated with the child's test score.

Despotakis, Kostas A.

TI Energy Taxes and Economic Performance: A Regional General Equilibrium Analysis. **AU** Fisher, Anthony C.; Despotakis, Kostas A.

Dhrymes, Phoebus J.

PD May 1988. **TI** Specification Tests in Simultaneous Equations Systems. **AA** Columbia University. **SR** Columbia International Economics Research Center Discussion Paper: 393; Department of Economics, Columbia University, New York, NY 10027. **PG** 29. **PR** $5.00. **JE** 211. **KW** Identification. Simultaneous Equations. Specification Test. Restricted Least Squares.

AB This paper discusses a new procedure for carrying out identifiability and specification tests in the context of two and three stage least squares (2SLS and 3SLS) simultaneous equations estimation. Such tests become routinely possible by a reinterpretation of the 2SLS, 3SLS estimators as restricted least squares and restricted generalized least squares, respectively. An identifiability test involves testing for the validity of the entire set of prior restrictions, while a specification test involves testing only (a subset of) the overidentifying restrictions, without questioning the identifiability of the equation in question.

Di Prete, Thomas A.

PD June 1988. **TI** The Multilevel Analysis of Trends with Repeated Cross-Sectional Data. **AU** Di Prete, Thomas A.; Grusky, David B. **AA** University of Chicago and NORC. **SR** Economics Research Center/NORC Discussion Paper: 88-7; Economics Research Center/NORC, 6030 South Ellis, Chicago, IL 60637. **PG** 46. **PR** $2.00; send requests to Librarian, NORC. **JE** 211. **KW** Trends. Cross-Sectional Data. Serial Correlation. Mobility. Stratification.

AB The purpose of this paper is to develop a multilevel model for the analysis of trends within repeated cross-sectional samples. The model we propose uses a time series of macro-level variables to explain trends in the individual-level parameters estimated within each sample. This model falls within the general category of "varying parameter" models, but in the present context additional methodological complications arise because of the potential for serial correlations among the errors in the macro-level equations, and because the effects of the macro-level variables can be expected to differ across sectors of the population. The latter consideration leads us to propose a three-level model permitting the effects of macro-level variables to be a function of a simple "buffering variable" that measures the sensitivity of different population groups to change. We develop a mixed estimator that allows for both types of methodological complications, and we use it to describe and explain recent trends in the process of stratification. The results yield new insights into the structure of short-term trends in the mobility regime.

Diewert, W. Erwin

PD November 1987. **TI** Deadweight Loss Measurement and Project Evaluation Criteria. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-40; #997 1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PR** **JE** 022, 323, 021, 213. **KW** Commodity Taxes. Deadweight Welfare Loss.

AB Many papers have been written on the measurement of the deadweight loss due to an inefficient system of commodity taxes. Other papers have been written on project evaluation in an economy with various distortions. Although it appears that these two topics are not closely related, we will try to demonstrate in this paper that there are some interesting connections between them.

PD September 1988. **TI** The Early History of Price Index Research. **AA** University of British Columbia. **SR** National Bureau of Economic Research Working Paper: 2713; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 227. **KW** Prices. Price Index.

AB The paper discusses five early approaches to the price (and quantity) index number problem. The five approaches are: (i) the fixed basket approach; (ii) the statistical approach; (iii) the test or axiomatic approach; (iv) the Divisia approach and (v) the economic approach. The economic approach makes use of the assumption of optimizing behavior under constraint and the approach is discussed under four subtopics: (i) basic theoretical definitions; (ii) the theory of bounds; (iii) exact index numbers and (iv) econometric estimation of preferences. The paper also discusses several topics raised by Jack Triplett in a recent paper, including: (i) the merits of the test approach to index number theory, (ii) the chain principle and alternatives to it; (iii) the substitution bias and (iv) the new good bias.

Dolado, Juan

TI Dynamic Specification with the General Error-Correction Form. **AU** Banerjee, Anindya; Galbraith, John W.; Dolado, Juan.

PD September 1988. **TI** Does GNP Have a Unit Root. A Detailed Examination Using Recursive Methods. **AU** Dolado, Juan; Banerjee, Anindya; Galbraith, John W. **AA** Dolado: Banco de Espana, Madrid. Banerjee: Jesus College, Oxford. Galbraith: McGill University. **SR** Oxford Applied Economics Discussion Paper: 54; Institute of Economics and Statistics, Saint Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 21. **PR** No Charge. **JE** 131, 221, 023. **KW** Unit Roots. Recursive Estimation. Output Gross National Product. Fluctuations.

AB Recursive estimation procedures are employed to test for the existence of unit roots, after allowing for a deterministic trend, in the logarithm of real per capita United States Gross National Product over each of a succession of samples. The Augmented Dickey-Fuller statistic and its nonparametric version are both constructed recursively. Strong evidence is found in favor of a structural break in the early 1930s, and the pattern of test statistics for the null of a unit root helps to clarify earlier results.

Domowitz, Ian

PD September 1988. **TI** A Test of the Harris Ergodicity of Stationary Dynamical Economic Models. **AU** Domowitz, Ian; El Gamal, Mahmoud. **AA** Domowitz: Northwestern University. El-Gamal: University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 157; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 23. **PR** No Charge. **JE** 211. **KW** Dynamic Models. State Space Models. Ergodic Theory.

AB A formal statistical test of Harris ergodicity is developed for known univariate first order dynamical systems. The analysis is conducted by examining the properties of a density of states generated by a law of motion on the state space. The distribution of the test statistic is derived under the null hypothesis that the law of motion is Harris ergodic, and the test is shown to be consistent against the alternative that the law is not ergodic. The test can be easily performed using standard statistical and mathematical computer packages.

Donaldson, David

TI The Case Against the Use of the Sum of Compensating Variations in Cost-Benefit Analysis. **AU** Blackorby, Charles; Donaldson, David.

Donaldson, R. Glen

PD August 1988. **TI** Panic, Liquidity and the Lender of Last Resort: A Strategic Analysis. **AA** Brown University and Student Intern, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 332; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 28. **PR** No Charge. **JE** 311, 312. **KW** Banking Panics. Federal Reserve. Liquidity Constraints. Monopoly. Bank Reserves.

AB This paper develops a model in which panics are caused by the strategic behavior of agents who temporarily monopolize the supply of privately controlled cash reserves. The decision to exercise this "monopoly power" results in localized "corners" on the money market and hence an abrupt alteration in the rate of exchange between cash and non-monetary assets. This sudden appearance of a premium on liquidity produces the dramatic increase in interest rates, decrease in security prices and wave of "contagious" bank runs which are characteristic of panics. Since the nonzero probability of a panic's occurrence reduces the expected rate of return on bank deposits, individuals respond to the threat of this outcome by hoarding otherwise productive resources. As this has the effect of reducing investment -- and therefore output, consumption and government tax revenue -- deposit insurance and an institutionalized lender of last resort emerge endogenously as the result of utility maximizing behavior.

Dooley, Michael P.

PD May 1988. **TI** Analysis of Self-Financed Buy-Backs and Asset Exchanges. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/39; International Monetary Fund, Washington D.C. 20431. **PG** 8. **PR** No Charge. **JE** 441, 433. **KW** External Debt. Assets. Buy-backs. Debt. Collateral.

AB Buy-backs of external debt financed by the debtor through asset sales generally result in unchanged or lower market prices for remaining debt. The contractual value of debt is reduced by some multiple of the market value of assets sold. The use of assets as collateral for new debt that is exchanged for old debt has effects equivalent to buy-backs financed by sales of the same assets.

Dreyfus, Jean Francois

PD July 1988. **TI** Maximal Arbitrage Pricing and Shareholder Unanimity Without Spanning. **AA** New York University. **SR** New York University Salomon Brothers Working Paper: 482; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 20. **PR** No Charge. **JE** 313, 522, 311. **KW** Arbitrage. Complete Markets. Shareholders. Business Investment. Asset Pricing.

AB Even in the absence of spanning, shareholders in any given firm will unanimously favor value-maximizing production choices, if traders conjecture the firm to be priced, given any production choice, at its maximum value consistent with a lack of arbitrage opportunities, given the prices of all other financial assets. Such beliefs, which we refer to as Maximal Arbitrage Pricing (MAP) conjectures, are shown to be a direct extension of competitive price-taking behavior in Arrow-Debreu economies with complete markets.

PD August 1988. **TI** Market Incompleteness, Production and Competitive Behavior: A Note. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 484; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 15. **PR** No Charge. **JE** 313, 311. **KW** Competition. Contingent Claims. Production. Shareholders. Market Efficiency.

AB The assumption of market completeness, together with the assumption of competitive price-taking with respect to contingent claims prices, are known to imply that a firm's shareholders will unanimously support production decisions which maximize the firm's value, calculated at the (assumed fixed) contingent claims prices. The requirement of market completeness is however a strong one. A number of authors have thus considered the problem of extending the classical shareholder unanimity theorem to incomplete markets environments.

Duan, N.

TI Health Insurance and the Demand for Medical Care - Evidence from a Randomized Experiment. **AU** Manning, W. G.; Newhouse, J. P.; Duan, N.; Keeler, E.; Benjamin, B.; Leibowitz, A. Marquis-M-S; Zwanziger-J.

Dubey, Pradeep

PD July 1988. **TI** Bankruptcy and Efficiency in a General Equilibrium Model with Incomplete Markets. **AU** Dubey, Pradeep; Geanakoplos, John; Shubik, Martin. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 879; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven CT 06520. **PG** 34. **PR** $2.00. **JE** 315, 311, 514, 611, 021. **KW** General Equilibrium. Bankruptcy. Market Clearing. Debt Crisis. Loans. Default.

AB We build a model here that explicitly allows for strategic default, but is broad enough to incorporate conventional general equilibrium theory as a special case. The realized levels of default are endogenous, and must be calculated as part of the equilibrium. We have avoided a partial equilibrium treatment of our subject because we wanted to evaluate the systemwide consequences of default. In a world in which promises can exceed physical endowments, each default can begin a chain reaction. A creditor in one market where payment does not occur is deprived of the means of delivery in another market where he is the debtor, thereby causing a further default in some other market, etc. The indirect effects of default might be as important as the direct effects, but they are missed in partial equilibrium models.

Dudey, Marc

PD July 1988. **TI** The Timing of Consumer Arrivals in Edgeworth's Duopoly Model. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 328; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 19. **PR** No Charge. **JE** 022. **KW** Price Competition. Capacity Constraints. Duopoly. Competitive Equilibrium.

AB In his classic papers relating to Political Economy (1897), Francis Edgeworth demonstrated that when duopolists have limited productive capacity, there may be no Nash equilibrium in prices. One feature of Edgeworth's model is that consumers are assumed to meet with the duopolists at the same time. This paper analyzes a version of the Edgeworth model in which consumers arrive sequentially instead of simultaneously. This departure from Edgeworth's framework should seem reasonable since there are few markets besides auctions in which buyers all meet with sellers at the same time. The point of the analysis is to show that when sellers engage in quantity constrained price competition, the timing of consumer arrivals may greatly affect the nature of equilibrium. It turns out that the existence of Nash equilibrium in prices may be restored. It also turns out that the duopolists may be able to maximize joint profits.

PD July 1988. **TI** Competition by Choice. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 327; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 31. **PR** No Charge. **JE** 022. **KW** Search. Location Choice. Competitive Equilibrium. Price Competition.

AB This paper relates firm location choice and consumer search. Firms that cluster together attract consumers by facilitating price comparison, but clustering increases the intensity of local competition. I construct a simple model which shows that firms may choose head-on competition by locating together. In special cases, this can be the unique equilibrium outcome. I also use the model to show that price setting firms may earn more in equilibrium than quantity setting firms.

Duffie, D.

PD September 1988. **TI** Lecture Notes in Incomplete Markets. **AU** Duffie, D.; Shafer, W.; Cass, D.; Magill, M.; Quinzii, M.; Geanakoplos, J. **AA** Visitors at the Bonn Workshop. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-192; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 48. **PR** No Charge. **JE** 313, 021, 311. **KW** Spot Markets. Financial Markets. Incomplete Markets. General Equilibrium. Efficiency.

AB The Bonn Workshop of 1988 has focused on the study of incomplete security markets, which extends the standard theory of competitive economic behavior to settings in which there are uninsurable risks, given only the currently available financial markets. Before the advent of the new futures and options contracts, for example, investors had much greater difficulty in hedging themselves against adverse stock index, interest rate, and foreign exchange rate movements. Today, there are still many important market risks which cannot easily be dealt with on the available security markets. One could mention the absence of securities allowing one to hedge against the threats of business recessions or changes in real estate values as a couple of obvious examples of "missing markets". The following five pieces summarize a corresponding series of five lectures held at the beginning of BoWo '88 with the purpose of communicating some of the basic issues and results on incomplete security markets to a broad spectrum of students and researchers in this and other areas of economics.

Dutta, Prajit K.

PD August 1988. **TI** The Tragedy of the Commons. A Characterization of Stationary Perfect Equilibria in Dynamic Games. **AU** Dutta, Prajit K.; Sundaram, Rangarajan. **AA** Dutta: Columbia University. Sundaram: University of Rochester. **SR** Columbia Department of Economics Working Paper: 397; Department of Economics, Columbia University, New York, NY 10027. **PG** 44. **PR** $5.00. **JE** 026, 024, 027. **KW** Dynamic Games. Externality. Strategic Behavior.

AB The dominant paradigm within which dynamic strategic behavior is studied in economic theory, is that of repeated games. However by requiring that the environment of the game be unchanging, applications in which players' actions affect future environments cannot be meaningfully analyzed in this framework. This paper studies equilibria in a more general strategic structure, that of dynamic games. A dynamic game introduces a state variable to represent the environment of play and the evolution of the state is determined by the players' actions.

Ebert, Udo

PD June 1988. **TI** Non-Uniform Prices Under Profit Maximization. **AA** University of Bonn. **SR** Universitat Bonn Sunderforschungsbereich 303 - Discussion Paper: A-174; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 22. **PR** No Charge. **JE** 612, 323. **KW** Price Discrimination. Monopoly. Income Taxes. Asymmetric Information.

AB The paper is concerned with a profit maximizing monopolist who charges different purchasers different prices. The amount consumers have to pay depends on the quantity purchased. This form of pricing is only possible if the product sold in that market is not resellable, an assumption which is often justified. Examples are transportation or communication services and utilities. Purchasers differ in one characteristic, namely in income. The monopolist cannot observe this characteristic directly. Therefore he cannot make the price dependent on the consumer's income. He has to construct a non-uniform pricing scheme which is the same for all consumers. Since he knows the distribution of income, the monopolist can use the scheme as a sorting mechanism and achieve a discrimination which is in general not perfect.

PD July 1988. **TI** Monopolistische Preisdiskriminierung. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-175; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 21. **PR** No Charge. **JE** 611. **KW** Price Discrimination. Income Distribution.
AB Paper in German.

Economides, Nicholas

PD March 1988. **TI** Quality Variations in the Circular Model of Variety Differentiated Products. **AA** Columbia University. **SR** Columbia International Economics Research Center Discussion Paper: 391; Department of Economics, Columbia University, New York, NY 10027. **PG** 24. **PR** $5.00. **JE** 022, 026. **KW** Product Quality. Game Theory. Three-Stage Game. Differentiated Products.
AB We introduce quality variations in the circular model of differentiated products. We analyze two games. The three-stage game has entry in the first stage, location in the second, and quality and price choice in the third. The four-stage game replaces the quality and price subgame of the three-stage game with two stages, quality choice followed by price choice. We find that precommitment in the quality (in the four-stage game) allows firms to support the same prices (as in the no-precommitment three-stage game) with lower quality levels and expenditure. This induces entry so that at the free entry perfect equilibrium quality is lower and there is a larger number of brands in the four-stage precommitment game than in the three-stage one. In relation to optimality both games result in higher diversity and underprovision of quality with bigger divergence from optimality observed in the four-stage precommitment game. Further, allowing competition in quality specification can result in equilibria of lower total surplus than when such competition was not available.

PD March 1988. **TI** Quality Variations and Maximal Differentiation. **AA** Columbia University. **SR** Columbia International Economics Research Center Discussion Paper: 392; Department of Economics, Columbia University, New York, NY 10027. **PG** 16. **PR** $5.00. **JE** 022, 026. **KW** Duopoly. Differentiated Products. Sequential Game.
AB We allow quality variations in a duopoly of locationally differentiated products a-la-Hotelling (1929). We analyze the impact of quality variations on the choices of the varieties produced. We show that in a sequential game of variety choice and subsequent quality and price choice there exist only maximal variety differentiation equilibria. Maximal variety differentiation is also the equilibrium of a sequential game of variety choice followed by quality choice and later by price choice. Profits are higher in the latter game while total surplus is higher in the former.

Edwards, Sebastian

PD September 1988. **TI** Real and Monetary Determinants of Real Exchange Rate Behavior: Theory and Evidence from Developing Countries. **AA** University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2721; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 411, 121, 023. **KW** Dynamic Model. Exchange Rates. Developing Countries.
AB This paper develops a dynamic model of real exchange rate behavior in developing countries. A three goods economy (exportables, importables and nontradables) is considered. Residents of this country hold domestic and foreign assets, and there is a dual exchange rate regime. There is a government that consumes importables and nontradables. A distinction is made between equilibrium and disequilibrium movements of the RER. The determinants of real exchange rate misalignment are studied with emphasis placed on the role of devaluations and balance of payments crisis. The implications of the model are tested using data for 12 developing countries. The results obtained are generally favorable for the model. The issue of RER stationarity is also analyzed.

PD October 1988. **TI** Latin America's Intraregional Trade: Evolution and Future Prospects. **AU** Edwards, Sebastian; Savastano, Miguel. **AA** University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2738; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 421, 422. **KW** Free Trade. Latin America. Trade Flow. Exports. Imports. Debt Crisis.
AB This paper analyzes in detail the evolution of Latin America's international trade patterns, focusing on intraregional trade and on the formal attempts made to create free trade zones or custom unions. In particular, we assess the role of intraregional trade in the structural adjustment required by the Latin American debt crisis. The data analyzed show that the success of the commercial integration process has been quite limited. They also show that there has been no significant change in the OECD countries' share in Latin American imports or in the volume of intraregional trade flows since the early 1970s. Furthermore, the nature of the adjustment to the debt crisis of the 1980s indicate that Latin American markets possess a rather limited capacity to absorb a substantial increase in regional exports in the current context.

Eichenbaum, Martin

TI Is Theory Really Ahead of Measurement. Current Real Business Cycle Theories and Aggregate Labor Market Fluctuations. **AU** Christiano, Lawrence; Eichenbaum, Martin.

Eichengreen, Barry

PD June 1988. **TI** The Gold-Exchange Standard and the Great Depression. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8882; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 51. **PR** $3.50. **JE** 041, 432, 431. **KW** Gold Standard. Great Depression. International Monetary System. Exchange

Reserves. Devaluations. Monetary Policy.
AB A number of explanations for the severity of the Great Depression focus on the malfunctioning of the international monetary system. One such explanation emphasizes the deflationary monetary consequences of the liquidation of foreign-exchange reserves following competitive devaluations by Great Britain and her trading partners. Another emphasizes instead the international monetary policies of the Federal Reserve and the Bank of France. This paper analyzes both the exceptional behavior of the United States and France and the shift out of foreign exchange after 1930. While both Franco-American gold policies and systemic weaknesses of the international monetary system emerge as important factors in explaining the international distribution of reserves, the first of these factors turns out to play the more important role in the monetary stringency associated with the Great Depression.

PD August 1988. **TI** Settling Defaults in the Era of Bond Finance. **AU** Eichengreen, Barry; Portes, Richard. **AA** Eichengreen: University of California, Berkeley. Portes: Birkbeck College, University of London. **SR** University of California at Berkeley Working Paper in Economics: 8885; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 49. **PR** $3.50. **JE** 441, 443, 432. **KW** Foreign Lending. Default. Developing Countries. Debt Crisis.
AB See additional entry under this author and title.

PD August 1988. **TI** Foreign Lending in the Interwar Years: The Bondholders' Perspective. **AU** Eichengreen, Barry; Portes, Richard. **AA** Eichengreen: University of California, Berkeley. Portes: Birkbeck College, University of London and Centre for Economic Policy Research. **SR** University of California at Berkeley Working Paper in Economics: 8886; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 49. **PR** $3.50. **JE** 441, 443, 041. **KW** Foreign Lending. Default. Sovereign Debt. Foreign Loans.
AB See additional entry under this author and title.

PD September 1988. **TI** Settling Defaults in the Era of Bond Finance. **AU** Eichengreen, Barry; Portes, Richard. **AA** Eichengreen: University of California, Berkeley and Centre for Economic Policy Research. Portes: Centre for Economic Policy Research and Birkbeck College. **SR** Centre for Economic Policy Research Discussion Paper: 272; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PG** 43. **PR** pound sterling 2.00 ($4.00). **JE** 433, 441, 443, 411, 123. **KW** International Debt. Sovereign Borrowing. Debt Crisis. Debtor Nation.
AB We scrutinize two strands of received wisdom about debt crises: that which draws a strong contrast between the 1930s and 1980s in extent of default and ease of settlement, and that which attributes the difference to greater government involvement today. Rather than a sharp, dichotomous variable, default in the 1930s was often partial and intermittent. Neither was settlement achieved in a way that readily permitted countries to put the debt crisis behind them. And creditor-country governments were often intimately involved in the process of debt negotiation. We consider a number of additional factors influencing the ease of settlement: (i) institutional features of the lending process; (ii) institutional features of the settlement process; (iii) the role of national divisions within the creditor community; (iv) the influence of global commodity- and credit-market conditions over the process of settlement.

PD September 1988. **TI** Foreign Lending in the Interwar Years: The Bondholders' Perspective. **AU** Eichengreen, Barry; Portes, Richard. **AA** Eichengreen: University of California, Berkeley and Centre for Economic Policy Research. Portes: Centre for Economic Policy Research and Birkbeck College. **SR** Centre for Economic Policy Research Discussion Paper: 273; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PG** 48. **PR** pound sterling 2.00 ($4.00). **JE** 433, 441, 041. **KW** International Debt. Sovereign Borrowing. Foreign Bonds.
AB This paper revises and extends our previous (1986) analysis of rates of return on sterling and dollar foreign loans of the 1920s. It analyzes a larger sample of 250 dollar bonds and 125 sterling issues, covering the years 1920-9. Internal rates of return are adjusted for repurchases of discounted foreign bonds. The larger sample confirms the main conclusions of our original study and enables us to paint a richer picture of interwar experience with foreign loans. We also analyze determinants of ex ante spreads on foreign loans relative to risk-free returns, and assess the sophistication of investors.

PD October 1988. **TI** The Responsibilities of a Creditor Nation. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8894; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley 94720. **PG** 55. **PR** $3.50. **JE** 443, 432, 431, 411, 433. **KW** Foreign Debt. Creditor Nation. International Economics. International Relations.
AB This paper includes a critique of literature on the responsibilities of creditor nations. Limitations of existing theoretical formulations are indicated and the role that creditor countries have played historically in the operation of the international economy is analyzed. The evidence leads to a largely negative assessment of explanations that impute disproportionate responsibility to creditor nations for global economic stability.

Einy, Ezra

PD 1988. **TI** Large Symmetric Games are Characterized by Completeness of the Desirability Relation. **AU** Einy, Ezra; Neyman, Abraham. **AA** Einy: CORE. Neyman: The Hebrew University. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8828; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 20. **PR** No Charge. **JE** 026, 213. **KW** Cooperative Games. Coalitions. Monotonic Functions.
AB This paper presents a characterization of continuous cooperative games (set functions) which are monotonic functions of countably additive non-atomic measures. The characterization is done through a natural desirability relation defined on the set of coalitions of players.

El Gamal, Mahmoud

TI A Test of the Harris Ergodicity of Stationary Dynamical Economic Models. **AU** Domowitz, Ian; El Gamal, Mahmoud.

Evans, George W.

PD August 1988. **TI** Calculation Equilibria. **AU** Evans, George W.; Ramey, Garey. **AA** Evans: London

School of Economics. Ramey: University of California at San Diego. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 530; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 42. **PR** $4.00. **JE** 022, 026. **KW** Rational Expectations. Bounded Rationality. Nash Equilibrium.

AB We analyze the stability of rational expectations equilibria by assuming that agents must use an algorithm to calculate expectation revisions, and that it is costly to calculate in real time. We define calculation equilibria (CE) as Nash equilibria in a metagame consisting of agent's calculation decisions in the original game. CE are useful both for studying the stability of rational expectations solutions under calculation behavior and the dynamics of the adjustment process itself. We examine CE in the Muth market model, in a macroeconomic model with rational bubble solutions, and in an oligopoly model.

Evans, R. G.

PD March 1988. **TI** The Long Good-bye: The Great Transformation of the British Columbia Hospital System. **AU** Evans, R. G.; Barer, M. L.; Hertzman, C.; Anderson, G. M.; Pulcins, I. R.; Lomas, J. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 88-04; #997-1873 East Mall, Vancouver, BC V6T 1W5. **PG** 32. **PR** **JE** 913, 918. **KW** Health Care. Elderly. Hospital Utilization.

AB Concern about the impact of an aging population on the needs for and the utilization and costs of health care has become a virtual cliche in discussions of health care policy in Canada, and indeed throughout the developed world. Yet a number of investigators have pointed out that the quantitative impact of changing demographic structure per se on health care utilization is actually not very large. If utilization rates were to remain constant at each age, the increasing proportion of the population in older age groups which is implied by present birth and mortality rates would increase health rate utilization and cost only by about one percent per capita per year - well within past trend rates of economic growth.

Farhadian, Lorie Ziba

PD May 1988. **TI** Fiscal Dimensions of Trade Policy. **AU** Farhadian, Lorie Ziba; Katz, Menachem. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/43; International Monetary Fund, Washington, D.C. 20431. **PG** 30. **PR** No Charge. **JE** 321, 431, 422, 323, 411. **KW** Trade Policy. Exchange Rates. Fiscal Policy. Stabilization. Taxes.

AB This paper assembles findings on the use of trade taxes, examines the main contributing factors, and reviews the fiscal aspects of trade policy as they relate to both efficiency and macroeconomic stabilization. It demonstrates why trade taxes would generally not be part of an optimal tax package, and describes the conditions under which they could be used and what their structure would be. The paper also reviews the channels of the effects of trade taxes under fixed and flexible exchange rates, and concludes that the distortions and welfare loss that they create put them at a disadvantage vis-a-vis other fiscal and exchange rate policies.

Farrell, Joseph

PD June 1988. **TI** Horizontal Mergers: An Equilibrium Analysis. **AU** Farrell, Joseph; Shapiro, Carl. **AA** Farrell: University of California, Berkeley. Shapiro: Princeton University. **SR** University of California at Berkeley Working Paper in Economics: 8880; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 28. **PR** $3.50. **JE** 612, 611, 514, 511. **KW** Mergers. Oligopoly. Capital. Cournot Equilibrium. Incentives.

AB We analyze mergers as concentration-increasing transfers of industry-specific capital among oligopolists. Such capital transfers affect industry structure, and induce changes in the subsequent oligopolistic Cournot equilibrium. We provide general conditions under which they raise the market price. We also examine the social and private incentives to merge, accounting for the fact that mergers alter the distribution of outputs across firms as well as the aggregate output level. We find that small firms typically have insufficient incentives to merge, while large firms have excessive incentives to do so. In one reasonable special case, a merger is socially more attractive the more concentrated is production among the non-participant firms.

PD July 1988. **TI** Cheap Talk, Neologisms, and Bargaining. **AU** Farrell, Joseph; Gibbons, Robert. **AA** Farrell: University of California, Berkeley. Gibbons: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** University of California at Berkeley Working Paper in Economics: 8883; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 18. **PR** $3.50. **JE** 026, 022. **KW** Bargaining. Cheap Talk. Neologism. Game Theory.

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

PD September 1988. **TI** Cheap Talk with Two Audiences: A Taxonomy. **AU** Farrell, Joseph; Gibbons, Robert. **AA** Farrell: University of California, Berkeley. Gibbons: Massachusetts Institute of Technology. **SR** University of California at Berkeley Working Paper in Economics: 8890; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley 94720. **PG** 14. **PR** $3.50. **JE** 026. **KW** Cheap Talk. Signalling. Communication. Incentives.

AB When an informed party can engage in cheap talk with more than one audience, we show how the presence of one audience may either discipline or subvert the speaker's relationship with the other audience. We ask how welfare is affected by (exogenously) public or private disclosure.

Feenberg, Daniel

PD September 1988. **TI** Promises, Promises: The States' Experience with Income Tax Indexing. **AU** Feenberg, Daniel; Rosen, Harvey. **AA** Feenberg: National Bureau of Economic Research. Rosen: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2712; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 324. **KW** Income Taxes.

AB Prior to 1985, ten states adopted some kind of indexing provisions for their personal income tax systems. Seven of these states subsequently suspended their indexing laws for one or more years. In this paper we examine the states' experience with income tax indexing and see what lessons can be drawn from it. We describe the indexing statutes, and estimate simple econometric models of both the decisions to adopt indexing and to renege on a promise to index.

Feenstra, Robert

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

Fei, John

PD September 1988. **TI** A Theoretical Framework for the Analysis of Inflation in the PRC. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 563; Economic Growth Center, Yale University, Box 1987 Yale Station, New Haven, CT 06520. **PG** 51. **PR** $2.00. **JE** 134, 121, 311. **KW** Prices. Developing Countries. China. Inflation.

AB The analysis of price inflation in the People's Republic of China should be based on an understanding that in LDCs (less developed countries) which are typically attentive to the issue of "growth promotion by political force" price inflation can occur for reasons quite different from those which dominate in DCs (developed countries) which are more sensitive to employment and output stability. Inflation in the PRC is of the LDC-type and has become a prominent subject of analysis and concern as the system has become involved in a process of market oriented price reforms since 1978. With the remonetization of the economy, the stage was set for the use of the sovereign political power of money printing to solve growth related issues. The paper argues that the main-line (Keynesian) framework of monetary analysis must be rejected for the study of inflation in the PRC. Instead, it develops a "loanable funds theory" based on a monetary approach which stresses (i) the role of money as a medium of exchange rather than a liquid asset; (ii) monetary expansion as an artificial creation of purchasing power that meets the demand for "finance" and competes with "earned" purchasing power for the command of goods and services in the market; (iii) inflation as a phenomenon which occurs when the money using public exercises its "monetary sovereignty" to attempt to frustrate the attempt by political forces to "force saving" in its direction.

Feinstein, Jonathan

TI Management of a Common Currency. **AU** Casella, Alessandra; Feinstein, Jonathan.

TI Management of a Common Currency. **AU** Casella, Alessandra; Feinstein, Jonathan.

Fernandez, Raquel

PD September 1988. **TI** Bank Size, Reputation and Debt Renegotiation. **AU** Fernandez, Raquel; Kaaret, David. **AA** Fernandez: Boston University. Kaaret: Columbia University. **SR** National Bureau of Economic Research Working Paper: 2704; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 433, 312, 441, 121. **KW** Debtor Nation. Developing Countries. Banking. International Market.

AB This paper examines the effect that the coexistence of small and large banks, with different interests in the international market, has on the debt renegotiation process. Making use of a reputational model, we argue that the presence of small banks implies that debtor countries have a harder time obtaining new money than what they would have absent the small banks.

PD September 1988. **TI** Tariffs in an Economy with Incomplete Markets and Unemployment. **AA** Boston University. **SR** National Bureau of Economic Research Working Paper: 2705; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 422, 411, 022. **KW** Open Economy. Labor Contract. Uncertainty. Free Trade.

AB This paper examines the optimal labor contract in a small open economy with incomplete markets under international price uncertainty. The effect on employment, wages, and profits of different realizations of the state of nature is studied and agents' preferences concerning the implementation of a tariff are determined. The implicit contract equilibrium is shown to be constrained Pareto optimal; unanticipated tariff policy cannot be Pareto improving over free trade.

Ferreira, Rodolphe Dos Santos

TI Unemployment in a Cournot Oligopoly Model with Ford Effects. **AU** dAspreymont, Claude; Ferreira, Rodolphe Dos Santos. Gerard-Varet-Louis-Andre.

Fershtman, Chaim

PD June 1988. **TI** The Potential Disadvantage of Becoming Too Large in Duopolistic Industry. **AU** Fershtman, Chaim; Muller, Eitan. **AA** Tel Aviv University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Discussion Paper: 794; J. L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 28. **PR** No Charge. **JE** 022, 531, 611, 514. **KW** Duopoly. Advertising. Firm Size. Market Power. Pricing Equilibrium.

AB See additional entry under this author and title.

PD August 1988. **TI** Self-Enforceable Agreements in an n-Player Dynamic Game. **AA** Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 27-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 27. **PR** No Charge. **JE** 022, 026. **KW** Coalitions. Cooperative Games. Communication Game. Contract Theory.

AB When agreements have no legal standing, players must look for agreements which are self-enforceable. The main objective of this paper is to discuss the meaning of "self-enforceability". We demonstrate different types of definitions and discuss the relationship between the assumptions regarding the communication game and the definition of self-enforceable agreements. In particular, we discuss the coalition proof Nash equilibrium (Bernheim, Peleg and Whiston (1987)) and its relation to a communications game in which players are able to terminate their communication channels with other players. We also discuss the issue of time consistency of coalition proof Nash equilibrium and show that, although Nash equilibrium is always time consistent, a coalition proof Nash equilibrium might be time inconsistent.

PD August 1988. **TI** The Potential Disadvantage of

Becoming Too Large in Duopolistic Industry. **AU** Fershtman, Chaim; Muller, Eitan. **AA** Fershtman: Tel-Aviv University. Muller: Recanati Graduate School of Business Administration, Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 25-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 29. **PR** No Charge. **JE** 022, 531, 611, 514. **KW** Duopoly. Advertising. Competition.

AB The paper considers a duopolistic market in which consumers are not necessarily aware of the firms' existence. Thus there are four segments in the market; each firm has a captive market segment, there is also a duopolistic segment and there is a set of consumers who are unaware of either firm. By advertising, firms control the proportion of consumers who are aware of their existence. Thus, if a firm advertises, it causes an increase in its own captive segment, an increase in the duopolistic segment and a decrease in the captive segment of its competitor. Clearly the relative sizes of these segments affect the equilibrium of the duopolistic pricing game. We elaborate on this pricing game and on its relation to market segmentation. We show that being large might sometimes be disadvantageous (the fat-cat effect). Moreover, we show that even if gaining awareness is costless firms might wish to be "small", i.e. to have less than one hundred percentage awareness level. The intuitive explanation of this result is that if the firm becomes too big it steps on its rivals' toes and makes its rival more "aggressive".

Field, Jr Alfred J.

TI Trade Agreements vs. Unilateral Tariff Reductions: Evidence from Modeling with a Continuum of Goods. **AU** Conway, Patrick J.; Appleyard, Dennis R.; Field, Jr Alfred J.

Figlewski, Stephen

PD June 1988. **TI** The Use of Financial Futures and Options by Life Insurance Companies. **AA** New York University and The First Boston Corporation. **SR** New York University Salomon Brothers Center Working Paper: 469; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 12. **PR** No Charge. **JE** 313, 522, 521. **KW** Life Insurance. Financial Futures. Financial Options.

AB Our survey on the use of financial futures and options by major life insurance companies has revealed a number of things. Among the major conclusions suggested by this study are the following: * Use of financial futures and options was widespread among the largest fifteen companies, while only about one quarter of the firms in the next tier were active in these markets. This strongly suggests that firms smaller than the top thirty are unlikely to have any significant presence in derivative securities at all. * Financial futures were substantially more widely used than options. The most popular contracts were those based on fixed income instruments and stock indexes. The most common strategies were duration management of fixed income investments and anticipatory hedging in advance of security purchases.

Fisher, Anthony C.

PD May 1988. **TI** Market Failure and Energy Policy: A Rationale for Selective Conservation. **AU** Fisher, Anthony C.; Rothkopf, Michael H. **AA** Fisher: University of California, Berkeley. Rothkopf: Energy Analysis Program, Lawrence Berkeley Laboratory, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 474; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 21. **PR** $4.20. **JE** 722, 723, 721, 321. **KW** Conservation. Energy Policy. Market Failure. Externalities. Environment.

AB Appropriate activities for the government in the energy sector of the United States economy are suggested on the basis of market failures in this sector. Alleged market failures are explored and specifically targeted remedies proposed where indicated. The resulting government policies can be characterized as selectively conservationist: designed to induce lower levels of use of particular fuels -- sometimes in particular industries.

PD August 1988. **TI** Energy and Environment in the Long Term. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agriculture and Resource Economics (CUDARE) Working Paper: 481; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 12p. **PR** $5.00. **JE** 723, 721, 722, 024. **KW** Energy. Environment. Risk. Welfare Analysis. Externalities.

AB An interesting feature of many of the environmental impacts of energy production and consumption is that they may be of very long duration -indeed are, for all practical purposes, irreversible. Particular attention thus needs to be given to ways of evaluating distant future impacts, dealing with the uncertainty that inevitably arises, and possibly even restructuring the welfare-theoretic basis of the analysis. A review of recent analytical developments indicates a series of adjustments that have the effect of increasing the present value of the costs of such impacts, making the responsible energy activities less desirable from the standpoint of economic efficiency.

PD August 1988. **TI** Energy Taxes and Economic Performance: A Regional General Equilibrium Analysis. **AU** Fisher, Anthony C.; Despotakis, Kostas A. **AA** Fisher: University of California, Berkeley. Despotakis: Athens, Greece. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 479; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, CA 94702. **PG** 17p. **PR** $5.00. **JE** 021, 723, 321, 722, 323. **KW** Elasticities. Energy Taxes. General Equilibrium Model. Energy. Natural Resources.

AB A computable general equilibrium model allowing for substitution among oil and other energy and nonenergy inputs is used to simulate impacts on energy use and macroeconomic performance of two kinds of energy taxes: a uniform energy consumption tax and a crude oil severance tax. Results show that it is possible to effectively decouple both oil and energy use from macroeconomic activity, although the severance tax achieves domestic oil conservation at the cost of a corresponding rise in oil imports.

PD October 1988. **TI** Water Supply Options for the East Bay Municipal Utility District: A Critical Analysis. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 486; 207 Giannini Hall, University of California, Berkeley, CA 94720.

PG 16p. **PR** $5.00. **JE** 721, 722, 717. **KW** Water Supply. Reservoirs. Conservation. Water Shortage. Agriculture. Farming.

AB The two main objectives of the East Bay Municipal Utility District (EBMUD) water supply management program are to cope with a failure of the aqueducts in the Delta due to earthquake and flood damage and to mitigate periodic shortages. EBMUD emphasizes construction of additional terminal storage, specifically development of a reservoir in Buckhorn Canyon, to meet both objectives. Better alternatives -- cheaper and less environmentally damaging -- are (to cope with failure) use of existing terminal storage and and interties, along with an eventual phased construction of secure aqueducts in the Delta, and (to mitigate shortages) purchase of high quality Mokelumne River water from the nearby Woodbridge Irrigation District, along with sharply rising block rates to induce conservation by EBMUD customers.

Fisher, Mark E.

TI Neutralities of Money. **AU** Seater, John J.; Fisher, Mark E.

Fishman, Arthur

PD August 1988. **TI** Search Technology, Staggered Price Setting and Price Dispersion. **AA** University of Toronto and Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 28-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 30. **PR** No Charge. **JE** 134, 022. **KW** Inflation. Search Theory. Price Dispersion.

AB A menu cost model of nominal price inertia is presented in the context of an equilibrium search model with the intention of identifying the sequential search technologies associated with staggered and synchronized price adjusting. Staggered price setting is shown to be the unique equilibrium if there is even an arbitrarily small probability that the payment of a search cost elicits more than one price observation. The relationship between staggered price setting and equilibrium price dispersion is explored and related to the equilibrium search literature. This part of the paper complements closely related work by Roland Ben Abou (1988).

PD September 1988. **TI** Stochastic Dominance in Multi Sampling Environments. **AA** University of Toronto, Canada and Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 30-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 31. **PR** No Charge. **JE** 026, 213. **KW** Sequential Sampling. Sampling. Stochastic Dominance.

AB Stochastic dominance rules are constructed for an environment in which the individual may sample sequentially according to a stopping rule. The dominance criterion used requires that all sampling take place in the dominant distribution with probability one even if the individual is permitted to switch during the course of sampling. The principal result is that the necessary dominance criterion is (conventional) first degree stochastic dominance even if the individual is known to be "very" risk averse. On the other hand, knowledge of an upper bound on risk aversion serves to rank random variables identically in both sampling and nonsampling environments.

Fleischner, Herbert

PD July 1988. **TI** On Circuit Decomposition of Planar Eulerian Graphs. **AU** Fleischner, Herbert; Frank, Andras. **AA** Fleischner: University of Vienna. Frank: University of Budapest. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88513-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** No Charge. **JE** 213. **KW** Seymour's Theorem. Eulerian Graphs. Circuits.

