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 online through BRS. (Call 800–345–4277, or 518–783–1161 collect from overseas.)

Abreu, Dilip

PD July 1985. **TI** Extremal Equilibria of Oligopolistic Supergames. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1167; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 59. **PR** $3.50. **JE** 026. **KW** Oligopolistic Supergames. Optimal Punishments.

AB General propositions established in Abreu are applied to the analysis of optimal punishments and constrained Pareto optimal paths of symmetric oligopolistic supergames. A remarkably simple two-dimensional stick-and-carrot characterization of optimal symmetric punishments is obtained. An analogous result holds for the general case of asymmetric punishments, motivating the study of asymmetric Pareto optimal paths. The latter turn out to have a highly non-stationary dynamic structure which sometimes entail intertemporal reversals of relative payoffs between firms.

Adler, Moshe

PD July 1985. **TI** Trademarks in a Fraudless World, or Why Chain-Restaurants. **AA** Department of Economics, University of California, Davis. **SR** University of California at Davis Department of Economics Working Paper: 262; Department of Economics, University of California, Davis, CA 95616. **PG** 19. **PR** No Charge. **JE** 611. **KW** Industrial Organization. Chain Restaurants. Trademarks.

AB This paper explains the existence of restaurants that share a common trademark, i.e., chain-stores. The first part of the paper argues that the explanations given in the literature are incomplete. These explanations are based on the assumption that at least some sellers would commit fraud if buyers could not retaliate. The second part of the paper provides an alternative explanation that does not depend on fraud. The key element in this paper is consumer's preference. Given a large choice of restaurants, a consumer prefers eating more than once at each of a smaller number of restaurants, rather than just once at a larger number of restaurants. The reason that consumers prefer to specialize in consumption is that tastes need to be developed. Consumers are mobile and do not do all their restaurant-eating throughout their lives in just one neighborhood. Trying a new restaurant each and every time a person is even just a short distance away from home, could be tiring. When away from home a consumer might at times prefer a restaurant that offers familiar food. If the consumptive sets of all consumers had a common subset, each consumer could find a restaurant that she will surely like, wherever she might be. The integrated restaurants (chain-restaurants) form this subset. The fundamental theoretical result of this paper can be summarized as follows. Chain-stores could exist even if all agents are "honest" and sellers do not cheat. Without the law that protects trademarks there might be more chain-stores, not less, since the existence of consumption capital makes brand-names attractive even where performance can be costlessly assured. The attraction of a common brand-name might lie solely in the technology of consumption, without any need to assure performance.

PD August 1985. **TI** Farm Foreclosures Moratorium Legislation: What is the Lesson from the Past?. **AU** Adler, Moshe; Chamberlain, Jay. **AA** Department of Economics, University of California, Davis. **SR** University of California at Davis Department of Economics Working Paper: 263; Department of Economics, University of California, Davis, CA 95616. **PG** 8. **PR** No Charge. **JE** 042, 713. **KW** Farm. Foreclosure. Moratorium.

AB In this comment we expand the model used by Lee Alston in his paper "Farm Foreclosure Moratorium Legislation: A Lesson from the Past," and we show that the conclusion reached by Alston, in particular that foreclosure moratorium legislation reduces the supply of loans, is not warranted by a full consideration of his model. Alston's paper is split into two parts. In the first section he develops a political model for the causes of foreclosure moratorium legislation, and in the second section he develops a model for the market for loans and then tests the effects of moratorium legislation on the supply of loans. The present paper brings these two sections together. We include in the model of the market for loans the economic factor which Alston determined was a primary cause of foreclosure moratorium legislation; i.e. the rate of farm foreclosures. Since the rate of farm foreclosures is a measure of the risk facing credit suppliers it should be included in the model of the credit market. Our results show that when the rate of farm foreclosures is included in the reduced form equations for the credit market, the rate of farm foreclosures has a statistically significant effect on the supply of loans and that foreclosure moratorium legislation has a smaller (than Alston's original estimate) and statistically insignificant effect on the supply of loans. We conclude, therefore, that Alston's conclusion that the moratorium legislation has a negative effect on the supply of loans is unwarranted since moratorium legislation may just be acting as a proxy for the rate of farm foreclosures.

Admati, Anat R.

PD September 1985. **TI** Information in Financial Markets: The Rational Expectations Approach. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 836; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 18. **PR** No Charge. **JE** 022, 026, 522, 313. **KW** Financial Markets. Information. Rational Expectations Equilibrium.

AB This paper surveys some recent developments in the theory of rational expectations equilibrium under asymmetric information and its applications to financial economics. The focus is on models that are appropriate for applications. The paper includes a brief review of the concept of a rational expectations equilibrium, a discussion of fully revealing equilibria and their accompanying paradoxes, noisy rational expectations equilibrium models and applications to analyses of volume of trading, performance measurement, insider trading, and the provision and dissemination of public and private information in financial markets.

Akhtar, M. A.

PD May 1984. **TI** Exchange Rate Uncertainty and International Trade: Some Conceptual Issues and New Estimates for Germany and The United States. **AU** Akhtar, M. A.; Hilton, R. Spence. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8403; Research Papers Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. **PG** 78. **PR** No Charge. **JE** 411. **KW** Exchange Rates. International Trade.

AB In this paper, we attempt to clarify some of the issues concerning the nature of exchange rate uncertainty and its effects on international trade as well as provide some fresh empirical results. The results of our research suggest that exchange rate uncertainty has had a significant impact on the volume of international trade. This conclusion is based on an empirical examination of aggregate manufacturing trade of Germany and the United States during the floating rate era through 1981. Moreover, based on the analysis presented, we believe that the empirical results of any study, including this one, which uses exchange variability as a proxy for uncertainty are likely to understate the total effect of exchange rate uncertainty on international trade.

PD September 1984. **TI** Some Features of Financial Asset Accumulation in the United States. **AU** Akhtar, M. A.; Frydl, Edward J. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8412; Research Papers, Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. **PG** 33. **PR** No Charge. **JE** 313, 315, 134. **KW** Financial Asset Accumulation. Inflation. Risk due to real factors. Financial Innovation. Deregulation.

AB This paper examines the major forces influencing the pattern of financial asset accumulation by the household sector. Since the late 1960s, a number of factors have greatly altered the financial environment. Particularly important among them are increased inflation, increased risk due to real factors, financial innovation and deregulation, and the rapid application of new technology to the financial sector. These factors have favored, on balance, the acquisition of tangible assets -- e.g., houses and real estate -- and of financial instruments issued by intermediaries; the share of those assets in household portfolios rose considerably over the 1970s. At the same time, however, the new financial environment has worked against the accumulation of corporate equities which accounted for only 17 percent of household financial assets in recent years, compared with 32 percent in the late 1960s.