AB We give a common generalization of P. Seymour's "Integer sum of circuits" theorem and the first author's theorem on decomposition of planar Eulerian graphs into circuits without forbidden transitions.

Flood, Robert P.

PD May 1988. **TI** Asset Prices and Time-Varying Risk. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/42; International Monetary Fund, Washington, D.C. 20431. **PG** 22. **PR** No Charge. **JE** 313, 321, 323, 322. **KW** Asset Market. Asset Pricing. Fiscal Policy. Government Spending.

AB Observers have often characterized asset markets as being subject to periods of tranquility and periods of turbulence. Until recently, however, researchers were unable to produce closed-form asset pricing formulas in a model environment of time-varying risk. Some work by Abel provided us with the insights needed to produce such formulas. This paper gives a exposition of how to develop the formulas in an environment where the formulas may by obtained using a simple extension of standard tools. While the paper is intended mainly as an exposition of new work, it also contains a report on the asset market effect of fiscal reform. It is found that entering a period of weak coordination between government spending and taxing (tax rate) policy is good for stock prices.

PD July 1988. **TI** Determinants of the Spread in a Two-Tier Foreign Exchange Market. **AU** Flood, Robert; Marion, Nancy. **AA** Internationa Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/67; International Monetary Fund, Washington, D.C. 20431. **PG** 8. **PR** No Charge. **JE** 431, 432, 422. **KW** Foreign Exchange. Exchange Rates. Economic Policy. Market Theory.

AB The literature on two-tier foreign exchange markets has concentrated on relating various shocks to the spread between the exchange rates relevant to the two tiers of the exchange market. In some earlier work we found that none of the typical predictions of theory held up empirically as BLEU spread explanations. In particular we could not find any domestic policy variables that significantly explained the BLEU spread. Our finding led us to reformulate two-tier market theory. We find that if domestic agents are risk neutral then no domestic policy variables are predicted to influence the spread.

Florens, J. P.

PD 1988. **TI** Bayesian Specification Tests. **AU** Florens, J. P.; Mouchart, Michel. **AA** Florens: Universites de Toulouse. Mouchart: Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8831; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 25. **PR** No Charge. **JE** 211. **KW** Specification Tests. Encompassing Tests. Exogeneity. Bayesian Tests.

AB This paper presents a Bayesian approach to specification tests. In this framework, an hypothesis on a subparameter c is handled through its implications for the inference on a subparameter of interest b. As in Bayesian analysis marginalization and conditioning on the parameter space are naturally defined, this approach to specification testing consists of comparing the marginal inference on b and the conditional inference on b given c. This comparison can be made on the posterior expectation or on the whole posterior distribution, using or not pseudo-true values. Applications to selection of regressors or to exogeneity tests conclude the paper.

Forges, Francoise

PD 1988. **TI** Non-Zero Sum Repeated Games and Information Transmission. **AA** Charge de Recherches au F.N.R.S. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8825; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 31. **PR** No Charge. **JE** 026. **KW** Incomplete Information. Repeated Games. Decision Theory. Nash Equilibrium.

AB This paper is an introduction to Nash and correlated equilibria in infinitely repeated games with incomplete information. The results are explained in a particular class of such games, which can be interpreted as one-shot decision problems preceded by plain conversation between the players, i.e. games of information transmission.

Frank, Andras

TI On Circuit Decomposition of Planar Eulerian Graphs.
AU Fleischner, Herbert; Frank, Andras.

Frenkel, Jacob

PD June 1988. **TI** International Coordination of Economic Policies: Scope, Methods and Effects. **AU** Frenkel, Jacob; Goldstein, Morris; Masson, Paul. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/53; International Monetary Fund, Washington D.C. 20431. **PG** 42. **PR** No Charge. **JE** 431, 421, 422. **KW** Economic Policy. International Coordination. International Trade.

AB This paper discusses the scope, methods, and effects of international coordination of economic policies. In analyzing the scope for barriers to coordination, the range and specificivity of policies to be coordinated, and the frequency of coordination. In evaluating the methods of coordination, the emphasis is on the broad issues of rules versus discretion, single-indicator versus multi-indicator systems, and hegemonic versus symmetric systems. Finally, using the MULTIMOD global macroeconomic model, some simulations are presented of several rule-based proposals for coordination.

Friedman, Benjamin

PD August 1988. **TI** Time-Varying Risk Perceptions and the Pricing of Risky Assets. **AU** Friedman, Benjamin; Kuttner, Kenneth. **AA** Friedman: Harvard University. Kuttner: Federal Reserve Bank of Chicago. **SR** National Bureau of Economic Research Working Paper: 2694; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 311. **KW** Risk. Assets. Time-Varying. Asset Returns. Equity. Stock Market.

AB Empirical results based on two different statistical approaches lead to several conclusions about the role of time-varying asset risk assessments in accounting for what, on the basis of many earlier studies, appear to be time-varying differentials in ex ante asset returns. First, both methods indicate sizeable changes over time in variance-covariance structures conditional on past information. Second, at least for some values of the parameter indicating how rapidly investors discount the information contained in past observations, the implied ex ante excess returns bear non-negligible correlation to observed ex post excess returns on either debt or equity. Third, although for long-term debt the two statistical methods used here give sharply different answers to the question of how much relevance market participants associate with past observations in assessing future risks, for equities both methods agree in indicating extremely rapid discounting of more distant observations -- so much so that in neither case do outcomes more than a year in the past matter much at all.

Friedman, James W.

PD May 1988. **TI** Subgame Perfect Equilibrium with Continuous Reaction Functions. **AU** Friedman, James W.; Samuelson, Larry. **AA** University of North Carolina, Chapel Hill. **SR** University of North Carolina Working Paper Series: 88-4; Department of Economics, CB #3305, Gardner Hall, University of North Carolina, Chapel Hill, NC 27599-3305. **PG** 44. **PR** No Charge. **JE** 022, 026, 213. **KW** Oligopoly. Reaction Function. Subgame Perfect. Infinite Horizon. Competitive Equilibrium. Punishment.

AB In a series of several papers one of the authors examined infinite horizon oligopolies with the aim of showing the existence of nontrivial subgame perfect Nash equilibria in which the strategies of the firms are continuous reaction functions. Two approaches were tried, but the desired result was not proved. Subsequent work of both Stanford (1986a) and Robson (1986) suggest that one approach was doomed. In the present paper, using the more general framework of a typical game theoretic model with discounting, we prove the existence of nontrivial continuous reaction function equilibria. 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. Our reaction functions are developed using a different approach than that found in Friedman (1968, 1976), Stanford (1986a), and Robson (1986). We prove our results by constructing equilibria in an analogous fashion to that found in proofs of folk theorems in repeated games.

Froleyks, B.

PD 1988. **TI** Routing in VSLI-layout. **AU** Froleyks, B.; Korte, B.; Promel, H. J. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 87494-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 20. **PR** No Charge. **JE** 213. **KW** Routing Problem. Algorithmic. Optimization.

AB This paper reports on algorithmic approaches for the routing problem of VLSI-logic-chips using combinatorial optimization techniques.

Gaines, Jessica

TI Macroeconomic Policy Design Using Large Econometric Rational Expectations Models: Methodology and Application.
AU Christodoulakis, Nicos M.; Gaines, Jessica; Levine, Paul.

Galbraith, John W.

TI Dynamic Specification with the General Error-Correction

Form. **AU** Banerjee, Anindya; Galbraith, John W.; Dolado, Juan.

TI Does GNP Have a Unit Root. A Detailed Examination Using Recursive Methods. **AU** Dolado, Juan; Banerjee, Anindya; Galbraith, John W.

Gallo, Giampiero

TI Prediction in Nonlinear Models with Data Uncertainty. **AU** Mariano, Roberto S.; Gallo, Giampiero.

Gary, Bobo Robert

PD May 1988. **TI** Advertising Strategies and Competition in a Chamberlinian Market Model. **AU** Gary, Bobo Robert; Lesne, Jean Philippe. **AA** Gary-Bobo: Universite Catholique de Louvain. Lesne: ENSAE/INSEE. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8826; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 19. **PR** No Charge. **JE** 531, 611, 514, 511. **KW** Advertising. Monopoly. Imperfect Competition. Heterogeneous Products. Corporate Strategy.

AB A Chamberlinian "large group" monopolistically competitive industry equilibrium in which firms advertise doesn't exist. In the context of a market model with price setting firms and differentiated products (e.g. Hart (1985)), and under weak assumptions, all equilibrium (informative) advertising expenditures are zero as soon as the number of consumers and competing brands is large enough in the market.

Gavin, Michael

PD January 1988. **TI** Structural Adjustment to a Terms of Trade Disturbance: The Real Exchange Rate, Stock Prices and the Current Account. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 376; Department of Economics, Columbia University, New York, NY 10027. **PG** 28. **PR** $5.00. **JE** 431, 111, 133, 411. **KW** Terms Of Trade. Exchange Rates. Structural Adjustment. Intertemporal Model.

AB This paper discusses the impact of a terms of trade disturbance on an economy which responds sluggishly to changes in relative prices. The sluggishness of "structural adjustment" results from the time it takes to move capital between sectors of the economy. Thus, the paper extends Mussa's (1974) integration of the specific-factors and Hecksher-Ohlin models to the case with international borrowing and lending. The key intertemporal link is, as in Dornbusch (1983), between the price of nontraded goods, the real interest rate, savings and the current account. It is shown that the response of relative prices and the current account to a permanent improvement in the terms of trade depends upon the degree of substitutability in consumption between the nontraded good and the imported good. The dynamics of relative prices are examined in detail. Finally, the paper investigates the optimal speed of adjustment to the disturbance, and the long-run equilibrium to which the economy adjusts.

Geanakoplos, John

PD May 1988. **TI** On a Fundamental Conflict Between Equity and Efficiency. **AU** Geanakoplos, John; Nalebuff, Barry. **AA** Geanakoplos: Yale University. Nalebuff: Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 137; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 26. **PR** No Charge. **JE** 024, 025, 027. **KW** Fairness. Equity. Pareto Optimality. Efficiency. Centrally Planned Economics.

AB We show that three principles of equity and efficiency are mutually incompatible for economies with a diverse set of preferences. No distribution rule can simultaneously satisfy Pareto optimality and no envy unless it allows the possibility that in a world with more resources, some individuals may receive less of every commodity.

TI Bankruptcy and Efficiency in a General Equilibrium Model with Incomplete Markets. **AU** Dubey, Pradeep; Geanakoplos, John; Shubik, Martin.

TI Lecture Notes in Incomplete Markets. **AU** Duffie, D.; Shafer, W.; Cass, D.; Magill, M.; Quinzii, M.; Geanakoplos, J.

TI The Power of Commitment. **AU** Chou, Chien fu; Geanakoplos, John.

TI Correlated Equilibrium with Generalized Information Structures. **AU** Brandenburger, Adam; Dekel, Eddie; Geanakoplos, John.

Ghysels, Eric

TI A Test for Structural Stability of Euler Conditions Parameters Estimated via the Generalized Method of Moments Estimator. **AU** Hall, Alastair; Ghysels, Eric.

TI Testing Non-Nested Euler Conditions with Quadrature-Based Methods of Approximation. **AU** Hall, Alastair; Ghysels, Eric.

Giavazzi, Francesco

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

Gibbons, Robert

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

TI Cheap Talk with Two Audiences: A Taxonomy. **AU** Farrell, Joseph; Gibbons, Robert.

Gilbert, Richard

PD August 1988. **TI** Entry, Acquisition, and the Value of Shark Repellent. **AU** Gilbert, Richard; Newberry, David M. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8888; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley 94720. **PG** 37. **PR** $3.50. **JE** 022, 611, 514, 511. **KW** Entry. Acquisition. Merger. Shareholders.

AB Entry into an industry can occur through direct investment or by acquisition of an existing firm's assets. An entrant can acquire an existing firm at below its current value by credibly threatening to enter de novo, which would lower the target's value. Acquisition can be profitable even if there are more bidders than targets. We show that acquisition may or may not be more advantageous than direct entry and we characterize the dynamic evolution of an industry faced by successive entrants. The use of shark repellent to deter acquirers may benefit shareholders.

Gilbert, Richard J.

PD June 1988. **TI** Regulation Games. **AU** Gilbert, Richard J.; Newbery, David M. **AA** University of California,

Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8879; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 35. **PR** $3.50. **JE** 613,026. **KW** Regulation. Utilities. Repeated Game. Sunk Capital. Nash Equilibrium.
AB See additional entry under this author and title.

PD September 1988. **TI** Regulation Games. **AU** Gilbert, Richard J.; Newbery, David M. **AA** Gilbert: University of California, Berkeley. Newbery: University of Cambridge and Centre for Economic Policy Research. **SR** Centre for Economic Policy Research Discussion Paper: 267; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PG** 35. **PR** pound sterling 2.00 ($4.00). **JE** 026, 613. **KW** Regulation. Utilities. Repeated Game. Regulatory Policy. Nash Equilibrium.
AB We examine regulation as a repeated game between a regulator and a utility facing a Markovian sequence of demands. Sunk capital would be expropriated by a regulator concerned only with the short-run interests of consumers. There exist rate of return regulatory policies supporting efficient investment paths with zero expected profits as subgame perfect Nash equilibria, but these policies must under-reward capital in some states of the world. Carefully designed nonlinear price regulation can improve on these equilibrium outcomes, although at higher consumer costs, and only if state-contingent transfers are feasible.

PD September 1988. **TI** The Role of Potential Competition in Industrial Organization. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8889; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 37. **PR** $3.50. **JE** 022, 611. **KW** Entry Barriers. Competition. Industry. Market Performance. Limit Pricing.
AB This paper surveys alternative theories of potential competition and contrasts the testable implications of these theories with evidence on industry performance. The theories of potential competition include static and dynamic limit pricing, perfectly contestable markets, and the "Chicago School" where market share differences are attributed to differential efficiency. While available data are not conclusive, the data do not offer much support for either static limit pricing or perfectly contestable markets as general theories of industry behavior. Most of the industry evidence can be interpreted as consistent with either dynamic limit pricing or the differential efficiency hypothesis.

Gilles, Christian

PD November 1987. **TI** Bubbles and Charges. **AU** Gilles, Christian; LeRoy, Stephen F. **AA** University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 277; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 34. **PR** No Charge. **JE** 313, 311, 213. **KW** Speculative Bubbles. Rational Expectations. Asset Pricing.
AB Little clarification of the nature of bubbles can be expected without clear definitions, and little has been achieved. Our first purpose in this paper is therefore to provide for the first time a formal characterization of bubbles. Also, we present mathematical material -- principally the Yosida-Hewitt theorem of functional analysis -- which has not heretofore been applied to the study of bubbles. Equipped now with a mathematical characterization of bubbles, we reconsider theoretical results of Prescott-Lucas and Bewley on the apparently unrelated problem of when price systems have a dot-product representation. Under our definition of bubbles, this question is shown to coincide with the question of when speculative bubbles can exist. We recast Bewley and Prescott-Lucas's results in the context of bubbles and summarize them. Finally, we present some new results on bubbles.

PD January 1988. **TI** Econometric Aspects of the Variance-Bounds Tests. **AU** Gilles, Christian; LeRoy, Stephen. **AA** University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 278; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 64. **PR** No Charge. **JE** 311, 212, 313. **KW** Interest Rates. Stock Prices. Asset Pricing. Volatility. Econometric Biases.
AB The early papers of Shiller (1979), (1981) and LeRoy and Porter (1981) documenting the apparent inability of efficient-markets models to explain the volatility of long-term interest rates and stock prices have given way to a series of papers alleging that their procedures are subject to a variety of econometric biases. These biases are held to invalidate -or at least substantially to qualify -- the conclusion that asset-price volatility is excessive. In reply to these, there has emerged a new round of "second-generation" volatility tests which are represented as free of the biases that attended the first-generation tests. These tests in turn have been criticized on econometric grounds. At each stage we have seen an escalation in the econometric sophistication required of the reader, who is in danger of losing sight of many points in the dispute. A reader's guide to the econometric side of the variance-bounds literature may therefore be useful.

PD April 1988. **TI** Charges as Equilibrium Prices and Asset Bubbles. **AA** University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 280; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 21. **PR** No Charge. **JE** 313, 311. **KW** Speculative Bubbles. Asset Pricing. Asset Bubbles.
AB The extensive body of research on asset bubbles, mainly empirical, suffers from vagueness in the definition of the term bubble. To remedy this situation, Gilles and LeRoy (1988) proposed a definition which seems to correspond to our intuitive notion; that is, in practice, whenever there is widespread agreement about what constitutes a bubble, the definition and the intuition coincide. Gilles-LeRoy motivated their definition at some length, so we do not need to do so here. On the other hand, although they did present some examples, they did not address the issue of the existence of equilibria with bubbles. This paper takes a step in that direction.

Giovannini, Alberto

PD October 1988. **TI** How do Fixed-Exchange-Rates Regimes Work: The Evidence from the Gold Standard, Bretton Woods and the European Monetary System. **AA** Graduate School of Business, Columbia University. **SR** Centre for Economic Policy Research Discussion Paper: 282; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PR** pound sterling 2.00

($4.00). **JE** 044, 431, 432, 411. **KW** Fixed Exchange Rates. Gold Standard. Bretton Woods. European Monetary System.

AB This paper discusses the institutional aspects and the empirical evidence in favor of the hypothesis that fixed exchange rate regimes work asymmetrically, with one country providing the nominal anchor for the whole system. I derive the observable implications of the 'asymmetry' hypothesis using a standard model of fixed exchange rates in which the center-country pegs the nominal interest rate, but disregards fluctuations in foreign exchange reserves, while the other countries target their foreign exchange reserves. In equilibrium, countries at the periphery accommodate fully the center-country's policies. Furthermore, all idiosyncratic shocks are fully reflected in the interest rates of the countries at the periphery, but do not affect the center-country's interest rate. I then examine the empirical evidence in support of the asymmetry hypothesis which is drawn both from the study of interest-rate behavior around some well-known episodes of international portfolio disturbances, and from the analysis of the stochastic implications of the model in section 4 of the paper.

Goffin, J. L.

PD June 1988. **TI** Cutting Planes and Column Generation Techniques with the Projective Algorithm. **AU** Goffin, J. L.; Vial, J. P. **AA** Fonds National Suisse de la Recherche Scientifique. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8829; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 24. **PR** No Charge. **JE** 213. **KW** Linear Programming.

AB The problem studied is that of solving linear programs defined recursively by column generation or cutting plane techniques using, respectively, the primal projective or the dual projective methods.

Goldberg, Linda

PD September 1988. **TI** Collapsing Exchange Rate Regimes: Shocks and Biases. **AA** New York University. **SR** National Bureau of Economic Research Working Paper: 2702; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 315, 311, 431. **KW** Credit Market. Exchange Rates. Federal Reserve.

AB Patterns in domestic credit creation stemming from inconsistent fiscal policies have received widespread attention for aggrevating speculative attacks on central bank foreign exchange reserves and contributing to the collapse of exchange rate regimes. This paper acknowledges the importance of monetary and fiscal discipline, but also emphasizes the importance of other random shocks to the domestic money market, most notably shocks from external credit supplies and relative prices.

Goldin, Claudia

PD October 1988. **TI** Marriage Bars: Discrimination Against Married Women Workers, 1920's to 1950's. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2747; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 826, 917. **KW** Discrimination. Labor Demand. Women. Labor Supply.

AB Modern personnel practices, social consensus, and the Depression acted in concert to delay the emergence of married women in the American economy through an institution known as the "marriage bar". Marriage bars were policies adopted by firms and local school boards, from about the early 1900s to 1950, to fire single women when they married and not to hire married women. I explore their determinants using firm-level data from 1931 and 1940 and find they are associated with promotion from within, tenure-based salaries, and other modern personnel practices. The marriage bar, which had at its height affected 75 per cent of all local school boards and more than 50 per cent of all office workers, was virtually abandoned in the 1950s when the cost of limiting labor supply greatly increased.

Goldman, Steven

PD September 1988. **TI** Economic Growth and Generalized Depreciation. **AU** Goldman, Steven; Mui, Vai Lam. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8892; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley 94720. **PG** 11. **PR** $3.50. **JE** 111. **KW** Depreciation. Solow. Growth Model. Stationary State. Economic Growth.

AB The paper generalizes the familiar Solow one-sector model of economic growth by allowing for any depreciation schedule, not just exponential. Specifically, the asymptotic properties of the Solow model are preserved and there exists an average rate of depreciation which replaces the exponential one in the stationary state equation.

Goldstein, Morris

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

Gravelle, Jane

PD October 1988. **TI** Does the Harberger Model Greatly Understate the Excess Burden of the Corporate Tax. Another Model Says Yes. **AU** Gravelle, Jane; Kotlikoff, Laurence. **AA** Gravelle: Congressional Research Service, Library of Congress. Kotlikoff: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2742; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 521, 514, 323. **KW** Corporate Taxes. Business Finance.

AB An important deficiency in Harberger's (1962) model of corporate income taxation is its inability to consider both corporate and noncorporate production of the same good. This precludes analysis of within-industry substitution of noncorporate for corporate production in response to the tax. Such within-industry substitution has potentially major implications for both the excess burden and incidence of the corporate tax. In Gravelle and Kotlikoff (1988) we present a new model of the corporation income tax. The model has two key characteristics. First, corporate and noncorporate firms produce (with identical production functions) each of the model's goods both before and after corporate taxation is imposed, and second, the decision of entrepreneurs to establish unincorporated business is endogenous. Compared with the Harberger model, the new model predicts a very much larger excess burden from corporate income taxation. The incidence of the corporate tax can also differ dramatically in the two models.

Gregory, Allan W.

PD September 1988. **TI** Calibration as Testing Type I Error in the Equity Premium Puzzle. **AU** Gregory, Allan W.; Smith, Gregor W. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 725; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 17. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 211, 212, 313. **KW** Model Simulation. Type I Error. Dynamic Model. Exchange Economy.

AB A test of a dynamic, macroeconomic model with no free parameters is provided by comparing its features, such as moments, with those of historical data. We provide a method for studying the distribution of the sample moment under the null hypothesis that the model is true. We calculate the size of tests of the recursive, exchange economy studied by Mehra and Prescott (1985) which compare model-generated and actual equity premia. With the parameter settings of Mehra and Prescott, the approximate size of their test (which seeks to match mean risk-free rates and equity premia) is zero, while alternate, empirical representations of this economy or alternate moment-matching tests yield large probabilities of type I error.

PD October 1988. **TI** Risk Premiums in Asset Prices and Returns. **AU** Gregory, Allan W.; Backus, David K. **AA** Gregory: Queen's University. Backus: University of British Columbia. **SR** Queen's Institute for Economic Research Discussion Paper: 727; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 13. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 212, 431, 441. **KW** Risk Premiums. Exchange Rates. Asset Pricing. Spot Rates. General Equilibrium.

AB We review recent research on time-varying risk premiums, including attempts to explain rejections by Baillie and others of "the unbiasedness hypothesis". Using spot and forward foreign exchange rates we discuss the evidence for time-varying risk premiums, relate it to general equilibrium theories of asset pricing, and describe the artificial economy methodology.

Grilli, Vittorio

TI Fiscal Uncertainty, Informational Externalities and the Welfare Cost of Speculation. **AU** de Kock, Gabriel; Grilli, Vittorio.

PD October 1988. **TI** Seigniorage in Europe. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 565; Economic Growth Center, Yale University, Box 1987 Yale Station, New Haven, CT 06520. **PG** 45. **PR** $2.00. **JE** 432, 431, 423. **KW** European Monetary System. Capital Controls. Exchange Rates.

AB A crucial issue in Europe today is the definition of the strategy for achieving monetary unification. The European Monetary system (EMS) has been an important element in the process of integration, by decreasing the variability of the exchange rates. Its success, however, has been facilitated by the existence of widespread capital controls that have discouraged speculative activities. The process of financial liberalization which is now in progress, while certainly beneficial in other respects, could seriously undermine the solidity of the EMS. One of the main reasons for concern is the uneven status of the government finances of the member countries. Exchange rate systems like the EMS impose monetary discipline that may be too tight for countries that are struggling with large public deficits. The financing of large government expenditures may be incompatible with a fixed exchange rate and, historically, this incompatibility has been one of the main causes of exchange rate crises.

Grossman, Herschel

PD August 1988. **TI** Proprietary Public Finance, Political Competition, and Reputation. **AU** Grossman, Herschel; Noh, Suk Jae. **AA** Grossman: Brown University. Noh: Dartmouth College. **SR** National Bureau of Economic Research Working Paper: 2696; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 321, 323, 024. **KW** Taxation. Fiscal Policy. Political Economy. Tax Policy. Political System.

AB Although tax policy in most historical cases has been barely distinguishable from legalized theft, why have tax and spending policies in a few unusually fortunate communities, such as some of the modern democracies, apparently been, if not welfare maximizing, at least relatively benevolent. We address this question within a general positive analysis of tax and spending policy that focuses on the effects of political competition and its interaction with other constraints on policy choices, especially the constraint that equilibrium policies must be time consistent. The framework for this analysis is a theory of a proprietary fiscal authority whose objective is to extract rents for the political establishment, the proprietor of sovereign power. l.

PD October 1988. **TI** The Political Economy of War Debts and Inflation. **AA** Brown University. **SR** National Bureau of Economic Research Working Paper: 2743; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 114, 041, 311, 443. **KW** War Debts. Monetary Policy. Political Economy. Reputation.

AB This paper argues that before World War II the desire to maintain a trustworthy reputation for honoring war debts was an important factor in inducing deflationary postwar monetary policies in both the United Kingdom and the United States. The paper then asks why this policy objective did not serve to induce either a deflationary monetary policy or the honoring in full of war debts following World War II. The discussion focuses on differences in economic and political conditions after World War II, especially the extension of the voting franchise, the increased economic and political power of organized labor, and, perhaps most importantly, the large postwar demands on national resources with which the servicing of World-War-II debts had to compete. The analysis also argues that, because these postwar developments were unforeseeable, but verifiable, contingencies, the partial default on World-War-II debts was excusable and, accordingly, did not cause either the United Kingdom or the United States to lose its trustworthy reputation.

Grossman, Michael

TI Carbon Monoxide in the Ambient Air and Blood Pressure: Evidence from Nhanes II and the Saroad System. **AU** Coate, Douglas; Grossman, Michael.

PD October 1988. **TI** Unobservables, Pregnancy Resolutions, and Birthweight Production Functions in New York City. **AU** Grossman, Michael; Joyce, Theodore. **AA** City University of New York. **SR** National Bureau of Economic Research Working Paper: 2746; National Bureau of

Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 913, 921. **KW** Fertility. Pregnancy. Infant Health.

AB This paper makes contributions to the estimation of health production functions and the economics of fertility control. We present the first infant health production functions that simultaneously control for self-selection in the resolution of pregnancies as live births or induced abortions and in the use of prenatal medical care services. We also incorporate the decision of a pregnant woman to give birth or obtain an abortion into economic models of fertility control and use information conveyed by this decision to refine estimates of infant health production functions and demand functions for prenatal medical care.

Grotschel, M.

PD 1988. **TI** Solutions of Large-Scale Symmetric Travelling Salesman Problems. **AU** Grotschel, M.; Holland, O. **AA** Grotschel: University of Augsburg. Holland: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88506-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 68. **PR** No Charge. **JE** 213. **KW** Cutting Plane Algorithm. Polyhedral Combinatorics. Polytope.

AB In this paper we report on a cutting plane procedure with which we solved symmetric travelling salesman problems of up to 1000 cities to optimality. Our implementation is based on a fast LP-solver (IBM's MPSX) and makes effective use of polyhedral results on the symmetric travelling salesman polytope. We describe the important ingredients of our code and give an extensive documentation of its computational performance.

Grusky, David B.

TI The Multilevel Analysis of Trends with Repeated Cross-Sectional Data. **AU** Di Prete, Thomas A.; Grusky, David B.

Guay, Richard

TI Estimates of Canadian GDP, Monthly, 1962 to 1985. **AU** Milbourne, Ross D.; Guay, Richard; Otto, Glenn; Smith, Gregor W.

Haliassos, Michael

PD October 1988. **TI** The Macroeconomics of Government Finance. **AU** Haliassos, Michael; Tobin, James. **AA** Haliassos: University of Maryland. Tobin: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 888; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 110. **PR** $2.00. **JE** 322, 321, 311. **KW** Government Spending. Fiscal Policy. Government Policy. Budget Deficit.

AB This is a critical survey of the literature on the implications of government financial policy for economic activity. The central question is whether the choice of how to finance a given path of government expenditure (i.e. through taxes, nonmonetary debt or money creation) has any real effects. We first present measures of the budget deficit and review economists' views, over the past fifty years, of the burden of public debt, of the neutrality of money, and of fiscal and monetary policies. The earlier tradition and the recent literature differ in methodology, and we then discuss the "microfoundations" approach that dominates contemporary macroeconomics. This is followed by an evaluation of recent analyses, both theoretical and empirical, focusing on (i) the Debt Neutrality hypothesis of Robert Barro, (ii) the effects of the choice between tax- and money-financing of government expenditures, and especially the issues of monetary superneutrality and of the Fisher hypothesis, and (iii) the effects of open market operations.

Hall, Alastair

PD 1988. **TI** Testing for a Unit Root in the Presence of Moving Average Errors. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-11; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 20. **PR** 3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211. **KW** Time Series. Unit Root. Instrumental Variable. Asymptotic Theory. Random Walk.

AB In this paper we propose a new approach to testing for unit roots in a time series (y(t)) with moving average innovations based on an instrumental variable estimator. For the case where (y(t)) is a random walk with moving average innovations, we derive the limiting distribution of the instrumental variable estimator when the estimated model is either (i) the true model, (ii) a random walk with shift in mean or, (iii) a random walk with shift in mean and a linear time trend. These distributions are identical to those tabulated by Dickey and Fuller in some cases, and easily transformed, in the spirit of Phillips (1987), to the Dickey and Fuller distributions in others.

PD January 1988. **TI** Lagrange Multiplier Tests for Normality Against Semi Non-Parametric Alternatives. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-12; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 28. **PR** 3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211. **KW** Specification Test. Normality. Nonparametric Density.

AB In this paper we derive the Lagrange Multiplier test of the null hypothesis that a stationary random vector has a (possibly heteroskedastic) normal distribution against the alternative that the distribution is a member of the family with Semi Non-Parametric (SNP) probability density functions considered by Gallant and Tauchen (1987). The test is motivated as follows: (i) to provide a test for the adequacy of an estimated normal distribution both before and after any ARCH has been estimated, (ii) to provide a test of whether the computationally more burdensome SNP estimation may be appropriate for the model in question. The test is found to contain special cases of the moment tests proposed by Newey (1985a) and Tauchen (1985). The test is applied to the change of price in T-bill data series analyzed by Tauchen and Pitts (1983) and Tauchen (1985).

PD March 1988. **TI** A Test for Nonlinearity of Time Series Based on the Volterra Expansion. **AU** Hall, Alastair; Kupiec, Paul. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-9; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 26. **PR** 3.00; checks payable to Department of Economics, University of

Pennsylvania. **JE** 211. **KW** Time Series. Nonlinear Models. Specification Test.
AB This paper proposes a time domain test for nonlinearity of a stationary time series based on the Volterra expansion. A novel feature of this test is its flexibility: the single test can detect both contemporaneous and noncontemporaneous nonlinearity and can be designed to detect nonlinearity of any arbitrary order or specification. The test is computationally simple and is demonstrated to have high power against various nonlinear series. The test is compared with time domain tests for nonlinearity proposed by Keenan (1985) and Tsay (1986). Using simulated series, the Volterra test is shown to have substantial power against nonlinear alternatives which are often not detected by the alternative tests considered.

PD July 1988. **TI** A Test for Structural Stability of Euler Conditions Parameters Estimated via the Generalized Method of Moments Estimator. **AU** Hall, Alastair; Ghysels, Eric. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-13; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 14. **PR** 3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211. **KW** Method of Moment. Structural Change. Simultaneous Equations. Asymptotic Theory. Dynamic Models.
AB A test for structural parameter stability of Generalized Method of Moments estimates is studied. To perform the test, one first splits the sample into two subsamples, one conditional on observations before the (known) break and one containing observations after the break. The test is based on examining whether parameter estimates of one subsample can be used to predict over the other subsample. The test applies to a wide variety of dynamic, nonlinear simultaneous equation models for the wide class of inference methods covered by the GMM estimator. The asymptotic properties and local power of the test are derived. It is shown that the test has equal asymptotic power against local alternatives in both subsamples regardless of which subsample is conditioned on. The test is also compared with GMM tests for structural change proposed by Andrews and Fair (1987). In comparison, our test has several computational advantages particularly important for nonlinear dynamic models.

PD July 1988. **TI** Testing for Unit Roots in Autoregressive Moving Average Models: An Instrumental Variable Approach. **AU** Hall, Alastair; Pantula, Sastry. **AA** Hall: University of Pennsylvania. Pantula: North Carolina State University. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-14; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 25. **PR** 3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211. **KW** Time Series. Unit Root. Instrumental Variable. Asymptotic Theory.
AB In this paper we propose an approach, based on an instrumental variable estimator, for testing the null hypothesis that a process Y(t) is an ARIMA (p,1,q) against the alternative that it is a stationary ARIMA (p+1,0,q) process. Our approach is an extension of the procedure suggested by Hall (1988) for the case p=0. We derive the limiting distributions of the instrumental variable estimator when the estimated model is either (i) the true model, (ii) the true model with a shift in mean included or (iii) the true model with a shift in mean and a linear time trend included. The performance of the test statistics is investigated using a Monte Carlo study.

PD August 1988. **TI** Testing Non-Nested Euler Conditions with Quadrature-Based Methods of Approximation. **AU** Hall, Alastair; Ghysels, Eric. **AA** Hall: University of Pennsylvania. Ghysels: University of Montreal. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-15; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 44. **PR** 1.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211. **KW** Method of Moments. Euler Equations. Non-nested Hypothesis. Encompassing Principle.
AB In this paper, we present a test for discriminating between two non-nested sets of Euler conditions which have been estimated using Generalized Method of Moments (GMM). The test is based on the Encompassing Principle of Mizon and Richard (1986), and uses Tauchen's (1986a) quadrature-based methods for approximating the expectation of nonlinear functions of stationary random variables. The test is compared to the procedure suggested by Singleton (1986). Singleton's empirical examples are also reconsidered.

Hall, Bronwyn H.

PD August 1988. **TI** Estimation of the Probability of Acquisition in an Equilibrium Setting. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8887; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley 94720. **PG** 51. **PR** $3.50. **JE** 514, 611, 212. **KW** Mergers. Acquisitions. Logit Models.
AB Recent work by Auerbach and Reishus (1987) and Hall (1987) has made use of logit models of individual choice behavior to estimate econometrically the probability that one firm will acquire another one. This paper considers more carefully the theoretical underpinnings of such econometric models and shows that it is not possible to derive the simple logit models used in previous work rigorously when the market consists of a finite number of differentiated buyers and sellers. This feature characterizes the market for corporate assets strongly, and may be important even in settings where logit models of choice have been previously applied, such as the market for single family houses.

Hall, Peter

PD September 1988. **TI** Local Minima in Cross-Validation Functions. **AU** Hall, Peter; Marron, J. S. **AA** Hall: Brown University. Marron: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-201; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 26. **PR** No Charge. **JE** 211, 213. **KW** Bandwidth Selection. Cross Validation. Kernel Density Estimation.
AB The method of least squares cross-validation for choosing the bandwidth of a kernel density estimator has been the object of considerable research, both through theoretical analysis and also simulation studies. The method involves the minimization of a certain function of the bandwidth. One of the less attractive features of this method, which has been observed in simulation studies but has not previously been understood theoretically, is that rather often the cross-validation function has multiple local minima. The theoretical results of this paper provide an explanation and quantification of these local minima

through modelling the cross-validation function as a Gaussian stochastic process.

Hamada, Koichi

PD September 1988. **TI** On the International Capital Ownership Pattern at the Turn of the Twenty First Century. **AU** Hamada, Koichi; Iwata, Kazumasa. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 564; Economic Growth Center, Yale University, Box 1987 Yale Station, New Haven, CT 06520. **PG** 40. **PR** $2.00. **JE** 431, 441, 522. **KW** Savings. Capital Movements. Investments.

AB This paper studies the trends of current accounts and accompanying capital movements from a growth-theoretic perspective and attempts to predict the credit-debt structure among major industrialized countries (the United States, Japan and West Germany), at the turn of the twenty-first century. The past movements of national savings and investment support the "habitat" view by Feldstein and Horioka that the supply of savings create investment where it is generated. Rapid increases in the United States foreign debt may imply, however, the relevance of the "traditional" view that capital moves so as to equate its rates of return. The simulation exercises show that the ratio of external debt to capital stock in the United States will rise to 30-40 per cent over the long run in the absence of the recovery of its savings ratio to the historical standard of the 1970s.

Hamilton, John

PD October 1988. **TI** On-Line Management of Time Series Databases: Database Retrieval Program DBR. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 14/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 20. **PR** No Charge. **JE** 214. **KW** Economic Software. Economic Databases.

AB The working paper describes software used to provide on-line access to a number of economic databases. Access is provided by the DBR program which enables databases to be searched, data to be displayed, plotted or retrieved to an external file for analysis. The methods used to load and manage these databases are also described.

Hammond, Peter J.

PD May 1988. **TI** Theoretical Progress in Public Economics: A Provocative Assessment. **AA** Stanford University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-171; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 45. **PR** No Charge. **JE** 036, 024, 022. **KW** Welfare Economics. Public Finance. First Best Outcome.

AB The following twelve controversial issues are each briefly discussed: the blindness of the invisible hand to injustice; a misleading efficiency theorem; truthful revelation of feasibility constraints; delusions of first best; deadweight losses as sunk costs; markets as failures; the nth best as enemy of the good; intermonetary comparisons of gains and losses; no worthwhile change is small; surplus economics; surplus econometrics; and unbalanced policies. Unbalanced policy changes should be evaluated by estimating the probabilities of different joint frequency distributions of welfare relevant attributes and welfare net gains for all individuals in the population, together with the budget deficits or surpluses.

Handa, Puneet

PD July 1988. **TI** An Empirical Investigation of Leveraged Recapitalizations: A New Takeover Defence Strategy. **AU** Handa, Puneet; Radhakrishnan, A. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 480; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 28. **PR** No Charge. **JE** 521, 514, 611, 313. **KW** Takeover. Merger. Raiders. Corporate Strategy. Competition.

AB Leveraged recapitalizations are a recent phenomenon in the world of corporate finance. They represent a new form of defense being adopted by firms threatened by a takeover. In a typical transaction of this kind a firm declares a high cash dividend to the stockholders and issues fresh debt to finance it. In some cases the cash dividend can be close to a hundred percent of the market price of the stock and the recapitalization can result in a debt to total market value of the firm of close to a hundred percent.

Hanjoul, Pierre

PD March 1988. **TI** Uncapacitated Plant Location Under Alternative Spatial Price Policies. **AU** Hanjoul, Pierre; Hansen, Pierre; Peeters, Dominique. Thisse-Jacques-Francois. **AA** Hanjoul, Thisse, Peeters: Universite Catholique de Louvain. Hansen: Rutgers University. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8819; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 26. **PR** No Charge. **JE** 022, 213. **KW** Location Theory. Plant Location. Demand Function. Pricing Policies.

AB Given a spatial system of clients' demand functions, this paper proposes solution methods to determine the price(s), the number, the locations, the sizes, and the market areas of the plants supplying the clients in order to maximize the profit of the firm. Three alternative spatial price policies are considered: (i) uniform mill pricing, in which the same price is charged to the clients at the plant door, (ii) uniform delivered pricing, in which clients pay the same delivered price irrespective of their locations, and (iii) spatial discriminatory pricing, which is such that the firm sets client-specific prices based on their locations. Computational results are reported.

Hanley, J. M.

TI The Demand for Episodes of Medical Treatment in the Health Insurance Experiment. **AU** Keeler, E. B.; Buchanan, J. L.; Rolph, J. E.; Hanley, J. M.; Reboussin, D. M.

Hansen, Bruce E.

PD July 1988. **TI** Estimation and Inference in Models of Cointegration: A Simulation Study. **AU** Hansen, Bruce E.; Phillips, Peter C. B. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 881; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 34. **PR** No Charge. **JE** 211, 212. **KW** Co-integration. Endogeneity. Instrumental Variables. Nonstationary Series. Asymptotic Theory.

AB This paper studies the finite sample distributions of estimators of the cointegrating vector of linear regression models with I(1) variables. Attention is concentrated on the least squares (OLS) and instrumental variables (IV) methods analyzed in other recent work (Phillips and Hansen (1988)). The general preference of OLS to IV techniques suggested by asymptotic theory is reinforced by our simulations. An exception arises for cases of low signal to noise, where spurious IV techniques (so named for their use of instruments that are structurally unrelated to the model) outperform uncorrected least squares. We verify the presence of a small sample estimation bias and show that the Park-Phillips bias correction does reduce the magnitude of this problem. We also find that there is substantial distributional divergence of t-statistics from the normal, unless the Phillips-Hansen endogeneity correction is used. Finally, we apply these methods to aggregate consumption and income data. Our empirical results indicate that the endogeneity and serial dependence corrections are important and lead to intuitively plausible changes in the estimated coefficients.

Hansen, Pierre

TI Uncapacitated Plant Location Under Alternative Spatial Price Policies. **AU** Hanjoul, Pierre; Hansen, Pierre; Peeters, Dominique. Thisse-Jacques-Francois.

Hardle, Wolfgang

TI Second Order Effects in Semiparametric Weighted Least Squares Regression. **AU** Carroll, R. J.; Hardle, W.

PD June 1988. **TI** Efficient Nonparametric Smoothing in High Dimensions Using Interactive Graphical Techniques. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-176; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 14. **PR** No Charge. **JE** 211. **KW** Nonparametric Regression. Smoothing Techniques. Weighted Average. Algorithms.
AB Smoothing techniques are used to reduce the variability of point clouds. There is great interest not only among applied statisticians but also among applied workers in biostatistics, economics and engineering to model the data in a nonparametric fashion. The benefits of this more flexible modeling come at the cost of greater computation, especially in high dimensions. In this paper several possibilities of smoothing in high dimensions are described using additive models. The algorithms for solving the nonparametric smoothing problems are based on WARPing, i.e. Weighted Averaging using Rounded Points. Interactive graphical techniques are a conditio sine qua non for tuning and checking the structure of lower dimensional projections of the data and of smooths produced by the algorithms. Applications of the WARPing technique to a side impact study are shown by smoothing in Projection-Pursuit-type models using Average Derivative Estimation.

PD July 1988. **TI** Comparing Non Parametric Versus Regression Fits. **AU** Hardle, W.; Mammen, E. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-177; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** No Charge. **JE** 211. **KW** Regression Models. Nonparametric. Bootstrap. Engel Curves. Smoothing Techniques.
AB A common approach to modelling regression data is to assume that a certain parametric model sufficiently describes the structure of the observations. Nonparametric smoothing techniques relax such parametric structural assumptions and yield estimates of more flexible character. It is quite natural to compare these two approaches. In this paper we use a new bootstrap method in order to judge visible differences between the two estimators. We call this method the wild bootstrap and apply it to the questions of fitting of Engel curves.

TI On the Use of Nonparametric Regression for Model Checking. **AU** Azzalini, A.; Bowman, A. W.; Hardle, W.

PD August 1988. **TI** Empirical Evidence on the Law of Demand. **AU** Hardle, W.; Hildenbrand, W.; Jerison, M. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-193; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 31. **PR** No Charge. **JE** 021, 022. **KW** Substitution Effect. Income Effect. Slutzky Equation. General Equilibrium.
AB When general equilibrium models are used to make comparative static predictions they cease to be general. This is necessarily so. Without a specific structure of the demand and supply system one cannot expect any definite comparative static results. However, in most analyses, conclusions depend upon structure imposed either by aggregating consumers into a single representative, or by assuming restrictive forms for utilities or production functions. Such analyses then deal with special cases. The present paper considers an alternative way of imposing structure on a general equilibrium model. It considers sufficient conditions for the multimarket version of the "law of demand" in a consumption sector. The sufficient conditions are a hybrid, combining standard theoretical restrictions with restrictions that do not come from a theoretical model. The latter restrictions can, under certain conditions, be tested and we provide such a test using United Kingdom expenditure data.

Harrison, Scott

TI Posthospital Care Before and After the Medicare Prospective Payment System. **AU** Neu, C. R.; Harrison, Scott.

Hart, Jeffrey D.

PD July 1988. **TI** Kernel Regression Estimation with Time Series Error. **AA** Texas A&M University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-185; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** No Charge. **JE** 211. **KW** Bandwidth Selection. Mean Squared Error. Autoregressive Process. Spectrum.
AB The problem of objectively choosing the bandwidth of a kernel estimate for the density function is addressed. It is shown both theoretically and by simulation that cross-validation produces extremely rough kernel estimates when the data are sufficiently positively correlated. This makes it inadvisable to use residuals from a cross-validated kernel estimate as a means of estimating the covariance function of the errors. Alternative methods of estimating the covariance function are proposed. In a simulation study, incorporating these estimated covariances into a risk estimation procedure

leads to more efficient smoothing of positively correlated data.

Hartwick, John M.

PD June 1988. **TI** Duopoly in Exhaustible Resource Exploration and Extraction. **AU** Hartwick, John M.; Sadorsky, Perry. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 721; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 18. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 721, 616, 611, 022, 024. **KW** Natural Resources. Cournot Equilibrium. Duopoly. Exploration. Exhaustible Resources.

AB Strategic considerations of exploration and extraction are investigated in a two player, two period, two stage perfect equilibrium framework. Relative to two "plant" monopoly, the duopolists explore more and extract more period by period. A mixed game in which there is co-operation "upstream" in exploration and Cournot competition "downstream" in quantities extracted is investigated. We also note that increasing returns to scale in exploration can introduce an unstable interior solution with a corner solution the presumed stable equilibrium.

PD October 1988. **TI** Explaining Current Exhaustible Resource Prices with CAPM. **AU** Hartwick, John M.; Yeung, David. **AA** Hartwick: Queen's University. Yeung: University of Windsor. **SR** Queen's Institute for Economic Research Discussion Paper: 726; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 17. **PR** $3.00 Canada; $3.50 United States and Foreign. **JE** 521, 721, 313. **KW** Capital Market. Asset Pricing Model. Capital Stock.

AB A group of firms issuing equity claims on its capital stock have all capital as an exhaustible resource (e.g. oil companies which do not explore and know the size of their holdings). We introduce such firms into the set of n firms who have issued equities in the Capital Asset Pricing Model (CAPM) and observe how the simultaneous interaction of demand for oil by users and demand for claims by asset traders in the face of future asset price uncertainty yields an extraction program for exhaustible stocks. We compare the asset equilibrium condition for exhaustible resources in this extended (real) CAPM model with the familiar Hotelling Rule on exhaustible resource prices. We also observe how exhaustibility of a firm's capital stock spills over into the familiar asset pricing rules for non-depleting stock in CAPM.

Hausman, J. A.

PD November 1988. **TI** Nonlinear Errors in Variables: Estimation of Some Engel Curves. **AU** Hausman, J. A.; Newey, W. K.; Powel, J. L. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 504; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 42. **PR** No Charge. **JE** 211, 212, 921. **KW** Measurement Error. Engel Curves. Nonlinear Models. Errors in Variables. Households.

AB In this paper, we discuss consistent estimators for nonlinear regression specifications when errors in variables are present. Our estimators depend on the existence of instrumental variables or a single repeated observation. Thus we do not require the large number of measurements or shrinking covariance matrix assumption of much previous research. We then apply our methodology to estimation of Engel curves on household data. We find that the "Leser-Working" specification of budget shares regressed on the log of income or expenditure should be generalized to higher order terms in log income. Also, we find that errors in variables in either reported income or expenditure should be accounted for. Lastly, we find rather strong support for the Gorman rank restriction on the matrix of coefficients for the polynomial terms in income.

Haveman, Robert

TI Labor and Transfer Incomes and Older Women's Work: Estimates from the United States. **AU** de Jong, Philip; Haveman, Robert; Wolfe, Barbara.

Heckman, James J.

PD August 1988. **TI** Choosing Among Alternative Nonexperimental Methods for Estimating the Impact of Social Programs: The Case of Manpower Training. **AU** Heckman, James J.; Hotz, V. Joseph. **AA** Economics Research Center/NORC. **SR** Economics Research Center/NORC Discussion Paper: 88-12; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 34. **PR** $2.00; send requests to Librarian, NORC. **JE** 811, 822, 212, 215. **KW** Selection Bias. Specification Tests. Experimental Economics. Manpower Training.

AB The recent literature on evaluating manpower training programs demonstrates that alternative nonexperimental estimators of the same program produce an unbelievably wide array of estimates of program impact. These findings have led to the call for experiments to be used to perform credible program evaluations. Missing in all of the recent pessimistic analyses of nonexperimental methods is any systematic discussion of how to choose among competing estimators. This paper explores the value of simple specification tests in selecting an appropriate nonexperimental estimator. A reanalysis of the National Supported Work Demonstration Data previously analyzed by proponents of social experiments reveals that a simple testing procedure picks nonexperimental estimators that reproduce experimental estimates of program impact.

Heinricher, Arthur

PD September 1988. **TI** On Failure Modeling. **AU** Heinricher, Arthur; Helmes, Kurt. **AA** University of Kentucky. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-99; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** No Charge. **JE** 211. **KW** Survival Probability. Random Processes. Uncertainty. Failure Times.

AB In this correspondence, we shall address the reliability problems for components of a system and/or for the whole system in the presence of a changing environment, a situation typically encountered in flexible manufacturing. We shall model failure times and develop failure distributions using random processes to describe the uncertainty due to fluctuating conditions. For such systems we shall present a general formula for the survival probability (reliability function) in terms of the given data. So far, such a formula has been known only for some very special cases.

Helfand, Gloria E.

PD April 1988. **TI** The Effects on Production and Profits of Different Forms of Pollution Control Standards. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 467; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 20. **PR** $4.00. **JE** 722, 613. **KW** Pollution. Input-Output Analysis. Emission Standards. Regulation.

AB Five different specifications of a pollution control restriction are analyzed for their comparative effects on input use, output, and profits. Because of the different effects, the choice of regulatory instrument may reveal the relative power of some interest groups concerned with different kinds of pollutants.

Hell, Pavol

PD March 1988. **TI** Universality of Directed Graphs of a Given Height. **AU** Hell, Pavol; Nesetril, Jaroslav. **AA** Hell: Simon Fraser University. Nesetril: Charles University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88508-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 10. **PR** No Charge. **JE** 213. **KW** Directed Graphs. Fixed Graph. Universal.

AB We consider the classes of directed graphs which are determined by the existence of a homomorphism into (or from) a fixed graph. We completely answer the question when a class of this type is universal.

Helliwell, John F.

TI Multicountry Modelling of Financial Markets. **AU** Cockerline, Jon; Helliwell, John F.; Lafrance, Robert.

Helmes, Kurt

TI On Failure Modeling. **AU** Heinricher, Arthur; Helmes, Kurt.

Helpman, Elhanan

PD August 1988. **TI** Voluntary Debt Reduction: Incentives and Welfare. **AA** Tel Aviv University. **SR** National Bureau of Economic Research Working Paper: 2692; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 441, 433, 026, 522. **KW** Investment. Capital Mobility. Risk. Debt. Noncooperative Game.

AB In an economy with a debt overhang, investment depends on expected tax rates. On the other hand, expected tax rates depend on the debt's face value. Therefore investment depends on the face value of debt. I show that this may lead to a positive or negative association between debt and investment depending on the degree of international capital mobility and attitudes toward risk. There may also exist multiple equilibria; with high and low investment levels. The paper explores the desirability of debt reduction in this environment. First, it characterizes circumstances in which debt reduction is desirable from the collective point of view of the creditors. Second, it formulates the forgiveness decision as a noncooperative game among creditors and explores the scope for debt reduction as an outcome of this game.

Hercowitz, Zvi

PD September 1988. **TI** A Migration Model with "Zionism". **AU** Hercowitz, Zvi; Pines, David. **AA** Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 29-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 41. **PR** No Charge. **JE** 823, 111, 121, 321. **KW** Labor Mobility. International Migration. Decision Theory. Externalities.

AB This paper investigates the distribution of a population group between a home country and its diaspora, given sequential decision-making regarding migration at the individual level. The home country is attractive to the members of the group, yet their presence there requires a fixed amount of public spending (e.g., on defense). The per-capita tax burden depends then on the size of the domestic population, reflecting a case of "fiscal externality" (see Boadway and Wildasin (1984)), which results in an inefficient distribution of the group between the home country and the diaspora. Encouraging immigration to the home country is naturally of interest to those individuals who are currently in the home country. This is also of interest to those individuals who are currently in the diaspora. But, only when the burden is neither too light nor too heavy do they volunteer to bear part of it. Otherwise the benefit of the immigration to the home country is more than offset by the cost of inducing it.

Hernandez, Cata Ernesto

PD July 1988. **TI** Issues in the Design of Growth Exercises. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/65; International Monetary Fund, Washington, D.C. 20431. **PG** 28. **PR** No Charge. **JE** 111, 321, 226, 133, 023. **KW** Economic Policy. National Income. Fiscal Policy. Economic Growth.

AB This paper deals with the design of quantitative exercises relating objectives for the growth of national income over the medium term to key macroeconomic policy variables. It focuses on the roles of capital formation, saving, and total factor productivity in the process of economic growth and examines the main conceptual and empirical problems involved in accounting for the growth of national income, dealing explicitly with the cost of borrowing from abroad. The paper examines the link between fiscal and structural policies and the growth of productive capacity through the effect of those policies on productivity, saving and the cost of capital.

Hertzman, C.

TI The Long Good-bye: The Great Transformation of the British Columbia Hospital System. **AU** Evans, R. G.; Barer, M. L.; Hertzman, C.; Anderson, G. M.; Pulcins, I. R.; Lomas, J.

Hildenbrand, W.

TI Empirical Evidence on the Law of Demand. **AU** Hardle, W.; Hildenbrand, W.; Jerison, M.

Hines, James R. Jr

PD December 1987. **TI** Taxation and U.S. Multinational Investment. **AA** Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 136; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PR** No Charge. **JE** 323, 441, 423. **KW** Tax Credit. Multinational Corporations. Foreign Investment. Taxes.

AB The foreign operations of United States-based multinational corporations are important employers and sources of income throughout the world. This paper analyzes the effect of the United States tax system on the incentive for American multinationals to invest abroad. The results suggest that, contrary to the claims of earlier authors, the United States tax system has had a significant influence on investment levels in some countries, generally working to discourage United States multinational investments in countries with strong investment incentives. In addition, the potential tax obligation due the United States government has directed multinational financial policy toward repatriation of foreign earnings from high-tax countries and reinvestment of foreign earnings in low-tax countries. But with the adoption of the Tax Reform Act of 1986, many of these incentives can be expected to change.

TI Investment Tax Incentives and Frequent Tax Reforms. **AU** Auerbach, Alan J.; Hines, James R. Jr.

Hobbs, Benjamin

TI Price Adjustments in Oligopolistic Markets: The Impact of Lags in Customer Response. **AU** Schuler, Richard; Hobbs, Benjamin.

Hodrik, Robert J.

PD October 1988. **TI** U.S. International Capital Flows: Perspectives from Rational Maximizing Models. **AA** Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2729; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 441, 322, 411. **KW** Trade Deficit. Capital Flow. Budget Deficits. Exchange Rate. Capital Market. International Trade.

AB This paper examines several aspects of the debate about the causes of the United States current account deficit in the 1980s. It surveys several popular explanations before developing two theoretical models of international capital flows. The first model is Ricardian, and it extends the analysis of Stockman and Svensson (1987). The second model is an overlapping generations framework. The major difference in predictions of these two models involves the effects of government budget deficits on the exchange rate and the current account. An update of the empirical investigation of Evans (1986) suggests that his VAR methodology is completely uninformative with additional data. Some empirical results on the importance of risk aversion in modeling international capital market equilibrium are also presented.

Holahan, William

PD March 1988. **TI** Imperfect Competition in a Spatial Economy: Pricing Policies and Economic Welfare. **AU** Holahan, William; Schuler, Richard E. **AA** Holahan: University of Wisconsin-Milwaukee. Schuler: Cornell University and Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8821; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 43. **PR** No Charge. **JE** 022, 612. **KW** Location Theory. Pricing Policies. Spatial Economy. Plant Location.

AB In a spatial economy, transportation costs and scale economies in production are important dimensions that can yield equilibria with firms earning substantial economic profits. This analysis summarizes the burgeoning spatial literature, and it fills in remaining gaps so that welfare comparisons can be made across the three possible pricing structures (mill-pricing, uniform delivered pricing and spatial discriminatory pricing), with and without price competition, with and without costly entry. No single price structure is shown to provide the highest level of welfare in all cases; the outcomes hinge on particular cost and demand parameters. However, discriminatory pricing does better and uniform pricing is generally the worst over a wide range of economic parameter values. By contrast, regulatory policy in the United States frequently discourages price discrimination and encourages uniform structure as being "fair".

Holland, O.

TI Solutions of Large-Scale Symmetric Travelling Salesman Problems. **AU** Grotschel, M.; Holland, O.

Holt, Charles

PD April 1988. **TI** Strategic Business Behavior and Antitrust. **AU** Holt, Charles; Scheffman, David T. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 162; Bureau of Economics, Federal Trade Commission, Washington, D.C. 20580. **PG** 69. **PR** No Charge. **JE** 611, 022. **KW** Competition. Industrial Organization. Antitrust. Oligopoly. Dynamic Model.

AB During the seventies business consultants and academics became interested in "business strategy" as an instrument for improving profitability. The emphasis of this approach was generally on actions that a firm could take to improve its long run competitive position. At about the same time, there was a renewed interest by industrial organization economists and antitrust authorities in the possibility that monopoly power could be created or enhanced through predatory or limit pricing or through use of nonprice instruments such as investments, patents, contracts, etc. Finally, the renaissance of game theory that also began in the seventies spawned a renewed interest in theories of oligopoly that explicitly incorporated dynamic and "strategic" elements.

Holtz, Eakin Douglas

PD May 1988. **TI** Private Output, Government Capital, and the Infrastructure "Crisis". **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 394; Department of Economics, Columbia University, New York, NY 10027. **PG** 26. **PR** $5.00. **JE** 614, 324, 322, 321. **KW** Public Sector. Public Infrastructure. Capital Investment. Public Policy.

AB Activities of the public sector affect private sector economic activity in many ways. One area of recent concern is the "infrastructure crisis": the possibility that the nation has failed to devote adequate resources to public sector capital investments and that the deterioration of the public sector capital stock has hampered growth of private sector output. Implicit in this appraisal is the assumption that the production of private sector output is in part determined by the level of public sector capital. Thus, just like increases in the state of technology, public sector investments "shift" the private sector production function. The failure to adequately maintain and increase the infrastructure decreases private production possibilities.

Hooper, Peter

PD August 1988. **TI** International Comparisons of Labor Costs in Manufacturing. **AU** Hooper, Peter; Larin, Kathryn A. **AA** *Board of Governors of the Federal Reserve System.* **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 330; Division of

International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 32. **PR** No Charge. **JE** 431, 226, 631. **KW** Exchange Rates. Productivity. Purchasing Power Parity. Labor Costs. Manufacturing.

AB This paper presents a comparative study of the level of unit labor costs in the manufacturing sectors of several countries. The paper begins by surveying earlier estimates of relative productivity and unit labor cost levels and evaluating the various methodologies that have been used in previous studies. Empirical estimates of the levels of foreign unit labor costs in dollars are derived based on labor compensation translated into dollars at nominal exchange rates and labor productivity translated into dollars at purchasing power parity exchange rates. These estimates are compared with results obtained in earlier studies. The results show that the level of unit labor costs in the United States has fluctuated significantly in recent years, predominantly with fluctuations in the nominal exchange rate. As of early 1988, unit labor costs in the United States had dropped well below the average level of other industrialized countries but were significantly above the level in a representative newly industrialized country, Korea.

Hoover, Kevin D.

PD August 1988. **TI** The Logic of Causal Inference: With an Application to Money and Prices. **AA** University of California at Davis. **SR** University of California at Davis Research Program in Applied Macro and Macro Policy: 55; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 96. **PR** No Charge. **JE** 211, 311, 036, 134. **KW** Causality. Money. Inflation. Statistical Inference. Lucas Critique. Econometric Methodology.

AB The purpose of this paper is to investigate the nature of the evidence needed to make causal inferences. "Cause" shall always be used, as I believe it is in common speech, in the sense of control: "A causes B" means that if somehow we could control A we could also control B. The attractiveness of Granger's and Sim's tests were that they could be mechanically implemented. I hope to show, in contrast, that drawing causal inferences is not primarily a problem in statistical or econometric technique, but a problem in logic taken broadly. It is a matter of analyzing the concept of cause in order to discover what would constitute evidence for a causal claim and only then using statistical and other methods to gather the relevant evidence. The principal sources for my analysis are, first, the conditional analysis of causal relations developed by the philosopher J. L. Mackie and, second, the formal analysis of internal cause developed in the general systems literature, which is itself a generalization of the work of Simon. My own contribution is to show how these two analyses are intimately connected and to demonstrate the consequences of causal orderings for economic observations.

Hornik, Kurt

PD August 1988. **TI** Multi-Layer Feedforward Networks are Universal Approximators. **AU** Hornik, Kurt; Stinchcombe, Maxwell; White, Halbert. **AA** Hornik: Technische Universitat Wien. Stinchcombe, White: University of California, San Diego. **SR** University of California at San Diego Department of Economics Discussion Paper: 88-45; Department of Economics, D-008, University of California at San Diego, La Jolla, CA 92093. **PR** $2.00; checks payable to UC Regents. **JE** 212. **KW** Nonlinear Models. Flexible Functional Form. Approximation Theory. Neural Networks.

AB This paper rigorously establishes that standard multi-layer feedforward networks with as few as one hidden layer using arbitrary squashing functions are capable of approximating any Borel measurable function from one Euclidean space to another to any desired degree of accuracy, provided sufficiently many hidden units are available. In this sense, multi-layer feedforward networks are a class of universal approximators.

Hotz, V. Joseph

TI Choosing Among Alternative Nonexperimental Methods for Estimating the Impact of Social Programs: The Case of Manpower Training. **AU** Heckman, James J.; Hotz, V. Joseph.

Irwin, Douglas A.

TI Political Economy of Agricultural Policy Reform. **AU** Rausser, Gordon C.; Irwin, Douglas A.

Isard, Peter

PD June 1988. **TI** The Implications of Fiscal Conditions and Growing Internationalization for Monetary Policies and Financial Market Conditions. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/52; International Monetary Fund, Washington D.C. 20431. **PG** 28. **PR** No Charge. **JE** 431, 311, 321, 432, 423. **KW** Fiscal Policy. Monetary Policy. Exchange Rates. Monetary Authority.

AB The paper argues that the endogenous behavior of monetary authorities provides an important channel through which fiscal policy influences financial variables, and that growing internationalization has increased the sensitivity of financial conditions to fiscal policy. The core of the argument is that fiscal policy influences exchange rates, particularly to the extent that it affects the expected after-tax returns on capital located in different countries, and that the sensitivity of exchange rates to fiscal policy increases with growing internationalization. In addition, financial conditions reflect the actual and expected responses of the monetary authorities to exchange rates.

Ito, Takatoshi

PD September 1988. **TI** Intraday Yen/Dollar Exchange Rate Movements: News or Noise. **AU** Ito, Takatoshi; Roley, V. Vance. **AA** Ito: Hitotsubashi University. Roley: University of Washington. **SR** National Bureau of Economic Research Working Paper: 2703; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 441. **KW** Exchange Rates. Stock Market. Random Walk. Japan.

AB Intraday movements in the yen/dollar rate are examined over the 1980-86 period using opening and closing quotes in the New York and Tokyo markets. The results indicate that random walk behavior is violated about half of the time in various subsamples. However, the economic significance of departures from the random walk model diminishes over time. Large jumps in the exchange rate also are examined, and some evidence on subsequent mean reversion is presented. Finally, the response of Japanese and United States stock prices suggests that intraday yen/dollar rate movements do contain at least some relevant information.

Iwamura, Kakuzo

PD February 1988. **TI** Primal Dual Algorithm for the Lexicographically Optimal Base of a Submodular Polyhedron and its Relation to a Poset Greedoid. **AA** Josai University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88507-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 12. **PR** No Charge. **JE** 213. **KW** Polyhedron. Greedoid. Algorithm. Submodular Theory.

AB We show that for a submodular polyhedron and its dual supermodular polyhedron there exists a unique lexicographically optimal base with respect to a weight vector and they coincide. We also present a dual algorithm to get the lexicographically optimal base of a submodular polyhedron which works on its dual supermodular polyhedron. This dual algorithm completely agrees to the algorithm of Morton, G. and von Randow, R. and Ringwald, K. '1985(, where their underlying distributive lattice is a chain poset greedoid. Finally we show that finding the lexicographically optimal base of a submodular system is essentially equivalent to finding the lexicographically optimal base of a simple submodular system, where its underlying distributive lattice is a poset greedoid. This fact indicates the importance of greedoids in a further development of submodular system theory.

PD February 1988. **TI** Contracting Greedoids and a Rado-Hall Type Theorem. **AA** Josai University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88502-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** No Charge. **JE** 213. **KW** Greedoids. Contraction. Rado-Hall Theorem. Feasible Sets.

AB In papers of greedoids there appears a sentence such that the definition of contraction is not so straightforward and is meaningful only if the contracted set is feasible. But this is not the case. We can define the contraction of general greedoids for rank feasible sets, too. This fact is essential for a further generalization of the Rado-Hall theorem to greedoids, which was carried out by Ding, L. Y. and Yue, M. Y.

Iwata, Kazumasa

TI On the International Capital Ownership Pattern at the Turn of the Twenty First Century. **AU** Hamada, Koichi; Iwata, Kazumasa.

Jappelli, Tullio

PD August 1988. **TI** Liquidity-Constrained Households in an Italian Cross-Section. **AU** Jappelli, Tullio; Pagano, Marco. **AA** Centre for Economic Policy Research. **SR** Centre for Economic Policy Research Discussion Paper: 257; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 17. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 122, 315, 921. **KW** Consumption. Liquidity Constraints. Capital Markets. Italy. Borrowing.

AB This paper attempts to evaluate the effects of capital market imperfections on consumer behavior, on the basis of cross-sectional Italian data. We evaluate the difference between desired and observed consumption using a technique proposed by Hayashi. We find that in Italy borrowing constraints are more severe than in the United States, and that they are more stringent for young households, non-home-owners, the unemployed and consumers living in the Southern regions.

Jerison, M.

TI Empirical Evidence on the Law of Demand. **AU** Hardle, W.; Hildenbrand, W.; Jerison, M.

John, Andrew

PD December 1988. **TI** Macroeconomic Externalities From Search and Imperfect Competition. **AA** Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8807; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 40. **PR** No Charge. **JE** 023, 022, 024. **KW** Externality. Imperfect Competition. Search Theory.

AB This paper contrasts two approaches to the microfoundations of Keynesian macroeconomics: models with search and models with imperfect competition. A framework is developed in which both distortions generate macroeconomic externalities (externalities arising from trading mechanisms). A parallel between search externalities and externalities from imperfect competition is then identified. The externalities generated by imperfect competition are pecuniary, however, and do not imply inefficiency when agents are small relative to the economy; search externalities are non-pecuniary, and generally result in inefficiency even when agents are small relative to the economy. The framework is also used to contrast price-setting and quantity-setting in macroeconomic models.

John, Kose

PD July 1988. **TI** Fundamentals, Factor Structure and Multibeta Models in Large Asset Markets. **AU** John, Kose; Reisman, Haim. **AA** John: New York University. Reisman: Faculty of Industrial Engineering and Management, Technion. **SR** New York University Salomon Brothers Working Paper: 481; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 16. **PR** No Charge. **JE** 313, 311. **KW** Asset Pricing Theory. Expected Returns. Asset Returns. Stock Prices. Capital Market.

AB The paper provides sufficient conditions under which a non random economic variable specific to some asset (the dependent variable) can be represented as a linear combination of the betas of some random characteristics of the asset (the independent variables) with some economy wide factors. This generalizes the Ross' Asset Pricing Theory that proves the above in the case where the dependent variables are expected returns and the independent variables are returns. The purpose of the generalization obtained here is two fold: (1) to provide a theoretical basis for many existing multibeta relationships beyond the setting of asset pricing models, (2) to motivate a framework for future use of appropriate multibeta models in empirical and theoretical research.

Jones, Stephen

PD October 1987. **TI** The Relationship Between Unemployment Spells and Reservation Wages as a Test of Search Theory. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-34; #997-1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PG** 28. **PR** **JE** 824, 821. **KW** Search Theory. Unemployment.

Job Search. Reservation Wage.

AB The theory of stationary job search predicts that, controlling for other factors that affect the probability of leaving unemployment, duration and reservation wages are likely to be positively associated. The paper tests this prediction for British cross-sectional data from 1982 using an estimating equation implied by search theory. Simultaneity is crucial in the evaluation of this prediction, with single equation and instrumental variable estimates differing markedly. Perhaps surprisingly, given the extreme paucity of both job interviews and offers in the sample, the main finding is that reservation wages play a significant role in the determination of duration.

Joskow, Paul L.

TI The Diffusion of New Technologies: Evidence From the Electric Utility Industry. **AU** Rose, Nancy; Joskow, Paul L.

Jost, Peter Jurgen

PD July 1988. **TI** Signalling Games and the Role of Precommitment. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-190; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 36. **PR** No Charge. **JE** 026, 022. **KW** Moral Hazard. Sequential Equilibrium. Principal-Agent Theory.

AB We examine the set of sequential equilibria in the context of a principal-agent relationship with moral hazard issues in which the agent is uncertain about the principal's control-costs. In a first game form of this relationship the principal has to decide on his control behavior after the realization of an outcome. In a second investigation the principal can precommit himself on control at the time of contracting. We demonstrate that this change of the rules has tremendous effects on equilibria.

PD July 1988. **TI** Adverse Selection in Moral Hazard Situations. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-189; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 37. **PR** No Charge. **JE** 026, 022. **KW** Moral Hazard. Sequential Equilibrium. Signalling. Principal-Agent Theory. Noncooperative Game. Self-Selection.

AB We extend the principal-agent framework with moral hazard to situations in which the agent has private information upon his ability. Moreover, the principal has the possibility to control the agent's behavior at a fixed positive cost. We analyze this relationship as a non-cooperative game with two players and apply the solution concept of sequential equilibria. We show that in equilibrium an agent signals his ability by means of his choice among a set of contracts. Finally, we investigate the shape of this self-selection device.

PD July 1988. **TI** Contracts with Control Options. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-188; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 47. **PR** No Charge. **JE** 026, 022. **KW** Sequential Equilibrium. Principal-Agent Theory. Commitment. Noncooperative Game. Cost-Benefit Analysis.

AB We extend the principal-agent framework to situations in which the principal has the option to control the agent's behavior. Controlling, however, is costly for the principal. Hence, the problem arises whether information is worth acquiring or not. Moreover, the role of commitment by the principal to these observations is crucial. This paper studies situations in which the principal has to decide on his control activities ex-post after the outcome is revealed. We analyze this relationship as a noncooperative game and use cost-benefit analysis and backwards induction to examine the sequential equilibria.

PD July 1988. **TI** A Generalization of the Principal - Agent Framework. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-187; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 21. **PR** No Charge. **JE** 026, 022. **KW** Risk Sharing. Principal-Agent Theory. Commitment. Private Information. Uncertainty.

AB We examine a principal-agent relationship in which the principal has the option to invest resources into controlling the agent's behavior. Thus, the principal will trade off the costs and benefits of the additional information provided by his observation. Throughout this paper we assume that the principal can precommit himself on control at the time of contracting. Under this assumption we focus on the effect of control on risk sharing between the two parties.

Jovanovic, Boyan

PD June 1988. **TI** Observable Implications of Models with Multiple Equilibria. **AA** New York University. **SR** New York University Economic Research Reports: 88-20; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 14. **PR** No Charge. **JE** 211. **KW** Identification. Statistical Inference. Simultaneous Equations.

AB Existing theory on structural inference developed by Koopmans and others is inadequate as a basis for inference in models with multiple equilibria, since it assumes that systems of structural equations have unique solutions. This paper presents a general framework in which issues of estimation, identification and so forth can be posed, and it proves three propositions of a general nature concerning the issue of observable implications of such models. The key assumption maintained throughout the paper is that the set of observable implications derives from the set of measurable selections from the equilibrium correspondence. The general conclusion is that unless some special assumptions are made about the range of values that the observable and unobservable variables can take on, models with multiple equilibria tend quickly to become vacuous.

PD September 1988. **TI** Competitive Diffusion. **AU** Jovanovic, Boyan; MacDonald, Glenn M. **AA** Jovanovic: New York University. MacDonald: University of Western Ontario, University of Rochester, Economics Research Center/NORC and University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 88-10; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 63. **PR** $2.00; send requests to Librarian, NORC. **JE** 621, 111. **KW** Innovation. Diffusion Process. Knowledge. Technology.

AB The advance of knowledge has long been thought to be a key source of economic growth. Roughly, previous research has focused either on innovation by individual firms without exploring the spread of ideas, or taken ideas as given and analyzed their spread (often in a non-optimizing environment). In this paper both the production of new ideas -Invention/Innovation -- and the activities that cause their diffusion -Imitation -- are objects of choice and chosen optimally. The paper is divided into three parts. In the first, a general model is developed and several results provided. The dynamics of the general model are illustrated in a three-state example. Subsequently, a restricted model is analyzed. Two interesting cases given special attention have, as the primary source of new ideas, imitation and innovation respectively. The former instance is closely related to diffusion models with given ideas, while the latter is similar to an R & D model.

Joyce, Theodore

TI Unobservables, Pregnancy Resolutions, and Birthweight Production Functions in New York City. **AU** Grossman, Michael; Joyce, Theodore.

Judge, George

TI The Analytical Risk of a Two Stage Pretest Estimator in the Case of Possible Heteroskedasticity. **AU** Ozcam, Ahmet; Judge, George.

Kaaret, David

TI Bank Size, Reputation and Debt Renegotiation. **AU** Fernandez, Raquel; Kaaret, David.

Kamecke, Ulrich

PD November 1988. **TI** Computing Equilibrium in a Matching Market with a Walrasian Mechanism. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-208; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 33. **PR** No Charge. **JE** 021, 213. **KW** Indivisible Goods. Price Adjustment. Algorithm. Demand. Market Allocation.

AB Consider a market for indivisible goods where every agent either buys or sells not more than one unit of the commodity. The paper generalizes the concept of excess demand such that the usual price adjustment process can be reformulated even though the traded goods are not necessarily identical. An algorithm is constructed which increases the sellers' payoffs wherever the excess demand is positive until it arrives at the buyer-optimal equilibrium after finitely many steps. This "Walrasian mechanism" generalizes the simplex algorithm applied to the dual of the standard linear assignment problem. And it can also be interpreted as a short cut for an approximation scheme that was presented by Roth, Crawford and Knoer.

Kamel, Nawal

PD September 1988. **TI** Criteria for National Solvency. **AA** St. Antony's College, Oxford. **SR** Oxford Applied Economics Discussion Paper: 50; Institute of Economics and Statistics, Saint Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 31. **PR** No Charge. **JE** 443, 432, 431, 411. **KW** Debt Management. Debt Relief. Deficit Spending. International Debt.

AB The debt-growth model used in the literature implicitly makes the assumption that the time rate of change of the country's exports and imports are equal. This paper presents an extended version of the model where this assumption is relaxed. The results of the investigation call for a reexamination of some widely accepted notions about sovereign international debt. A new approach to the evaluation of national solvency is presented, taking explicitly into account national import growth as well as the inherited debt and the initial resource balance position. The possibility of transient debt repayment is established. Cases where debt relief can put an insolvent country onto a solvency path are identified, and the minimum amount of such a relief established.

Kamin, Steven B.

PD August 1988. **TI** Real Interest Rates During the Disinflation Process in Developing Countries. **AU** Kamin, Steven B.; Spigelman, David F. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 331; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 41. **PR** No Charge. **JE** 121, 133, 134, 023, 321. **KW** Interest Rates. Inflation. Stabilization. Fiscal Policy.

AB This paper addresses a phenomenon often noted in association with programs aimed at stabilizing high rates of inflation: a rise in the ex post real interest rate following implementation of the disinflation strategy. To better understand this behavior, we develop a very general model of interest rate determination in a small open economy with two goods -- traded and non-traded -- and three assets -- money, domestic bonds, and foreign bonds. We show that in partial portfolio equilibrium, a reduction in the fiscal deficit leads to a fall in inflation exceeding the decline in nominal interest rates, so the real interest rate rises; this effect derives from the increase in money demand resulting from the disinflation. In partial goods-market equilibrium, however, a reduction in the fiscal deficit reduces goods demands and lowers the real interest rate. In consequence, the general equilibrium response of the real interest rate to a disinflation program based on fiscal contraction is shown to be indeterminate.

PD October 1988. **TI** Devaluation, Exhange Controls, and Black Markets for Foreign Exchange in Developing Countries. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 334; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 35. **PR** No Charge. **JE** 121, 133, 134, 431. **KW** Exchange Rates. Devaluation. Black Markets. Exchange Controls. Expectations. Depreciation.

AB This paper considers how exchange controls, black markets, and forward-looking expectations condition the impact of exchange rate devaluations in developing countries. A model incorporating these features is developed to analyze the response of key external balance indicators to anticipated devaluations. The model is driven by the movements of black market exchange rates in perfect foresight equilibrium, which in turn force changes in export under-invoicing and official trade statistics. The predicted movements in all measureable variables, both before and after devaluation, closely mirror those historically associated with devaluation episodes. The analysis is then extended to the case of 'devaluation cycles' to examine the paths of the black market rate and official trade statistics in the face of persistent inflation which over-values the real exchange rate and motivates periodic devaluations.

Kandori, Michihiro

PD May 1988. **TI** Monotonicity of Equilibrium Payoff Sets with Respect to Observability in Repeated Games with Imperfect Monitoring. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 532; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 15. **PR** $4.00. **JE** 022, 026. **KW** Repeated Game. Imperfect Monitoring. Sequential Equilibrium.

AB Pure strategy sequential equilibrium payoff set in the general model of discounted repeated games with imperfect monitoring (Abreu, Pearce and Stacchetti '1986(, "Toward a Theory of Repeated Games with Imperfect Monitoring") is shown to expand when the signal becomes more informative in Blackwell's sense. The equilibrium payoff set strictly expands when the signal improves strictly, and the direction of expansion is identified. In particular, the symmetric equilibrium payoff set typically expands to both directions.

Kane, Edward

PD August 1988. **TI** Modeling Structural and Temporal Variation in the Market's Valuation of Banking Firms. **AU** Kane, Edward; Unal, Haluk. **AA** Kane: Ohio State University. Unal: University of Maryland. **SR** National Bureau of Economic Research Working Paper: 2693; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 312. **KW** Commercial Banking. Bank Equity. Interest Rates.

AB This paper decomposes both the market sensitivity and the interest-rate sensitivity of bank stock into on-balance-sheet and off-balance-sheet components. It derives these constitutent and often-offsetting sensitivities from a nonstationary three-equation model that employs accounting and capital-market information to explain cross-sectional and temporal variation in the value of stockholder equity. To control statistically for heteroskedasticity and intrasample differences in unbooked capital positions, the model is estimated separately for three size classes of large United States banks. Parameter estimates confirm the importance of "hidden" or unbooked capital at these banks. For the nation's very largest banks, shifts in the value of these parameters are consistent with the view that the capitalized value of federal deposit-insurance guarantees burgeoned in the 1980s with interest volatility, demonstrations of regulatory forbearance, and relaxation of deposit-rate ceilings.

Kaneda, Hiromitsu

PD September 1988. **TI** Agricultural Stagnation in 1920-1940, Macroeconomic Developments and Performance of Farm Households. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 321; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 44. **PR** No Charge. **JE** 122, 045, 112, 712, 713. **KW** Japan. Exchange Rate. Agriculture. Technological Change.

AB The "concurrent" development of agriculture and industry in Japan's early modern economic growth (beginning in the 1870s) was characterized by stable per capita income differentials in the urban and rural sectors until about 1915. The extraordinary boom conditions during the WWI years and their subsequent collapse affected agriculture profoundly. Agriculture stagnated and the intersectoral income differentials increased sharply in the interwar years. Tracing the changes in the real exchange rate and the real wage rate I explain how the terms of trade changes affected agriculture adversely as Japan's external environment impacted on it. Moreover, using a factorial design framework I analyze the response of the farm households to the changing external environment.

Kannan, Ravi

PD September 1988. **TI** The Shapes of Polyhedra. **AU** Kannan, Ravi; Lovasz, Laszlo; Scarf, Herbert E. **AA** Kannan: Carnegie-Mellon University. Lovasz: Eotvos Lorand University, Budapest and Princeton University. Scarf: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 883; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 31. **PR** No Charge. **JE** 213. **KW** Polyhedra. Banach-Mazur Distance. Hilbert Metric. Lenstra's Algorithm. Integer Programming. Minimum.