PD October 1984. **TI** Financial Innovations and the Interest Elasticity of Private Expenditures. **AU** Akhtar, M. A.; Dennis, Geoffrey E. J. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8422; Research Papers, Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. **PG** 38. **PR** No Charge. **JE** 310. **KW** Interest Rates. Financial Innovation. Deregulation. Interest Sensitivity.

AB This paper deals with the effect of interest rates on the real economy in a changing financial environment. It covers three specific topics. First, we argue that for a number of reasons financial innovation and deregulation tend to increase the sensitivity of private demand to interest rates. Second, using data from the seven largest industrial countries, we provide some empirical evidence in support of this increased interest sensitivity. Finally, our empirical analysis indicates substantial interest rate effects on economic activity and yields broadly similar interest elasticities for most countries.

Alogoskoufis, George S.

PD August 1985. **TI** Intertemporal Substitution and Labour Supply with Time Separable Preferences. **AA** Birkbeck College. **SR** London School of Economics, Centre for Labour Economics Discussion Paper: 227; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PR** No Charge. **JE** 824. **KW** Wages. Employment. Interest Rate. United States of America.

AB In this paper I derive, estimate and test, for postwar United States time series, an aggregate labour supply function consistent with the intertemporal substitution hypothesis. The resulting equation fits the data quite well, and the coefficients have the predicted signs, but some of the overidentifying restrictions are rejected and there is evidence of time varying parameters. Nevertheless, the evidence presented is far more favourable to intertemporal substitution than other recent evidence for the United States. The labour supply elasticity with respect to temporary changes in real wages is found to be around 1.5. A comparison with other time series studies indicates that this could be a more reliable estimate of its order of magnitude.

Anant, T. C. A.

PD August 1983. **TI** Dynamic Optimization with a Non-Convex Technology: Determination of Critical Stocks. **AU** Anant, T. C. A.; Sharma, Sunil. **AA** Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 329; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 26. **PR** No Charge. **JE** 721. **KW** Critical Stock Value. Irreversible Investment. Resources. Dynamic Optimization.

AB Clark (1971) studied economically optimal policies for management of biologically renewable resources subject to non-concave production technologies. The exercise involved the maximization of a linear function on a non-convex set in the linear space of all bounded real sequences. In that paper, Clark conjectured the existence of a critical resource stock, such that the behavior of economically optimal programs would be determined by the position of the initial stock relative to this critical stock. If the initial stock is less than this critical value, an extinction policy is optimal, and if the initial stock is greater than the critical value a regeneration policy is optimal. For policy analysis, it is necessary that we are able to determine the value of the critical stock and its sensitivity to policy parameters such as the interest rate. In this paper we consider the problem of determining the critical stock in a continuous time framework with irreversible investment.

PD August 1985. **TI** Bayesian Analysis of the Specification of Simultaneous Equations Models. **AU** Anant, T. C. A.; Kiefer, Nicholas M. **AA** Anant: Michigan State University. Kiefer: Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 341; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 35. **PR** No Charge. **JE** 211. **KW** Prior Distribution. Exclusionary Restrictions. Identification. Stochastic Restrictions. Posterior Odds Ratio.

AB In this paper we develop the use of stochastic restrictions, in the form of a proper prior distribution, in place of exclusion on the parameters of a single equation to identify the parameters of that equation. Such restrictions are adequate to identify the parameters of that equation. Such restrictions are adequate to identify the equation if the prior information dominates the likelihood so as to yield a proper posterior density. The prior is chosen so as to be symmetric around zero reflecting our belief the exclusion is a good approximation of reality.

Artus, Patrick

PD Mai 1985. **TI** Dynamique de L'investissement Avec Couts D'ajustement Contrainte de Debouches et D'investissement. **AU** Artus, Patrick; Mignus, B. **SR** Unite de Recherche, Document de Travail Ensae/insee: 8505; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, France. **PG** 85. **PR** No Charge. **JE** 522, 022. **KW** Investment Adjustment.

AB In this paper, the paths of capital stock and production chosen by a profit maximising firm subject to adjustment costs and constraints on the expected level of sales or on the maximum possible level of investment are explicitly determined with an infinite time horizon. The firm expects to switch from one regime to another in an optimal way, and calculates the optimal date at which production is expected to equal sales or investment to equal the maximum possible investment. After having been constructed, the different models are estimated on French quarterly data.

PD Janvier 1985. **TI** Les Depenses Publiques et Leur Mode de Financement en Economie Ouverte Avec Changes Flexibles: Efficacite et Stabilite de L'Economie. **SR** Unite de Recherche, Document de Travail Ensae/insee: 8502; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, France. **PG** 46. **PR** No Charge. **JE** 322. **KW** Public Expenditures. Flexible Exchange Rates. Open Economy.

AB In this article, a dynamic model for an open economy with flexible exchange rates is developed and used to study the efficiency of an increase in public expenditures in the long run, according to the way it is financed, and its long term effect on prices. The stability of the economy in the different cases is also analysed in relation to the sensitivity of investment with respect to interest rates and to the degree of price rigidity.

Asher, Mukul G.

PD August 12, 1985. **TI** Forced Saving to Finance Merit Goods: An Economic Analysis of the Central Provident Fund Scheme of Singapore. **AA** Department of Economics and Statistics, National University of Singapore. **SR** Australian National University Centre for Research on Federal Financial Relations, Occasional Paper: 36; Centre for Research on Federal Financial Relations, Copland Building, The Australian National University, GPO Box 4, Canberra ACT 2600, AUSTRALIA. **PG** 47. **PR** No Charge. **JE** 915, 320. **KW** Social Security. Singapore. Provident Fund.

AB The Central Provident Fund (CPF) Scheme of Singapore is an attempt to use earmarked forced savings to finance merit goods such as provision for old age, housing and medical care. The study describes the evolution of the Scheme; and analyses probable effects of the Scheme on stabilisation, growth, allocation, equity and social adequacy. It also briefly outlines possible options for the future. The analysis suggests that maintenance of full employment with low inflation, relative stability in the international monetary system, and conservative investment of CPF balances are necessary for the viability of the Scheme. It also suggests that, following projected demographic changes and as social values and concepts come to resemble those prevailing in affluent societies, issues relating to the social adequacy of the Scheme may be expected to become more important. Under these circumstances, the basic premises of the CPF Scheme, especially implied opposition to even a minimum social insurance scheme, may come under increasing pressure.

Aubertin, Pascal

TI A Comparative Study of the Inter-industry Determinants and Economic Performance of Foreign Direct Investments in France and Canada. **AU** Owen, Robert F.; Aubertin, Pascal.

Auerbach, Paul

PD July 1985. **TI** Theories of Monopoly Capital - A Critique. **AU** Auerbach, Paul; Skott, Peter. **AA** Auerbach: Kingston Polytechnic. Skott: University of Copenhagen and University College London. **SR** University College London Discussion Paper: 85-19; Department of Political Economy, University College London, Gower Street, London WC1E 6BT. **PG** 38. **PR** No Charge. **JE** 023, 051, 611. **KW** Degree of Monopoly. Observed Profitability. Causality. Dynamics. Market Delineation. Evolution of Management.

AB The paper argues that 1. Contrary to the claims of the theory of monopoly capital, the level of competition has had a tendency to increase under capitalism due to the lowering of the costs of transport and communications, the development and dispersion of the techniques of business calculation and the increase in the quantity and quality of business information. 2. The theory of monopoly capital is based on a questionable causal interpretation of a static equilibrium relation. Furthermore, the theory is inconsistent with the observed decline in profitability in the United Kingdom, which it attempts to explain.

Avery, Robert B.

PD September 1984. **TI** A Dynamic Analysis of Bank Failure. **AU** Avery, Robert B.; Hanweck, Gerald A. **AA** Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 74; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 39. **PR** No Charge. **JE** 312. **KW** Bank Failure. Deposit Insurance.

AB Most of the studies of bank failure have considered only those financial ratios that appear to be important in determining failure in a static context. In other words, they have focused on the question of which factors would raise or lower the probability of failure if they were to be permanently sustained at some specified level. This approach portrays bank and bank regulator behavior as being unadaptive in the sense that once a problem is recognized banks and their regulators do not respond to correct it. This approach also ignores the role previous experience plays in determining a bank's ability to weather adversity. Part of the reason for this stems from the empirical methods used in quantifying failure models. Bank failure is a rare event and long time intervals are required to ensure a sufficient number of sample failures. This creates problems in how to treat independent variables -- such as Report of Condition and Income data -- which vary time if static cross-sectional estimation procedures such as discriminant analysis are used. The approach taken in this study allows for a much more general treatment of independent variables. This is made possible by the use of a multivariate failure time statistical model which examines the dynamic relationship between various financial ratios and the probability of failure. Issues addressed include, for example, whether sudden drops in earnings have a more pronounced impact on failure than gradual declines. The study also examines the specific timing of failure and its relationship to both current and lagged balance sheet data. Unlike previous studies, we also examine the impact of local economic variables on bank failure.

PD June 1985. **TI** An Analysis of Risk-Based Deposit Insurance For Commercial Banks. **AU** Avery, Robert B.; Hanweck, Gerald A.; Kwast, Myron L. **AA** Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 79; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 34. **PR** No Charge. **JE** 312. **KW** Deposit Insurance. Risk-based Insurance.

AB The purpose of this paper is to design and estimate an operationally feasible system of risk-based deposit insurance for commercial banks. The risk-based system developed is based on a two-part formula made up of statistical estimates of (1) the probability of bank failure and of (2) the FDIC's actual costs when banks fail. All premiums are based on publicly available data. The estimated risk-based system, as it would have existed in 1984, divides banks into three distinct groups. First, some 85 percent of all banks are estimated to pay a lower insurance premium under the proposed system. Second, some 14 percent of all banks would pay higher premiums ranging from 8.3 to 100 basis points of total domestic deposits. This range of 92 basis points appears to be wide enough both to provide a strong incentive to alter current risk taking behavior by banks and to deter excessive risk taking in the future. Third, one percent of all banks would pay a premium of 100 basis points or more of total domestic deposits. While the future possibility of paying premiums of this size would likely help to deter banks from behavior which might put them in such a high premium category, special procedures might be needed for banks that in fact should be charged such premiums. Such procedures could include deferred premium payment coupled with stringent current supervisory actions.

Barsky, Robert B.

PD July 1985. **TI** Gibson's Paradox and the Gold Standard. **AU** Barsky, Robert B.; Summers, Lawrence H. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1175; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 35. **PR** $2.75. **JE** 023, 041, 311. **KW** Gibson Paradox. Gold Price. Real Interest Rate. Gold Standard.

AB This paper offers a new approach to the Gibson paradox. Noting the coincidence of the Gibson Paradox observation and the gold standard period, we see the Gibson correlation as a natural concomitant of a monetary standard based on a durable commodity. Our theoretical explanation revolves around the essential nature of a metallic standard. Since the authorities peg the nominal price of gold at a constant, the general price level is the reciprocal of the price of gold in terms of goods. Thus, determination of the general price level amounts to the microeconomic problem of determining the relative price of gold. Following treatments of the gold standard by Friedman (1953), and Barro (1979), we focus on the demand for gold in its real, as well as its monetary, uses.

Using a perfect foresight version of the model of Barro (1979), we are able to demonstrate that if (as in Wicksell and Keynes) innovations in the productivity of capital are an important exogenous disturbance, there will be a negative equilibrium relationship between the relative price of gold and the real interest rate, giving rise to Gibson's Paradox.

Barzelay, Michael

PD October 1985. **TI** The Spanish State of the Autonomies: Architectonics and Public Management in a New Decentralized Democracy. **AA** Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 140D; J. F. Kennedy School of Government, Harvard University, 79 JFK Street, Cambridge, MA 02138. **PG** 22. **PR** No Charge. **JE** 122, 123. **KW** Spain. Autonomous Communities. Political Institutional Building. Public Management.

AB In an effort to strengthen Spain's new democracy, the framers of the 1978 Constitution devised formal mechanisms that would allow the State to grant some autonomy to its regions. These mechanisms were principally designed to accommodate the nationalist sentiments and autonomist demands of Spain's most developed regions: Catalonia and the Basque Country. The cultural distinctiveness and political aspirations of these regions had been firmly repressed under Franco. To the surprise of many observers, the opportunities for gaining some political and administrative autonomy were soon exploited not only by Catalonia and the Basque Country, but also by regions such as Andalusia where the basis for autonomist sentiments is essentially non-nationalist. As a consequence of these widespread autonomist demands, the central government within a few years approved a series of statutes establishing 17 Autonomous Communities which together cover peninsular Spain and the islands. The process of building politico-administrative institutions in the Autonomous Communities is now under way. This paper is a preface to the study of that process. After sketching the origins of the current territorial organisation of authority, I enumerate the centralizing and decentralizing institutions and symbols embedded in the current political order. The final section describes some techniques being employed in the Autonomous Communities of Andalusia and Valencia to meet the challenge of building and managing the institutions of Spain's new decentralized democracy.

Baudier, E.

PD January 1985. **TI** Jeux Coherents (Coherent Games). **AA** CEPREMAP. **SR** CEPREMAP Discussion Papers: 8512; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, France. **PG** 50. **PR** 10 FF. **JE** 026. **KW** Coherent Games.