AB Let A be a real matrix of size (n+d+1)xn. We assume that all nxn submatrices of A are non-singular and define the condition number C = C(A) to be the ratio of the largest nxn subdeterminant of A to the smallest in absolute value. In addition we assume that there is a positive vector pi such that (pi)A = 0. This implies that for any b, the body K(b) = 'X such that AX <= b(is bounded. Let f(A) be the number of subsets of the rows of A, of cardinality n+1, for which a positive linear combination equals zero. We show that for any epsilon > 0, there exists a subset of the bodies K(b), of cardinality not larger than f(A) ('2 (log to the base 2 of (nC)/epsilon(to the power d), such that every body is within epsilon of some member of the subset.

Karp, Larry S.

PD May 1988. **TI** Dynamic Oligopoly: Estimation and Tests of Market Structure. **AU** Karp, Larry S.; Perloff, Jeffrey M. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 468; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 41. **PR** $8.20. **JE** 531, 421, 611, 022. **KW** Dynamic Oligopoly. Market Structure. Coffee. Exports.

AB A linear-quadratic dynamic oligopoly model is developed and applied to the world coffee export market. The model nests various market structures using either open-loop or feedback strategies. The theoretical properties of this model are described. For given observed behavior, the assumption of feedback strategies implies a less competitive market structure than open-loop strategies.

Katsoulacos, Yannis

TI Strategic R&D Policy. **AU** Beath, John; Katsoulacos, Yannis; Ulph, David.

Katz, Lawrence F.

PD October 1988. **TI** Can Inter-Industry Wage Differentials Justify Strategic Trade Policy?. **AU** Katz, Lawrence; Summers, Lawrence. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2739; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00.

JE 824, 422, 421, 431. **KW** Labor Market. Trade Policy. Wage Differentials. Employment. Trade Flows.

AB This paper examines the relationship between labor market imperfections and trade policies. The available evidence suggests that pervasive industry wage differentials of up to 20 percent remain even after controlling for differences in observed measures of workers' skill and the effects of unions. Theoretical analysis indicates that given non-competitive wage differentials of this magnitude policies directed at encouraging employment in high-wage sectors could significantly enhance allocative efficiency. For the United States and other developed countries, such policies are more likely to involve export promotion than import substitution. Increased international trade flows (at least through 1984) have been associated with increased employment in high-wage United States manufacturing industries relative to low-wage United States manufacturing industries.

PD October 1988. **TI** The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment. **AU** Katz, Lawrence F.; Meyer, Bruce D. **AA** Katz: Harvard University. Meyer: Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2741; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 822, 824. **KW** Unemployment Insurance. Unemployment. Public Policy.

AB See additional entry under this author and title.

PD November 1988. **TI** The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment. **AU** Katz, Lawrence F.; Meyer, Bruce D. **AA** Katz: Harvard University and National Bureau of Economic Research. Meyer: Northwestern University and National Bureau of Economic Research. **SR** Princeton Industrial Relations Section Working Paper: 241; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 43. **PR** $1.50. **JE** 824, 822. **KW** Unemployment Insurance. Unemployment. Policy Simulations. Hazard Models. Unemployment Benefits.

AB This paper uses two data sets to examine the impact of the potential duration of unemployment insurance (UI) benefits on the duration of unemployment and the time pattern of the escape rate from unemployment in the United States. The first part of the empirical work uses a large sample of household heads to examine differences in the unemployment spell distributions of UI recipients and nonrecipients. Sharp increases in the rate of escape from unemployment both through recalls and new job acceptances are apparent for UI recipients around the time when benefits are likely to lapse. The absence of such spikes in the escape rate from unemployment for nonrecipients strongly suggests that the potential duration of UI benefits affects firm recall policies and workers' willingness to start new jobs. The second part of our empirical work uses accurate administrative data to examine the effects of the level and length of UI benefits on the escape rate from unemployment of UI recipients.

Katz, Menachem

TI Fiscal Dimensions of Trade Policy. **AU** Farhadian, Lorie Ziba; Katz, Menachem.

Keeler, E. B.

TI Health Insurance and the Demand for Medical Care - Evidence from a Randomized Experiment. **AU** Manning, W. G.; Newhouse, J. P.; Duan, N.; Keeler, E.; Benjamin, B.; Leibowitz, A. Marquis-M-S; Zwanziger-J.

PD March 1988. **TI** The Demand for Episodes of Medical Treatment in the Health Insurance Experiment. **AU** Keeler, E. B.; Buchanan, J. L.; Rolph, J. E.; Hanley, J. M.; Reboussin, D. M. **AA** The Rand Corporation. **SR** Rand Report: R-3454-HHS; The Rand Corporation, 1700 Main Street P.O. Box 2138, Santa Monica, CA 90406-2138. **PG** 119. **PR** No Charge. **JE** 913. **KW** Medical Costs. Health. Medical Insurance. Medical Services.

AB This report contains a statistical and economic analysis of data on the demand for medical care from the RAND Health Insurance Experiment, a large-scale social experiment designed to assess how varying patients' cost of health services affects their use of services and their health status. The report presents final results for medical spending organized by episodes, an effective and fairly new approach to the study of demand. It also presents results from a new model that uses statistical estimates to simulate spending on episodes of treatment by a representative group of families. A major finding is that price affects the number of episodes chosen by participants and has much smaller effects on the cost of each episode. The simulation results show that small deductibles can be effective in restraining demand, and that individual caps on out-of-pocket spending need not exceed $1,000 per year to eliminate most overuse. Large deductibles greatly increase financial risk, without substantially reducing excess use. Individual deductibles are generally preferable to family deductibles.

Key, Sydney J.

PD September 1988. **TI** International Banking Facilities. **AU** Key, Sydney J.; Terrell, Henry S. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 333; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 36. **PR** No Charge. **JE** 311, 312, 433, 432. **KW** International Banking. Banking Facilities. Federal Reserve. Bank Location.

AB The Federal Reserve Board permitted banking offices located in the United States to establish International Banking Facilities (IBFs) beginning in December 1981. This paper summarizes the history of the IBF proposal and discusses Federal Reserve Board regulations for IBFs and the treatment of IBFs under state and local tax law. The paper analyzes IBF activities and the use of IBFs in comparison with domestic offices and with foreign branches. The growth of IBFs is evaluated in relation to activities in other international banking centers. The paper concludes that IBFs have not turned out to be the dramatic innovation that some had predicted and that IBFs simply provide another center for booking transactions with foreign residents in a regulatory environment broadly similar to that of the Euromarket.

Kim, Moshe

PD September 1987. **TI** Technology, Debt and the Exploitation of Growth Options. **AU** Kim, Moshe; Maksimovic, Vojislav. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-32; #997-1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PG** 15. **PR** **JE** 521, 514, 511, 621. **KW** Firm Growth. Technology. Debt. Production.

AB This paper analyzes the effect of the firm's technology on the agency costs of debt incurred by a firm exploiting a growth option. When the firm's technology is explicitly modeled, the presumption of an "underinvestment problem" arising from debt financing must be replaced by a more complex analysis of input substitution over the product cycle. For a general class of production technologies there exists a levered capital structure which minimizes the agency costs of debt. By contrast, arbitrary choice of leverage will lead to a decline in efficiency and 'overinvestment' for a given level of output. It is shown that in equilibrium the option to augment the stock of physical capital at a late stage of the production cycle will be used differently by levered and unlevered firms.

PD September 1987. **TI** Economic vs. Accounting Depreciation. **AU** Kim, Moshe; Moore, Giora. **AA** Kim: University of British Columbia. Moore: University of Toronto. **SR** University of British Columbia Department of Economics Discussion Paper: 87-31; #997-1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PG** 15. **PR** **JE** 541, 522, 521. **KW** Depreciation. Accounting. Capital Stock.

AB In this paper we present and estimate a model of actual economic depreciation consistent with producers' optimization. The estimated economic depreciation, which is a function of the rate of utilization and level of maintenance, is about half of that used according to tax (accounting) depreciation. The difference between the economic and accounting rates of depreciation results in a subsidy and earlier capital replacement. The implicit maximum net tax subsidy expressed as a proportion of the acquisition price of the asset is 13.3 per cent for a sample of Canadian trucking firms.

King, Maxwell L.

PD September 1988. **TI** The Power of Student's t Test: Can a Non-Similar Test Do Better. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 13/88; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 10. **PR** No Charge. **JE** 211. **KW** Most Powerful Tests. Student's t Test. Finite Sample Properties.

AB Lehmann and Stein (1948) proved the existence of non-similar tests which can be more powerful than best similar tests. They used Student's problem of testing for a non-zero mean given a random sample from the normal distribution with unknown variance as an example. This raises the question: should we use a non-similar test instead of Student's t test. Questions like this can be answered by comparing the power of the test with the power envelope. This paper discusses the difficulties involved in computing power envelopes. It reports an empirical comparison of the power of the t test and the power envelope and finds that the two are almost identical especially for sample sizes greater than 20. These findings suggest that, as well as being uniformly most powerful (UMP) within the class of similar tests, Student's t test is approximately UMP within the class of all tests.

Klein, Daniel

TI Time Inconsistency, Commitment Dominance, and Subgame Imperfection: A Taxonomy. **AU** OFlaherty, Brendan; Klein, Daniel.

Kleit, Andrew N.

PD February 1988. **TI** The Impact of Automobile Fuel Economy Standards. **AA** Bureau of Economics, Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 160; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue Northwest, Washington, D.C. 20580. **PG** 30. **PR** No Charge. **JE** 723, 613, 615, 933. **KW** Automobiles. Fuel Economy. Energy. Natural Resources. Oil.

AB Since 1978 the Federal government has mandated that new fleets of all firms selling over 10,000 cars per year in the United States reach a certain level of average fuel efficiency. CAFE (Corporate Average Fuel Economy) standards were intended to decrease energy consumption by automobiles. In 1985, under an escape clause in the CAFE legislation, General Motors and Ford petitioned the National Highway Transport and Safety Administration (NHTSA) for relief from the standards. GM and Ford claimed that meeting the standards for model year 1986 would cause significant economic damage, and requested that the 1986 model standard be lowered from 27.5 to 26.0 MPG. GM and Ford repeated this process in 1986 for model year 1987. Opponents of the petition claimed that granting the petition would generate a substantial increase in energy consumption with little or no gain to the economy. The auto manufacturers' requests were granted in both 1985 and 1986, but not before sparking heated public debate.

PD March 1988. **TI** Enforcing Time Inconsistent Government Regulations. **AA** Bureau of Economics, Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 161; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue Northwest, Washington, D.C. 20580. **PG** 25. **PR** No Charge. **JE** 026, 613, 616, 514. **KW** Time Inconsistent. Game Theory. Regulation. Firm Investment.

AB Certain government regulations require a good deal of investment by firms before the regulations actually go into effect. In these cases, if a firm does not engage in the desired level of investment, it can be quite costly to society to actually enforce the regulation. This paper derives a game theoretic model of how such regulation could be enforced by examining the bureaucratic incentives of the various governmental parties involved in overseeing a regulatory program.

TI The Costs of Railroad Regulation: A Further Analysis. **AU** Barnekov, Christopher C.; Kleit, Andrew N.

Klemperer, Paul K.

PD October 1988. **TI** Supply Function Equilibria in Oligopoly Under Uncertainty. **AU** Klemperer, Paul K.; Meyer, Margaret A. **AA** Klemperer: Saint Catherine's College. Meyer: Nuffield College. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 537; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 36. **PR** $4.00. **JE** 611, 022, 026, 514. **KW** Oligopoly. Uncertainty. Nash Equilibrium. Supply Function.

AB We model an oligopoly facing uncertain demand where each firm chooses as its strategy a "supply function" relating its quantity to its price. A supply function adapts better to an uncertain environment than either a fixed price or a fixed quantity; it could be committed to through the choice of organizational structure and employee decision rules. We give conditions for existence and for uniqueness of a Nash equilibrium in supply functions under uncertainty. We compare the equilibrium with the Cournot and Bertrand equilibria as we vary the demand and cost curves, the number of firms, and the form of uncertainty.

Konishi, Hideki

PD April 1988. **TI** Welfare Improving Tax-Subsidy Schemes in an Oligopolistic Setting. **AU** Konishi, Hideki; Okuno, Fujiwara Masahiso; Suzumura, Kotaro. **AA** Konishi, Okuno-Fujiwara: The University of Tokyo. Suzumura: Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8820; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 35. **PR** No Charge. **JE** 022, 023, 323, 111. **KW** Oligopoly. Taxes. Subsidy. Two-Sector Model.

AB In this paper, we examine the conditions for Pareto-improving tax-subsidy schemes in an oligopolistic economy. The analysis proceeds in terms of a two sector model which consists of a competitive sector and an oligopolistic sector. Our conditions for Pareto-improvingness depend crucially on two basic characteristics of our model, viz., whether the entry and exit are restricted or free in the oligopolistic sector, and whether the oligopolistic sector is more or less capital intensive than the competitive sector. Our model can also be utilized to obtain some implications for the general equilibrium analysis of tax incidence, pioneered by A. Harberger, in an oligopolistic economy.

Konya, Fumiko

TI Investor Behavior in the October 1987 Stock Market Crash: The Case of Japan. **AU** Shiller, Robert; Konya, Fumiko; Tsutusi, Yoshiro.

Korajczyk, Robert

PD October 1988. **TI** The Effect of Information Releases on the Pricing and Timing of Equity Issues: Theory and Evidence. **AU** Korajczyk, Robert; Lucas, Deborah; McDonald, Robert. **AA** Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2727; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 521, 522, 514, 313. **KW** Equity. Stocks. Public Information. Investment. Stock Market.

AB This paper develops a formal model of the timing and pricing of new equity issues, assuming that managers are better informed than new investors about the quality of the firm. Firms will prefer to issue equity when the market is most informed about the quality of the firm. This implies that equity issues tend to follow information releases, such as earnings announcements. The model also predicts a relation between the timing and pricing of equity issues. The price drop at the time of the equity issue announcement should increase in the time since the last information release, and the price drop at issue should increase with the time since the last information release or issue announcement. We test the predictions of the theory on a sample of NYSE, AMEX and OTC firms who issued equity over the period 1978-1983. We find evidence that there is a clustering of equity issues following earnings announcements and annual reports, and also that the price drop at the time of the equity issue is increasing in the time since the announcement of the issue.

Korte, B.

TI Routing in VSLI-layout. **AU** Froleyks, B.; Korte, B.; Promel, H. J.

Kotlikoff, Laurence

PD September 1988. **TI** A Strategic Altruism Model in which Ricardian Equivalence does not hold. **AU** Kotlikoff, Laurence; Razin, Assaf; Rosenthal, Robert. **AA** Kotlikoff, Rosenthal: Boston University. Razin: Tel-Aviv University. **SR** National Bureau of Economic Research Working Paper: 2699; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 022, 024, 026. **KW** Bequest Motive. Bargaining. Equilibrium Allocation. Government Transfers.

AB This article demonstrates that Ricardian Equivalence does not necessarily hold in models with altruistic transfers once one takes into account the strategic behavior of recipients as well as donors. To influence the final allocation of consumption in altruistic settings, potential recipients can threaten to refuse as well as accept transfers. We apply the Extended Nash Bargaining Solution to the problem of an altruistic parent and a possibly altruistic child. The parent and child first choose a threat point noncooperatively; this threat point then influences the final allocation of consumption through the standard Nash Bargaining Solution. While the potential recipient can refuse transfers from the potential donor, he cannot refuse transfers from the government. When the government redistributes between the parent and child, it changes their endowments and the equilibrium threats, and thus the final allocation of consumption.

PD October 1988. **TI** Why Don't the Elderly Live with Their Children. A New Look. **AU** Kotlikoff, Laurence; Morris, John. **AA** Kotlikoff: National Bureau of Economic Research. Morris: Hebrew Rehabilitation Center for the Aged. **SR** National Bureau of Economic Research Working Paper: 2734; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 921, 841. **KW** Elderly. Demographics. Households. Families.

AB Perhaps no single statistic raises more concern about post War changes in the United States family than the proportion of the elderly living alone. Since 1940 the proportion of elderly living alone and in institutions has risen dramatically. While demographics appear to explain much of the change in the living arrangements of the elderly, the rising income of the elderly is viewed by many as the chief or at least a chief reason why the elderly live alone. The analyses underlying this view have not, however, considered the incomes and preferences of the children of the elderly. This paper presents a model of the joint living arrangement choice of parents and children. It then uses a new set of data to consider how the preferences and income positions of the elderly and their children influence the living arrangements of elderly parents. The findings suggest that the preferences and income levels of children may be important factors in explaining why so many of the elderly live alone.

PD October 1988. **TI** Making Bequests Without Spoiling Children: Bequests as an Implicit Optimal Tax Structure and the Possibility that Altruistic Bequests are Not Equalizing. **AU** Kotlikoff, Laurence; Razin, Assaf. **AA** Kotlikoff: National Bureau of Economic Research. Razin: International Monetary Fund. **SR** National Bureau of Economic Research

Working Paper: 2735; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 921, 918. **KW** Bequests. Altruism. Households. Taxes.

AB This paper examines the bequest/gift behavior of altruistic parents who do not know their children's abilities and cannot observe their children's work effort. Parents are likely to respond to this information problem by making larger bequests to higher earning children and by using their transfers implicitly either to tax at the margin low earning children or to subsidize at the margin high earning children. These implicit tax rates may be quite large, despite the fact that total transfers are small. The paper suggests that labor supply studies should take into account potential implicit family taxation as well as official government taxation. In addition, the fact that the family may play an implicit role in taxation means that there may be less need for the government to play such a role.

TI Does the Harberger Model Greatly Understate the Excess Burden of the Corporate Tax. Another Model Says Yes. **AU** Gravelle, Jane; Kotlikoff, Laurence.

Kratochvil, Jan

PD February 1988. **TI** Planar Subgraphs of Topological Layouts. **AU** Kratochvil, Jan; Nesetril, Jaroslav. **AA** Charles University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 88504-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 23. **PR** No Charge. **JE** 213. **KW** Topological Layout. Planar Subconfiguration. Topology.

AB Given a topological layout of a graph we study the complexity of the decision problems related to the existence of planar subconfiguration of a given type. It has been conjectured that this problem is always NP-hard regardless of the complexity of its non-planar version. We verify this conjecture in several cases in a very strong sense.

Krishna, Kala

PD September 1988. **TI** The Case of the Vanishing Revenues: Auction Quotas with Oligopoly. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2723; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 411, 422, 421. **KW** Auction Market. Market Power. Oligopoly. Free Trade. Quotas.

AB This paper examines the effects of auctioning quota licenses when market power exists. The overall conclusion is that with oligopolistic markets, quotas, even when set optimally and with quota licenses auctioned off, are unlikely to dominate free trade. Moreover, auction quotas only strictly dominate giving away licenses which are competitively traded if the quota is quite restrictive. When there is a foreign duopoly or oligopoly and domestic competition it is shown that such sales of licenses does not raise revenues unless they are quite restrictive. An oligopoly example is explored to study the role of product differentiation, demand conditions and market conditions in determining the value of a license and the welfare effects of auctioning quotas. In this example, auction quotas are always worse than free trade.

Krueger, Alan B.

PD July 1988. **TI** The Employers' Costs of Workers' Compensation Insurance: Magnitudes and Determinants. **AU** Krueger, Alan B.; Burton, John F. **AA** Krueger: Princeton University. Burton: New York State School of Industrial and Labor Relations and Cornell University. **SR** Princeton Industrial Relations Section Working Paper: 238; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 31. **PR** $1.50. **JE** 822. **KW** Workers' Compensation. Insurance. Moral Hazard. Insurance Costs.

AB This paper presents estimates of the average cost of the workers' compensation insurance program for a homogeneous group of employers by state. These estimates are of interest because they reflect the operation, direct costs, and efficiency of workers' compensation. The paper estimates cost equations for a variety of alternative specifications. The main finding is that costs tend to rise equal proportionally with benefits -doubling benefits will double insurance costs. The results also indicate that state provision of workers' compensation insurance is associated with higher average costs to employers, all else equal. Finally, we explore the impact that the minimum standards recommended by the National Commission on State Workmen's Compensation Laws would have on workers' compensation costs.

PD September 1988. **TI** Moral Hazard in Workers' Compensation Insurance. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 239; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 39. **PR** $1.50. **JE** 822, 913. **KW** Workers' Compensation. Insurance. Moral Hazard.

AB This paper uses longitudinal CPS data on a large sample of workers to estimate the determinants of participation in state workers' compensation programs in the United States. The principal finding is that higher workers' compensation benefits are associated with greater participation in the workers' compensation program, after allowing for worker characteristics, state dummy variables and other aspects of the workers' compensation law. Workers' compensation benefits, however, have an insignificant effect on program participation for the sample of women. In addition, the results show that the waiting period that is required before benefit payments begin has a substantial negative effect on participation in the workers' compensation program. Finally, with the exception of unemployment insurance, there is little evidence that workers are comparatively more likely to participate in other social insurance programs while they are collecting workers' compensation benefits.

PD October 1988. **TI** The Extent of Measurement Error in Longitudinal Earnings Data: Do Two Wrongs Make a Right. **AU** Krueger, Alan B.; Bound, John. **AA** Krueger: Princeton University. Bound: University of Michigan. **SR** Princeton Industrial Relations Section Working Paper: 240; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 39. **PR** $1.50. **JE** 229, 824. **KW** Measurement Error. Longitudinal Data. Income. Serial Correlation.

AB This paper examines the properties and prevalence of measurement error in longitudinal earnings data. The analysis compares Current Population Survey data to administrative Social Security payroll tax records for a sample of heads of households over two years. In contrast to the typically assumed properties of measurement error, the results indicate that errors are serially correlated over two years and negatively correlated with true earnings (i.e., mean reverting). Moreover, reported earnings are more reliable for females than males. Overall, the ratio of the variance of the signal to the total variance is .82 for men and .92 for women. These ratios fall to .65 and .81 when the data are specified in first-differences. The estimates suggest that longitudinal earnings data may be more reliable than previously believed.

Kuhn, Peter

PD July 1988. **TI** Seniority and Distribution in a Two-Worker Trade Union. **AU** Kuhn, Peter; Robert, Jacques. **AA** Kuhn: McMaster University. Robert: University of Western Ontario. **SR** Princeton Industrial Relations Section Working Paper: 235; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 35. **PR** $2.00. **JE** 831, 824. **KW** Discrimination. Trade Unions. Union Policy.

AB Unlike existing models which rely heavily on assumptions regarding unions' distributional preferences, we present a very simple model in which union seniority-layoff rules and rising seniority-wage profiles result from optimal price discrimination against the firm. Surprisingly, even when cash transfers among union members are ruled out, unions' optimal seniority-wage profiles are likely to be completely unaffected by their distributional preferences because of a kink in the utility-possibility frontier. This suggests that the simple technology of price discrimination may play a key role, hitherto unappreciated, in explaining union policies that affect the relative well-being of different union members.

Kupiec, Paul

TI A Test for Nonlinearity of Time Series Based on the Volterra Expansion. **AU** Hall, Alastair; Kupiec, Paul.

Kuttner, Kenneth

TI Time-Varying Risk Perceptions and the Pricing of Risky Assets. **AU** Friedman, Benjamin; Kuttner, Kenneth.

Kyle, Albert S.

TI Smart Money, Noise Trading and Stock Price Behavior. **AU** Campbell, John Y.; Kyle, Albert S.

L

TI The Long Good-bye: The Great Transformation of the British Columbia Hospital System. **AU** Evans, R. G.; Barer, M. L.; Hertzman, C.; Anderson, G. M.; Pulcins, I. R.; Lomas, J.

Labbe, Martine

PD January 1988. **TI** Sensitivity Analysis in Minisum Facility Location Problems. **AU** Labbe, Martine; Thisse, Jacques Francois; Wendell, Richard. **AA** Labbe: Erasmus Universiteit Rotterdam. Thisse: Universite Catholique de Louvain. Wendell: University of Pittsburgh. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8817; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 22. **PR** No Charge. **JE** 022, 213. **KW** Location Theory. Network. Firm. Plant Location.

AB This paper considers trade-offs between cost and perturbations of the weights in a single facility minisum location problem over a finite set of feasible points. Specifically, the paper characterizes a trade-off curve of variability in the weights versus the degree of optimality of a solution. The general theoretical framework includes problems of location on a tree-network and location using block-norms, and special results are given for these cases.

Laffont, Jean Jacques

PD October 1988. **TI** The Politics of Government Decision-Making: A Theory of Regulatory Capture. **AU** Laffont, Jean Jacques; Tirole, Jean. **AA** Laffont: Harvard University and Massachusetts Institute of Technology. Tirole: Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 506; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PR** No Charge. **JE** 026, 613, 612. **KW** Regulation. Asymmetric Information. Interest Groups. Incentives. Protectionism. Principal - Agent Theory.

AB We develop an agency-theoretic approach to interest-group politics. We study the potential identification of a regulatory agency with the interests of a regulated firm and of non-industry groups. We show that: (1) The organizational response to the possibility of agency politics is to reduce the stakes the interest groups have in regulation. (2) The threat of producer protection leads to low-powered incentive schemes for the regulated firm. (3) Consumer politics may induce uniform pricing by a multi-product firm. (4) The power of interest groups is not determined by a supply-and-demand theory, in which regulation is captured by the interest group with the highest willingness to pay. First, the regulatory inefficiencies associated with the pressures of several interest groups may compound rather than cancel. Second, the power of an interest group does not depend only on its willingness to pay but also on the kind of influence it wants to exert.

PD October 1988. **TI** The Regulation of Multiproduct Firms: Theory and Policy Analysis. **AU** Laffont, Jean Jacques; Tirole, Jean. **AA** Laffont: Massachusetts Institute of Technology and Harvard University. Tirole: Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 507; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PR** No Charge. **JE** 026, 511, 613, 514, 521. **KW** Regulation. Incentives. Private Information. Price Competition. Technology.

AB The paper develops a normative model of the regulation of a multiproduct firm with private information about its technology and cost-reducing activity. It first studies the conditions under which only the cost-reimbursement rule (but not pricing) is used to provide incentives (the "pricing-incentives" dichotomy). Second, it shows how optimal pricing can be decentralized to the regulated firm in the absence of cost and demand information. Third, the model is extended to allow competition by regulated and unregulated firms, access pricing and second-degree price discrimination.

Lafrance, Robert

TI Multicountry Modelling of Financial Markets. **AU** Cockerline, Jon; Helliwell, John F.; Lafrance, Robert.

Lal, Deepak K.

PD May 1988. **TI** International Capital Flows an Economic Development. **AA** University College London. **SR** University College London Discussion Paper: 88-11; Department of Economics, University College London, Gower Street, LONDON, WC1E 6BT. **PG** 90. **PR** 1.50 pound sterling. **JE** 443, 112, 121, 432. **KW** International Capital.

Economic Development. Capital Flight. Public Debt. Developing Countries. Debt Crisis.
AB It may, therefore, be useful to provide an eclectic, but by no means comprehensive, survey of the insights to be gleaned from the large literature on foreign capital and economic development to see how public policy in developing countries can best be adapted to these new emerging trends in the global economy. This is the purpose of this paper, which is in three parts: The first, examines analyses which attempt to explain the determinants and effects of capital flows at an aggregate level. The second part of the paper examines the arguments surrounding the determinants, and costs and benefits, of particular forms in which capital has been transfered to developing countries. The third looks at the role capital flows could play in development in an increasingly integrated global economy, from the more novel viewpoint of 'neoclassical' political economy.

Lancaster, Kelvin

PD March 1988. **TI** The Optimum Tariff for a Small Open Economy with a Differentiated Product but no Imperfect Competition. **AA** Columbia University. **SR** Columbia International Economics Research Center Discussion Paper: 383; Department of Economics, Columbia University, New York, NY 10027. **PG** 10. **PR** $5.00. **JE** 422, 411, 514, 616. **KW** Open Economy Model. Tariff. Differentiated Product. Cottage Industries.
AB This paper shows the existence of (and derives an explicit solution for) an optimum tariff for a small open economy with competitive and constant cost domestic industries, fully employed resources, and no rigidities. The economy imports a differentiated product which is available in limited variety because of the scale economies in an imperfectly competitive foreign market. Lacking scale economies, the domestic industry can produce the same product at higher cost, but to buyer specification. Consumers are assumed to have varied tastes so that there is a welfare gain from increasing product variety. Imposing a tariff can initiate or expand domestic production of the differentiated product, increasing variety because it is customized. The resulting gain must be balanced against an efficiency loss due to the higher resource cost, an optimum tariff being found where the two effects balance. It is shown that the optimum level of tariff rises with increased local costs only to a point, then falls to zero for local costs beyond a certain point. It is suggested that the model is relevant to small economies with cottage industries in a world of differentiated products with limited variety due to economies of scale in industrial exporting countries.

Landale, Nancy

PD October 1988. **TI** Opportunity, Movement and Marriage U.S. Farm Sons at the Turn of the Century. **AA** Economics Research Center/NORC and The University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 88-14; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 41. **PR** $2.00; send requests to Librarian, NORC. **JE** 823, 718, 716, 921. **KW** Migration. Rural Economics. Family. Farming. Agriculture. Occupations.
AB This paper examines the implications of historic changes in the American industrial structure for the marriage behavior of farm sons. Using data from the 1880-1900 National Panel Study, the analysis focuses on migration and occupational placement as mechanisms through which the structure of local opportunities potentially affected family formation. The findings suggest that narrowing opportunities for farm ownership channelled farm sons into tenent farming, farm labor, and nonfarm occupations. These alternatives, in turn, reduced marriage chances during the early adult years. In contrast, inter-county migration between childhood and young adulthood increased the likelihood of marriage, net of occupation. Overall, the analysis demonstrates clear linkages between opportunity, occupations, migration, and nuptiality.

Larin, Kathryn A.

TI International Comparisons of Labor Costs in Manufacturing. **AU** Hooper, Peter; Larin, Kathryn A.

Lattimore, Pamela

PD September 1988. **TI** An Empirical Assessment of Alternative Models of Risky Decision Making. **AU** Lattimore, Pamela; Witte, Ann D.; Baker, Joanna. **AA** Lattimore: National Institute of Justice. Baker: Virginia Polytechnic Institute and State University. Witte: Wellesley College. **SR** National Bureau of Economic Research Working Paper: 2717; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 026, 022. **KW** Risk. Expected Utility. Decision Theory.
AB In this paper, we assess the degree to which four of the most commonly used models of risky decision making can explain the choices individuals make when faced with risky prospects. To make this assessment, we use experimental evidence for two random samples of young adults. Using a robust, nonlinear least squares procedure, we estimate a model that is general enough to approximate Kahnenman and Tversky's prospect theory and that for certain parametric values will yield the expected utility model, a subjective expected utility model and a probability-transform model. We find that the four models considered explain the decision-making behavior of the majority of our subjects. Surprisingly, we find that the choice behavior of the largest number of subjects is consistent with a probability-transform model. Such models have only been developed recently and have not been used in applied settings. We find least support for the expected utility model -- the most widely used model of risky decision making.

Layard, Richard

PD August 1988. **TI** Why Does Unemployment Persist. **AU** Layard, Richard; Bean, Charles R. **AA** Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 321; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 50. **PR** No Charge. **JE** 821, 824, 831, 023. **KW** Unemployment. Inflation Rate. Labor Market. Insider Power.
AB The main movements of unemployment correspond to fluctuations in the short-run NAIRU (around a stable long-term NAIRU). These supply-side fluctuations have two main origins: (i) variations in the number of 'insiders' involved in wage-setting; (ii) variations in the effectiveness of the unemployed 'outsiders' as potential job-seekers. The evidence of micro-studies suggests that (ii) is more important than (i), and this also helps to explain the widespread shift outwards in

the u/v curve. To derive these arguments rigorously the paper presents a simple model of efficiency wages, another of collective bargaining, and finally a fully dynamic model with labor market flows.

Leibowi

TI Health Insurance and the Demand for Medical Care - Evidence from a Randomized Experiment. **AU** Manning, W. G.; Newhouse, J. P.; Duan, N.; Keeler, E.; Benjamin, B.; Leibowitz, A. Marquis-M-S; Zwanziger-J.

LeRoy, Stephen F.

TI Bubbles and Charges. **AU** Gilles, Christian; LeRoy, Stephen F.

TI Econometric Aspects of the Variance-Bounds Tests. **AU** Gilles, Christian; LeRoy, Stephen.

PD May 1988. **TI** Stock Price Volatility: An Inequality Test Based on the Geometric Random Walk. **AU** LeRoy, Stephen; Parke, William. **AA** LeRoy: University of California, Santa Barbara. Parke: University of Rochester and University of North Carolina, Chapel Hill. **SR** University of California at Santa Barbara Department of Economics Working Paper: 281; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 36. **PR** No Charge. **JE** 313, 311. **KW** Stock Dividends. Asset Pricing. Stock Prices. Variance Tests.

AB The procedure we adopted in appraising the reliability of the model-based variance-bounds tests was to estimate the discount factor and the mean and variance of the dividend's growth rate on each run of simulated data, and then to insert those estimates into the relevant expressions for the standard deviations of the ex-post rational and actual price-dividends ratios. The summary statistics showed that the resulting calculation was essentially unbiased for both the ex-post rational and actual price-dividends ratio, and in addition showed much lower -- but still not inconsiderable -- standard deviations from one run to the next than the non-model-based estimates. Finally, we used the real-world data to calculate asymptotic standard deviations for the model-based volatility measures.

Lesne, Jean Philippe

TI Advertising Strategies and Competition in a Chamberlinian Market Model. **AU** Gary, Bobo Robert; Lesne, Jean Philippe.

Levine, Paul

TI Macroeconomic Policy Design Using Large Econometric Rational Expectations Models: Methodology and Application. **AU** Christodoulakis, Nicos M.; Gaines, Jessica; Levine, Paul.

Levy, David T.

PD June 1988. **TI** Vertical Integration as Strategic Behavior in a Spatial Setting: Reducing Rivals' Revenue. **AU** Levy, David T.; Reiffen, David. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 165; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue Northwest, Washington, D.C. 20580. **PG** 31. **PR** No Charge. **JE** 611, 612, 514, 511, 522. **KW** Vertical Integration. Foreclosure. Spatial Market. Corporate Strategy. Market Behavior.

AB This paper provides a formal treatment of how vertical integration may deter entry "by reducing rivals' revenues". We examine a spatial market with the locations of firms fixed due to location-specific (sunk cost) investments at both the upstream and downstream level. We show that vertical integration restricts the potential entrant from selling to its most desirable customers, and thereby enables the upstream firm to expand its market and increase profits without attracting entry. Further, we show that integration is particularly beneficial in a growing and uncertain market, where the ability to integrate enables a firm to wait until future events unfold before any action is taken to deter entry.

Lewis, Tracy R.

PD June 1988. **TI** Optimal Exclusion and Relocation of Workers in Oversubscribed Industries. **AU** Lewis, Tracy R.; Ware, Roger; Feenstra, Robert. **AA** Lewis, Feenstra: University of California, Davis. Ware: University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8881; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 43. **PR** $3.50. **JE** 611, 612, 822, 824. **KW** Government Programs. Industry. Skill Level. Employment.

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

PD October 1988. **TI** Linking Price Cap and Rate of Return Regulation. **AU** Lewis, Tracy R.; Sappington, David E. M. **AA** Lewis: University of California at Davis. Sappington: Bellcore. **SR** University of California at Davis Economics Department Working Paper: 324; Department of Economics, University of California, Davis, CA 95616. **PG** 25. **PR** No Charge. **JE** 613, 612, 611, 026, 022. **KW** Regulation. Private Information. Regulatory Policy. Monopoly. Principal-Agent Theory.

AB We construct a simple model of the regulatory process in which the firm has private information about its capabilities and its cost-reducing activities. The optimal regulatory policy in this setting can be interpreted as offering the regulated firm a choice between a modified form of rate of return regulation and a pure form of price cap regulation. We examine the optimal linking between the regulatory choices afforded the firm. We also explain how the optimal regulatory policy varies with changes in the technological climate and the nature of the information asymmetry between regulator and firm.

PD October 1988. **TI** Oversight of Long-Term Investment by Short-Lived Regulators. **AU** Lewis, Tracy R.; Sappington, David E. M. **AA** Lewis: University of California, Davis. Sappington: Bellcore. **SR** University of California at Davis Economics Department Working Paper: 325; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 43. **PR** No Charge.

JE 613, 611, 522, 511, 022. **KW** Investment. Commitment. Regulation. Regulatory Policy.

AB Certain regulators of economic activity, like utility regulators and government procurement officers, typically serve for relatively short periods of time. We consider how to best motivate long-term investment in the presence of short-lived regulators. A firm's investment decision is overseen by one regulator. Whether the investment is ultimately adopted is determined by a second, distinct regulator. Each regulator is concerned with the welfare of its own contemporary population. Transfer payments between populations are limited, and relevant data cannot be verified by third parties. Underadoption and underinvestment "on average" result, although overinvestment will also occur under the optimal regulatory charter.

PD December 1988. **TI** Revolving Regulatory Commissions. **AU** Lewis, Tracy R.; Sappington, David E. M. **AA** University of California, Davis. **SR** University of California at Davis Economics Department Working Paper: 331; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 36. **PR** No Charge. **JE** 613, 022. **KW** Investment. Commitment. Regulation. Regulatory Commission.

AB We examine a setting where a different regulatory commission controls the activities of a firm in each of two periods. Each commission is concerned primarily with the welfare of contemporary consumers. We examine the efficacy of three different regulatory charters in resolving the intertemporal conflicts that arise between commissions. These charters specify the extent to which the second-period commission is bound to promises made by its predecessor.

Lichtenberg, Frank

PD September 1988. **TI** IR&D Project Data and Theories of R&D Investment. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 2720; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 621, 514. **KW** R&D. Technology. Hazard Model. Investment.

AB This paper analyzes data on a large sample of research and development (R&D) projects documented in the Defense Department's Independent R&D Data Bank, both to provide some stylized facts about R&D investment at the project level and to test the implications of a control-theoretical model developed by Grossman and Shapiro. We calculate moments of the marginal distributions and elasticities of cost with respect to time, by type of project (e.g. basic research, development), and discriminate between alternative hypothesis concerning the shape of the hazard function of R&D investment. Consistent with the major implication of the Grossman-Shapiro model, the rate of investment in a project tends to increase as the project approaches completion.

TI Technical Change, Learning, and Wages. **AU** Bartel, Ann; Lichtenberg, Frank.

PD October 1988. **TI** Government Subsidies to Private Military R&D Investment: DOD's IR&D Policy. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 2745; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 114, 621, 321, 323. **KW** Defense Policy. Defense Budget. Military Spending. Private Sector. Innovation.

AB A relatively obscure defense procurement policy establishes a large subsidy to private military R&D investment. On the surface, it appears that the marginal subsidy to such investment is zero, but this is only true in the short run. Due to DOD's policy of allowable-cost determination, the long-run subsidy is substantial. It is much larger, in fact, than the subsidy provided by the R&D Tax Credit enacted in 1981. I calculate the subsidy by estimating an econometric model using contractor-level data from the Defense Contract Audit Agency. This subsidy may have an important influence on the amount and character of privately financed innovation in the United States.

Lim, Joseph

PD August 1988. **TI** SESDAQ: The Early Evidence. **AU** Lim, Joseph; Saunders, Anthony. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 485; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 26. **PR** No Charge. **JE** 441. **KW** Stock Market. Stock Exchange. Singapore.

AB The establishment of the Stock Exchange of Singapore Dealing and Automated Quotation system (SESDAQ), has been clouded in controversy. In particular, the Asian Wall Street Journal of December 12-13th 1986 contained charges that (a) "Singapore is too small for two exchanges" and (b) "the Government will use the new exchange to unload state-controlled companies and government backed companies". This led to attempts by the MAS to respond, that were contested by the AWJ's editor, and to the eventual gazetting of the AWJ on February 9th 1987.

PD August 1988. **TI** The Underpricing of Initial Public Offerings (IPOs) in Singapore: Public Policy Issues and Possible Solutions. **AU** Lim, Joseph; Saunders, Anthony. **AA** New York University. **SR** New York University Salomon Brothers Working Center Paper: 487; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 66. **PR** No Charge. **JE** 514, 313, 521, 311. **KW** Singapore. Stock Market. Stock Prices.

AB In the context of Singapore as an NIC, the potential underpricing of new issues takes on important public policy and social welfare consequences. First, pervasive underpricing of new issues may be viewed as imposing a dead-weight burden on firms' financial structures that may ultimately retard both their rate of growth and the rate of growth of the economy. Second, the financing of investor purchases of underpriced issues by banks and other financial institutions can distort the credit mechanism and adversely impact interest rates in the money markets and therefore monetary policy. Third, the underpricing of new issues may directly hinder the proposed privatization plans of the Singapore government; to paraphrase Harold MacMillan, selling the "family silver" at knockdown prices.

Lipsey, Robert

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

Lizondo, J. Saul

PD June 1988. **TI** Contractionary Devaluation in Developing Countries: An Analytical Overview. **AU** Lizondo, J. Saul; Montiel, Peter. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/51; International Monetary Fund, Washington D.C. 20431. **PG** 54. **PR** No Charge. **JE** 131, 431, 121, 311. **KW** Devaluation. Developing Countries. Exchange Rate. Output.

AB This paper evaluates the growing literature on whether devaluation has contractionary effects on output in developing countries. It explores the nature of the links between the exchange rate and real output within a unified, fairly general analytical framework which incorporates a number of the developing country features cited in this literature. The analysis suggests that many of the arguments on both sides of the contractionary devaluation debate require modification and that a number of potential effects have been ignored. It is concluded that the direction of the impact effects of devaluation on real output is ambiguous on analytical grounds.

Lloyd, Ellis Huw

PD May 1988. **TI** Predicting the Timing and Quantity of LDC Debt Rescheduling. **AU** Lloyd, Ellis Huw; McKenzie, George; Thomas, Stephen. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8809; Department of Economics, University of Southampton, Southampton S09 5NH, ENGLAND. **PG** 63. **PR** No Charge. **JE** 312, 433, 443, 432. **KW** LDC. Debt Rescheduling. Expected Utility. Developing Countries.

AB In this paper we present an expected utility theory of developing country debt rescheduling decisions and implement the model empirically using both annual and semi-annual data. This model explains both the timing and quantity of debt rescheduling for 27 large debtors for the period 1977-81 for the annual data and for 59 countries during 1977-85 for the six-monthly data. We introduce 'herd' variables to reflect global conditions facing developing countries in the international capital markets and financial ratios to reflect a country's balance sheet position. These are found to be empirically superior to the more traditional "fundamental" economic variables such as debt-export ratios.

Lorie, Henri

PD May 1988. **TI** Balance of Payments Stabilization Policies in the Dependent Economy and Their Short-Run Impact on Economic Activity. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/44; International Monetary Fund, Washington, D.C. 20431. **PG** 45. **PR** No Charge. **JE** 431, 315, 311, 411. **KW** Devaluation. Credit Markets. Expansionary Policy. Balance of Payments.

AB This paper reviews financial programming in "dependent economies" with unemployed resources and nonmarket clearing conditions regarding domestic bank credit. Devaluation may increase domestic activity, even if the immediate export supply response is limited and devaluation tends directly to increase savings. When domestic credit markets are rationed, interest rate policy has nonstandard implications. An increase in interest rates becomes potentially expansionary to prevent a worsening of the external disequilibrium. Policy mixes to stabilize the balance of payments without inducing a domestic contraction are derived. There may also be room to accommodate the domestic counterpart of additional external project financing.

Lovasz, Laszlo

TI The Shapes of Polyhedra. **AU** Kannan, Ravi; Lovasz, Laszlo; Scarf, Herbert E.

Lucas, Deborah

TI The Effect of Information Releases on the Pricing and Timing of Equity Issues: Theory and Evidence. **AU** Korajczyk, Robert; Lucas, Deborah; McDonald, Robert.

Lucena, Abilio

PD July 1988. **TI** Time-Dependent Travelling Salesman Problem-The Deliveryman Case. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8832; Universite Catholique de Louvain, Voie du Roman pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 13. **PR** No Charge. **JE** 615, 022, 213. **KW** Transportation Costs. Location Theory. Spatial Economics.

AB We consider a scheme to derive lower bounds for the Time-Dependent Travelling Salesman Problem. It involves splitting lower bounds into a number of components and optimizing each of these components. The lower bounds thus derived are shown to be at least as sharp as the ones previously suggested for the problem. We describe a branch-and-bound algorithm based on our lower bounding scheme and computationally test it for instance of the problem known as the Travelling Deliveryman Problem.

Luczak, Tomasz

PD December 1987. **TI** Tree-Matchings in Random Graphs. **AU** Luczak, Tomasz; Rucinski, Andrzeij. **AA** University of Poznan. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 87489-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** No Charge. **JE** 213. **KW** Tree Matching. Random Graphs. Hall Theorem. Existence.

AB G-matching in graph H is a subgraph of H whose every connected component is isomorphic to G. For any t-vertex tree T we find precise threshold for the existence of a T-matching covering all but at most t-1 vertices of the largest component of a random graph G(n,p). This generalizes the results on perfect matchings from 'ER66(and 'BT85(as well as provides an alternative proof of both based on Hall's theorem instead of Tutte's theorem.

MacDonald, Glenn M.

TI Competitive Diffusion. **AU** Jovanovic, Boyan; MacDonald, Glenn M.

MacKinnon, James G.

TI A New Form of the Information Matrix Test. **AU** Davidson, Russell; MacKinnon, James G.

Magill, M.

TI Lecture Notes in Incomplete Markets. **AU** Duffie, D.; Shafer, W.; Cass, D.; Magill, M.; Quinzii, M.; Geanakoplos, J.

Magnus, Jan R.

PD July 1988. **TI** Least-Squares Autoregression with Near-Unit Root. **AU** Magnus, Jan R.; Rothenberg, Thomas J. **AA** London School of Economics. **SR** London School of Economics Suntory Toyota International Centre for Economics and Related Disciplines Working Paper: EM/88/178; London School of Economics, 10 Portugal Street, LONDON WC2A 2HD. **PG** 27. **PR** No Charge. **JE** 211. **KW** Unit Roots. Autoregressive Models. Time-Series. Co-Integration. Monte Carlo Simulations.

AB Previous Monte Carlo and numerical integration calculations have demonstrated that least-squares estimates, test statistics and forecasts in autoregressive time-series models exhibit unusual features when one of the roots of the characteristic polynomial lies near the unit circle. In particular, the traditional approximate distribution theory based on normality is often unsatisfactory. Furthermore, small differences in the initial conditions sometimes yield noticeable differences in the sampling distributions even when the number of observations is rather large. See, e.g., Phillips (1977, 1987), Evans and Savin (1981, 1984) and Magnus and Pesaran (1987, 1988). In this note, we provide further evidence and offer some simple explanations for these phenomena in the leading case of the AR(1) model.

Mahe, L. P.

PD August 1988. **TI** Bilateral Harmonization of EC and U.S. Agricultural Policies. **AU** Mahe, L. P.; Tavera, C. **AA** Institut National de la Recherche Agronomique, Rennes, France. **SR** University of Minnesota Economic Development Center Bulletin: 88-2; Department of Agricultural and Applied Economics, 231 Classroom Office Building, University of Minnesota, Saint Paul, MN 55108. **PG** 32. **PR** Free. **JE** 713, 422, 421, 411. **KW** Agricultural Policy. International Trade. European Community.

AB Agricultural policies in both Europe and the United States provide commodities with an excessively high and distorted pattern of support. The economic interdependencies of the policies give rise to adverse fiscal and economic costs, which are viewed as disharmonies in the existing policy measures both within and between the two regions. Unilateral and simultaneous European Community and United States policy changes are simulated with an international trade model. They are carried in three steps: (1) grains and feeds, (2) beef and dairy, and (3) sugar. Both cross effects and own effects are examined on typical policy targets. Results suggest that while world prices are sometimes drastically altered, the magnitude of cross effects is small and sometimes ambiguous compared to own effects. Feed livestock linkages are dominant factors in the economic rationale behind the interactions between countries. The case for cooperation in this trade game is, however, supported by the evidence from at least a budget point of view.

Maksimovic, Vojislav

TI Technology, Debt and the Exploitation of Growth Options. **AU** Kim, Moshe; Maksimovic, Vojislav.

Malgrange, Pierre

PD July 1988. **TI** The Structure of Dynamic Macroeconometric Models. **AA** CEPREMAP. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8833; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 43. **PR** No Charge. **JE** 023, 212, 111. **KW** Growth Model. Macroeconomic Model. Econometric Theory.

AB This paper presents a method for analyzing a given macroeconometric model which seeks to reveal its theoretical underpinnings which are generally hidden behind the numerous and apparently complex equations. The basic idea is to treat the model as if it were a theoretical disequilibrium growth model, but with numerical parameters. This method is illustrated by thorough application to METRIC, a French Quarterly Model.

Malkiel, Burton G.

PD October 1988. **TI** Is The Stock Market Efficient. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 97; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PR** $3.00. **JE** 313, 311, 522. **KW** Efficient Markets. Stock Market. Security Prices.

AB A stock market is said to be efficient if it accurately reflects all relevant information in determining security prices. Critics have asserted that share prices are far too volatile to be explained by changes in objective economic events -- the October 1987 crash being a case in point. Although the evidence is not unambiguous, reports of the death of the efficient market hypothesis appear premature.

Mammen, E.

TI Comparing Non Parametric Versus Regression Fits. **AU** Hardle, W.; Mammen, E.

Manning, W. G.

PD February 1988. **TI** Health Insurance and the Demand for Medical Care - Evidence from a Randomized Experiment. **AU** Manning, W. G.; Newhouse, J. P.; Duan, N.; Keeler, E.; Benjamin, B.; Leibowitz, A. Marquis-M-S; Zwanziger-J. **AA** The Rand Corporation. **SR** Rand Report: R-3476-HHS; The Rand Corporation, 1700 Main Street P.O. Box 2138, Santa Monica, CA 90406-2138. **PG** 99. **PR** No Charge. **JE** 913. **KW** Medical Costs. Medical Services. Health. Medical Insurance.

AB This report examines the effects of varying levels of cost sharing on the demand for medical care and other health services. It presents the final results of the RAND Health Insurance Experiment (HIE) with respect to annual utilization of medical services in the fee-for-service system. The data from the HIE clearly show that the use of medical services responds to changes in the amount paid out of pocket. The per capita expenses on the plan with no out-of-pocket costs are 45 percent higher than those on the plan with a 95 percent coinsurance rate, subject to an upper limit on out-of-pocket expenses of $1,000 per year. The largest decreases in the use of outpatient services occur between the free and 25 percent coinsurance plans. Cost sharing affects the number of medical contacts, but not the intensity of those contacts. There are no significant differences among the family coinsurance plans in the use of inpatient services, including use of inpatient services by children. The findings indicate that demand elasticities for medical care are nonzero and that the response to cost sharing is nontrivial.

Marchand, M.

TI Evading, Auditing and Taxing: The Equity-Compliance Tradeoff. **AU** Cremer, H.; Marchand, M.; Pestieau, P.

Margo, Robert

PD September 1988. **TI** Schooling and the Great Migration. **AA** Colgate University. **SR** National Bureau of Economic Research Working Paper: 2697; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 917, 823, 912. **KW** Migration. Blacks. Education. Minorities.

AB In 1900 90 percent of America's black population lived in the South and only 4.3 percent of those born in the region were living elsewhere. By 1950 the proportion of blacks living in the South had declined to 68 percent and 19.6 percent of those born in the region had left it. Using samples drawn from the public use tapes of the 1900, 1940, and 1950 censuses I show that better-educated blacks were far more likely to leave the South than less-educated ones. There was, as well, a feedback effect: black school enrollment increased in states that had previously experienced high rates of black out-migration. Econometric analysis of the determinants of black out-migration suggests that the better-educated were more likely to migrate because schooling lowered the costs of migrating, possibly by increasing awareness of distant labor market opportunities and the ability to assimilate into a different social and economic environment.

Mariano, Roberto S.

TI Measures of Deterministic Prediction Bias in Nonlinear Models. **AU** Brown, Bryan W.; Mariano, Roberto S.

TI Reduced Variance Prediction in Nonlinear Models. **AU** Brown, Bryan W.; Mariano, Roberto S.

PD March 1988. **TI** Prediction in Nonlinear Models with Data Uncertainty. **AU** Mariano, Roberto S.; Gallo, Giampiero. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-4; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 43. **PR** 3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211, 132. **KW** Forecasting. Measurement Errors. Stochastic. Simulation. Asymptotic Theory. Uncertainty.

AB This paper addresses some of the issues that are relevant in forecasting with an econometric model when uncertainty in the data is present. The assumed uncertainty takes the form of data revisions and of errors in the forecast of exogenous variables. The discussion focuses on problems of estimation in the sample period when most recent data are just preliminary estimates of the true values available at a later date; and on problems of one-step ahead forecasting with a nonlinear static model in the presence of exogenous variables stochastic in the forecast period.

PD June 1988. **TI** Stochastic Simulations, Prediction, and Validation of Nonlinear Models. **AU** Mariano, Roberto S.; Brown, Bryan W. **AA** Mariano: University of Pennsylvania. Brown: Rice University. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-6; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 32. **PR** 3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211, 132. **KW** Forecasting. Specification Tests. Asymptotic Theory. Diagnostic Regressions. Bootstrap.

AB New procedures based on stochastic simulations are developed for forecasting and validating estimated nonlinear econometric systems. The statistical properties of suggested procedures are studied through a large-sample asymptotic analysis. The analysis provides conditions under which our proposed residual-based or bootstrap procedure would dominate the commonly used deterministic predictor and the more standard Monte Carlo stochastic simulation. Using stochastic simulations, we develop asymptotically valid significance tests of the predictive performance of the model as a whole. This approach improves the common practices of using deterministic simulations, ignoring issues of significance of summary error statistics, and disregarding appropriate error covariance structures in diagnostic regressions of model forecast errors.

PD June 1988. **TI** Prediction in Dynamic Nonlinear Models: Large-Sample Behavior. **AU** Mariano, Roberto S.; Brown, Bryan W. **AA** Mariano: University of Pennsylvania. Brown: Rice University. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-7; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 29. **PR** 3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211, 132. **KW** Stochastic Simulations. Monte Carlo. Asymptotic Theory. Bootstrap. Forecasting. Dynamic Model. Nonlinear Models.

AB The large-sample behavior of one-period-ahead and multi-period-ahead predictors for a dynamic nonlinear simultaneous system is examined in this paper. Conditional on final values of the endogenous variables, the asymptotic moments of the deterministic, closed-form, Monte Carlo stochastic, and several variations of the residual-based stochastic predictor are analyzed.

PD October 1988. **TI** Predictors in Dynamic Nonlinear Models: Finite-Sample Behavior. **AU** Mariano, Roberto S.; Brown, Bryan W. **AA** Mariano: University of Pennsylvania. Brown: Rice University. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-8; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PR** $3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211, 132. **KW** Prediction. Dynamic Forecasts. Simultaneous Equation Models. Nonlinear Models. Dynamic Models. Finite Sample Properties.

AB Going beyond the large-sample asymptotic analysis in our previous work, we analyze the finite-sample properties of predictors in nonlinear models in this paper. Relative prediction efficiency in finite samples is considered for the deterministic, closed-form, Monte-Carlo, and residual-based predictors. The analysis covers both static and dynamic models and includes the modification of stochastic predictors with antithetic variates and the bootstrap procedure as an alternative to the residual-based. We apply our finite-sample analysis further to a two-equation simultaneous system which subsumes the loglinear regression model. Supplementary material is also contained in a limited simulation experiment.

Marion, Nancy

TI Determinants of the Spread in a Two-Tier Foreign

Exchange Market. **AU** Flood, Robert; Marion, Nancy.

Marron, J. S.

PD July 1988. **TI** Simultaneous Estimation of Several Size Distributions of Income. **AU** Marron, J. S.; Schmitz, H. P. **AA** Marron: University of North Carolina. Schmitz: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-186; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 14. **PR** No Charge. **JE** 211. **KW** Nonparametric Estimation. Income Distribution. Bandwidth Selection. Cross-validation. Least Squares.

AB The size distributions of net income in Great Britain changed systematically in the 70's. This can be shown by visual comparison of nonparametric density estimates. Typical bandwidth selection methods, such as least squares and biased cross-validation tend to hinder comparison, because of too much variability accross curves. Hence, a method for finding an appropriate pooled bandwidth is developed. It is seen that this method is much more reliable than single curve cross-validation.

TI Local Minima in Cross-Validation Functions. **AU** Hall, Peter; Marron, J. S.

Mas, Colell Andreu

PD September 1988. **TI** A Note on Cost Share Equilibria and Consumer-Owners. **AU** Mas, Colell Andreu; Silvestre, Joaquim. **AA** Mas-Colell: Harvard University. Silvestre: University of California, Davis. **SR** University of California at Davis Economics Department Working Paper: 322; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 17. **PR** No Charge. **JE** 021, 022, 024, 614. **KW** Public Goods. Equilibrium Allocations. Public Ownership.

AB Two recent contributions (Farrell, 1985 and Mas-Colell/Silvestre, 1988, see also Manning, 1986) have studied the implications of two unanimity-based principles to the problems of how much output to produce and how to distribute it when a firm is owned by the consumers. Interestingly, both approaches lead to what Roemer/Silvestre, 1988, call proportional allocations. The purpose of this note is to compare the approaches of Farrell and Mas-Colell/Silvestre and to determine how well they serve as equilibrium foundations for proportional allocations. In a nutshell the conclusion is: Farrell's unanimity principle is simpler than Mas-Colell/Silvestre's, but (assuming convexity of the cost function) the latter always works (i.e., equilibrium exists and yields proportional allocations) while the former may not (equilibrium may not exist, in other words, proportional allocations may not be supportable as equilibria).

Massey, Douglas

PD 1988. **TI** The Effect of Public Housing on Black Segregation in U.S. Metropolitan Areas. **AU** Massey, Douglas; Bickford, Adam. **AA** NORC and University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 88-5; Economics Research Center/NORC, 6030 South Ellis, Chicago, IL 60637. **PG** 40. **PR** $2.00; send requests to Librarian, NORC. **JE** 917, 911, 931, 932. **KW** Public Housing. Segregation. Discrimination. Minorities.

AB In this paper we examine how the concentration of blacks in federally-funded public housing affects their standing on three dimensions of residential segregation -- unevenness, isolation, and clustering. Data are taken from the United States Census, the American Housing Survey, and from a special report obtained from the Department of Housing and Urban Development. Preliminary zero-order regressions provide only weak support for the view that black concentration in public housing increases segregation; but later structural equation models show that this weak aggregate effect is the net result of very powerful direct and indirect effects that offset one another. Depending on which path prevails in any given metropolitan area, black segregation may be increased or decreased by black concentration in public housing.

Masson, Paul

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

Mathios, Alan

PD December 1987. **TI** The Impact of Alternative Forms of State Regulation of AT&T on Direct Dial Long Distance Telephone Rates. **AU** Mathios, Alan; Rogers, Robert P. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 159; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue Northwest, Washington, D.C. 20580. **PG** 34. **PR** No Charge. **JE** 613, 635. **KW** Utility Regulation. Regulatory Agency. Telephones. Communication.

AB Federal and state regulatory agencies have traditionally used rate-of-return regulation to set profit levels and rates for utilities. Rate-of-return regulation, however, may not be the most efficient way to regulate the prices of a regulated utility. A price cap" framework, in which the regulatory agency regulates only the maximum price, is an alternative to rate of return regulation. Under a "price cap" framework, the regulated utility has pricing flexibility since it can lower or raise prices as long as the prices stay below the cap. Although there has been theoretical work comparing the two regulatory frameworks, there has, to date, been almost no empirical evidence comparing prices under a price cap regime with prices under traditional rate-of-return regulation. This paper presents an attempt at estimating the effects of regulatory flexibility.

Mathur, P. N.

PD March 1988. **TI** Can Input-Output/SNA Take Account of Differing Price Structures Between Trading Partners. **AA** University College London and University College of Wales, Aberystwyth. **SR** University College London Discussion Paper: 88-06; Department of Economics, University College London, Gower Street, London, WC1E 6BT. **PG** 18. **PR** 1.50 pound sterling. **JE** 222, 431, 123. **KW** Price Structure. Input-Output. National Accounts. Purchasing Power Parity.

AB United Nations studies on Purchasing Power Parities have shown that the price structures differ markedly between countries. In some developing countries the essential consumption goods may be priced as low as one third, while some producers goods may cost one and a half times than in developed countries. Both I-O and SNA are constructed in value terms. However, for I-O, Leontief writes, Underlying this there are physical relationships and prices are used as weight measures. When quantity is measured in monetary units, these are monetary measures at fixed prices. Over time we can use fixed prices as weights. What about over space. This makes the comparison of I-O or SNA of two countries misleading. Are there any satisfactory statistical tools available to analyze international relations. In this paper, some suggestions are made partly to redress the unsatisfactory state of national and international statistics.

McAllister, Patrick H.

PD September 1988. **TI** Rational Behavior and Rational Expectations. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 535; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 101. **PR** No Charge. **JE** 021, 026. **KW** Rational Expectations. General Equilibrium. Financial Markets. Incomplete Markets. Common Knowledge.

AB Rational expectations has long been considered a desirable feature in models of financial markets. This dissertation presents a new theory of rational expectations in a model of incomplete markets. It features a rigorous treatment of the decision problem facing each agent. Rational expectations is defined as a restriction jointly on the priors of the agents, which asserts that it should be common knowledge among them that all the agents are rational and that the price observed is the market clearing price. It shows that rational expectations equilibrium, according to this definition, need not have the property that for generic economies the equilibrium price reveals all economically relevant information (as they do under the conventional definition).

McCall, Brian P.

PD July 1988. **TI** Job Search, Matching Information, and the Behavior of Reservation Wages over an Unemployment Spell. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 236; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 30. **PR** $2.00. **JE** 824, 821. **KW** Search Theory. Reservation Wage. Unemployment. Job Search.

AB This paper develops a model of job search where some information of value is revealed only after a job starts and where job prospects need not be identical. Using results from the theory of multi-armed bandits, it is shown that the optimal sampling strategy consists of an ordering of the job prospects to be searched. Those jobs with greater 'residual' uncertainty remaining when the job begins, will, ceteris paribus, be placed higher in the sampling order and be associated with a lower reservation wage. Thus, if jobs differed only with respect to this match uncertainty, reservation wages would increase over an unemployment spell. In general, when search costs and wage distributions also differ across jobs, the behavior of reservation wages over an unemployment spell need not be monotonic.

PD August 1988. **TI** Occupational Matching: A Test of Sorts. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 237; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 66. **PR** $2.00. **JE** 812, 823. **KW** Job Matching. Job Tenure. Search Theory.

AB This paper develops a model of occupational matching where, within an occupation, information at one job may be useful for predicting the match at other jobs. Recent developments in the theory of superprocesses are used to derive the optimal sampling policy which predicts that those currently working their second job within an occupation are less likely to separate from this job then those working their first job. Also, this difference should increase with tenure in the previous job since, for those with long tenures, it is more likely that occupational sorting has taken place. These predictions are tested using weekly tenure data from the National Longitudinal Survey: Youth Cohort. Controlling for unobserved heterogeneity and employing semi-parametric estimation techniques, it is found that one's previous job tenure significantly lowers the likelihood of leaving the current job only if both jobs are of the same occupation. However, overall, occupational switchers are more likely to leave the current job only if the tenure in the previous job is greater than one year. Similar results are found for job quitters when the data is analyzed using a competing risks framework.

McDonald, Robert

TI The Effect of Information Releases on the Pricing and Timing of Equity Issues: Theory and Evidence. **AU** Korajczyk, Robert; Lucas, Deborah; McDonald, Robert.

McGahran, Kathleen T.

PD August 1988. **TI** The Effectiveness of Cosmetic Income-Smoothing on Cross-Sectional Risk Assessment. **AU** McGahran, Kathleen T.; Mensah, Yaw M. **AA** McGahran: Columbia University. Mensah: Rutgers University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-31; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 34. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 541, 521. **KW** Accounting. Risk. Volatility.

AB This study examines the effectiveness of cosmetic income smoothing through discretionary accounting policy changes in reducing market perceived risk. Using data originally used by Moses (1987) in his study on income smoothing, and a theoretical model similar to one developed by Bowman (1979, 1980), we present evidence that in the presence of discretionary accounting changes, investors downgrade the relative importance assigned to earnings volatility. We also present evidence that the volatility of cash flows from operations acquires greater significance in this setting.

McGuire, Robert A.

PD November 1988. **TI** Deflation-Induced Increases in Late-Nineteenth Century U.S. Tariffs. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 329; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 22. **PR** No Charge. **JE** 042, 422. **KW** United States. Tariffs. Deflation. Nineteenth Century.

AB The present paper contributes to the emerging reexamination of late-nineteenth century United States tariff policy by estimating the increase in the real level of overall tariff protection and the increase in the welfare effects of tariffs in the United States due to deflation-induced increases in the real rates of specific tariffs. The study uses completely disaggregated data for two periods during the late nineteenth century, 1867-1870 and 1876-1879. The results indicate that the real levels of tariff protection for several United States industries increased, because of deflation, by amounts larger than legislated changes in formal tariffs. They also indicate that deflation during the two periods caused a nontrivial but not very large increase in the welfare effects associated with tariffs. The results suggest that the attempt by the United States to return to gold-standard parity following the Civil War by pursuing a policy of deflation might have had an important influence on trade activity.

McKenzie, George

TI Predicting the Timing and Quantity of LDC Debt Rescheduling. **AU** Lloyd, Ellis Huw; McKenzie, George; Thomas, Stephen.

McLaren, Keith R.

TI Regular Alternatives to the Almost Ideal Demand System. **AU** Cooper, Russel J.; McLaren, Keith R.

McLure, Charles E. Jr

PD August 1988. **TI** U.S. Tax Laws and Capital Flight From Latin America. **AA** Stanford University. **SR** National Bureau of Economic Research Working Paper: 2687; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 442, 441. **KW** Taxation. Capital Flight. Latin America.

AB The interplay between the tax laws of the United States and those of the countries of Latin America creates inducements for capital flight. Most Latin American countries tax only income originating within their boundaries. If other countries tax income of foreigners originating within their boundaries as heavily, there is no tax advantage to capital flight. Latin American countries thus depend on other countries for the prevention of tax-induced capital flight and the loss of public revenues, investment funds, and equity it implies. Income from a United States trade or business conducted by foreigners, including capital gains, is subject to United States tax. Capital gains on real estate and dividends are generally taxed, but it may be possible to reduce those taxes substantially. The United States does not tax most other capital gains realized by foreigners. Most interest income paid to foreigners is also exempt from United States tax. Thus United States tax laws help attract capital from Latin America.

Melumad, Nahum

PD August 1988. **TI** Delegation as Commitment: The Case of Income Tax Audits. **AU** Melumad, Nahum; Mookherjee, Dilip. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 933-R; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PR** No Charge. **JE** 321, 323, 024, 025. **KW** Delegation. Commitment. Tax Evasion. Auditing. Taxes.

AB We study the value of delegating authority over income tax audit policy, arising from incompleteness of contracts. Suppose a utilitarian government's ability to commit is limited to aggregate dimensions of its audit policy, as publicly verifiable information about detailed allocations of audit budgets are not available. We show that if the government retains authority over those allocations, it cannot usually attain the welfare level associated with the full-commitment solution. However, it can achieve this welfare level by delegating authority to a manager, who is motivated by a simple incentive scheme based only on aggregate dimensions of audit performance.

Mendelson, Haim

TI Inventory Behavior and Market Power: An Empirical Investigation. **AU** Amihud, Yakov; Mendelson, Haim.

Mensah, Yaw M.

TI The Effectiveness of Cosmetic Income-Smoothing on Cross-Sectional Risk Assessment. **AU** McGahran, Kathleen T.; Mensah, Yaw M.

Mertens, J. F.

TI Correlated Effectivity Functions. **AU** Abdou, J.; Mertens, J. F.

Metzger, Michael R.

PD November 1988. **TI** A Theory of Minimum Quality Standards: Quacks, Lemons and Licensing Revisited. **AA** Federal Trade Commission. **SR** Federal Trade Commission, Bureau of Economics Working Paper: 167; Bureau of Economics, Federal Trade Commission, Sixth and Pennsylvania Avenue, Northwest, Washington, D.C. 20580. **PG** 21. **PR** No Charge. **JE** 514, 611, 022. **KW** Lemons. Asymmetric Information. Product Quality. Licenses. Perfect Competition.

AB An analytical model is employed to investigate competitive markets characterized by asymmetric consumer information as to product quality. Support is found for Leland's conclusion '1979(that a "lemon's market" is a general phenomenon for such markets, as well as the conclusion that a *minimum quality standard may or may not be socially* desirable. These results rebut the use of a "lemon's market" rationale as a single criteria for minimum quality standards and occupational licensing. Under the assumption of decreasing opportunity costs for suppliers, the analysis refutes Leland's conclusions that quality will be generally under-supplied, that output always will be over-supplied, and that licensing will always be desirable. Minimum quality standards (or licensing) self-imposed by a profession is also investigated. Finally, it is shown that minimum quality standards applied to quality-enhancing activities, such as education, may or may not be socially desirable, even when the activity permits screening of suppliers as to innate ability.

Meyer, Bruce D.

TI The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment. **AU** Katz, Lawrence F.; Meyer, Bruce D.

PD November 1988. **TI** Implications of the Illinois Reemployment Bonus Experiments for Theories of Unemployment and Policy Design. **AA** Northwestern University and National Bureau of Economic Research. **SR** Princeton Industrial Relations Section Working Paper: 242; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 61. **PR** $2.00. **JE** 824, 822. **KW** Unemployment Insurance. Unemployment. Search Theory. Labor Supply. Social Experimentation. Hazard Models. Reemployment Bonuses.

AB Reemployment bonus experiments offer large lump sum payments to unemployment insurance (UI) recipients who find a job quickly. Such experiments are underway or have been recently completed in four states. This paper analyzes the results from Illinois and discusses the implications of the experiments for theories of unemployment and policy design. I examine the hazard rate of exit from unemployment and find that it is significantly higher for the experimental groups, but only during the period of bonus eligibility. Both labor supply and search theories of unemployment are shown to suggest a rise in the reemployment hazard just before the end of bonus eligibility and to suggest larger effects of the fixed amount bonus for lower income groups. Only weak support is found for these hypotheses, which suggests limitations of the models of unemployment. Some modifications of the models are suggested.

TI The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment. **AU** Katz, Lawrence F.; Meyer, Bruce D.

Meyer, Margaret A.

TI Supply Function Equilibria in Oligopoly Under Uncertainty. **AU** Klemperer, Paul K.; Meyer, Margaret A.

Mezzetti, Claudio

PD October 1988. **TI** Labor Contracts Under Asymmetric Information When Workers Have Positive Bargaining Power. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 326; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 45. **PR** No Charge. **JE** 832, 824, 821. **KW** Labor Contracts. Asymmetric Information. Collective Bargaining.

AB This paper examines the effect of workers having positive bargaining power over the ex-post surplus from production on the optimal labor contract under asymmetric information. If the workers' marginal disutility of labor is decreasing with income, when the contract must satisfy "bargaining proofness" constraints overemployment never occurs. Depending on whether the workers' bargaining power is below or above a certain critical level, either full employment in every state or underemployment in the lower state result.

PD October 1988. **TI** Investment, Employment and Wages: A Noncooperative Sequential Bargaining Approach. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 328; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 41. **PR** No Charge. **JE** 026, 832. **KW** Sequential Bargaining. Sunk Costs. Subgame Perfect Equilibrium. Noncooperative Game. Collective Bargaining.

AB This paper presents a noncooperative bargaining game in which management and union negotiate over capital, employment and wage in three separate stages. It is argued that in the presence of sunk costs the efficiency properties of the outcome depend crucially on the sequential structure of the game. The most striking result is that sunk hiring costs induce not only an inefficient use of labor but also an inefficient use of capital.

Michael, Robert T.

TI Mother or Market. Effects of Maternal Employment on Cognitive Development of Four-Year-Old Children. **AU** Desai, Sonalde; Chase, Lansdale P. Lindsay; Michael, Robert T.

Milbourne, Ross D.

PD June 1988. **TI** Estimates of Canadian GDP, Monthly, 1962 to 1985. **AU** Milbourne, Ross D.; Guay, Richard; Otto, Glenn; Smith, Gregor W. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 717; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 23. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 221. **KW** Gross Domestic Product. Canada. Income. Accounting.

AB In this paper we estimate a monthly Gross Domestic Product series for Canada and a consistent price deflator for the period 1962 to 1985. These estimates are in line with the new quarterly estimates which form the basis of the new income figures of Statistics Canada. We use monthly data in addition to that given by Statistics Canada in a Kalman filter framework, enforcing consistency conditions in the estimation. In addition to presenting estimates of real GDP which are consistent with quarterly estimates, and which can be used in monthly models, we present the only monthly price deflator of any income measure in Canada. We construct estimates of monthly Canadian Gross Domestic Product at market prices and of its price deflator for the period from 1962 to 1985.

Milgrom, Paul

TI Information and Timing in Repeated Partnerships. **AU** Abreu, Dilip; Milgrom, Paul; Pearce, David.

Mincer, Jacob

PD August 1988. **TI** Job Training, Wage Growth, and Labor Turnover. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 2690; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 823, 811. **KW** Job Training. Mobility. Wage Profile.

AB Using explicit information on timing and duration of job training in panels of PSID men, I find negative effects of training on turnover and positive effects on wage growth in the firm and over longer periods (1968 to 1983). Wages of trainees grow 4-6 per cent faster per year over periods of training compared to other workers or periods. Wage trajectories in the firm and across firms over longer periods are steeper for workers who engage in more training. These results are explainable by a positive correlation between general and firm-specific components of training. So is the apparent paradox that frequent movers' wages grow less in the long run than those of less frequent movers (stayers), despite wage gains in moving. Mobility wage gains are reduced by worker investment in training in the new firm. These mobility (search and matching) gains appear to contribute to job attachment in the presence of such investments.

Minford, Patrick

PD August 1988. **TI** A Political Model of Credibility. **AA** The University of Liverpool. **SR** Centre for Economic Policy Research Discussion Paper: 255; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 32. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 025, 133. **KW** Credibility. Inflation. Political Preferences. Social Choice.

AB It is argued that trigger mechanisms cannot support reputation if voters are atomistic and have access to good information about party preferences. Therefore the choice for a party lies between precommitment, enforced by penalties, and discretion. The paper uses a model of Labor and Conservative preferences derived from Minford and Peel (1982) and estimates the difference of policies and outcomes for each party over an electoral period. Under discretion inflation is 10-30 per cent higher than under precommitment and unemployment is temporarily and modestly lower; under precommitment inflation is negligible (Labour is only slightly more inflationary in this case). Higher levels of welfare are achieved under both parties with precommitment but the penalties would have to be greater under Labour to support this strategy. The paper therefore suggests that rational policy should never have been discretionary in practice; episodes of apparent discretion may therefore have simply represented mistakes in attempted precommitment. An implication of modelling government preferences explicitly (appendix) is that the Lucas critique has little scope over policy change, since agents are fully aware of these preferences.

PD August 1988. **TI** Wages and Unemployment Half a Century on. **AA** University of Liverpool. **SR** Centre for Economic Policy Research Discussion Paper: 262; Centre for Economic Policy Research 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PG** 36. **PR** pound sterling 2.00 ($4.00). **JE** 131, 824, 821, 133, 031. **KW** Unemployment. Unemployment Compensation. Wage Rigidity. Europe.

AB The paper surveys recent analyses of rising unemployment in Europe based on the concept of the natural rate. It argues that there is a continuity of analysis from the classics through Keynes to these more recent approaches. Theories of efficiency wages, hysteresis, and insiders/outsiders are related to a core theory in which the unemployment benefit is the basic source of rigidity. It is argued that these more recent approaches are either variations of or additions to this core theory, and that in its absence they would fail to explain unemployment.

Minkler, Alanson P.

PD October 1988. **TI** Property Rights, Efficiency and Labor-Managed Firms. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 323; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 19. **PR** No Charge. **JE** 053, 027. **KW** Property Rights. Capital Maintenance. Labor Ownership. Franchises. Socialism.

AB I show that arguments which claim Labor-managed firms are inefficient because of their underlying property rights are unfounded. In particular I show that the capital maintenance obligation has been misconstrued, and the so called horizon problem is not supported by any legal or theoretical rationale and can not be attributed to the property rights labor-managed firms. I also suggest that franchising shares the same property rights structure as labor-managed firms. The property rights structure of franchising allows efficient search and is responsible for the pervasiveness of franchising in western economies. This further diminishes the critics' arguments that Labor-managed firms must not be efficient when compared to their capitalist counterparts.

Miron, Jeffrey

TI The Seasonal Cycle and the Business Cycle. **AU** Barsky, Robert; Miron, Jeffrey.

PD September 1988. **TI** The Founding of the Fed and the Destabilization of the Post-1914 Economy. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2701; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 133, 042. **KW** Monetary Policy. Federal Reserve. Stabilization Theory. Gross National Product.

AB A standard assumption in the literature on optimal monetary policy is that the proper goal of policy is the reduction of the variation in output around its natural rate level. The stabilization of output has not always been accepted as the primary goal of policy, however. This paper argues that neither the founders of the Federal Reserve System nor the central bankers in charge during the first twenty-five years of the Fed's existence viewed the elimination of short term movements in output as an important objective for policy. Instead, the framers of the Federal Reserve System and the early practitioners of central banking in the United States apparently thought that "stabilization" of asset markets was the crucial task for the monetary authority. The paper compares the performance of the United States economy during the twenty-five year periods before and after 1914. The remainder of of the paper suggests that the deterioration in the performance of the economy after 1914 can be attributed directly to the actions of the Fed.

Mishkin, Frederic S.

PD June 1988. **TI** What Does the Term Structure Tell Us About Future Inflation. **AA** Columbia University and National Bureau of Economic Research. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-29; 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 United States, Canada and Puerto Rico). **JE** 134, 131, 133, 311. **KW** Term Structure. Inflation. Interest Rates.

AB This paper examines empirically what the term structure of interest rates tells us about future inflation. The evidence indicates that the information in the term structure about the future path of inflation is quite different at the shortest end of the term structure (maturities six months or less) than it is for maturities of nine to twelve months. For maturities of six months or less, in all the sample periods examined -February 1964 to December 1986, 1964 to October 1979, November 1979 to October 1982, November 1982 to December 1986 -- the term structure provides almost no information about the future path of inflation. On the other hand at this end of the term structure, the results do indicate that the term structure of nominal interest rates contains a great deal of information about the term structure of real interest rates. This finding is quite important because it suggests that researchers can examine observable data on the shortest end of the nominal term structure to provide them with information about the behavior of the real term structure.

PD August 1988. **TI** Understanding Real Interest Rates. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 2691; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 714, 712, 311, 134. **KW** Agriculture. Interest Rates. Inflation. Monetary Policy.

AB This paper outlines an approach to measuring real interest rates and testing hypotheses on their behavior. It then describes what we know about real interest rates in the aggregate economy and provides estimates of real interest rates for the agricultural sector. The evidence presented in this paper indicates that real interest rates for the agricultural economy have been extremely high in the 1980s and that their behavior seems to be linked to that found for real rates in the aggregate economy. What has been the source of these high real rates. The answer seems to be that it was a result of a concerted effort by the monetary authorities to disinflate the economy. However, the brunt of the Fed's disinflationary policy has fallen more heavily on the farm sector which has had to face far higher real rates than the rest of the economy.

Montiel, Peter

TI Contractionary Devaluation in Developing Countries: An Analytical Overview. **AU** Lizondo, J. Saul; Montiel, Peter.

PD July 1988. **TI** Empirical Analysis of High-Inflation Episodes in Argentina, Brazil and Israel. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/68; International Monetary Fund, Washington, D.C. 20431. **PG** 23. **PR** No Charge. **JE** 131, 134, 431, 121. **KW** Inflation. Stabilization. Developing Countries. Exchange Rates.
AB Although accommodative policies and widespread indexation may account for the persistence of high inflation, they cannot explain changes in the inflation rate. This paper examines the causes of such changes for the high-inflation episodes immediately preceding the recent "heterodox" attempts at stabilization in Argentina, Brazil, and Israel. An attempt is made to distinguish between the "fiscal" and "balance of payments" views of the causes of high inflation by computing historical decompositions of these episodes based on vector autoregressions. In all three cases, the results indicate that nominal exchange rate shocks played the dominant role in triggering an acceleration of inflation.

Mookherjee, Dilip

PD June 1988. **TI** On the Competitive Pressure Created by the Diffusion of Innovations. **AU** Mookherjee, Dilip; Ray, Debraj. **AA** Mookherjee: Stanford University. Ray: Indian Statistical Institute, New Delhi. **SR** Stanford Graduate School of Business Research Paper: 1009; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PR** No Charge. **JE** 621, 022. **KW** Diffusion. Incentives. Innovations. Technology. Bertrand Equilibrium.
AB We consider the decision of a dominant firm to adopt (part or all of) a sequence of potential cost-reducing innovations, as well as the precise time sequence of adoption, when a fixed cost must be incurred at the date of adoption, and the latest technology diffuses to a competitive fringe at an exogenous rate. With Bertrand competition on the product market, it is optimal for the leader to space apart the adoption dates of successive innovations, so that the industry is characterized by Schumpetarian cycles of alternating innovation and diffusion. Further, an increase in the diffusion rate may hasten the pace of innovation. These results do not extend to the case of Cournot competition.