AB A game is a binary relation between the subsets of two sets (first set: the players, second set: the alternatives). A coherent game has the following property: for any collection of n couples (a couple consisting of a coalition of players and of one strategy) satisfying the game relation there exists one player which belongs to h coalitions and one alternative which belongs to k strategies with $h + k > - n + 1$. It is shown that a coherent game has a non empty core whatever are the players preferences. A generalization of the concept of coherent game is proposed for the case in which additional assumptions are made concerning the players preferences (upper semi continuous, monotonic, & quasi concave for instance).

Baybars, Ilker

PD May 1985. **TI** Importance of Marginal Costs in Inventory Models. **AU** Baybars, Ilker; Bogaert, Frank; Hirsch, Gary; Kekre, Sunder. **AA** Graduate School of Industrial Administration, Carnegie-Mellon University. **SR** Carnegie-Mellon GSIA Working Paper Series: 43; Graduate School of Industrial Administration, Carnegie-Mellon University, Schenley Park, Pittsburgh, PA 15213. **PR** No Charge. **JE** 022. **KW** Inventory Models. Marginal Costs.

AB Often inventory models are applied without examining the nature of the cost parameters imbedded in the models. In this paper, we briefly examine some important factors in determining the cost parameters to be used in the two basic inventory models--Economic Order Quantity (EOQ) and Part-Period Balancing (PPB) models. After a quick review of the models, a more general form of the classical EOQ model is derived, which shows the importance of the use of marginal costs. We then highlight some issues useful in determining the marginal setup costs and the marginal holding costs.

PD May 1985. **TI** Batching and Capacity Models for Metered Flow and Manufacturing Cells. **AU** Baybars, Ilker; Bogaert, Frank; Hirsch, Gary; Kekre, Sunder. **AA** Graduate School of Industrial Administration, Carnegie-Mellon University. **SR** Carnegie-Mellon GSIA Working Paper Series: 42; Graduate School of Industrial Administration, Carnegie-Mellon University, Schenley Park, Pittsburgh, PA 15213. **PR** No Charge. **JE** 022, 500. **KW** Batching and Capacity Models. Metered Flow and Manufacturing Cells. Batching. Capacity Decisions.

AB In this paper we present two models for batching and capacity decisions applicable to metered flow and manufacturing cells. The models use radically different assumptions concerning the behavior of supplied raw materials and removal of finished products. Both the models allow the user to determine the optimal operation time, through the computation of the marginal value of the capacity. First the Minimum Waiting Time model (MWT) is presented, which is a stochastic model. Then a deterministic model, the Full Load Economic Capacity model (FLEC), is developed. The latter model has interesting parallelisms with the classical Economic Order Quantity (EOQ) model. Finally, both models are contrasted by highlighting some characteristics.

Beach, Charles M.

PD October 1985. **TI** Structural Change in the Distribution of Unemployment Duration: Canada, 1978-82. **AU** Beach, Charles M.; Kaliski, S. F. **AA** Department of Economics, Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 629; Department of Economics, Queen's University, Kingston, Ontario, Canada K7L 3N6. **PG** 40. **PR** $2.50 Canada; $3.00 United States; $3.50 Foreign. **JE** 824, 813. **KW** Unemployment Duration.

https://doi.org/10.1017/S095100790000005X Published online by Cambridge University Press

Distribution of Unemployment. Unemployment Structure.
AB The paper empirically examines entire distributions of unemployment spells according to a novel duration-share approach based on decile shares and Lorenz curves of unemployment. The approach is applied to a Canadian micro-data source akin to the Work Experience Surveys for the United States. The data are adjusted for a number of biases present. When applied to the adjusted data, the approach reveals distinctive patterns of unemployment spell distributions by sex, age, education, and region. Cyclical changes in the distributions of unemployment spells are also examined over the period 1978-82. The major empirical findings are, first, considerable concentration of unemployment in long-duration spells; second, significant differences in the structure of unemployment spell distributions by sex, age, education, and region; and third, highly significant cyclical effects on the distribution of unemployment spells associated with the recent severe recession in 1982.

Becker, Charles

PD March 1985. **TI** Modeling Indian Migration and City Growth 1960-2000. **AU** Becker, Charles; Mills, Edwin; Williamson, Jeffrey G. **AA** Williamson: Department of Economics, Harvard University. Becker: Vanderbilt University. Mills: Princeton University. **SR** Harvard Institute for Economic Research Discussion Paper: 1138; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 35. **PR** $2.75. **JE** 941, 823, 121. **KW** Urbanization. Migration. Computable General Equilibrium Model. India.
AB This paper uses a multisectoral computable general equilibrium model of the Indian economy to assess the sources of city growth since the early 1960s. It reports the ability of the model to replicate Indian performance during the 1960s and 1970s, and projects city growth and immigration up to the year 2000. The sources of that growth performance are then analyzed by applying counterfactual analysis. The main sources which receive greatest attention are population growth, arable land scarcity, agricultural productivity advance, public investment in agriculture, productivity performance in manufacturing and world market conditions. The analysis helps answer the questions: Has India over-urbanized? What explains the city growth slowdown after the early 1960s?.

Belton, Terrence M.

PD August 1984. **TI** Long-Run Productive Efficiency in Competitive Industries with Demand Uncertainty. **AA** Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 73; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 26. **PR** No Charge. **JE** 022, 026. **KW** Perfect Competition. Demand Uncertainty. Productive Efficiency.
AB A model of the competitive firm under demand uncertainty is presented in which additional information on short-run demand is revealed to the firm following the entry decision. Using this model, the paper reexamines the conditions under which competitive firms achieve long-run productive efficiency under uncertainty and obtains some conflicting results of previous analyses as special cases. It can be seen that superior short-run information plays the role of a barrier to entry in the model. This results in equilibrium output levels which typically deviate from minimum-average-cost levels, but which, in certain cases, satisfy conditions for a type of ex-ante productive efficiency.

PD September 1984. **TI** A Model of Duopoly and Meeting or Beating Competition. **AA** Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 75; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 41. **PR** No Charge. **JE** 612, 022. **KW** Oligopoly Theory. Asymetric Information.
AB This paper analyses the use of "meeting and beating competition" clauses in duopoly markets. A differentiated-products, price-setting model is considered in which firms have the option of precommitting themselves to contracts which bind their own price to be some prespecified function of their competitor's price. Three sets of results on meeting and beating competition clauses are established within this framework. First, the analysis considers the conditions under which meeting competition clauses facilitate oligopoly coordination. Sufficient conditions are established under which meeting competition clauses raise prices above noncooperative levels, under which they result in collusive prices, and under which they might actually be procompetitive. Second, the analysis considers the optimal design of competitor-based price clauses when firms operate under complete information and when they operate under incomplete information on their competitor's technology. From the contracting firm's view-point, the outcome under an appropriately designed clause can be seen to weakly dominate the outcome it could expect from any other duopoly game. Under certain conditions, this outcome results in prices for both firms that exceed the prices in a Nash-Bertrand equilibrium and profit levels which are Pareto-efficient from the producers' point of view. Finally, the paper demonstrates how competitor-based price clauses can be used to price discriminate between consumers in markets where information on price is obtainable only at some cost. When a firm both commits itself to a price clause and posts a price, consumers who are uninformed about the competitors price will, under certain circumstances, be charged a higher price than the informed consumer. Thus, in some cases, competitor-based price clauses allow the contracting firm to segment the market and gain maximum monopoly profits from the uninformed consumers and maximum duopoly profits from the informed consumers.