TI Delegation as Commitment: The Case of Income Tax Audits. **AU** Melumad, Nahum; Mookherjee, Dilip.

Moore, Giora

TI Economic vs. Accounting Depreciation. **AU** Kim, Moshe; Moore, Giora.

Morris, John R.

TI Why Don't the Elderly Live with Their Children. A New Look. **AU** Kotlikoff, Laurence; Morris, John.

PD November 1988. **TI** The Relationship Between Industrial Sales Prices and Concentration of Natural Gas Pipelines. **AA** Federal Trade Commission. **SR** Federal Trade Commission, Bureau of Economics Working Paper: 168; Bureau of Economics, Federal Trade Commission, Sixth and Pennsylvania Avenue, Northwest, Washington, DC 20580. **PG** 19. **PR** No Charge. **JE** 612, 613, 723, 611, 514. **KW** Market Power. Oligopoly. Natural Gas. Market Competition.
AB Many economic studies find market concentration positively related to profits. The findings may be explained either by oligopoly behavior or by greater efficiency of firms with large market shares. Although both explanations imply that concentration and profits will be positively related, they differ in their implications for the relationship between concentration and price. This paper presents observable implications from a standard oligopoly model. Data from natural gas pipelines are consistent with the implications including the implication that industrial sales prices of interstate natural gas pipelines are positively related to market concentration.

PD November 1988. **TI** Deregulation by Vertical Integration. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 166; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue Northwest, Washington, D.C. 20580. **PG** 31. **PR** No Charge. **JE** 613, 612, 723, 635. **KW** Regulation. Vertical Integration. Public Utilities. Natural Gas. Electricity.
AB Regulators often confront the question of whether they should allow a regulated firm to vertically integrate. The relevant policy concerns are whether the downstream price will rise from the vertical integration and what, if any, additional constraints must be placed on the integrated firms to prevent a potential price increase. The extant literature does not have much to offer the regulators in the analysis. This paper fills the gap by providing an analysis of the effects of upstream vertical integration by a regulated firm. The analysis considers integration into the production of an intermediate input whose costs are automatically transferred to the downstream customers. The analysis indicates that, absent additional constraints, vertical integration effectively "deregulates" the firm. The analysis also suggests which additional constraints are necessary to make regulation effective. Given errors in regulation, however, a firm can vertically integrate, increase profits, and increase the downstream price.

Mosser, Patricia C.

PD June 1988. **TI** The (S,s) Model and Evidence on Aggregate Materials Inventories. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 395; Department of Economics, Columbia University, New York, NY 10027. **PG** 39. **PR** $5.00. **JE** 522, 521, 514, 511, 631. **KW** Inventory Investment. Demand. Costs of Adjustment. Firm Behavior.

AB Since the work of Holt, et. al (1961) on linear-quadratic models of firm behavior, nearly all empirical studies of aggregate inventory behavior have been adapted from theories about finished goods inventories, using models derived from quadratic costs of adjustment. (See Bivin (1986), Eichenbaum (1983), West (1986), Maccini and Rossana (1981) as examples). Unfortunately, the performance of these models has generally been poor, particularly in their inability to explain comovements of inventory investment and demand. As a contrast, this paper uses (S,s) or target-reorder point rules to explain movements in one type of manufacturing inventories, materials and supplies, which are not likely to be managed using linear-quadratic rules.

Mouchart, Michel

TI Bayesian Specification Tests. **AU** Florens, J. P.; Mouchart, Michel.

Moutos, Thomas

PD September 1988. **TI** Output, Inflation and Commodity Prices. **AU** Moutos, Thomas; Vines, David. **AA** University of Glasgow. **SR** Centre for Economic Policy Research Discussion Paper: 271; Centre for Economic Policy Research, 6 Duke of York Street, London, SW1Y 6LA, UNITED KINGDOM. **PG** 32. **PR** pound sterling 2.00 ($4.00). **JE** 431, 711, 133, 321, 023. **KW** Commodity Prices. Developed Countries. Inflation. Expectations.

AB The purpose of this paper is to provide a simple model which illuminates the interdependence between primary commodity prices and the rest of the economy. We study the role of commodity prices in a disinflation program, the role of commodity prices in determining whether or not a fiscal expansion is crowded out, and the effect on the manufacturing sector of the economy (i.e. that part of the economy described by a conventional macroeconomic model) of an exogenous increase in the supply of primary commodities. One of our main concerns is to draw an analogy between the roles of commodity prices and of exchange rates in all of the above processes.

Mroz, Thomas

PD April 1988. **TI** Structural Change in Life Cycle Fertility During the Fertility Transition: France Before and After the Revolution of 1789. **AU** Mroz, Thomas; Weir, David R. **AA** Mroz: Economic Research Center/NORC, University of Chicago, and The Hoover Institution. Weir: Yale University and The Hoover Institution. **SR** Economics Research Center/NORC Discussion Paper: 88-13; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 45. **PR** $2.00; send requests to Librarian, NORC. **JE** 044, 941. **KW** Women. Fertility. Family. Childbearing.

AB Our primary interest in this paper is detecting the presence or absence of "replacement effects" -- the responsiveness of fertility to past mortality events -- in rural France about the time of the fertility transition. In order to carry out this analysis, we model empirically the three stochastic processes that are the main proximate determinants of lifetime marital fertility: the hazard rate of conception leading to a live birth for ovulating women, the timing of the resumption of ovulation following a live birth, and the timing of permanent sterility. The historical application is limited to a few specific questions about fertility before and during the fertility transition. The results for the "natural" fertility cohorts are interesting and somewhat paradoxical. Low fertility in the South was due to roughly equal contributions of longer periods of non-susceptibility and lower fecund hazard rates throughout the life cycle. There was no evidence of replacement effects. Conversely, the North, where fertility was higher, showed evidence of responsiveness to mortality.

Muellbauer, John

TI Housing, Wages and UK Labour Markets. **AU** Bover, Olympia; Muellbauer, John; Murphy, Anthony.

Mui, Vai Lam

TI Economic Growth and Generalized Depreciation. **AU** Goldman, Steven; Mui, Vai Lam.

Muller, Eitan

TI The Potential Disadvantage of Becoming Too Large in Duopolistic Industry. **AU** Fershtman, Chaim; Muller, Eitan.

TI The Potential Disadvantage of Becoming Too Large in Duopolistic Industry. **AU** Fershtman, Chaim; Muller, Eitan.

Munro, Gordon R.

PD April 1988. **TI** International Co-operation for Resource Management: Fisheries. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 88-08; #997-1873 East Mall, Vancouver, BC V6T 1W5. **PG** 61. **PR** **JE** 713, 721, 722. **KW** Fishing. International Waters. International Trade. Agriculture. Natural resources. International Treaty.

AB When discussing international co-operation in the management of the fishery resources of the world, we must do so within the context of the United Nations Convention on the Law of the Sea (1982). The Convention, the product of the U.N. Third Conference on the Law of the Sea, is currently in the process of ratification.

Murphy, Anthony

TI Housing, Wages and UK Labour Markets. **AU** Bover, Olympia; Muellbauer, John; Murphy, Anthony.

Murphy, Kevin

PD September 1988. **TI** Industrialization and the Big Push. **AU** Murphy, Kevin; Shleifer, Andrei; Vishny, Robert. **AA** University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2708; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 611, 616, 621, 112. **KW** Developing Countries. Transmission Mechanisms. Imperfect Competition. Industrial Relations.

AB This paper explores Rosenstein-Rodman's (1943) idea that simultaneous industrialization of many sectors of the economy can be profitable for all of them, even when no sector can break even industrializing alone. We analyze this idea in the context of an imperfectly competitive economy with aggregate demand spillovers, and interpret the big push into industrialization as a move from a bad to a good equilibrium. We show that for two equilibria to exist, it must be the case that an industrializing firm raises the demand for products of other sectors through channels other than the contribution of its own profits to demand. Finally, an investing firm can benefit firms in other sectors if it uses a railroad or other shared infrastructure, and hence helps to defray the fixed cost of building the railroad. All these transmission mechanisms that help generate the big push seem to be of some relevance for less developed countries.

PD September 1988. **TI** Income Distribution, Market Size, and Industrialization. **AU** Murphy, Kevin; Shleifer, Andrei; Vishny, Robert. **AA** University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2709; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 112, 611, 121, 711, 411. **KW** Industrialization. Developing Countries. Aggregate Demand. Economic Development.
AB When world trade is not free and costless, a less developed country can profitably industrialize only if its domestic markets are large enough. In such a country, for increasing returns technologies to break even, sales must be high enough to cover the set-up costs. This paper studies some determinants of the size of the domestic market, and focuses on two conditions conducive to industrialization. First, agriculture or exports must provide the source of autonomous demand for manufactures. Such expansion of autonomous demand usually results from increases in farm productivity or from opening of new export markets. Second, income generated in agriculture or exports must be broadly enough distributed that it materializes as demand for mass-produced domestic goods, and not just for luxuries. We resort to these two determinants of the size of domestic markets to interpret several historical development episodes.

Muto, Shigeo

PD January 1988. **TI** A Cooperative Game of Information Trading: The Core and the Nucleolus. **AU** Muto, Shigeo; Nakayama, Mikio. **AA** Muto: Tohoku University. Nakayama: Toyama University and Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 757; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 21. **PR** No Charge. **JE** 026, 621. **KW** Cooperative Game. Innovation. Technology.
AB We study a cooperative game in which one agent has information on a new technology and tries to sell it to n producers under the complete possibility of prohibiting its resales. We derive a necessary and sufficient condition for a nonempty core, interpret this condition, characterize the trade in the core, and examine the nucleolus and its implications when the core is empty.

TI Resale-Proof Trades of Information. **AU** Nakayama, Mikio; Quintas, Luis; Muto, Shigeo.

Nakayama, Mikio

TI A Cooperative Game of Information Trading: The Core and the Nucleolus. **AU** Muto, Shigeo; Nakayama, Mikio.

PD April 1988. **TI** The Core of Resale-Proof Information Trades. **AU** Nakayama, Mikio; Quintas, Luis. **AA** Nakayama: Toyama University. Quintas: Universidad Nacional de San Luis. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Discussion Paper: 740; J. L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 13. **PR** No Charge. **JE** 026, 022. **KW** Resale. Trading. Information. Incentives.
AB This paper considers the core of a game describing resale-proof trades of an information good. The concept of resale-proofness has been introduced by Nakayama and Quintas in order to formulate a trade which is self-binding in the sense that no agent has an incentive to sell the information after acquiring it when the resale is freely allowed. We characterize the core, and derive a necessary and sufficient condition for the core to consist of a single outcome, the monopolistic imputation. These results show that the sole seller cannot in general enjoy the monopolistic position in the resale proof trade.

PD May 1988. **TI** Resale-Proof Trades of Information. **AU** Nakayama, Mikio; Quintas, Luis; Muto, Shigeo. **AA** Nakayama: Toyama University. Quintas: Universidad Nacional de San Luis. Muto: Tohoku University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 776; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 22. **PR** No Charge. **JE** 026, 022. **KW** Resale. Incentives. Information.
AB This paper presents a model of a trade of an information good such that resales of it are freely allowed; nevertheless, no agent has the incentive to resell after he acquired the information. Such a trade is called resale-proof. We give the definition, examples and some properties of resale-proof trades.

Nalebuff, Barry

TI On a Fundamental Conflict Between Equity and Efficiency. **AU** Geanakoplos, John; Nalebuff, Barry.

PD June 1988. **TI** Revenge and Rational Play. **AU** Nalebuff, Barry; Shubik, Martin. **AA** Nalebuff: Princeton University. Shubik: Yale University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 138; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 10. **PR** No Charge. **JE** 026. **KW** Coalitions. Indifference. Rationality. Optimization. Lexographic Rules.
AB In this note, we introduce "emotional" considerations into the modeller's toolkit without abandoning optimizing behavior. Emotional considerations enter as a way to resolve indifference or failure to perceive a difference. These lexographic (or tie-breaking) rules are shown to have important effects on the entire play of the game.

TI Why Are Auditors Conservative: Or Are They. **AU** Antle, Rick; Nalebuff, Barry.

Neher, Philip A.

PD April 1988. **TI** Fishing Quota Management with Multiple Stock Objectives. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 88-07; #997-1873 East Mall, Vancouver, BC V6T 1W5. **PG** 21. **PR** **JE** 713, 721, 722. **KW** Fishing. Natural Resources. Agriculture.
AB This paper addresses the economic regulation of fishing rights. While this subject has been much studied, I believe that an aspect of it has been neglected and is not widely appreciated: even the most simple model of economic fishing having any claim for general application can generate more than one equilibrium in a stable bioeconomic environment. It may be that the initial state of stock abundance will be crucial

in determining the economic terminal stock. It follows that an entire fishing plan which is appropriate for one initial stock may be entirely wrong for another. For example, it may not be economic to try to rebuild a fish stock following an undesired reduction of it.

Neme, Alejandro

PD August 1988. **TI** Equilibrium of Repeated Games with Cost of Implementation. **AU** Neme, Alejandro; Quintas, Luis. **AA** Universidad Nacional de San Luis. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 763; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 26. **PR** No Charge. **JE** 026. **KW** Repeated Games. Nash Equilibrium. Folk Theorem.

AB We study the structure of Nash Equilibrium set in repeated games assigning an increasing cost of implementation to increasing complexity. We present relations between the strategies supporting equilibria with and without cost of implementation. We drop the assumption about finite complexity of the equilibrium strategies done by Abreu-Rubinstein '1987(and we obtain a 'full' Folk Theorem. A uniform finite approximation theorem is also presented.

Nesetril, Jaroslav

TI Planar Subgraphs of Topological Layouts. **AU** Kratochvil, Jan; Nesetril, Jaroslav.

TI Universality of Directed Graphs of a Given Height. **AU** Hell, Pavol; Nesetril, Jaroslav.

Neu, C. R.

PD March 1988. **TI** Posthospital Care Before and After the Medicare Prospective Payment System. **AU** Neu, C. R.; Harrison, Scott. **AA** The Rand Corporation. **SR** Rand Report: R-3590-HCFA; The Rand Corporation, 1700 Main Street P.O. Box 2138, Santa Monica, CA 90406-2138. **PG** 97. **PR** No Charge. **JE** 913. **KW** Medicare. Health. Nursing Homes. Hospitals. Medical Costs.

AB With the introduction of the Medicare prospective payment system (PPS) in 1983, hospitals faced strong new incentives to discharge Medicare patients as rapidly as possible. The PPS also provided new encouragement for the use of posthospital care provided by skilled nursing facilities and home health agencies -- hospitals could reduce lengths of stay in some cases by discharging patients to some form of posthospital care. This report presents analyses of changes in the use of and the charges for Medicare-reimbursed skilled nursing and home health care from the period shortly before the introduction of the Medicare PPS to the period immediately following it. The analyses used databases that link together Medicare billing records for hospital and posthospital care, something that has not been done extensively before. The findings suggest that patterns of both hospital and posthospital care have changed since PPS was introduced, and that posthospital care is substituting for the last few days of hospital care.

Newberry, David M.

TI Entry, Acquisition, and the Value of Shark Repellent. **AU** Gilbert, Richard; Newberry, David M.

Newbery, David M.

TI Regulation Games. **AU** Gilbert, Richard J.; Newbery, David M.

TI Regulation Games. **AU** Gilbert, Richard J.; Newbery, David M.

Newell, Andrew

PD August 1988. **TI** Stylised Facts and the Labour Demand Curve. **AU** Newell, Andrew; Symons, James. **AA** Newell: Centre for Labour Economics and University of Sussex. Symons: Centre for Labour Economics and University College. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 322; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 33. **PR** No Charge. **JE** 824, 821. **KW** Wages. Employment. Labor Demand.

AB The paper demonstrates that there is a simple, robust negative relationship between employment and real wages, detectable in the macroeconomic data of most countries, if it is looked for in the right way. This is the stylized fact of the title.

Newey, W. K.

TI Nonlinear Errors in Variables: Estimation of Some Engel Curves. **AU** Hausman, J. A.; Newey, W. K.; Powel, J. L.

Newhouse, J. P.

TI Health Insurance and the Demand for Medical Care - Evidence from a Randomized Experiment. **AU** Manning, W. G.; Newhouse, J. P.; Duan, N.; Keeler, E.; Benjamin, B.; Leibowitz, A. Marquis-M-S; Zwanziger-J.

Neyman, Abraham

TI Large Symmetric Games are Characterized by Completeness of the Desirability Relation. **AU** Einy, Ezra; Neyman, Abraham.

Nishimura, Kazuo

TI Endogenous Fluctuations in the Barro-Becker Theory of Fertility. **AU** Benhabib, Jess; Nishimura, Kazuo.

Noh, Suk Jae

TI Proprietary Public Finance, Political Competition, and Reputation. **AU** Grossman, Herschel; Noh, Suk Jae.

Obstfeld, Maurice

PD October 1988. **TI** Fiscal Deficits and Relative Prices in a Growing World Economy. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2725; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 321, 411, 423, 442. **KW** Fiscal Policy. Capital Stock. Government Spending. International Trade.

AB This paper studies the transmission of fiscal disturbances between countries, and the effect of those disturbances on worldwide capital intensity, in a context of growth. The model developed to address these issues allows for the production of both nontradable and relatively capital-intensive tradable goods; a central finding is that factor markets can be a major channel for the communication of fiscal policy shocks to world interest rates, to private saving decisions, and, ultimately, to global asset supplies and their distribution among countries.

Particular predictions of the model illustrate how changes in public debt ratios and shifts in government spending patterns affect resource allocation and welfare. For example, an increase in a small country's per capita public debt leads to long-run crowding-in of capital and the impoverishment of future generations; a similar policy shift by a large country crowds out capital on a global scale, impoverishes future domestic generations, and has ambiguous effects abroad.

OFlaherty, Brendan

PD August 1988. **TI** Time Inconsistency, Commitment Dominance, and Subgame Imperfection: A Taxonomy. **AU** OFlaherty, Brendan; Klein, Daniel. **AA** O'Flaherty: Columbia University. Klein: New York University. **SR** Columbia Department of Economics Working Paper: 398; Department of Economics, Columbia University, New York, NY 10027. **PG** 27. **PR** $5.00. **JE** 022, 026. **KW** Time Inconsistency. Commitment. Subgame Imperfection. Historical Invariance. Rationality.

AB We establish the relationships among subgame imperfection, commitment dominance, and time inconsistency for both weak and strong definitions. They are not equivalent, although they do overlap. Subgame imperfection is the most general property.

Okuno, Fujiwara Masahiso

TI Welfare Improving Tax-Subsidy Schemes in an Oligopolistic Setting. **AU** Konishi, Hideki; Okuno, Fujiwara Masahiso; Suzumura, Kotaro.

Ortuno, Ortin Ignacio

PD October 1988. **TI** Implementation with Inspection. **AU** Ortuno, Ortin Ignacio; Roemer, John E. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 327; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 45. **PR** No Charge. **JE** 022, 025, 026. **KW** Revelation Principle. Mechanism Design. Social Welfare Function. Resource Allocation.

AB A planner wishes to allocate resources (for example, labor and output) among a population who possess characteristics (von Neumann-Morgenstern preferences and endowments) that are the private information of agents. The planner's goal is to maximize a social welfare function. Will the optimal policy induce agents to reveal their true type. If there is one good to allocate (e.g., the redistribution of income), the answer is yes. If there are several goods (e.g., labor and output, or the redistribution of several commodities), a simple but restrictive sufficient condition on the policy chosen will guarantee incentive compatibility. There is, however, no a priori reason for the planner to restrict himself to choosing a policy from the class of policies that satisfy this condition; and so, if a planner is constrained to not induce rational duplicity in the agents (i.e., he should not announce a policy the rational response to which requires agents to lie), then some social welfare must in general be sacrificed.

Otani, Ichiro

PD June 1988. **TI** Theoretical Aspects of Growth in Developing Countries: External Debt Dynamics and the Role of Human Capital. **AU** Otani, Ichiro; Villanueva, Delano. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/54; International Monetary Fund, Washington D.C. 20431. **PG** 36. **PR** No Charge. **JE** 111, 121, 023. **KW** Growth Model. Developing Countries. Human Capital. External Debt. Economic Policy.

AB This paper formulates a simple aggregate growth model that is capable of assessing the impact of macroeconomic policies on the long-term performance of a developing country. The model emphasizes expenditures on human capital and the dynamics of external debt, and yields empirically testable hypotheses on the relative importance of various determinants of long-term growth performance. The analytical results suggest a number of implications that are relevant to the design of growth-oriented adjustment programs.

Otto, Glenn

TI Estimates of Canadian GDP, Monthly, 1962 to 1985. **AU** Milbourne, Ross D.; Guay, Richard; Otto, Glenn; Smith, Gregor W.

Ouliaris, S.

PD June 1988. **TI** Testing for a Unit Root in the Presence of a Maintained Trend. **AU** Ouliaris, S.; Park, Joon; Phillips, Peter C. B. **AA** Ouliaris: University of Maryland and National University of Singapore. Park: Cornell University. Phillips: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 880; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 40. **PR** No Charge. **JE** 211, 212. **KW** Unit Roots. Stationarity. Time Series. Deterministic Trend. Co-Integration.

AB This paper develops statistics for detecting the presence of a unit root in time series data against the alternative of stationarity. Unlike most existing procedures, the new tests allow for deterministic trend polynomials in the maintained hypothesis. They may be used to discriminate between unit root nonstationarity and processes which are stationary around a deterministic polynomial trend. The tests allow for both forms of nonstationarity under the null hypothesis. Moreover, the tests allow for a wide class of weakly dependent and possibly heterogenously distributed procedures. We illustrate the use of the new tests by applying them to a number of models of macroeconomic behavior.

TI Asymptotic Properties of Residual Based Tests for Cointegration. **AU** Phillips, Peter C. B.; Ouliaris, S.

Ozcam, Ahmet

PD April 1988. **TI** The Analytical Risk of a Two Stage Pretest Estimator in the Case of Possible Heteroskedasticity. **AU** Ozcam, Ahmet; Judge, George. **AA** Ozcam: Louisiana State University. Judge: University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 469; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 35. **PR** $7.00. **JE** 211, 212. **KW** Squared Error. Gauss Markov Estimator. Risk Function. Wald Test. Pretest Estimator.

AB In this paper we evaluate under a squared error loss measure the risk of a two stage pretest estimator (2SPE) for the two sample problem when there is uncertainty concerning both the equality of the location vectors and the scale parameters. Analytical proofs are used to compare the risk performance of the 2SPE with other traditional estimators.

Pagano, Marco
TI Liquidity-Constrained Households in an Italian Cross-Section. **AU** Jappelli, Tullio; Pagano, Marco.

Pantula, Sastry
TI Testing for Unit Roots in Autoregressive Moving Average Models: An Instrumental Variable Approach. **AU** Hall, Alastair; Pantula, Sastry.

Park, Joon
TI Testing for a Unit Root in the Presence of a Maintained Trend. **AU** Ouliaris, S.; Park, Joon; Phillips, Peter C. B.

Parke, William
TI Stock Price Volatility: An Inequality Test Based on the Geometric Random Walk. **AU** LeRoy, Stephen; Parke, William.

Pearce, David
TI Information and Timing in Repeated Partnerships. **AU** Abreu, Dilip; Milgrom, Paul; Pearce, David.

Peeters, Dominique
TI Uncapacitated Plant Location Under Alternative Spatial Price Policies. **AU** Hanjoul, Pierre; Hansen, Pierre; Peeters, Dominique. Thisse-Jacques-Francois.

Perloff, Jeffrey M.
TI Dynamic Oligopoly: Estimation and Tests of Market Structure. **AU** Karp, Larry S.; Perloff, Jeffrey M.

TI Generality of the Relationship Between Attributions and Depression Across Attributional Dimensions and Across Samples. **AU** Persons, Jacqueline B.; Perloff, Jeffrey M.

TI Dynamic Dumping. **AU** Berck, Peter; Perloff, Jeffrey M.

PD October 1988. **TI** There's No Such Thing As Free Housing For Hired Agricultural Workers. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 487; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 28p. **PR** $5.60. **JE** 718, 932, 813, 921. **KW** Housing. Agricultural Laborers. Agriculture. Farming.

AB Unlike workers in most other sectors of the economy, a substantial share of hired agricultural workers live in housing that is provided without rent. There are two parts to this study. First, the housing decision of hired agricultural workers is examined, then the value of rent-free housing is determined. The workers' housing decision is viewed as a two-step procedure. In the first step, workers choose between living in owned housing and nonowned housing. In the second step, workers who do not live in owned housing choose between living in rental housing and rent-free housing, conditional on their decision not to live in owned housing. In the second part of the study, the implicit value of the rent-free housing in terms of forgone wages or earnings is estimated, controlling for the nonrandom decisions of workers to live in such housing.

Persons, Jacqueline B.
PD June 1988. **TI** Generality of the Relationship Between Attributions and Depression Across Attributional Dimensions and Across Samples. **AU** Persons, Jacqueline B.; Perloff, Jeffrey M. **AA** Persons: University of California, San Francisco. Perloff: University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 477; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 31. **PR** $6.20. **JE** 913. **KW** Health. Depression. Psychology.

AB Two hypotheses implicit in the use of composite measures of attributions in tests of learned helplessness theory (but not implicit in the theory itself) were tested: the hypotheses that relationships between depression and the three types of attributions are equal in magnitude, and linear. The hypothesis that internal, stable, and global attributions are equally related to depression was tested and rejected. Increases in internal attributions were related to depression in one sample; increases in global attributions for negative events were related to depression in two samples; stability attributions for negative events were unrelated to depression. Finally, a third hypothesis was tested: the hypothesis that the relationship between attributions and depression is equal across samples. The hypothesis was rejected: attributions for negative events were more highly related to depression in a psychiatric sample than in normal populations.

Pestieau, P.
TI Evading, Auditing and Taxing: The Equity-Compliance Tradeoff. **AU** Cremer, H.; Marchand, M.; Pestieau, P.

Phillips, Peter C. B.
PD June 1988. **TI** Error Correction and Long Run Equilibria in Continuous Time. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 882; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 45. **PR** No Charge. **JE** 211. **KW** Error Correction. Long Run Equilibrium. Spectral Regression. Stochastic Differential Equations. Aggregation.

AB This paper deals with error correction models (ECM's) that are formulated in continuous time. Problems of representation, identification, estimation and time aggregation are discussed. It is shown that every ECM in continuous time has a discrete time equivalent model in ECM format. Moreover, both models may be written as triangular systems with stationary errors. This formulation is a significant aid in the understanding of ECM representations and it helps to motivate a class of optimal inference procedures. It is further shown that long run equilibria in the continuous system are always identified in the discrete time reduced form, so that there is no aliasing problem for these coefficients. Frequency domain procedures are suggested for estimation and inference. These methods have the advantages of simplicity of computation and generality of specification, thereby avoiding some of the methodological problems of dynamic specification. In addition, they facilitate the treatment of data irregularities such as mixed stock and flow data and temporally aggregated partial equilibrium formulations.

TI Testing for a Unit Root in the Presence of a Maintained Trend. **AU** Ouliaris, S.; Park, Joon; Phillips, Peter C. B.

TI Estimation and Inference in Models of Cointegration: A Simulation Study. **AU** Hansen, Bruce E.; Phillips, Peter C. B.

PD July 1988. **TI** Asymptotic Properties of Residual Based Tests for Cointegration. **AU** Phillips, Peter C. B.; Ouliaris, S. **AA** Phillips: Yale University. Ouliaris: University of Maryland and National University of Singapore. **SR** Yale Cowles Foundation Discussion Paper: 847-R; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 51. **PR** No Charge. **JE** 211. **KW** Co-integration. Consistent Tests. Unit Root Tests. Asymptotic Theory. Power.

AB This paper develops an asymptotic theory for residual based tests for cointegration. These tests involve procedures that are designed to detect the presence of a unit root in the residuals of (cointegrating) regressions among the levels of economic time series. Attention is given to the augmented Dickey-Fuller (ADF) test that is recommended by Engle-Granger (1987) and the Z(a) and Z(t) unit root tests recently proposed by Phillips (1987). Two new tests are also introduced, one of which is invariant to the normalization of the cointegrating regression. All of these tests are shown to be asymptotically similar and simple representations of their limiting distributions are given in terms of standard Brownian motion. The ADF and Z(t) tests are asymptotically equivalent. Power properties of the tests are also studied. The analysis shows that all the tests are consistent if suitably constructed but that the ADF and Z(t) tests have slower rates of divergence under cointegration than the other tests. This indicates that, at least in large samples, the Z(a) test should have superior power properties.

PD August 1988. **TI** Partially Identified Econometric Models. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 845-R; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 96. **PR** No Charge. **JE** 211. **KW** Gaussian Functionals. Identification. Simultaneous Equations. Spurious Regressions. Asymptotic Theory.

AB This paper studies a class of models where full identification is not necessarily assumed. We term such models partially identified. It is argued that partially identified systems are of practical importance since empirical investigators frequently proceed under conditions that are best described as apparent identification. One objective of the paper is to explore the properties of conventional statistical procedures in the context of identification failure. Our analysis concentrates on two major types of partially identified model: the classic simultaneous equations model under rank condition failures; and time series spurious regressions. Both types serve to illustrate the extensions that are needed to conventional asymptotic theory if the theory is to accommodate partially identified systems.

PD September 1988. **TI** A Little Magic with the Cauchy Distribution. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 886; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 14. **PR** No Charge. **JE** 211. **KW** Canonical Form. Cauchy Property. Maximum Likelihood. Asymptotic Theory. Common factors.

AB The standard Cauchy distribution is completely characterized by the property that it has no atoms and is distributionally equivalent under the involution X to -1/X. Since maximum likelihood is invariant to the choice of normalization rule in structural equation estimation this property establishes that the LIML estimator is standard Cauchy in the leading case of a canonical structural equation. This is a proof by identifying characteristics and is a major improvement over the usual apparatus of change of variable methods and reductions by multiple integration. The new approach has applications in many other contexts. A second example considered in the paper is the unidentified ARMA with degenerate common factors. Such models commonly arise from overfitting or overdifferencing. They have eluded conventional asymptotic methods for many years. Yet they are resolved quite simply by the present approach, which yields both an exact finite sample theory and the relevant asymptotics.

PD September 1988. **TI** A New Proof of Knight's Theorem on the Cauchy Distribution. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 887; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 5. **PR** No Charge. **JE** 211. **KW** Cauchy Distribution. Matrix Variate. Uniform Distribution. Characterization Theorem.

AB We offer a new and straightforward proof of F. B. Knight's theorem that the Cauchy type is characterized by the fact that it has no atom and is invariant under the involution i: x to - 1/x. Our approach uses the representation X = tan theta where theta is uniform on (-pi/2, pi/2) when X is standard Cauchy. A matrix generalization of this characterization theorem is also given.

Pines, David

TI A Migration Model with "Zionism". **AU** Hercowitz, Zvi; Pines, David.

Pippenger, John

TI Excessive Exchange Rate Volatility. **AU** Bui, Nhuong; Pippenger, John.

Pochet, Yves

PD July 1988. **TI** Solving Multi-Item Lot-Sizing Problems Using Strong Cutting Planes. **AU** Pochet, Yves; Wolsey, Laurence. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8834; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 18. **PR** No Charge. **JE** 641, 022, 213. **KW** Economic Capacity. Capacity Constraints.

AB We consider two classes of multi-item lot-sizing problems. The first is a class of single stage problems involving joint machine capacity constraints and/or start up costs, and the second is a class of multistage problems with general product structure. The problems are solved as mixed integer programs based on i) an appropriate choice of the initial problem formulation and ii) the addition of cuts which are generated automatically by a mathematical programming system (MPSARX). Our results extend and complement those of Karmarkar and Schrage (1985), Afentakis and Gavish (1986), Eppen and Martin (1987) and Van Roy and Wolsey (1987).

Portes, Richard

TI Settling Defaults in the Era of Bond Finance. **AU** Eichengreen, Barry; Portes, Richard.

TI Foreign Lending in the Interwar Years: The Bondholders' Perspective. **AU** Eichengreen, Barry; Portes, Richard.

TI Settling Defaults in the Era of Bond Finance.

AU Eichengreen, Barry; Portes, Richard.

TI Foreign Lending in the Interwar Years: The Bondholders' Perspective. **AU** Eichengreen, Barry; Portes, Richard.

Poterba, James M.

PD November 1988. **TI** Venture Capital and Capital Gains Taxation. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 508; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PR** No Charge. **JE** 323, 621, 521, 522, 611. **KW** Capital Gains Tax. Venture Capital. Taxes. Capital. Investment.

AB This paper investigates the links between capital gains tax rates on individuals and the level of venture capital activity. It distinguishes two channels through which taxes affect start-up firms: the supply of funds to such firms, and the demand for these funds from potential corporate founders. Since much of the growth in venture funding during the last decade has come from untaxed investors or others who do not face the personal capital gains tax, the second channel is likely to be more important than the first. The paper also notes that gains on venture capital investments account for only a few percent of realized capital gains in a typical year, suggesting that reducing the capital gains tax rate is a relatively blunt instrument for encouraging start-up firms.

Powel, J. L.

TI Nonlinear Errors in Variables: Estimation of Some Engel Curves. **AU** Hausman, J. A.; Newey, W. K.; Powel, J. L.

Promel, H. J.

TI Routing in VSLI-layout. **AU** Froleyks, B.; Korte, B.; Promel, H. J.

Pulcins, I. R.

TI The Long Good-bye: The Great Transformation of the British Columbia Hospital System. **AU** Evans, R. G.; Barer, M. L.; Hertzman, C.; Anderson, G. M.; Pulcins, I. R.; Lomas, J.

Quah, Danny

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

Quandt, Richard E.

TI Betting Bias in the Daily Double. **AU** Asch, Peter; Quandt, Richard E.

Quintas, Luis G.

PD January 1988. **TI** A Note on Polymatrix Games. **AA** Universidad Nacional de San Luis. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 762; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 14. **PR** No Charge. **JE** 026. **KW** Polymatrix Games. Nash Equilibrium. Game Theory.

AB This work is concerned with the class of n-person games called polymatrix games (Janovskaya (1968)). The structure of the set of Nash equilibrium points in a polymatrix game is studied and characterizations of these games are given.

TI The Core of Resale-Proof Information Trades. **AU** Nakayama, Mikio; Quintas, Luis.

TI Resale-Proof Trades of Information. **AU** Nakayama, Mikio; Quintas, Luis; Muto, Shigeo.

TI Equilibrium of Repeated Games with Cost of Implementation. **AU** Neme, Alejandro; Quintas, Luis.

Quinzii, M.

TI Lecture Notes in Incomplete Markets. **AU** Duffie, D.; Shafer, W.; Cass, D.; Magill, M.; Quinzii, M.; Geanakoplos, J.

Radhakrishnan, A.

TI An Empirical Investigation of Leveraged Recapitalizations: A New Takeover Defence Strategy. **AU** Handa, Puneet; Radhakrishnan, A.

Radner, Roy

TI Efficiency in Partnership When the Joint Output is Uncertain. **AU** Williams, Steven; Radner, Roy.

TI Informational Externalities and the Scope of Efficient Dominant Strategy Mechanisms. **AU** Williams, Steven; Radner, Roy.

TI Joint Exploitation of a Productive Asset: A Game-Theoretic Approach. **AU** Benhabib, Jess; Radner, Roy.

Ramey, Garey

TI Calculation Equilibria. **AU** Evans, George W.; Ramey, Garey.

Rausser, Gordon C.

PD May 1988. **TI** Political Economy of Agricultural Policy Reform. **AU** Rausser, Gordon C.; Irwin, Douglas A. **AA** Rausser: University of California, Berkeley. Irwin: Columbia University. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 471; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 32. **PR** $6.40. **JE** 713, 422, 421. **KW** Political Economy. Agricultural Policy. Commercial Policy. Agriculture Reform.

AB There exists today an opportunity for significant reform of world agricultural policies. The central political-economic question -- as yet unanswered -- is how this reform can be brought to fruition in the face of powerful domestic interests against such a change. One proposal is to impose external binding constraints under the General Agreement on Tariffs and Trade (GATT) code. At the same time, politically acceptable internal mechanisms for actually achieving reform must be sought. This necessitates first identifying whether existing policies are motivated by political economic-seeking transfers (PESTs) or political economic resource transactions (PERTs). Second, three issues related to PEST policies must be addressed: (i) transparency (revealing the winners/losers of existing policies); (ii) compensation (for the losers from reform), and (iii) institutional design (to ensure the implementation and maintenance of reform). From this analysis, strategies can be designed for internal reform of agricultural policies in individual countries/commodities consistent with external binding constraints.

PD August 1988. **TI** Endogenizing Policy in Models of

Agricultural Markets. **AU** Rausser, Gordon C.; de Gorter, Harry. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 482; 207 Giannini Hall, University of California, Berkeley, CA 94720. **PG** 25p. **PR** $5.00. **JE** 711, 712, 713, 715. **KW** Agriculture. Agricultural Policy. Dynamic Models.

AB Three major sets of forces dictating the dynamic path of agricultural markets can be characterized as (i) the internal system of commodity demand and supply; (ii) the linkages with other sectors, the macro and international economies; and (iii) the linkages with governmental policy intervention. Linkages can be forward (influences flowing from these sets of forces to agricultural markets) or backward (influence flowing from agricultural markets) or both. The ubiquitous nature of governmental intervention in agriculture, and the dominant role it plays in market dynamics, argue for a serious examination of the linkages, both forward and backward, between economic markets and the formation of public policy.

Ray, Debraj

TI On the Competitive Pressure Created by the Diffusion of Innovations. **AU** Mookherjee, Dilip; Ray, Debraj.

Razin, Assaf

TI A Strategic Altruism Model in which Ricardian Equivalence does not hold. **AU** Kotlikoff, Laurence; Razin, Assaf; Rosenthal, Robert.

TI Making Bequests Without Spoiling Children: Bequests as an Implicit Optimal Tax Structure and the Possibility that Altruistic Bequests are Not Equalizing. **AU** Kotlikoff, Laurence; Razin, Assaf.

Reboussin, D. M

TI The Demand for Episodes of Medical Treatment in the Health Insurance Experiment. **AU** Keeler, E. B.; Buchanan, J. L.; Rolph, J. E.; Hanley, J. M.; Reboussin, D. M.

Recski, Andras

PD January 1988. **TI** One-Story Buildings as Tensegrity Frameworks, II. **AA** University of Budapest. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 87492-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** No Charge. **JE** 213. **KW** Minimum Systems. One-Story Building. Connectedness.

AB The minimum number of diagonal cables to rigidify a one -- story building was determined in Part I. The characterization of the minimum systems is now given in two special cases: If the underlying graph is not a tree, and if all the cables are parallel.

Reiffen, David

TI Vertical Integration as Strategic Behavior in a Spatial Setting: Reducing Rivals' Revenue. **AU** Levy, David T.; Reiffen, David.

Reinhart, Carmen

PD June 1988. **TI** Real Exchange Rates and Commodity Prices in a Neoclassical Model. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/55; International Monetary Fund, Washington D.C. 20431. **PG** 28. **PR** No Charge. **JE** 321, 322, 132, 431. **KW** Government Spending. Exchange Rate. Commodities. Fiscal Policy.

AB This paper presents a neoclassical model that explains the observed empirical relationship between government spending and world commodity supplies and the real exchange rate and real commodity prices. It is shown that fiscal expansion and increasing world commodity supplies simultaneously lead to an appreciation of the real exchange rate and a decline in relative commodity prices. This structural model is estimated and its forecasting performance is compared to a variety of models. We find that theory and structure help in predicting commodity prices, although not the exchange rate, and that predictive ability increases as the forecast horizon is lengthened.

Reisman, Haim

PD July 1988. **TI** Reference Variables, Factor Structure, and the Approximate Multibeta Representation. **AA** Faculty of Industrial Engineering and Management, Technion. **SR** New York University Salomon Brothers Working Paper: 483; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 10. **PR** No Charge. **JE** 313, 311. **KW** Asset Return. Stock Prices. Asset Pricing Theory. Capital Market. Stock Market.

AB If expected return of each asset is a linear combination of the covariances of the asset return with some reference variables, then we say that the multibeta representation holds. The Asset Pricing Theory implies that if asset returns have a factor structure, then the (approximate) multibeta representation holds with respect to the factors as reference variables. The paper assumes that asset returns satisfy a factor structure and studies conditions under which the multibeta representation holds with respect to a set of reference variables which are not necessarily factors.

TI Fundamentals, Factor Structure and Multibeta Models in Large Asset Markets. **AU** John, Kose; Reisman, Haim.

PD August 1988. **TI** The APT in a Continuous Time Setting. **AA** New York University. **SR** New York University Salomon Brothers Working Paper: 486; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 8. **PR** No Charge. **JE** 313, 311. **KW** Asset Pricing Theory. Capital Market. Continuous Time. Asset Returns. Stock Prices.

AB The paper derives the Asset Pricing Theory in a continuous time setting under the assumption that at each time instantaneous asset returns satisfies a factor structure.

Reiss, Peter C.

PD April 1988. **TI** Further Distribution Results for Correlation Coefficients and F Tests in Normal Samples. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1015; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 27. **PR** No Charge. **JE** 211, 212. **KW** Correlation Coefficients. F Tests. Finite Sample. Independent Samples. Simultaneous Equation Models.

AB Fisher's finite sample distribution results for squared multiple correlation coefficients and F tests are extended to situations in which the observations are drawn from independent, but not necessarily identical, normal samples. This distribution nests within it the noncentral beta and F distributions. A computationally efficient, finite sum form of the distribution function is derived. Extensions of these results to subset F tests and F tests where the regressors are correlated with the disturbances are also considered. These formulas are used to study several practical testing problems in stochastic regressor and simultaneous equations models.

PD September 1988. **TI** What Is the Power of That Test. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1016; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 41. **PR** No Charge. **JE** 211, 212. **KW** Power Curves. Test Statistics. Likelihood Ratio. Wald Test. Algorithm. Significance Levels.

AB This paper proposes methods for computing the power of test statistics that are functions of doubly noncentral beta random variables. These methods can be used to develop the distributions of familiar regression test statistics under the null or alternative hypotheses. Statistics covered by these results include: two-tailed t tests, F tests or Wald tests, Lagrange multiplier tests, likelihood ratio tests, chi-squared tests, R-squared, adjusted R-squared, and various prediction criteria. In addition to providing analytical formulae for the distribution functions, efficient computational algorithms are developed. Practical issues encountered in evaluating power are addressed through a series of examples that illustrate the effect of omitted variables, multicollinearity and proxy variables on significance levels and power. The paper concludes with extensions that allow priors over families of alternative hypotheses and normally distributed regressors.

Renwick, Fred B.

PD May 1988. **TI** The Search for Business Capital Value: A Summary of Fundamental Security Analysis. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: 466; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 33. **PR** No Charge. **JE** 313, 311. **KW** Securities. Efficient Markets.

AB Do security prices fluctuate too much to reflect fundamental value. No one knows for sure because of the diversity of opinion and valuation models nowadays. Some analysts evaluate equity as an option. Others view equity as a commodity to be arbitraged whenever prices deviate away from comparable risks by more than transactions costs. Still others execute trades believing in human over- or under-reaction to current news. This paper adopts the classical economic view that income determines value; so conventional fundamental analysis remains useful for assessing value. Mindful of the Efficient Markets Hypothesis, the paper summarizes and illustrates methodology suitable for modern fundamental security analysts who search for economic value. An analysis properly executed may be immersed in noise in the marketplace; so short-term deviations and price fluctuations should come as no surprise. The paper explains and discusses fundamental economic factors which determine upper and lower boundary constraints for business income, market rates of capitalization, and price of common stock. In short, the paper summarizes both how and why security prices ought to reflect fundamental value.

Reuter, P. H.

TI The Interdictor's Lot: A Dynamic Model of the Market for Drug Smuggling Services. **AU** Cave, J. K.; Reuter, P. H.

Ritzen, Josef M. M.

PD July 1988. **TI** The Economic Consequences of Selective Immigration Policies. **AU** Ritzen, Josef M. M.; van Dalen, Hendrik P. **AA** University of Rotterdam. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-196; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 26. **PR** No Charge. **JE** 111, 823, 841, 941. **KW** Immigration. Labor Market. Growth Model. Welfare Effects. Europe.

AB The decline in the birth rate in the past decades in Western Europe can generate shortages of well-trained youngsters on the labor market. Public policy might choose to counter this by selective immigration, although an expansion of (re)training efforts definitely is a viable alternative. The policy alternative of a selective immigration policy is studied here with a two-country economic growth model: one country is rich, with a low rate of population growth. The other is poor with a high population growth rate. The model distinguishes three factors of production (physical capital, skilled and unskilled labor). With a constant-returns-to-scale technology the factors are employed to produce one good. The welfare effects are considered both for the country of emigration and of immigration.

Robert, Jacques

TI Seniority and Distribution in a Two-Worker Trade Union. **AU** Kuhn, Peter; Robert, Jacques.

Robinson, Sherman

TI U.S. Competitiveness and the Exchange Rate: A General Equilibrium Analysis of the U.S. Economy, 1982-1986. **AU** Adelman, Irma; Robinson, Sherman.

Rodrik, Dani

PD September 1988. **TI** Industrial Organization and Product Quality: Evidence from South Korean and Taiwanese Exports. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2722; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 631, 611, 411. **KW** Exports. Market Structure. Developing Countries. Industrial Sector.

AB The central focus of this paper is on the relationship between domestic market structure and export performance. It evaluates the hypothesis that more concentrated industrial sectors can achieve more easily the transition from standardized, labor-intensive manufactures to sophisticated, skill-intensive products, as such industries are better able to cope with the inevitable reputational externalities involved in producing high-quality goods for foreign markets. South Korea and Taiwan provide a good test of the theory, as they have sharply different market structures. The results of the empirical analysis provide strong support for the hypothesis.

Roemer, John E.

TI Implementation with Inspection. **AU** Ortuno, Ortin

Ignacio; Roemer, John E.

Rogers, Robert P.

TI The Impact of Alternative Forms of State Regulation of AT&T on Direct Dial Long Distance Telephone Rates. **AU** Mathios, Alan; Rogers, Robert P.

Rogerson, William

PD January 1988. **TI** Profit Regulation of Defense Contractors and Prizes for Innovation: Theory and Evidence. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 759; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 106. **PR** No Charge. **JE** 621, 613, 321. **KW** Innovation. Regulation. Profits. Public Policy.

AB This paper first argues based on theoretical grounds, that informational and incentive constraints inherent in the innovation process require that regulatory institutions create prizes for innovation. Since the quality of an innovation is difficult to objectively describe or measure, the most natural method for awarding prizes is to allow firms to earn positive economic profit on production contracts. Explicit recognition of this role of profit regulation generates interesting perspectives on a number of important policy issues involving regulatory design. The value of the prizes offered on twelve major aerospace systems were calculated. The prizes are clearly large enough to support the contention that their existence is an important aspect of the current regulatory structure.

Roley, V. Vance

TI Intraday Yen/Dollar Exchange Rate Movements: News or Noise. **AU** Ito, Takatoshi; Roley, V. Vance.

Rolph, J. E.

TI The Demand for Episodes of Medical Treatment in the Health Insurance Experiment. **AU** Keeler, E. B.; Buchanan, J. L.; Rolph, J. E.; Hanley, J. M.; Reboussin, D. M.

Rose, Nancy

PD July 1988. **TI** The Diffusion of New Technologies: Evidence From the Electric Utility Industry. **AU** Rose, Nancy; Joskow, Paul L. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 501; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 45. **PR** No Charge. **JE** 621, 611, 613, 614, 635. **KW** Electricity. Technology. Diffusion. Hazard Models. Utilities. Selectivity Bias.

AB This paper investigates the effect of firm size and ownership structure on technology adoption decisions, using data on the electric utility industry. We argue that traditional models of technology diffusion are subject to sample selectivity biases that may overstate the effect of firm size on adoption probabilities. By extending conventional hazard rate models to use information on both adoption and non-adoption decisions, we differentiate between firms' opportunities for adoption and their underlying adoption propensities. The results suggest that large firms and investor-owned electric utilities are likely to adopt new technologies earlier than do their smaller and publicly-owned counterparts. Moreover, the selection biases from conventional statistical models can lead one to overstate size effects by a factor of two and to understate ownership structure and factor cost effects by two to four times.

Rosen, Harvey

TI Promises, Promises: The States' Experience with Income Tax Indexing. **AU** Feenberg, Daniel; Rosen, Harvey.

Rosenthal, Howard

TI Partisan Cycles in Congressional Elections and the Macroeconomy. **AU** Alesina, Alberto; Rosenthal, Howard.

Rosenthal, Robert

TI A Strategic Altruism Model in which Ricardian Equivalence does not hold. **AU** Kotlikoff, Laurence; Razin, Assaf; Rosenthal, Robert.

Rossana, Robert J.

TI Aggregation, Unit Roots and the Time Structure of Manufacturing Real Wages. **AU** Seater, John J.; Rossana, Robert J.

Rothenberg, Thomas J.

TI Least-Squares Autoregression with Near-Unit Root. **AU** Magnus, Jan R.; Rothenberg, Thomas J.

Rothkopf, Michael H.

TI Market Failure and Energy Policy: A Rationale for Selective Conservation. **AU** Fisher, Anthony C.; Rothkopf, Michael H.

Rucinski, Andrzeij

TI Tree-Matchings in Random Graphs. **AU** Luczak, Tomasz; Rucinski, Andrzeij.

Russell, R. Robert

TI Will the Real Elasticity of Substitution Please Stand Up. (A Comparison of the Allen/Uzawa and Morishima Elasticities). **AU** Blackorby, Charles; Russell, R. Robert.

TI On the Observational Equivalence of Models with Infinitely Lived Agents and Models with Overlapping Generations. **AU** Blackorby, Charles; Russell, R. Robert.

Saari, Donald

PD January 1988. **TI** Nonlinear Dynamics Applied to Numerical Analysis and Economics. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 755; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 11. **PR** No Charge. **JE** 213. **KW** Nonlinear Models. Dynamic Models. Price Equilibrium.

AB The purpose of this paper is to show how recent advances in nonlinear dynamics allow us to resolve several longstanding, classical issues from numerical analysis and from economics. The kind of problems I describe are the numerical analysis' problem of finding zeros of polynomials and the economics' problem of finding the price equilibrium. Dynamically, both problems are essentially the same; they both reduce to a search for an iterative method that converges to a zero of any function from a specified class.

Sadorsky, Perry

TI Duopoly in Exhaustible Resource Exploration and Extraction. **AU** Hartwick, John M.; Sadorsky, Perry.

Safra, Zvi

PD August 1988. **TI** Sensitivity of Bargaining Solutions to Risk Aversions. **AU** Safra, Zvi; Zilcha, Itzhak. **AA** Tel-Aviv University. **SR** Tel-Aviv Foerder Institute for Economic Research Working Paper: 26-88; Department of Economics, Tel-Aviv University, Ramat Aviv 69978, Tel-Aviv, ISRAEL. **PG** 14. **PR** No Charge. **JE** 026, 022. **KW** Expected Utility. Bargaining. Risk Aversion. Non-expected Utility.

AB In this paper we investigate the sensitivity of the Nash Bargaining and the Kalai-Smorodinsky solutions to changes in risk aversion when general preference functionals are allowed. It is shown that the existing results crucially depend on the assumption that the bargainers maximize expected utility. In general there is no relation between those solutions and the degree of risk aversion. Rather, there is a relation between the concavity of the certainty utilities and the outcomes of those solutions. This relation generealizes the known relation of the expected utility case.

Sah, Raaj Kumar

PD June 1988. **TI** A Proposal for Using Incentive Pre-commitments in Public Enterprise Funding. **AU** Sah, Raaj Kumar; Weitzman, Martin. **AA** Sah: Yale University. Weitzman: Massachusetts Institute of Technology. **SR** Yale Economic Growth Center Discussion Paper: 558; Economic Growth Center, Yale University, Box 1987 Yale Station, New Haven, CT 06520. **PG** 29. **PR** $2.00. **JE** 121, 614, 321. **KW** Developing Countries. Public Enterprises. Public Policy. Fiscal Policy.

AB Among the central problems of LDCs is the poor performance of their public enterprises (PEs), and the limited ability of governments and other agencies to improve this performance. In practice, a typical funding agency possesses extremely few levers to improve the performance of an ongoing PE, with perhaps the most potent lever being negotiation over the conditionality for original funding. The present paper suggests a more effective use of such limited levers. This paper does not take a position on whether PEs are or are not desirable. Under the premise that PEs are likey to remain important in LDCs in the foreseeable future, our objective is to develop some constructive steps towards improving PE performance. The proposed pre-commitments represent such a step because even though these pre-commitments will not solve all or most of the problems of PEs, and even though the magnitude of the resulting overall benefit would vary across situations, it is difficult to imagine scenarios where such pre-commitments could actually harm PE performance.

PD June 1988. **TI** Qualitative Properties of Profit-Maximizing K-out-of-N Systems Subject to Two Kinds of Failures. **AU** Sah, Raaj Kumar; Stiglitz, Joseph. **AA** Sah: Yale University. Stiglitz: Stanford University. **SR** Yale Economic Growth Center Discussion Paper: 559; Economic Growth Center, Yale University, Box 1987 Yale Station, New Haven, CT 06520. **PG** 19. **PR** $2.00. **JE** 213, 022. **KW** Expected Profit. Optimization. Profit Maximization.

AB This paper derives several properties of the optimal k-out-of-n: G systems where: (i) the i.i.d. components can be, with a pre-specified frequency, in one of two possible modes, (ii) components are subject to failures in each of the two modes, and (iii) the costs of two kinds of system's failures are not necessarily the same. A characterization of the optimal k which maximizes the system's expected profit is obtained (a special case of this optimization criterion is the maximization of the system's reliability). We show how one can predict, based directly on the parameters of the system, whether the optimal k is smaller or larger than one-half of n. Also, the directions of change in the optimal k resulting from changes in the system's parameters are ascertained.

PD August 1988. **TI** Persistence and Pervasiveness of Corruption: New Perspectives. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 560; Economic Growth Center, Yale University, Box 1987 Yale Station, New Haven, CT 06520. **PG** 48. **PR** $2.00. **JE** 916, 023, 025. **KW** Corruption. Overlapping Generations Model. Bureaucracy.

AB Among the questions which this paper addresses are, how does a culture of corruption perpetuate itself over time, what effects do different features of the economy have on the phenomenon of corruption, and why the culture of corruption might or might not alter over time. A central feature of the present dynamic analysis is that rational individuals (citizens as well as bureaucrats) learn from their past experiences. The past economic environment thus affects the current choices of individuals which, in turn, influence the future economic environment. As a result, if bureaucratic corruption has been more pervasive in the past, then different citizens are more likely to choose those behaviors (such as more extensive cheating) which induce a greater pervasiveness of corruption in the future. These intertemporal behavioral externalities are formalized within an overlapping generations framework, and the resulting aggregate corruption and cheating is characterized and analyzed.

PD September 1988. **TI** Results for Economic Comparative Statics of Steady-States of Higher-Order Discrete Dynamic Systems. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 562; Economic Growth Center, Yale University, Box 1987 Yale Station, New Haven, CT 06520. **PG** 15. **PR** $2.00. **JE** 211, 212. **KW** Nonlinear Models. Difference Equations. Comparative Statics. Dynamic Models.

AB Nonlinear systems of difference equations of various orders arise naturally in many economic models in which the dynamics is explicit. In such contexts, economists often have potential interest in the comparative statics of locally stable steady-states, with respect to the system's parameters. This paper presents some intuitive and directly usable results for such comparative statics. That is, they establish some usable consequences of qualitative assumptions or information concerning the features of the original dynamic system on the signs and magnitudes of the resulting expressions for comparative statics.

Salemi, Michael K.

TI FIML Estimation of the Risk Premium in a Portfolio Model of the D-Mark. **AU** Black, Stanley W.; Salemi, Michael K.

Salmon, Mark

PD September 1988. **TI** Error Correction Models, Co-integration and the Internal Model Principle. **AA** University

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of Warwick. **SR** Centre for Economic Policy Research Discussion Paper: 265; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PG** 35. **PR** pound sterling 2.00 ($4.00). **JE** 212, 211. **KW** Error Correction Models. Specification. Co-integration. Dynamic Models. Feedback Rules.

AB The paper considers the conditions under which a system of dynamic equations will be consistent with some prespecified multivariate equilibrium specification. Connections are also drawn between what is known as 'the internal model principle' in the design of robust linear feedback rules and recent developments in the analysis of multivariate error correction models and the theory of co-integration. This approach not only clarifies and generalizes our understanding of error correction systems, but also suggests a relatively simple method for determining whether a given dynamic system satisfies the conditions for representation as an error correction specification.

Samuelson, Larry

TI Subgame Perfect Equilibrium with Continuous Reaction Functions. **AU** Friedman, James W.; Samuelson, Larry.

Sappington, David E. M.

TI Linking Price Cap and Rate of Return Regulation. **AU** Lewis, Tracy R.; Sappington, David E. M.

TI Oversight of Long-Term Investment by Short-Lived Regulators. **AU** Lewis, Tracy R.; Sappington, David E. M.

TI Revolving Regulatory Commissions. **AU** Lewis, Tracy R.; Sappington, David E. M.

Saunders, Anthony

TI SESDAQ: The Early Evidence. **AU** Lim, Joseph; Saunders, Anthony.

TI The Underpricing of Initial Public Offerings (IPOs) in Singapore: Public Policy Issues and Possible Solutions. **AU** Lim, Joseph; Saunders, Anthony.

Savastano, Miguel

TI Latin America's Intraregional Trade: Evolution and Future Prospects. **AU** Edwards, Sebastian; Savastano, Miguel.

Scarf, Herbert E.

TI The Shapes of Polyhedra. **AU** Kannan, Ravi; Lovasz, Laszlo; Scarf, Herbert E.

Scheffman, David T.

TI Strategic Business Behavior and Antitrust. **AU** Holt, Charles; Scheffman, David T.

Schmitz, H. P.

TI Simultaneous Estimation of Several Size Distributions of Income. **AU** Marron, J. S.; Schmitz, H. P.

Schuler, Richard E.

TI Imperfect Competition in a Spatial Economy: Pricing Policies and Economic Welfare. **AU** Holahan, William; Schuler, Richard E.

PD June 1988. **TI** Price Adjustments in Oligopolistic Markets: The Impact of Lags in Customer Response. **AU** Schuler, Richard; Hobbs, Benjamin. **AA** Schuler: Cornell University. Hobbs: Case Western Reserve University. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8830; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 19. **PR** No Charge. **JE** 721, 723, 022, 024. **KW** Natural Gas. Energy. Transportation Costs. Externalities.

AB The optimal, second-best prices over space and time for natural gas, where there are fixed costs for transmission pipelines and an intertemporal production externality at the well (associated with the aggregate stock extracted), are shown to be a two-dimensional variant of the Ramsey-Pricing, Inverse Elasticity Rule. Furthermore, this price structure cannot be realized unless production and transmission are vertically integrated, except if regulatory policy imposes time -- and space -differentiated Pigovian taxes. Common-carriage pricing rules for pipelines as currently proposed in the United States will not work, since with linear demand functions they result in prices that rise too rapidly over both space and time. This problem has common elements with the monopolistic production of high tech or high fashion goods if fixed costs are associated the product's distributions and if the product's value to its consumers diminishes over time as the total stock consumed increases.

Schumann, Laurence

PD April 1988. **TI** State Regulation of Takeovers and Shareholder Wealth: The Case of New York's 1985 Takeover Statutes. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 163; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue Northwest, Washington, D.C. 20580. **PG** 16. **PR** No Charge. **JE** 611, 612, 521. **KW** Takeovers. Regulation. Mergers.

AB Past studies of takeover regulations have found that they increase the premiums paid to the shareholders of successfully acquired targets. Jarrell and Bradley argue that these higher premiums harm shareholders by discouraging takeover activity and protecting inefficient managers. Bebchuk argues that the higher premiums do not significantly reduce the number of takeovers so that shareholders benefit, on average, from the higher premiums paid in successful acquisitions. This paper uses the "event study" method to measure the net effect of two takeover statutes passed by New York State in 1985. The results support the conclusion of Jarrell and Bradley that, despite the higher premiums paid to successfully acquired target shareholders ex post, these laws, on average, harm shareholders ex ante.

Schworm, William E.

TI The Implications of Additive Community Preferences in a Multi-Consumer Economy. **AU** Blackorby, Charles; Schworm, William E.

Seater, John J.

PD October 1988. **TI** An Empirical Exploration of the Income Tax Function's Macroeconomic Determinants. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-16; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PR** $3.00; checks payable to Department of Economics,

University of Pennsylvania. **JE** 321, 323. **KW** Tax Reforms. Income Tax. Taxes. Tax Structure.
AB An exploratory empirical analysis of the relationship between the shape of the income tax function on the one hand and possible causal variables on the other is performed. First, a two-parameter function is fit to federal income tax data. The resulting estimates yield time series for these parameters, which govern the structure of the tax. These time series then are regressed on several variables that various theories of taxation suggest might cause changes in tax structure. The meaning of the resulting estimates is discussed.

PD October 1988. **TI** Neutralities of Money. **AU** Seater, John J.; Fisher, Mark E. **AA** Seater: University of Pennsylvania. Fisher: North Carolina State University. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-17; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 50. **PR** $3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 311, 023. **KW** Neutrality. Money Stock. Dynamic Models. Monetary Shocks.
AB We discuss several monetary neutrality concepts in the context of stochastic dynamic models. We rigorously define the different concepts and show the relationships among them. We prove that, provided the data are integrated of sufficiently high order, neutrality implies simple linear restrictions on certain coefficients in log-linear systems. These restrictions can be used as the basis of a test for neutrality and are appropriate for both anticipated and unanticipated monetary shocks. We perform three new tests to illustrate our methods; we also evaluate the neutrality tests of Lucas (1980), Geweke (1986), and others as well as the critiques of those tests by McCallum (1984b) and Whiteman (1984). The evidence generally favors neutrality and tends to reject superneutrality.

PD October 1988. **TI** Aggregation, Unit Roots and the Time Structure of Manufacturing Real Wages. **AU** Seater, John J.; Rossana, Robert J. **AA** Seater: University of Pennsylvania. Rossana: North Carolina State University. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-18; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PR** $3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211, 132, 131. **KW** Temporal Aggregation. Time-Series Models. Aggregation. Wages. Random Walk.
AB The effects of temporal and cross-sectional aggregation on the estimated time-series properties of real wages are examined. The results strongly suggest that the effects are large, leading to severely biased estimates. Temporal aggregation is the principal culprit, with cross-sectional aggregation playing a minor role. The well-known results of Altonji and Ashenfelter that real wages are a random walk and of Nelson and Plosser that they are IMA(1,1) appear to be artifacts of temporal aggregation, with the true processes more complex.

PD November 1988. **TI** Trend, Cycles, and Equilibration in World Temperature. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 88-19; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR), Philadelphia, PA 19104-6297. **PG** 18. **PR** $3.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 722, 721. **KW** Temperature. Trend. Unit Roots. Co-Integration. Greenhouse Effect.
AB A time series analysis is performed on the Hansen and Lebedeff global temperature data. There is no evidence of a time trend and thus no support for the greenhouse effect, contrary to assertions based on visual inspection of a time plot of the data. A disturbance to global temperature has very persistent effects; in fact, the data are consistent with the presence of a unit root and an impulse response function of about 0.3, implying that 30 per cent of any disturbance is permanent. The data can be well fit by either an AR(8) or ARI(8,1) model; in either case, global temperature responds to a disturbance in a damped oscillatory manner, with substantial oscillations lasting ten or twenty years.

Shafer, W.

TI Lecture Notes in Incomplete Markets. **AU** Duffie, D.; Shafer, W.; Cass, D.; Magill, M.; Quinzii, M.; Geanakoplos, J.

Shapiro, Carl

TI Horizontal Mergers: An Equilibrium Analysis. **AU** Farrell, Joseph; Shapiro, Carl.

Shapiro, Matthew

PD July 1988. **TI** The Stabilization of the U.S. Economy: Evidence from the Stock Market. **AA** Yale University and NBER. **SR** Yale Cowles Foundation Discussion Paper: 876; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 27. **PR** $2.00. **JE** 131, 133, 313. **KW** Business Cycle. Fluctuations. Stabilization. Stock Market. Economic Activity.
AB Until recently, economists widely believed that economic activity had become less variable in the United States following the end of World War II. Challenging this belief, new research suggests that key historical time series are spuriously volatile, a finding that is highly controversial. Data from the stock market may provide a vehicle for resolving the controversy. Economic theory relates stock prices to real activity; empirical tests also show a strong link between stock prices and activity. Financial data are accurately measured over long spans of time and hence are free of most of the measurement problems in other time series. Measures of stock prices show no stabilization in the post-World War II period relative to the pre-World War I or pre-Depression periods. These stock market data thus support the hypothesis that real activity has not been stabilized.

Sheffrin, Steven M.

TI Testing for Global Linkages From Sectoral Integration. **AU** Wajid, Khalid S.; Sheffrin, Steven M.

Shiller, Robert

PD August 1988. **TI** Investor Behavior in the October 1987 Stock Market Crash: The Case of Japan. **AU** Shiller, Robert; Konya, Fumiko; Tsutusi, Yoshiro. **AA** Shiller: Yale University. Konya: Japan Securities Research Institute. Tsutusi: Nagoya City University. **SR** National Bureau of Economic Research Working Paper: 2684; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 441. **KW** Stock Market. Japan. Foreign Investment.
AB In a questionnaire survey we asked Japanese institutional investors to recall what they thought and did during the worldwide stock market crash in October, 1987. The results

confirm that the drop in United States stock prices was the primary factor on their minds, and other news stories in the United States dominated Japanese news stories. A comparison with an earlier survey of United States institutional investors at the time of the crash (Shiller '19870 shows a remarkable similarity between Japanese and United States institutional investors in a number of attitudinal and behavioral dimensions. The results suggest that events in the United States were the proximate cause of the crash in Japan, but that the transmission mechanism of the crash was very similar in both countries.

Shleifer, Andrei

TI Industrialization and the Big Push. **AU** Murphy, Kevin; Shleifer, Andrei; Vishny, Robert.

TI Income Distribution, Market Size, and Industrialization. **AU** Murphy, Kevin; Shleifer, Andrei; Vishny, Robert.

TI The Survival of Noise Traders in Financial Markets. **AU** De Long, J. Bradford; Shleifer, Andrei; Summers, Lawrence. Waldmann-Robert.

Shubik, Martin

TI Revenge and Rational Play. **AU** Nalebuff, Barry; Shubik, Martin.

TI Bankruptcy and Efficiency in a General Equilibrium Model with Incomplete Markets. **AU** Dubey, Pradeep; Geanakoplos, John; Shubik, Martin.

Siklos, P. L.

PD September 1988. **TI** Fiscal Policy and Inflationary Expectations: The Hungarian Tax Pengo Experiment of 1946. **AA** Wilfrid Laurier University, Canada and Oxford Institute of Economics and Statistics. **SR** Oxford Applied Economics Discussion Paper: 52; Institute of Economics and Statistics, Saint Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 19. **PR** No Charge. **JE** 124, 134, 321, 023. **KW** Fiscal Policy. Inflation. Hungary. Rational Expectations.

AB Sargent and others have argued that when individuals form inflationary expectations rationally only credible policy changes will stabilize inflation. Recently, some authors have countered with the argument that there exist historical episodes where regime changes appear to have been, at least temporarily, credible without leading to a stabilization of inflation. Since much of the debate has centered around episodes of hyperinflation this paper explores one attempt at fiscal reform, known as the tax pengo experiment, during the Hungarian hyperinflation of 1945-46. It is argued that its implementation could not have led to a stabilization of inflation. Whether it is because the reform was credible or not cannot be proven but the evidence suggests that the introduction of the tax pengo system did nothing to moderate expectations of inflation.

Silvestre, Joaquim

TI A Note on Cost Share Equilibria and Consumer-Owners. **AU** Mas, Colell Andreu; Silvestre, Joaquim.

Siow, Aloysius

PD August 1988. **TI** The Importance of First Impressions. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 403; Department of Economics, Columbia University, New York, NY 10027. **PG** 49. **PR** $5.00. **JE** 011. **KW** Academics. Scholars. Economists. Reputation.

AB Readers want to read articles from more able scholars so as to maximize their probability of reading good articles. The ability of a scholar is revealed through his articles. When the first work of a scholar is bad, the revised probability of that scholar being able falls below that of a random new scholar. The reader will dismiss that scholar for a new one. The model is tested with data on mathematicians and economists. The results show that the long run increase in salary from an additional article or citation declines with the age at which it is received.

Skoller, D. L.

PD February 1988. **TI** Specialization and Cooperation Agreements Within the Motor Vehicle Industry of the Council for Mutual Economic Assistance. **AU** Skoller, D. L.; Crane, K. W. **AA** Skoller and Crane: The Rand Corporation. **SR** Rand Note: N-2575; The Rand Corporation, 1700 Main Street, PO Box 2138, Santa Monica, CA 90406-2138. **PG** 97. **PR** No Charge. **JE** 423, 422, 421, 616, 113. **KW** Automobiles. Economic Integration. Cooperative Agreements.

AB This note is a case study of specialization and cooperation in the motor vehicle industry within the Council for Mutual Economic Assistance (CMEA). The main instruments for pursuing specialization and cooperation are treaties called "specialization and cooperation agreements" that specify who is to produce what products within a particular industry. Specialization and cooperation are expected to lead to lower production costs, increased output, and better quality products. The agreements have had limited success, however, in increasing economic integration among CMEA countries and in reducing duplication in production. Effective implementation has been hampered in part by unreliable deliveries, poor planning during agreement development, raw material shortages, obsolete production equipment, and lack of incentives for enterprises to cooperate effectively.

TI Specialization Agreements in the Council For Mutual Economic Assistance. **AU** Crane, K. W.; Skoller, D. L.

Slade, Margaret

PD October 1987. **TI** Modeling Stochastic and Cyclical Components of Technical Change: An Application of the Kalman Filter. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-36; #997-1873 East Mall, Vancouver, BC CANADA V6T 1W5. **PG** 16. **PR** **JE** 631, 621, 212. **KW** Technical Change. State-Space Models. Kalman Filter. Factor Productivity.

AB In this paper, the Kalman filter is applied to the task of estimating the rate and direction of change in the technology of production at a micro level. The framework is the familiar system of factor-demand equations derived from a cost function. The state of technology, which is assumed to be a stochastic latent variable, is modeled as having both a cyclical and a trend component. Through the use of state-space estimation techniques, significant cost changes are uncovered that fail to be detected when more traditional methods are employed. The application is to the United States primary metals industry and the results seem to be consistent with the stylized facts in this sector.

Slemrod, Joel

PD October 1988. **TI** Are Estimated Tax Elasticities Really Just Tax Evasion Elasticities. The Case of Charitable Contributions. **AA** The University of Michigan. **SR** National Bureau of Economic Research Working Paper: 2733; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 914, 323. **KW** Tax Policy. Taxes. Charities. Charitable Contributions.

AB Tax return data, which has been a principal source for econometric investigations of the behavioral response to tax policy, is subject to misreporting that may bias estimates of tax responsiveness. The misreporting arises because understatement of taxable income may itself be a function of an individual's marginal tax rate, it being the return to a dollar of understated taxable income. To the extent that misreporting of income and deductions is a function of the same factors that determine the behavior under study, estimated relationships based on reported data will reveal a composite of the tax (and income) responsiveness of the actual behavior and of the misreporting of the behavior. This paper used data from tax returns that have been subject to intensive audits to confront the quantitative importance of misreporting for the estimated tax responsiveness of charitable contributions.

Smith, Gregor W.

TI Estimates of Canadian GDP, Monthly, 1962 to 1985. **AU** Milbourne, Ross D.; Guay, Richard; Otto, Glenn; Smith, Gregor W.

PD July 1988. **TI** Stochastic Process Switching and the Return to Gold, 1925. **AU** Smith, Gregor W.; Smith, R. Todd. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 723; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 27. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 431, 044, 311. **KW** Stochastic Process. Exchange Rates. Gold Standard. Monetary Policy.

AB We present numerical estimates of the effect on the dollar/sterling exchange rate in the early 1920s of anticipations of the return to the gold standard at pre-war parity in the United Kingdom. These measures are calculated using a weak version of the monetary model of the exchange rate but are consistent with any exchange-rate fundamentals which follow a random walk with drift. Contrary to some contemporary views, the appreciation of sterling prior to April 1925 appears to have been due mainly to fundamentals (such as restrictive monetary policy) rather than to the expectation of a change in regime.

TI Calibration as Testing Type I Error in the Equity Premium Puzzle. **AU** Gregory, Allan W.; Smith, Gregor W.

Smith, Peter

PD November 1987. **TI** Wage Dispersion and Inflation. **AU** Smith, Peter; Thomas, Stephen. **AA** Smith: London Business School. Thomas: University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8808; Department of Economics, University of Southampton, Southampton, S09 5NH, ENGLAND. **PG** 39. **PR** No Charge. **JE** 134, 824, 832, 631. **KW** Inflation. Wage Dispersion. Bargaining. Manufacturing.

AB A number of observers have suggested that inflation may 'loosen' relative wages and hence improve resource allocation via increased labor market flexibility. An analogous empirical observation has been made for goods' markets and relative prices. However, the only econometric evidence to date (Hammermesh, Economica, 1986) suggests a negative relation between wage dispersion across industries in the United States and inflation, both anticipated and unanticipated. In the current paper we derive a simple bargaining model for individual industry wages involving a rich array of variables and then derive a relation for wage dispersion using a method similar to Pagan, Hall and Trivedi (R.E. Stud, 1983). This allows us to investigate the relation between wage dispersion, macro shocks and conditional expectations, inflation and sector specific effects. This results in a much richer economic model than that of Hammermesh, and application to United Kingdom manufacturing data for 1970-80 leads to a well-specified model. However, the negative relation between wage dispersion and inflation is a robust empirical result which cannot be satisfactorily explained by theory.

Smith, R. J.

PD July 1988. **TI** Asymptotically Optimal Tests Using Limited Information and Testing for Weak Exogeneity. **AA** INSEE. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 8809; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. **PG** 45. **PR** No Charge. **JE** 211. **KW** Exogeneity. Simultaneous Equations. Asymptotic Theory.

AB By considering a general condition for the separability of hypotheses, we show that two constituent hypotheses which partition the weak exogeneity hypothesis are separable. As each of these sub-hypotheses concerns the parameters of the conditional and marginal densities but not both, then, for instance, the hypothesis on the conditional density's parameters is separable from maintained restrictions on those of the marginal density; a similar result holds for the sub-hypothesis on the marginal density's parameters. This observation allows us to show directly that limited or full information classical statistics for the separate sub-hypotheses are asymptotically equivalent and are both optimal. An optimal induced test of the joint hypothesis of weak exogeneity is given by separate limited information statistics for the constituent hypotheses. An optimal test statistic for the weak exogeneity hypothesis is obtained by summing these limited information statistics.

Smith, R. Todd

TI Stochastic Process Switching and the Return to Gold, 1925. **AU** Smith, Gregor W.; Smith, R. Todd.

Sokoloff, Kenneth L.

PD September 1988. **TI** Inventive Activity in Early Industrial America: Evidence from Patent Records, 1790-1846. **AA** University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2707; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 621, 042. **KW** Patents. Innovations. United States. Technological Change. Industrialization.

AB A sample of patent records from the United States between 1790 and 1846 is employed to study the patterns in inventive activity. Patenting was pro-cyclical, and yet began to grow rapidly with the interruptions in foreign trade that preceded the War of 1812. A strong association between patenting and proximity to navigable waterways is also demonstrated. Although the importance of specific mechanisms remains unclear, both the temporal and cross-sectional evidence imply that inventive activity was positively related to the growth of markets during early industrialization.

Sorin, Sylvain

PD March 1988. **TI** Repeated Games with Complete Information. **AA** Universite Louis Pasteur. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8822; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PG** 34. **PR** No Charge. **JE** 026. **KW** Complete Information. Repeated Games. Folk Theorem. Signalling. Bounded Rationality.

AB This survey covers some of the main basic tools in repeated game with complete information including versions of the Folk theorem, games with signalling structure and topics in bounded rationality.

PD April 1988. **TI** Supergames (On Some Recent Advances). **AA** Universite Louis Pasteur. **SR** Universite Catholique de Louvain CORE Discussion Paper: 8824; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348, Louvain-la-Nueve, BELGIUM. **PR** No Charge. **JE** 026. **KW** Folk Theorem. Signalling. Bounded Rationality. Game Theory.

AB This survey is based on a lecture given at the International Conference on Game Theory and Applications (Columbus 1987) and deals with: extensions of the Folk theorem, games with signals and topics in bounded rationality.

Spiegel, Matthew I.

PD May 1988. **TI** General Equilibrium Behavior of the Firm When Control Problems Exist. **AA** Columbia Business School. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-88-30; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 29. **PR** $5.00 academics and non-profit institutions; $6.00 corporations(add $1.00 outside United States, Canada and Puerto Rico). **JE** 521, 611, 514, 511. **KW** Corporate Control. Share Distribution. Stock Market. Shareholders. Portfolios.

AB Recognizing that it is costly for shareholders to overturn managerial policy decisions, this paper links the distribution of shares to the firm's actions. The first finding is that the number of separate controlling shareholders in an industry is an important determinant of its performance. The model is then enriched by developing a liquid stock market in which shareholders are free to trade repeatedly. This leads to an equilibrium characterizing the portfolios held by controlling shareholders. With some additional restrictions on the model it is shown that larger firms have smaller controlling interests and/or pay higher wages.

Spigelman, David F.

TI Real Interest Rates During the Disinflation Process in Developing Countries. **AU** Kamin, Steven B.; Spigelman, David F.

Staiger, Robert

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

Steigerwald, Douglas

TI Raiders, Junk Bonds and Risk. **AU** Craine, Roger; Steigerwald, Douglas.

Stevens, Guy V. G.

PD September 1988. **TI** Interactions Between Domestic and Foreign Investment. **AU** Stevens, Guy V. G.; Lipsey, Robert. **AA** Stevens: Board of Governors of the Federal Reserve System. Lipsey: City University of New York and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2714; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 442, 423, 441. **KW** Multinational Firms. Investment.

AB This paper examines the domestic and foreign fixed investment expenditures of a sample of United States multinational firms to explain empirically each type of investment and to determine whether there are significant interactions between them. Models exhibiting two types of interactions, one, financial and the other, production-based, are explored theoretically and empirically. The financial interaction is the result of a model which assumes a risk of bankruptcy and its associated costs; under these circumstances, the firm faces an increasing cost of capital as a function of its debt/equity ratio. The hypotheses are tested on data covering the domestic and foreign operations of seven multinational firms for a period of 16 to 20 years. The firm-level investment functions fit reasonably well for both domestic and foreign expenditures; an interdependence between domestic and foreign investment was confirmed frequently through the finance side, but only once via production.

Stiglitz, Joseph

TI Qualitative Properties of Profit-Maximizing K-out-of-N Systems Subject to Two Kinds of Failures. **AU** Sah, Raaj Kumar; Stiglitz, Joseph.

PD September 1988. **TI** Banks as Social Accountants and Screening Devices for the Allocation of Credit. **AU** Stiglitz, Joseph; Weiss, Andrew. **AA** Stiglitz: Stanford University. Weiss: Boston University. **SR** National Bureau of Economic Research Working Paper: 2710; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 312, 311, 315. **KW** Banking. Commercial Banks. Credit Rationing. Financial Innovations. Monetary Theory.

AB This paper presents an alternative perspective on the role of banks. We emphasize the ways in which banks act as social accountants and screening devices. In this view monetary disturbances have their effects through the disturbances which they induce in society's accounting system and in the mechanisms by which it is ascertained who is credit worthy. Because of asymmetric information, giving rise to credit rationing, interest rates do not play the simple allocative role ascribed by the conventional paradigm, and as a result the equilibrating forces provided by market mechanisms may be weak or virtually absent. The paper provides a critique of the transactions based approach to monetary theory, and sketches a general equilibrium formulation of the theory. The paper traces out some of the policy implications of the theory. We show that certain financial innovations, such as allowing for the more rapid recording of transactions, may actually be welfare reducing.

Stinchcombe, Maxwell

TI Multi-Layer Feedforward Networks are Universal Approximators. **AU** Hornik, Kurt; Stinchcombe, Maxwell; White, Halbert.

Stock, James

PD August 1988. **TI** Pensions, The Option Value of Work, and Retirement. **AU** Stock, James; Wise, David A. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2686; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 824, 821. **KW** Retirement. Elderly. Pension Plans.

AB The paper develops a model of retirement based on the option value of continuing to work. Continuing to work maintains the option of retiring on more advantageous terms later. The model is used to estimate the effects on retirement of firm pension plan provisions. Typical defined benefit pension plans in the United States provide very substantial incentives to remain with the firm until some age, often the early retirement age, and then a strong incentive to leave the firm thereafter. The model fits firm retirement data very well; it captures very closely the sharp discontinuous jumps in retirement rates at specific ages. The model is used to simulate the effect on retirement of potential changes in pension plan provisions.

Stockman, Alan C.