Ben, Ner Avner

PD July 1985. **TI** Producer Cooperatives: Why do They Exist in Capitalist Economies?. **AA** Department of

Economics, University of Haifa, Israel. **SR** University of California at Davis Department of Economics Working Paper: 265; Department of Economics, University of California, Davis, CA 95616. **PG** 53. **PR** No Charge. **JE** 022, 053, 611. **KW** Cooperatives. Bargaining. Entrepreneurship. Firm Formation. Worker Buyouts. Producer Cooperatives.

AB The paper considers the formation of producer cooperatives (PCs). It is suggested that in a capitalist economy there exists a bias against the formation of PCs in that entrepreneurs will in general prefer to establish capitalist firms where they can appropriate profits to themselves, rather than establish PCs where they must share profits with others and bear higher costs of entrepreneurship. Nevertheless, there exist specific circumstances which tend to favor the establishment of PCs either as new firms or by conversion of capitalist firms. These circumstances include: support by PC-promoters, exercize of labor-market power by capitalist firms, threat of shutdown of capitalist firms in declining industries or during generalized recessions, dissatisfaction of workers with provision of workplace characteristics by capitalist firms, and, in general, superior performance by PCs relative to capitalist firms. The emergence of such circumstances may validate special advantageous features enjoyed by PCs and generate sufficient additional profits and welfare as to make PCs viable where capitalist firms are not, as well as to overcome the entrepreneurship problem, and consequently render PCs superior to capitalist firms. The special advantageous features of PCs stem mainly from the elimination of conflicts between owners and workers. The analysis predicts, inter alia, that buy-outs of capitalist firms by their workers are likely to occur in declining industries and during generalized recessions, whereas PCs will be formed as new firms during recessions, in reaction to labor-market power of capitalist firms, or when workers are dissatisfied with such firms' provision of workplace characteristics. In the latter case improvement in economic conditions may have a favorable influence on the creation of PCs. The paper also provides a survey of the PC sector in a few capitalist economies, and continues with empirical illustrations of PCs formation, employing the theoretical analysis developed in the paper.

Ben-Akiva, Moshe

PD September 4, 1985. **TI** Effects of Capacity Constraints on Peak Period Traffic Congestion. **AU** Ben-Akiva, Moshe; de Palma, Andre; Kanaroglou, Pavlos. **AA** Ben-Akiva: Department of Civil Engineering, Massachusetts Institute of Technology. de Palma: Department of Economics, Queen's University. Kanaroglou: Department of Geography, McMaster University. **SR** Queen's Institute for Economic Research Discussion Paper: 627; Department of Economics, Queen's University, Kingston, Ontario, K7L 3N6. **PG** 29. **PR** $2.50 Canada; $3.00 United States; $3.50 Foreign. **JE** 933. **KW** Commuter. Peak Period. Queuing. Stochastic Capacity.

AB A model of peak period traffic congestion is used to analyze the effects of capacity constraints. The model predicts the temporal distribution of traffic volumes when the demand is elastic. In response to changes in the traffic conditions travellers can switch to a different mode, divert to an alternate route, or shift the trip forward or backward in time to avoid a long delay. A simple example would be the case of two parallel routes with travellers jointly selecting route and departure time. The delays are assumed to occur at bottlenecks and a queueing model is employed to determine the waiting time as a function of the length of the queue at the time of arrival at the bottleneck. The day to day adjustment of the distribution of traffic is derived from a dynamic Markovian model. Numerical simulation experiments are used to demonstrate the possible changes in the pattern of peak period congestion when a bottleneck capacity is changed. The results demonstrate some of the interdependencies that may exist among different bottlenecks in a road network. It is shown, in particular, that in the presence of elastic demand, congestion may persist even when a bottleneck capacity is expanded to meet the highest level of existing traffic flows. In addition it is shown that if the capacities of the bottlenecks are stochastic the average traffic delays tend to increase.

Bendor, Jonathon

PD October 1985. **TI** Institutional Structure and the Logic of Ongoing Collective Action. **AU** Bendor, Jonathon; Mookherjee, Dilip. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 845; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 44. **PR** No Charge. **JE** 026, 511. **KW** Prisoner's Dilemma. Repeated Game. Reciprocity. Monitoring. Federations.

AB Work by Axelrod, Hardin, and Taylor indicates that problems of repeated collective action may lessen if people use decentralized strategies of reciprocity to induce mutual cooperation. Hobbes' centralized solution may thus be overrated. We investigate these issues by representing ongoing collective action as an n-person repeated prisoner's dilemma. The results, summarized by 9 propositions, show that (1) decentralized conditional cooperation can ease iterated collective action dilemmas -- if all players perfectly monitor the relation between individual choices and group payoffs. Once monitoring uncertainty is introduced, (2) such strategies degrade rapidly in value; (3) centrally administered selective incentives become relatively more valuable, though freeriding may occur; (4) a nested structure, with reciprocity used in subunits and selective incentives centrally administered, combines the advantages of the decentralized and centralized solutions: more stable than the former, often securing more cooperation than the latter. Generally, the model shows that the logic of repeated collective action bears significant implications for the institutional forms of organizations seeking collective benefits.

Bennett, Neil G.

TI Marriage Patterns in the United States. **AU** Bloom, David E.; Bennett, Neil G.

Benson, Harold P.

PD June 1985. **TI** Linear Multilevel Programming. **AA** Department of Economics, University of Florida. **SR** University of Florida Center for Econometrics and

Decision Sciences Working Papers: 121; Center for Econometrics and Decision Sciences, College of Business Administration, University of Florida, Gainesville, FL 32611. **PG** 24. **PR** No Charge. **JE** 213. **KW** Multilevel Programming. Multi-stage Optimization. Linear Multilevel Programming. Multiple Criteria Decision Making.

AB Many decision making situations involve multiple planners with different, and sometimes conflicting, objective functions. One type of model that has been suggested to represent such situations is the linear multilevel programming problem. However, it appears that theoretical and algorithmic results for the linear multilevel programming problem have been limited, to date, to the special case of when only two levels exist. In this paper we investigate the structure and properties of the general linear multilevel programming problem for the first time. We study the geometry of the problem and its feasible region. We also give necessary and sufficient conditions for the problem to be unbounded, and we show how the problem is related to a certain parametric concave minimization problem. The algorithmic implications of the results are also discussed.

Bera, A. K.

TI Tests for Serial Dependence in Limited Dependent Variable Models. **AU** Robinson, Peter M.; Bera, A. K.; Jarque, C. M.

Bera, Anil K.

PD Sept 1985. **TI** Tests for Normality with Stable Alternatives. **AU** Bera, Anil K.; McKenzie, Colin R. **AA** Department of Economics, University of Illinois at Urbana-Champaign. **SR** University of Illinois at Urbana-Champaign BEBR Faculty Working Paper: 1145; Department of Economics, University of Illinois, 1206 S. 6th Street, Champaign, IL 61820. **PG** 20. **PR** No Charge. **JE** 211. **KW** Lagrange Multiplier Test. Simulated Critical Value. Simulation Study. Stable Family. Test for Normality.

AB This paper is concerned with testing normality of observations and regression disturbances when the alternative belongs to the stable family.

PD Sept 1985. **TI** An Adjustment Procedure for Predicting Systematic Risk. **AU** Bera, Anil K.; Kannan, Srinivasan. **AA** Department of Economics, University of Illinois at Urbana-Champaign. **SR** University of Illinois at Urbana-Champaign BEBR Faculty Working Paper: 1184; Department of Economics, University of Illinois, 1206 S. 6th Street, Champaign, IL 61820. **PG** 22. **PR** No Charge. **JE** 522, 211, 026. **KW** Root-linear Model. Systematic Risk. Normality. Data Transformation. Prediction.

AB This paper looks at the currently available beta adjustment techniques and suggests a multiple root-linear model to adjust for the regression tendency of betas. Our empirical investigation indicates that cross-sectional betas are not normally distributed but their distribution tends to normal after a square-root transformation. The multivariate normality observed among betas after the transformation, makes the functional form of our model correct. Also, we observe that the disturbance term of the multiple root-linear model passes the tests for normality and homoscedasticity. These findings make the ordinary least squares estimates unbiased and efficient. Finally, the mean square errors are found to be lower when our adjustment procedure is used vis-a-vis the existing procedures.

PD Sept 1985. **TI** Tests for Serial Dependence and Other Specification Analysis in Models of Markets in Disequilibrium. **AU** Bera, Anil K.; Robinson, Peter M. **AA** Department of Economics, University of Illinois at Urbana-Champaign. **SR** University of Illinois at Urbana-Champaign BEBR Working Paper: 1176; Department of Economics, University of Illinois, 1206 S. 6th Street, Champaign, IL 61820. **PG** 29. **PR** No Charge. **JE** 211. **KW** Serial Independence. Disequilibrium Models. Lagrange Multiplier Tests. Logistic Distribution. Heteroscedasticity. Information Matrix Test.

AB The assumption of serial independence of the disturbance terms is the starting point of almost all the work that has been done on analyzing market disequilibrium models. Under serial dependence the usual maximum likelihood estimator (MLE) will be inefficient although they may remain consistent. Two other assumptions about the disturbance terms, namely normality and homoscedasticity, are also usually made. Violation of these is likely to make the MLE to be inconsistent. In this paper, we first derive tests for serial dependence given normality and homoscedasticity using the Lagrange multiplier (LM) test principle. The likelihood function under serial dependence is very complicated and involves multiple integrals of dimensions equal to the sample size, ruling out the possibility of using the Wald and likelihood ratio tests. However, the test statistic we obtain through the LM principle is very simple. Next, we relax the normality assumption using the Box-Cox transformation family and generalize the above test to such non-normal cases. We also suggest a general specification test for the disequilibrium market model, namely White's information matrix test, which can detect non-normality, heteroscedasticity and serial dependence jointly. This procedure will be useful when there is not much information about the alternative hypothesis. In the last part of the paper we present an analysis of disequilibrium models assuming that the disturbances are logistic rather than normal. This modification does simplify the computations quite a lot since for the logistic distribution a simple closed form expression for its distribution function is available. The relative performance of this distribution compared to the normal distribution is also investigated.

Berger, Allen N.

PD July 1985. **TI** The Role of Interstate Banking in the Diffusion of Electronic Payments Technology. **AU** Berger, Allen N.; Humphrey, David B. **AA** Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 80; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington,

D.C. 20551. **PG** 43. **PR** No Charge. **JE** 312. **KW** Interstate Banking. Electronic Payments Technology.
AB The most important technological change in payment methods has been the development of electronic alternatives to the paper based check system. The real resource (or social) costs of electronic payments are about half those of checks. The actual cost to users, however, is reversed since the benefits of check float (a transfer payment) are large while electronic payments have little or no float. User costs are positive for electronics but negative for checks. Technological change alone can not eliminate this "market failure". Institutional change is needed and will be the main force behind the future growth in electronic payments. One institutional change would be for the payors to bear the costs of their check float, rather than payees. This would require legal or regulatory changes or, alternatively, for merchants to differentially price their output according to the payment method used. A more likely institutional change arises through interstate banking. By consolidating accounts into fewer and larger banks, interstate banking will permit the negotiated elimination of check float between payor and payee banks and allow paper checks to be truncated with the payment information sent electronically. This will effectively eliminate (bank and Federal Reserve) processing and transportation check float. Estimates of the social and user costs of different payment instruments are presented and the cost structures of electronic and check processing are compared to support the above analysis. A statistical model assessing the impact of interstate banking on the payments system is also presented and analogies between current negotiated float arrangements, such as the Canadian check clearing system and the United States corporate trade payments ACH pilot, and check truncation are drawn.

PD December, 1985. **TI** Competitive Viability In Banking: Scale, Scope, and Product Mix Economies. **AU** Berger, Allen N.; Hanweck, Gerald A.; Humphrey, David B. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: N.A.; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 57. **PR** No Charge. **JE** 312. **KW** Banking. Scale Economies. Scope Economies.
AB This study of competitive viability in banking develops two new measures of scale and product mix which, along with the traditional measures of ray, scale and scope economies, are used to investigate the cost behavior of different sized banks. This is performed at the plant or banking office level and for the entire banking firm, for unit state and branching state banks separately, and using two different approaches to measuring bank output. Cross-section Functional Cost Analysis data for 1983 is used. Banks of all sizes in branching states are found to be competitively viable but large banks in unit states are not, due to scale diseconomies at (overexpanded) levels of office operation. The slight product mix and scope diseconomies found for both types of banks is consistent with the observation that bank customers demand outputs jointly and that incentives exist to hold a diverse set of assets and liabilities to reduce default and interest rate risk. These results are consistent with those for savings and loans. Our differences from other banking studies that find scope economies appear to be spuriously determined.