TI Business Cycles and the Exchange Rate System: Some International Evidence. **AU** Baxter, Marianne; Stockman, Alan C.

TI Specialization, Transactions Technologies, and Money Growth. **AU** Cole, Harold; Stockman, Alan C.

Subrahmanyam, Marti G.

TI Options on Stock Indices and Options on Futures. **AU** Brenner, Menachem; Courtadon, Georges; Subrahmanyam, Marti.

TI Stock Index - Futures Arbitrage in the Japanese Markets. **AU** Brenner, Menachem; Subrahmanyam, Marti G.; Uno, Jun.

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 January 1988. **TI** Social Security and The Determinants of Full and Partial Retirement: A Competing Risks Analysis. **AA** University of California, San Diego. **SR** University of California at San Diego Department of Economics Discussion Paper: 88-5; Department of Economics, D-008, University of California at San Diego, La Jolla, CA 92093. **PR** $2.00; checks payable to UC Regents. **JE** 915, 918, 824. **KW** Social Security. Retirement. Duration Models. Competing Risks. Monte Carlo Simulation.

AB Empirical analyses 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. Social Security is found to affect the two forms of retirement in different ways -- with additional benefits increasing full retirement probabilities more than partial retirement probabilities, while increases in the Social Security increment to additional work lower partial retirement probabilities more than those for full 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 retirement (before age 65) by less than 5 percent.

Summers, Lawrence

TI The Survival of Noise Traders in Financial Markets. **AU** De Long, J. Bradford; Shleifer, Andrei; Summers, Lawrence. Waldmann-Robert.

TI On the Existence and Interpretation of a "Unit Root" in U.S. GNP. **AU** De Long, J. Bradford; Summers, Lawrence.

TI Can Inter-Industry Wage Differentials Justify Strategic Trade Policy?. **AU** Katz, Lawrence; Summers, Lawrence.

Sundaram, Rangarajan

TI The Tragedy of the Commons. A Characterization of Stationary Perfect Equilibria in Dynamic Games. **AU** Dutta, Prajit K.; Sundaram, Rangarajan.

Suzumura, Kotaro

TI Welfare Improving Tax-Subsidy Schemes in an Oligopolistic Setting. **AU** Konishi, Hideki; Okuno, Fujiwara Masahiso; Suzumura, Kotaro.

Swamy, P. A. V. B.

PD April 1988. **TI** On a Problem in Identifying Linear Parametric Models. **AU** Swamy, P. A. V. B.; von zur Muehlen, Peter. **AA** Board of Governors of the Federal Reserve. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 28; Division of Research and Statistics, Federal Reserve Board, Washington, D.C. 20551. **PG** 11. **PR** No Charge. **JE** 211. **KW** Identification. Simultaneous Equations. Linear Model.

AB This paper corrects an error in the previous version. Specifically, it establishes that when the equations connecting the structural coefficients with the reduced-form coefficients are inconsistent, a necessary and sufficient condition stated in econometrics textbooks for the identifiability of coefficients in a linear simultaneous equations system is insufficient. In this case the identification of those coefficients is not possible unless an additional criterion for choosing among an infinite number of solutions for the unknown structural coefficients occurs naturally as part of the system.

PD May 1988. **TI** Modeling Buffer Stock Money-An Appraisal. **AU** Swamy, P. A. V. B.; Tavlas, George S. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/41; International Monetary Fund, Washington, D.C. 20431. **PG** 22. **PR** No Charge. **JE** 311. **KW** Money. Liquidity. Currency. Money Stock.

AB The buffer stock role of absorbing temporary discrepancies between purchases and sales is assigned to money because money, being the most liquid of all assets, performs the buffer function best. However, as this paper shows, the attempts to model the buffer stock role have led to certain incoherencies. Specifically, this paper shows that the econometric models of buffer stock money published in the literature are incompatible with the theory of buffer stock money and imply two different probability distributions for the same variable, thus resulting in an incoherency.

Symons, James

TI Stylised Facts and the Labour Demand Curve. **AU** Newell, Andrew; Symons, James.

Szroeter, Jerzy

PD March 1988. **TI** Efficient Tests of Non-Nested Hypotheses. **AA** University College London. **SR** University College London Discussion Paper: 88-12; Department of Economics, University College London, Gower Street, London, WC1E 6BT. **PG** 56. **PR** 1.50 pound sterling. **JE** 211. **KW** Non-Nested Hypotheses. Efficient Tests. Power. Approximation. Degrees of Freedom. Relative Variance.

AB The problem of testing non-nested hypotheses is reformulated and a general approximation theory of the power and structure of tests is developed using new and empirically meaningful concepts referred to as strong and weak relative variance conditions. The relative variance approach resolves a number of issues left open by the previous literature because of the incompleteness of the existing conceptual framework. The approach leads to a whole spectrum of tests indexed by degrees of freedom. At the beginning of the spectrum are one-degree-of-freedom tests justifiable only under the strong relative variance condition. Tests having progressively greater degrees of freedom can be justified under progressively weaker relative conditions.

PD April 1988. **TI** Testing Non-nested Regression Models Under Strong and Weak Relative Variance Conditions. **AA** University College London. **SR** University College London Discussion Paper: 88-13; Department of Economics, University College London, Gower Street, London, WC1E 6BT. **PG** 37. **PR** 1.50 pound sterling. **JE** 211. **KW** Non-Nested Regression Models. Relative Variance. F-Statistics. Degrees of Freedom. Lagged Dependent Variables.

AB Tests of non-nested regression models, with or without lagged dependent variables amongst the regressors, are derived using a new conceptual framework which covers common situations implicitly or explicitly ruled out by the assumptions of previous literature. The J-test (and asymptotic equivalents) is shown to be properly justifiable only under what is called the strong relative variance condition, an extreme assumption implicit in previous work. In this paper, new tests are obtained which are justified power-wise under weaker relative variance conditions. The tests are computable as regression F-tests where one of the regressors is, as in the J-test, the fitted dependent variable from the alternative model and other regressors are certain transformations of the original ones.

Tabellini, Guido

TI External Debt, Capital Flight and Political Risk. **AU** Alesina, Alberto; Tabellini, Guido.

PD September 1988. **TI** Voting on the Budget Deficit. **AU** Tabellini, Guido; Alesina, Alberto. **AA** Tabellini: University of California, Los Angeles and Centre for Economic Policy Research. Alesina: Harvard University and Centre for Economic Policy Research. **SR** Centre for Economic Policy Research Discussion Paper: 269; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PG** 26. **PR** pound sterling 2.00 ($4.00). **JE** 025, 322, 321. **KW** Budget Deficits. Majority Rule. Social Choice. Government Spending. Political Parties. Balanced Budget.

AB This paper analyzes a model in which different rational individuals vote over the composition and time profile of public spending. Potential disagreement between current and future majorities generates instability in the social choice function that aggregates individual preferences. In equilibrium a majority of the voters may favor a budget deficit. The size of the deficit under majority rule tends to be larger, the greater is the polarization between current and potential future majorities. The paper also shows that the ex ante efficient equilibrium of this model involves a balanced budget. A balanced budget amendment, however, is not durable under majority rule.

Tanzi, Vito

PD August 1988. **TI** International Coordination of Fiscal Policies: A Review of Some Major Issues. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/70; International Monetary Fund, Washington, D.C. 20431. **PG** 35. **PR** No Charge. **JE** 321, 421, 422, 411, 311. **KW** Fiscal Policy. Economic Policy. International Coordination.

AB International coordination of macroeconomic policies has attracted much attention in recent years. The main issue has been whether economic performance can be improved by coordination. Although it is still a controversial issue many economists have argued that coordination would make a positive contribution to economic performance. This paper deals with the requirements for successful fiscal coordination. It concludes that those requirements are such that the best fiscal policies that countries can pursue are those aimed at putting their houses in order.

PD August 1988. **TI** Economic Interdependence and the International Implications of Supply-Side Policies. **AU** Tanzi, Vito; Bovenberg, Lans. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/71; International Monetary Fund, Washington, D.C. 20431. **PG** 23. **PR** No Charge. **JE** 431, 423, 421, 422, 411. **KW** Economic Integration. Financial Intermediaries. World Economy. Economic Policy. Expansionary Policy. Welfare Analysis.

AB This paper analyzes the implications of growing international economic integration for the conduct of structural policy. Section I points out that the internationalization of financial intermediation has raised the welfare costs associated with domestic distortions. The growing importance of structural policies in affecting domestic demand in a more integrated world economy is discussed in Section II. It is shown that domestic distortions reduce the effect of expansionary policy on the domestic economy. Section III examines the international transmission of unilateral structural policies. Section IV discusses the need for the international coordination of structural policies. Section V identifies structural areas in which international policy coordination is most urgent.

Tavera, C.

TI Bilateral Harmonization of EC and U.S. Agricultural Policies. **AU** Mahe, L. P.; Tavera, C.

Tavlas, George S.

TI Modeling Buffer Stock Money-An Appraisal.

AU Swamy, P. A. V. B.; Tavlas, George S.

TI Trade and Investment Performance Under Floating Exchange Rates: The U.S. Experience. **AU** Bailey, Martin J.; Tavlas, George S.

Temin, Peter

PD October 1988. **TI** The End of One Big Deflation. **AU** Temin, Peter; Wigmore, Barrie A. **AA** Temin: Massachusetts Institute of Technology. Wigmore: Partner, Goldman, Sachs and Company, New York. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 503; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 35. **PR** No Charge. **JE** 042, 311, 134. **KW** Deflation. Recovery. Roosevelt. Great Depression. Gold Standard. New Deal.

AB This paper provides a new account of the recovery from the Great Depression in the United States in the second quarter of 1933. We analyze the beginning of recovery in the United States within the framework used by Sargent (1983) to study the end of hyperinflations. Our argument is that President Roosevelt established a new macroeconomic policy regime shortly after his inauguration in March, 1933. the key to this change was Roosevelt's abandonment of the gold standard. Hoover had been a financial conservative, adhering to the gold standard and fiscal orthodoxy. Roosevelt broke with this ideology, abandoning the gold standard within six weeks of his inauguration, promoting the New Deal, and championing the virtues of inflation. The devaluation of the dollar was the single biggest signal that the iron grip of the gold standard had been broken. The New Deal emerged in the course of 1933 and reinforced the change in regime symbolized by devaluation.

Terrell, Henry S.

TI International Banking Facilities. **AU** Key, Sydney J.; Terrell, Henry S.

Thisse, Jacques Francois

TI Sensitivity Analysis in Minisum Facility Location Problems. **AU** Labbe, Martine; Thisse, Jacques Francois; Wendell, Richard.

Thomas, Stephen

TI Wage Dispersion and Inflation. **AU** Smith, Peter; Thomas, Stephen.

TI Predicting the Timing and Quantity of LDC Debt Rescheduling. **AU** Lloyd, Ellis Huw; McKenzie, George; Thomas, Stephen.

Tienda, Marta

PD April 1988. **TI** Migration, Gender and Social Change: A Review and Reformulation. **AU** Tienda, Marta; Booth, Karen. **AA** Tienda: NORC, University of Chicago and University of Wisconsin. Booth: University of Wisconsin. **SR** Economics Research Center/NORC Discussion Paper: 88-3; Economics Research Center/NORC, 6030 South Ellis, Chicago, IL 60637. **PG** 32. **PR** $2.00; send requests to Librarian, NORC. **JE** 823, 917. **KW** Migration. Mobility. Women. Social Change.

AB This paper provides a critical review of existing studies about how migration alters women's position in the course of social change. Two major goals are accomplished. First, the conceptual and methodological issues which bear on the assessment of changing gender relations are distilled from the existing literature. This section of the paper presents a heuristic framework for analyzing how gender inequality is constructed and maintained via exchange relationships. Second, we delineate three alternative outcomes for migrant women using the distribution-redistribution analytic framework. These outcomes are: improvement; deterioration; or "restructured constants", that is, situations where gender inequities remain largely intact even while the concrete circumstances of women's lives are drastically changed. A selective review of case studies which illustrate alternative outcomes for migrant women in Africa and Latin America provides the evidence for evaluating the usefulness of the heuristic framework. The concluding discussion summarizes the major findings in an attempt to distinguish issues which cross-cut social settings from those which are country-specific.

PD June 1988. **TI** Puerto Ricans and the Underclass Debate: Evidence for Structural Explanations of Labor Market Performance. **AA** University of Chicago and Population Research Center/NORC. **SR** Economics Research Center/NORC Discussion Paper: 88-9; Economics Research Center/NORC, 1155 E. 60th Street, Chicago, IL 60637. **PG** 23. **PR** $2.00; Send requests to Librarian, Economics Research Center. **JE** 917, 824, 823, 121. **KW** Employment Opportunites. Labor Market. Puerto Rico. Unemployment. Minorities.

AB This paper uses data from the Current Population Surveys (CPS) of 1975, 1980 and 1985 and the 1980 Census of Population to investigate why the economic status of Puerto Ricans has declined more than that of Mexicans and Cubans. The working hypothesis -- that structural factors, namely rapidly falling employment opportunities in jobs where Puerto Ricans traditionally have worked and the concentration of Puerto Ricans in areas experiencing severe economic dislocation are largely responsible for their disproportionate impoverishment -- finds considerable support. Results based on the CPS show that Puerto Ricans are distinct from Mexicans and Cubans in that their labor market instability and complete withdrawal began earlier (mid- compared to late- 1970s) and was more extreme. Furthermore, the analysis of Census data showed that the constraints on Puerto Ricans resulting from ethnic labor market divisions and high unemployment rates were stronger than those for Mexicans or Cubans, lending support to structural interpretations of Puerto Ricans' economic distress.

Tirole, Jean

TI The Politics of Government Decision-Making: A Theory of Regulatory Capture. **AU** Laffont, Jean Jacques; Tirole, Jean.

TI The Regulation of Multiproduct Firms: Theory and Policy Analysis. **AU** Laffont, Jean Jacques; Tirole, Jean.

Tobin, James

TI The Macroeconomics of Government Finance. **AU** Haliassos, Michael; Tobin, James.

Tornell, Aaron

PD January 1988. **TI** Time Inconsistency of Protectionist Programs. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 374; Department of

Economics, Columbia University, New York, NY 10027. **PG** 27. **PR** $5.00. **JE** 411, 422, 323, 514, 616. **KW** Protectionism. Competition. International Trade. Industrial Policy.

AB When the government is not able to precommit to terminate protection, protectionist programs might fail to promote international competitiveness (i.e. they are time inconsistent). This is because the targeted industry might find it more profitable to not invest sufficiently in cost reductions and induce a renewal of protection. We address the issue of whether the introduction of an investment-contingent subsidy eliminates this time inconsistency. We introduce this subsidy in the form of a future import tariff, and show that the time inconsistency is not eliminated, unless the industry discounts time at a very high rate.

PD March 1988. **TI** Insulating Properties of Dual Exchange Rates: A New Classical Model. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 380; Department of Economics, Columbia University, New York, NY 10027. **PG** 32. **PR** $5.00. **JE** 431, 411, 023. **KW** Exchange Rates. Financial Sector.

AB In this paper we offer a new approach to analyzing dual exchange rates that highlights the interactions of the real and financial sectors of the economy. We model the links between flows of foreign exchange, the availability of working capital, and domestic production. Furthermore, we identify an imperfection that justifies the imposition of dual exchange rates. We show how, by limiting the extent of financial flows and delinking the prices of tradeables from the financial exchange rate, dual exchange rates reduce the impact of external disturbances on domestic production, even when leaks between the official and financial markets exist. We also compare dual and flexible exchange rates. We show that the impact effect of a temporary external disturbance is lower under dual rates. However, persistence is greater. Finally, we analyze the reunification issue and the time inconsistency of dual exchange rate systems.

Tower, Edward

TI On Negotiated Quotas, Tariffs, and Transfers. **AU** Copeland, Brian; Tower, Edward; Webb, Michael.

Tsutusi, Yoshiro

TI Investor Behavior in the October 1987 Stock Market Crash: The Case of Japan. **AU** Shiller, Robert; Konya, Fumiko; Tsutusi, Yoshiro.

Tsybakov, A. B.

PD November 1988. **TI** Passive Stochastic Approximation. **AA** Academy of Sciences, Moscow. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-207; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 21. **PR** No Charge. **JE** 211. **KW** Nonparametric Regression. Stochastic Approximation. Asymptotic Theory. Recursive Algorithms.

AB The problems of estimation of zeros and extrema of a regression function and estimation of the mode of a density are considered. In the case of regression it is assumed that prediction variables are i.i.d. The recursive algorithms of estimation are proposed that have the optimal rates of convergence in the asymptotic minimax sense.

Tuma, Elias H.

PD September 1988. **TI** Food, Sustainable Agriculture, and Trade in the Middle East. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 320; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 39 + 3. **PR** No Charge. **JE** 121, 423, 112, 713, 711. **KW** Food. Middle East. Agriculture. Economic Development. Poverty.

AB Surveys problems of agricultural domestic production and food deficit in the Middle East in the last 2-3 decades, given the endowment, the population growth, and the competing demands for agricultural land. A review of the policies attempted to cope with food deficit shows the strengths and weaknesses of those policies. It is proposed that many of the difficulties have been institutionalized such that coping with the deficit has become closely dependent on imports of food from outside the region. The prospects for the 1990s seem to indicate that deficits may continue, although options exist to ameliorate the problem to a large extent. Among those options would be a serious departure from the current policies which emphasize peasant small scale labor intensive subsistence farming in favor of more rationalized farming in which the return to labor is the focus of policy. It is argued that agriculture cannot solve the problem independently of other sectors of the economy; integrating agriculture with the rest of the economy requires closing the gap between rural productivity and income and non-rural productivity and income. Finally, though economic integration in the Middle East would be greatly beneficial, given the present relations among countries of the region, it seems that the policy emphasis should be on country programs rather than on regional programs. Finally, the new policies would be more effective if they are based on local expertise and self reliance than on foreign aid, foreign management, and foreign policy making and direction, as has been mostly the case.

Ulph, David

TI Strategic R&D Policy. **AU** Beath, John; Katsoulacos, Yannis; Ulph, David.

Unal, Haluk

TI Modeling Structural and Temporal Variation in the Market's Valuation of Banking Firms. **AU** Kane, Edward; Unal, Haluk.

Uno, Jun

TI Stock Index - Futures Arbitrage in the Japanese Markets. **AU** Brenner, Menachem; Subrahmanyam, Marti G.; Uno, Jun.

Vaez, Zadeh Reza

PD June 1988. **TI** Oil Wealth and Economic Behavior: The Case of Venezuela, 1965-81. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/56; International Monetary Fund, Washington, D.C. 20431. **PG** 43. **PR** $7.50 ($4.50 to university libraries, faculty, students). **JE** 121, 111, 132, 133, 721. **KW** Venezuela. Oil. Natural Resources. Economic Policy. Inflation.

AB A short-run macroeconomic model is estimated for Venezuela, in order to examine the hypothesis that the availability of oil resources may entail a confidence effect -- on perceived future incomes -- that influences the expenditure and portfolio behavior of economic agents. Such confidence effect is found to be empirically significant. Model simulations reveal that the impact of oil price changes on the level and variability of money demand, balance of payments and inflation are significantly more pronounced in the presence of the confidence effect than in its absence. This has significant implictions for the size and structure of the needed policy interventions.

van Dalen, Hendrik P.

TI The Economic Consequences of Selective Immigration Policies. **AU** Ritzen, Josef M. M.; van Dalen, Hendrik P.

van der Ploeg, Frederick

PD October 1988. **TI** Monetary and Fiscal Policy in Interdependent Economies with Capital Accumulation, Death and Population Growth. **AA** Tilburg University. **SR** Centre for Economic Policy Research Discussion Paper: 270; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PR** pound sterling 2.00 ($4.00). **JE** 441, 023, 321, 311, 111. **KW** Monetary Growth. Open Economy Model. Taxes. Bonds. International Theory. Monetary Rentrality.

AB A two-country, optimizing model with capital accumulation, purchasing power parity, floating exchange rates, uncovered interest parity, perfect foresight, finite lives and population growth is developed and analyzed. For the special case of a zero birth rate, individuals are indifferent between tax-finance and bond-finance or money-finance, so that both Ricardian debt-neutrality and monetary super-neutrality prevail. The general case is analyzed by decomposing the model into global averages and differences. A tax-financed increase in monetary growth leads to an interdependent Mundell-Tobin effect in which the world real interest rate falls and capital accumulation increases. A home monetary expansion leads to an increase in home consumption, a fall in foreign consumption and an increase in home holdings of foreign assets. If the expansion occurs through open-market operations, money is super-neutral. The international spillover effects of tax-financed and bond-financed increases in government spending and of bond-financed increases in lump-sum taxation are also considered.

van Wijnbergen, Sweder

TI Inflation, External Debt and Financial Sector Reform: A Quantitative Approach to Consistent Fiscal Policy with an Application to Turkey. **AU** Anand, Ritu; van Wijnbergen, Sweder.

Velasco, Andres

PD July 1988. **TI** Liberalization, Crisis, Intervention: the Chilean Financial System, 1975-1985. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/88/66; International Monetary Fund, Washington, D.C. 20431. **PG** 71. **PR** $7.50: ($4.50 to University libraries, faculty, students). **JE** 121, 311, 314, 315. **KW** Chile. Financial Crisis. Financial System. External Shocks.

AB This paper surveys the evolution of the Chilean financial system from 1975 to 1985, analyzes the causes and the consequences of the major crisis in the financial system during 1981-83, and examines the measures adapted to contain the crisis and restore the financial system to normalcy. The analysis suggests that certain features of the financial sector -- growing loans of dubious quality, limited central bank supervision -- raised the vulnerability of the sector to the external shocks and macroeconomic policy changes experienced by Chile. Channels through which financial sector troubles may have exacerbated the impact of real shocks are also explored.

Venables, Anthony J.

PD October 1988. **TI** International Capacity Choice and National Market Games. **AA** University of Southampton. **SR** Centre for Economic Policy Research Discussion Paper: 277; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, UNITED KINGDOM. **PR** pound sterling 2.00 ($4.00). **JE** 422, 611, 411, 641, 026. **KW** Oligopoly. Market Structure. International Trade. Economic Capacity. Cournot Equilibrium.

AB A series of models are developed in which international trade is modelled as a two-stage game between firms in two countries. At the first stage firms choose their productive capacity. At the second stage different types of market game are played. The most interesting case is that in which firms play a separate price game in each national market, given their worldwide capacity levels. It is established that (i) firms use capacity strategically, in order to manipulate the distribution of rivals' output between markets; (ii) the volume of intra-industry trade is intermediate between the two cases most extensively studied in the trade literature (integrated- and segmented-market Cournot equilibria); and (iii) countries gain from small import tariffs and export subsidies, but these gains are less than in the case of segmented markets and a Cournot equilibrium.

Vial, J. P.

TI Cutting Planes and Column Generation Techniques with the Projective Algorithm. **AU** Goffin, J. L.; Vial, J. P.

Villanueva, Delano

TI Theoretical Aspects of Growth in Developing Countries: External Debt Dynamics and the Role of Human Capital. **AU** Otani, Ichiro; Villanueva, Delano.

Vincent, Daniel

PD June 1988. **TI** Bargaining with Common Values. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 775; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 27. **PR** No Charge. **JE** 026. **KW** Bargaining. Asymmetric Information. Bayesian Equilibrium. Trading.

AB This paper examines a bargaining model with asymmetric information in which the private valuations of the two bargaining agents are correlated. It shows that equilibria in such models typically exhibit a significant probability of a significant delay to agreement. The paper characterizes the unique perfect Bayesian equilibrium to the game in which an uninformed buyer makes offers to a privately informed seller. It also shows, by example, that in this framework bargainers may rationally break off negotiations even in the presence of commonly known gains from trade.

Vines, David

PD August 1988. **TI** Technical Progress, Global Imbalances, and World Economic Recovery Without Inflation. **AA** University of Glasgow. **SR** Centre for Economic Policy Research Discussion Paper: 264; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 38. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 431, 432, 621, 411, 112. **KW** International Monetary System. Technological Progress. Financial Instability. World Economy.

AB This paper reviews three problems of the world economy since the collapse of the Bretton Woods system; an unreliable price mechanism, spending imbalances between countries, and increased technological competition. It argues that the third phenomenon is the most fundamental and creates potential global instability. A model, stemming from Hicks's paper 'The Long Run Dollar Problem', is deployed to examine this question. We consider a world of two regions -- 'Asia' and the 'North' -- in which technical progress is rapid in Asia. In the case of export-biased productivity growth there are cheaper imports and almost no adjustment problems for the North. With import-biased technical progress in Asia, however, the North's wages and spending must both be reduced. Reasons are advanced as to why, in principle, the adjustment of wages and spending might not be forthcoming. I consider whether foreign investment might assist the adjustment process, but conclude that "adjustment processes do not work very well in the present world". This fact is used to suggest an explanation of present instabilities in world currency and financial markets.

TI Output, Inflation and Commodity Prices. **AU** Moutos, Thomas; Vines, David.

Vishny, Robert

TI Industrialization and the Big Push. **AU** Murphy, Kevin; Shleifer, Andrei; Vishny, Robert.

TI Income Distribution, Market Size, and Industrialization. **AU** Murphy, Kevin; Shleifer, Andrei; Vishny, Robert.

Vishwanath, Tara

PD August 1987. **TI** Optimal Orderings for Parallel Search. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 756; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 30. **PR** No Charge. **JE** 026, 022, 511. **KW** Sequential Game. Search Theory. Decision Theory.

AB This paper analyzes the optimal sequential strategy in a parallel search problem arising in many economic situations. A decision maker has a finite number n of activities or projects, each yielding an unknown reward at an uncertain time. Several m (< n) projects may be undertaken in parallel (simultaneously), and the projects may be selected sequentially in any order desired. Optimal strategies, which maximize the expected discounted utility of the rewards obtained, are in general complex to determine. We present general conditions in terms of risk and stochastic ordering of the distributions associated with projects, which results in simple optimal rules.

Vogelsang, I.

PD February 1988. **TI** Price Cap Regulation of Telecommunications Services: A Long-Run Approach. **AA** The Rand Corporation. **SR** Rand Note: N-2704-MF; The Rand Corporation, 1700 Main Street, PO Box 2138, Santa Monica, CA 90406-2138. **PG** 34. **PR** No Charge. **JE** 612, 613. **KW** Regulation. Price Ceiling. Telephone.

AB The United States Federal Communications Commission has initiated a discussion about the possible use of price caps to replace rate-of-return regulation for telecommunications services. As part of that discussion, this note offers a price cap process based on profits, unlike the price caps currently under discussion, and on a process previously designed by the author. The note considers the importance of two sometimes overlooked issues: efficient allocation of prices, and long-term conditions including formula adjustments over time. The author argues that his process would lead to the achievement of Ramsey prices and two-part tariffs, and at lower-than-current costs. An outline of proofs is provided.

von Weizsacker, Robert

PD August 1988. **TI** Demographic Change and Income Distribution. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-180; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 12. **PR** No Charge. **JE** 841, 915, 322. **KW** Income Distribution. Income Inequality. Demographics. Life Cycle Model. Pensions. Government Policy.

AB Starting from a simple, descriptive life-cycle model of individual income, an explicit link between the age composition of a population and the personal distribution of incomes is established. Demographic effects on income inequality are derived. Next, two income maintenance programs are introduced: a redistributive tax-transfer scheme and a pay-as-you-go financed state pension system. The resulting government budget constraints entail interrelations between fiscal and demographic variables, causing an additional, indirect demographic impact on the distribution. This is shown not only to change, but in some cases even to reverse the distributional incidence of demographic trends. Several policy conflicts arise.

von zur Muehlen, Peter

TI On a Problem in Identifying Linear Parametric Models. **AU** Swamy, P. A. V. B.; von zur Muehlen, Peter.

Vuong, Quang H.

PD October 1986. **TI** Cramer-Rao Bounds for Misspecified Models. **AA** California Institute of Technology. **SR** Caltech Social Science Working Paper: 652; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 38. **PR** No Charge. **JE** 211, 212. **KW** Cramer-Rao Bounds. Misspecified Models. Unbiased Estimators. Gauss-Markov Theorem. Covariance Matrix.

AB In this paper, we derive some lower bounds of the Cramer-Rao type for the covariance matrix of any unbiased estimator of the pseudo-true parameters in a parametric model that may be misspecified. We obtain some lower bounds when the true distribution belongs either to a parametric model that may differ from the specified parametric model or to the class of all distributions with respect to which the model is regular. As an illustration, we apply our results to the normal linear regression model. In particular, we extend the Gauss-Markov

Theorem by showing that the OLS estimator has minimum variance in the entire class of unbiased estimators of the pseudo-true parameters when the mean and the distribution of the errors are both misspecified.

Wajid, Khalid S.

PD December 1988. **TI** Testing for Global Linkages From Sectoral Integration. **AU** Wajid, Khalid S.; Sheffrin, Steven M. **AA** Wajid: Board of Governors of the Federal Reserve. Sheffrin: University of California at Davis. **SR** University of California at Davis Research Program in Applied Macro and Macro Policy: 59; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 34. **PR** No Charge. **JE** 442, 423, 133. **KW** Open Economy Model. Business Cycles. Production Shocks. World Economy.

AB This paper tests the view, offered by Swoboda, that global business cycle activity arises in part from production shocks to global industries. This theory is related to recent global models of real business cycles. Using aggregate OECD data on production indices, this theory is tested in several different ways. First, we present evidence on the interdependence of transnational industrial sectors. Second, we explore the relations between GDP for OECD countries and global production shocks. We consistently find support for the view that global industrial shocks have independent effects on the GDPs of OECD countries.

Ware, Roger

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

Webb, Michael

TI On Negotiated Quotas, Tariffs, and Transfers. **AU** Copeland, Brian; Tower, Edward; Webb, Michael.

Weir, David R.

TI Structural Change in Life Cycle Fertility During the Fertility Transition: France Before and After the Revolution of 1789. **AU** Mroz, Thomas; Weir, David R.

Weiss, Andrew

TI Banks as Social Accountants and Screening Devices for the Allocation of Credit. **AU** Stiglitz, Joseph; Weiss, Andrew.

Weitzman, Martin

TI A Proposal for Using Incentive Pre-commitments in Public Enterprise Funding. **AU** Sah, Raaj Kumar; Weitzman, Martin.

Wendell, Richard

TI Sensitivity Analysis in Minisum Facility Location Problems. **AU** Labbe, Martine; Thisse, Jacques Francois; Wendell, Richard.

Weskamp, Anita

PD October 1988. **TI** Incentive Compatible Credit Contracts of a Two-Product Firm. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-202; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 81. **PR** No Charge. **JE** 315, 311. **KW** Credit Contracts. Control Strategy. Bankruptcy. Debt Contract.

AB In a recent paper D. Gale and M. Hellwig (1985) have shown that costly ex post verification by creditors may explain the frequent use of credit contracts with a fixed repayment value and a bankruptcy clause. Their analysis starts from the assumption that the creditor may choose to control the whole firm or nothing at all. In reality, bankruptcy implies that a long list of inputs, outputs, machinery and real estate is controlled and finally sold. Hence, this paper investigates whether the "all or nothing" control strategy implied by a standard debt contract is optimal given that partial control is admissible. The results indicate that in general this is not the case. Instead, there exists a class of weakly dominating contracts, which includes the standard debt contract but which contains a much larger set of contracts. It will be shown that all these contracts exhibit some of the properties of the standard debt contract.

West, Kenneth D.

PD June 1988. **TI** The Sources of Fluctuations in Aggregate Inventories and GNP. **AA** Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 139; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 44. **PR** No Charge. **JE** 131, 133. **KW** Inventories. Demand Shocks. Business Cycle. Fluctuations. Cost Shocks.

AB A simple real linear-quadratic inventory model is used to determine how cost and demand shocks interacted to cause fluctuations in aggregate GNP and inventories in the United States, 1947-1986. It is found that cost shocks are the predominant source of fluctuations in inventories, and are largely responsible for the well known fact that Gross National Product is more variable than final sales. Cost and demand shocks are of roughly equal importance for GNP. Inventories and GNP each display hump shaped responses to cost and demand shocks, with the peak effect occurring about four quarters out.

PD June 1988. **TI** Evidence from Seven Countries on Whether Inventories Smooth Aggregate Output. **AA** Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 140; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 28. **PR** No Charge. **JE** 122, 131, 133, 023, 611. **KW** Inventories. Developed Countries. Demand Shocks.

AB Casual examination of annual postwar data on inventories and aggregate output for seven developed countries -- Canada, France, West Germany, Italy, Japan, United Kingdom, United States -- suggests that in these countries the primary function of aggregate inventories is not to smooth aggregate output in the face of aggregate demand shocks. Japan is a possible exception to this generalization.

White, Halbert

PD August 1988. **TI** A Consistent Model Selection Procedure Based on m-Testing. **AA** University of California, San Diego. **SR** University of California at San Diego Department of Economics Discussion Paper: 88-46; Department of Economics, D-008, University of California at San Diego, La Jolla, CA 92093. **PR** $2.00; checks payable to University of California at Regents. **JE** 212, 211. **KW** Specification Tests. Model Selection. m-Tests.

Congruency.
AB Empirical research progresses by formulating one or more theoretical models to explain an observable phenomenon, comparing the predictions of the models to observations on the phenomenon (a process which often involves statistical estimation to resolve details left unspecified by the model) and then rejecting or retaining a particular model based on these comparisons. The purpose of this paper is to present a formal treatment of such a process in a context which although by no means universal is nevertheless relevant to econometric practice. We build on recent work of Hendry and Richard '1982(and Hendry '1987(for arriving at a "congruent" model, i.e. a model correctly specified in a number of precise ways. Our approach is based on the m-tests of Newey '1985(and Tauchen '1985(; we propose a model selection procedure which selects one or more models meeting particular specification requirements with probability approaching one, and which also rejects models not possessing these with probability approaching one, as the number of observations tends to infinity. Such a model selection procedure is said to be "consistent".

TI Multi-Layer Feedforward Networks are Universal Approximators. **AU** Hornik, Kurt; Stinchcombe, Maxwell; White, Halbert.

Wigmore, Barrie A.

TI The End of One Big Deflation. **AU** Temin, Peter; Wigmore, Barrie A.

Wildasin, David E.

PD July 1988. **TI** Market Failure in a Credit-Rationed Economy. **AA** Indiana University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-198; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 26. **PR** No Charge. **JE** 313, 315, 311, 323, 021. **KW** Credit Markets. Market Failure. Government Policy. General Equilibrium. Credit Rationing. Taxes.
AB This paper studies a simple two-period general equilibrium model of a competitive economy with endogenous "Type one" credit rationing. It is shown that an equilibrium will generally not be efficient, in the absence of corrective policies. The nature of the market failure, and of optimal government policy, is then examined. Underinvestment in individual firms can be corrected by interest subsidies or similar instruments, while taxes are needed to penalize excessive levels of default that would otherwise occur in equilibrium. These policies are interpretable in the spirit of Pigovian taxes and subsidies.

Williams, Steven R.

PD February 1988. **TI** Efficiency in Partnership When the Joint Output is Uncertain. **AU** Williams, Steven; Radner, Roy. **AA** Williams: Northwestern University. Radner: AT&T Bell Laboratories. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 760; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60201. **PG** 38. **PR** No Charge. **JE** 022, 026, 511, 514. **KW** Partnership. Moral Hazard. Nash Equilibrium. Uncertainty.
AB This paper concerns a model of partnership in which each partner privately chooses his input into a joint production process. The partners' inputs determine a probability distribution over a finite set of alternative output levels. Each partner's utility is the difference between his share of the output and the disutility of his input contribution; the partners are therefore risk neutral. Earlier work suggests that because of moral hazard, there cannot exist rules for fully sharing the joint output that sustain the Pareto optimal inputs as a Nash equilibrium. Our results are more positive. We show that in a generic problem, the corresponding first order conditions are solvable because uncertainty makes the budget constraint non-binding in the first order analysis. This allows us to construct examples in which moral hazard is overcome purely through the choice of the compensation scheme. The results are extended to a case in which the set of output levels is a continuum, and the case of risk aversion is also discussed.

PD February 1988. **TI** Informational Externalities and the Scope of Efficient Dominant Strategy Mechanisms. **AU** Williams, Steven; Radner, Roy. **AA** Williams: Northwestern University. Radner: AT&T Bell Laboratories. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 761; Managerial Economics and Decisions Sciences, Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan R Road, Evanston, IL 60201. **PG** 23. **PR** No Charge. **JE** 025, 026, 024. **KW** Private Information. Social Choice. Externalities.
AB This paper concerns a group choice model in which efficient choice requires the revelation of at least some of the group members' private information. A mechanism is a game that determines the group choice and transfer payments from the headquarters to each member as functions of the members' messages to headquarters. Each member's utility is the sum of a direct payoff from the group choice plus the transfer payment from the headquarters. A mechanism is dominant if it implements efficient choice in dominant strategies. Informational externalities exist when the direct payoff to one member depends upon information that is privately held by other members. This paper examines the effect of informational externalities upon the existence of dominant mechanisms. In particular, the impact of informational externalities upon the Groves mechanisms is studied.

PD August 1988. **TI** The Nature of Equilibria in the Buyer's Bid Double Auction. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Discussion Paper: 793; J. L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 52. **PR** No Charge. **JE** 022, 026. **KW** Auctions. Bayesian Game. Trading. Incentives. Private Information.
AB If a trader privately knows his own preferences, then he may choose to misrepresent the value that he places upon the good being traded in order to influence the market price in his favor. This misrepresentation may make the outcome of trade inefficient. As a market grows larger, a trader's ability to influence the market price diminishes; he loses his incentive to misrepresent and the market becomes more efficient. This intuitive argument is analyzed here by investigating a Bayesian game model of the buyer's bid double auction, which is a particular procedure for selecting a market-clearing price from a list of offers/bids. The existence of equilibria is proven in a generic instance of the model, and the nature of these equilibria is analyzed in markets of different sizes.

Wise, David A.

TI Pensions, The Option Value of Work, and Retirement. **AU** Stock, James; Wise, David A.

Witte, Ann D.

TI An Empirical Assessment of Alternative Models of Risky Decision Making. **AU** Lattimore, Pamela; Witte, Ann D.; Baker, Joanna.

Wolfe, Barbara

TI Labor and Transfer Incomes and Older Women's Work: Estimates from the United States. **AU** de Jong, Philip; Haveman, Robert; Wolfe, Barbara.

Wolsey, Laurence

TI Solving Multi-Item Lot-Sizing Problems Using Strong Cutting Planes. **AU** Pochet, Yves; Wolsey, Laurence.

Wooldridge, Jeffrey M.

PD November 1988. **TI** A Unified Approach to Robust, Regression-Based Specification Tests. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 480R; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 45. **PR** No Charge. **JE** 211, 212. **KW** Dynamic Models. Robustness. Asymptotic Theory. Specification Tests.

AB This paper develops a general approach to robust, regression-based specification tests for (possibly) dynamic econometric models. The key feature of the proposed tests is that, in addition to estimation under the null hypothesis, computation requires only a matrix linear least squares regression and then an ordinary least squares regression similar to those employed in popular nonrobust tests. For the leading cases of conditional mean and/or conditional variance tests, the proposed statistics are robust to departures from distributional assumptions that are not being tested. Moreover, the statistics can be computed using any square root(T)-consistent estimator, resulting in significant simplifications in some otherwise difficult contexts.

TI Quasi-Maximum Likelihood Estimation of Dynamic Models with Time/Varying Covariances. **AU** Bollerslev, Tim; Wooldridge, Jeffrey M.

Yeung, David

TI Explaining Current Exhaustible Resource Prices with CAPM. **AU** Hartwick, John M.; Yeung, David.

Zaman, Asad

PD March 1988. **TI** Consistency Via Type 2 Inequalities: A Generalization of Wu's Theorem. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 379; Department of Economics, Columbia University, New York, NY 10027. **PG** 17. **PR** $5.00. **JE** 211. **KW** Nonlinear Regression. Least Squares. Nonlinear Model.

AB Wu (1981) introduced a new technique for proving consistency of least squares estimators in nonlinear regression. This paper extends his results in three directions. First, we consider the minimization of arbitrary functions (M-estimators instead of least squares). Second we use an improved type 2 inequality. Third, an extension of Kronecker's lemma yields a more powerful result.

PD March 1988. **TI** An Elementary Introduction to Invariance in Linear Regression Models. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 381; Department of Economics, Columbia University, New York, NY 10027. **PG** 28. **PR** $5.00. **JE** 210, 211. **KW** Invariance. Regression Model. Econometrics.

AB An exposition of the theory of invariance at the level of a first year graduate econometrics course is presented. We prove that the usual estimation and testing procedures in standard regression models are best invariant.

Zilcha, Itzhak

TI Sensitivity of Bargaining Solutions to Risk Aversions. **AU** Safra, Zvi; Zilcha, Itzhak.