Bhagwati, Jagdish N.

PD October 1985. **TI** The Global Correspondence Principle: A Generalization. **AU** Bhagwati, Jagdish N.; Brecher, Richard A.; Hatta, Tatsuo. **AA** Bhagwati: Columbia University. Hatta: Department of Political Economy, Johns Hopkins University. Brecher: Carleton University. **SR** Johns Hopkins Department of Political Economy Working Papers: 163; Department of Political Economy, Johns Hopkins University, Baltimore, MD 21218. **PG** 26. **PR** No Charge. **JE** 021, 024. **KW** Global Correspondence Principle. Income Transfers. Local Stability.
AB In the present paper, first we shall analyze the global response of price to a shift in any parameter (not necessarily a transfer payment) within the two-good general-equilibrium model. Then, more remarkably, we shall establish that the corresponding responses of also nonprice variables, such as welfare, are qualitatively independent of both the magnitude of adjustment and the question of local stability. This result extends the Global Correspondence Principle to cover variables other than price. The extension enables us to prove that, in a two-agent two-good world, a transfer of income always improves the recipient's welfare -- regardless of whether the initial equilibrium is stable, and irrespective of the magnitude of the transfer. In this way we generalize Samuelson's (1947) well-know proposition that the recipient's welfare improves provided that the initial equilibrium is stable. To take another example, our analysis can also be utilized to show that local stability can be dropped from Bhagwati's (1958) well-known set of conditions for immiserizing growth.

Bhattacharya, Sudipto

PD June 1985. **TI** Tournaments, Termination Schemes, and Forcing Contracts. **AA** University of California, Berkeley. **SR** UC Berkeley Institute of Business and Economic Research, Research Papers in Economics: 85-7; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 39. **PR** $3.00. **JE** 026. **KW** Tournament Incentive Schemes. Moral Hazard. Termination Schemes. Mirrlees Incentive Scheme. Shapiro-Stiglitz Model.
AB The performance of tournament incentive schemes is compared with that of schemes based on termination threats, in an environment with two-sided moral hazard for both principal and agent, and "moving support" monitoring. The disadvantages of the former scheme that arise from having to eliminate "collusive" multiple equilibria among agents are contrasted with the "involuntary unemployment" deadweight-loss of termination-based schemes. Tournament-type payoff structures are shown to be inessential in obtaining asymptotic first-best optimal resolutions, given moral hazard on the part of agents alone, and monitoring noise distributions with appropriate lower-tail properties.

Bils, Mark

PD November 1985. **TI** The Cyclical Behavior of Marginal Cost and Price. **AA** Department of Economics, University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 30; Department of Economics, University of Rochester, Rochester, NY 14627. **PR** No Charge. **JE** 229, 131, 022. **KW** Business Cycles. Price/Marginal Cost Margins.
AB I examine the cyclical behavior of price/marginal cost margins for United States manufacturing since World War II. Shortrun marginal cost is markedly procyclical. This is primarily due to procyclical overtime payments, incurred because employment is not perfectly flexible. In most industries output price fails to respond to the cyclical movement in marginal cost; so price/marginal cost margins are markedly countercyclical. My results contradict business cycle theories that explain low production in a recession by a high real cost of producing; they support theories that explain low production in a recession by the inability of firms to sell their output.

Bjorn, Paul A.

PD November 1984. **TI** A Note on the Independence of Irrelevant Alternatives in Probabilistic Choice Models. **AU** Bjorn, Paul A.; Vuong, Quang H. **AA** Division of the Humanities and Social Sciences, California Institute of Technology. **SR** California Institute of Technology Social Science Working Paper: 576; Division of the Humanities and Social Sciences, Caltech, Pasadena, CA 91125. **PG** 7. **PR** No Charge. **JE** 025. **KW** Irrelevant Alternatives. Probabilistic Choice Models.
AB The purpose of this note is to show that there is no necessary relationship between the independence of irrelevant alternatives (IIA) property and stochastic independence of the errors in probabilistic choice models.

PD July 1985. **TI** Econometric Modeling of A Stackelberg Game with an Application to Labor Force Participation. **AU** Bjorn, Paul A.; Vuong, Quang H. **AA** Division of the Humanities and Social Sciences, California Institute of Technology. **SR** California Institute of Technology Social Science Working Paper: 577; Division of the Humanities and Social Sciences, Caltech, 228-77, Pasadena, CA 91125. **PG** 42. **PR** No Charge. **JE** 211, 026, 813. **KW** Stackelberg Game. Econometric Modeling. Labor Participation.
AB Following Bjorn and Vuong (1984), a model for dummy endogenous variables is derived from a game theoretic framework where the equilibrium concept used is that of Stackelberg. A distinctive feature of our model is that it contains as a special case the usual recursive model for discrete endogenous variables (see e.g., Maddala and Lee (1976)). A structural interpretation of this latter model can then be given in terms of a Stackelberg game in which the leader is indifferent to the follower's action. Finally, the model is applied to a study of husband/wife labor force participation.

Blackmon, B. Glenn Jr

PD July 1985. **TI** A Futures Market for Electricity: Benefits and Feasibility. **AA** Energy and Environmental Policy Center, Harvard University. **SR** Harvard Energy and Environmental Policy Center Discussion Paper: E-85-07; Energy and Environmental Policy Center, John F. Kennedy School of Government, 79 John F. Kennedy Street, Harvard University, Cambridge, MA 02138. **PG** 78. **PR** $7.50. **JE** 521, 522, 227, 314, 723. **KW** Futures Market. Electricity. Prices. Contracts. Planning.
AB This study evaluates the feasibility and potential benefits of establishing a futures market in electricity. A futures market, if it improved risk allocation, would enable consumers and producers to enjoy a greater level of certainty about the prices they will face for electricity. There are institutional, economic and physical reasons why an electricity contract is not traded on an exchange today, but the prospects for a futures market in electricity appear good in some regions.

Bloom, David E.

PD February 1985. **TI** Institutional Change and Labor Market Adjustment in the United States. **AU** Bloom, David E.; Bloom, Steven M. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1137; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 26. **PR** $2.50. **JE** 821, 824. **KW** Labor Market Rigidities. Labor Institutions.
AB In this paper we examine the problem of unemployment by adopting a new equilibrium approach to the analysis of labor market rigidities. We view unemployment as one indicator of the efficiency (or inefficiency) of an economy's set of labor institutions and analyze the nature of institutional changes now underway in relation to the exogenous economic changes to which they are a response. By researching the extent to which American labor institutions have responded to changes in economic environments, we attempt to conduct a preliminary test of the hypothesis that the unemployment problem in the United States is at least partly due to the operation of a rigid set of outmoded labor institutions.

PD April 1985. **TI** An Analysis of the Selection of Arbitrators. **AU** Bloom, David E.; Cavanagh, Christopher L. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1150; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 41. **PR** $2.75. **JE** 026, 832. **KW** Bargaining. Arbitration. Selecting Arbitrators.
AB This paper opens up the empirical analysis of a new area in the literature on bargaining under arbitration: the selection of arbitrators. It does this primarily by developing a random utility model of employer and union preferences for arbitrators with different characteristics. The model is estimated using a remarkable set of data on the preference rankings of disputants under New Jersey's Fire and Police Arbitration Law. The paper also develops and presents estimates of alternative models which can be used to test whether the stated preferences of the parties coincide with their true preferences. The major substantive findings of the paper are that (1) employers and unions distinctly prefer some arbitrators to others; (2) employer and union preferences tend to be moderately similar to each other; (3) employers prefer arbitrators with

training in economics whereas unions prefer arbitrators with legal training and tend to dislike economists; (4) both parties prefer arbitrators with greater experience; (5) there is little evidence that the parties' preferences are affected by arbitrators' win-loss tallies under final-offer arbitration; and (6) there is no evidence that the parties rank arbitrators strategically.

PD April 1985. **TI** Marriage Patterns in the United States. **AU** Bloom, David E.; Bennett, Neil G. **AA** Bloom: Department of Economics, Harvard University. Bennett: Department of Sociology, Yale University. **SR** Harvard Institute for Economic Research Discussion Paper: 1147; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 31. **PR** $2.00. **JE** 841. **KW** Marriage. Coale-McNeil Model. Censoring. Truncation.

AB This paper analyzes cohort marriage patterns in the United States in order to determine whether declining rates of first marriage are due to changes in the timing of marriage, the incidence of marriage, or both. Parametric models, which are well-suited to the analysis of censored or truncated data, are fit separately to information on age at first marriage derived from three data sets which were collected independently and at different points in time. Extended versions of the models are also estimated in which the parameters of the model distributions are allowed to depend on social and economic variables. The results provide evidence that the incidence of first marriage is declining and that there is only a slight tendency for women to delay marriage. In addition, education is the most important correlate of decisions about the timing of first marriage whereas race is the most important correlate of decisions about its incidence.

Bloom, Steven M.

TI Institutional Change and Labor Market Adjustment in the United States. **AU** Bloom, David E.; Bloom, Steven M.

Boersch, Supan Axel

PD September 1985. **TI** Locally Defined Discrete Choice Models. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 139D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 29. **PR** No Charge. **JE** 211. **KW** Discrete Choice. Nested Logit. Flexible Functional Form.

AB The paper examines the relation between discrete choice models and rational consumer behavior. Discrete choice models are increasingly popular in applied econometric work and have found their way into public policy analysis. To "explain" human behavior by economic theory it is desirable that these models are compatible with the theory of a rational consumer. In particular, we examine the nested multinomial logit (NMNL) model. We show that the Daly-Zachary-McFadden condition of the validity of stochastic utility maximization in NMNL models is unnecessarily strong. Therefore we reject too often NMNL models because of their large dissimilarity parameters. A weaker validity condition can be invoked when the data domain can be restricted. Using the idea of a restricted data domain the paper then develops a class of flexible functional form discrete choice models. These models are based on a polynomial density function defined on some compact domain, a multidimensional generalization of the beta distribution. The performance of these "betit" models compares favorably with the simple as well as the nested logit models.

PD September 1985. **TI** Tenure Discounts: the Idiosyncratic Exchange between Landlord and Tenant. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 138D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 29. **PR** No Charge. **JE** 932. **KW** Rental Housing Market. Idiosyncratic Exchange. Uncertainty. Tenure Discounts. Rent Control.

AB The purpose of this paper is twofold. First, we analyse a rental housing market characterized by the landlord's inability to fully assess the tenant's characteristics when signing the rental contract. We show that this introduces an external effect between the landlord and his tenant which may generate rent discounts for sitting tenants. Second, we evaluate the welfare implications of a stylized rent and eviction control provision in the light of this model. We show that this intervention may well be superior to the unregulated market. The case of Pareto superiority of intervention as compared to an unregulated market is due to the externality which created the tenure discounts.

PD November 1985. **TI** Seniority, Rigid Wages, and the Right to Hire and Fire. **AA** John F. Kennedy School. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 143D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 24. **PR** No Charge. **JE** 821. **KW** Labor Market. Job Turnover. Seniority. Hiring and Firing. Idiosyncratic Exchange.

AB A labor market model characterized by employee and employer heterogeneity, transaction costs, and uncertainty produces a mixture of very short and very long job durations. It also generates price dispersion in the form of seniority payments. Seniority payments are defined here as an increase in the wage rate that is independent of cumulative work experience and solely due to the acquisition of information on the employees' characteristics. An equilibrium in this imperfect market is not pareto-efficient. Indeed, if search costs are large relative to the productivity losses due to mismatches, regulations that reduce turnover by restricting the right to fire and by keeping wages downwardly rigid increase aggregate welfare because they reduce an inefficient amount of search and turnover costs.

PD December 1985. **TI** Econometric Methods to Analyze the Effects of Policy Programs. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 144D; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 32. **PR** No

Charge. **JE** 811, 822, 824, 212. **KW** Unemployment Duration. Unemployment Insurance. Retraining. Duration Models.

AB This paper reviews econometric models to analyze structural relations between unemployment dynamics and public policy programs and economic background conditions; in particular to analyze the impact of retraining and transfer programs on the duration of unemployment. Main emphasis is on the proper separation of potentially unemployment-enforcing mechanisms during spells of unemployment from self-selection effects due to unobserved worker characteristics. These positive feedbacks are important in the distinction between structural and frictional unemployment.

Bogaert, Frank

TI Importance of Marginal Costs in Inventory Models. **AU** Baybars, Ilker; Bogaert, Frank; Hirsch, Gary; Kekre, Sunder.

TI Batching and Capacity Models for Metered Flow and Manufacturing Cells. **AU** Baybars, Ilker; Bogaert, Frank; Hirsch, Gary; Kekre, Sunder.

Bohn, Henning

PD December 19, 1985. **TI** Why Do We Have Nominal Government Debt?. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 860; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 38. **PR** No Charge. **JE** 322, 131. **KW** Government Debt. Economic Fluctuations. Nominal Debt. Indexed Debt.

AB The time-consistency literature suggests that there is no reason to have anything but indexed debt. We show that nominal debt provides valuable insurance against the financial effects of economic fluctuations and variations in government expenditures. Even though there are incentives for the government to manipulate the price level, which imply that high nominal debt raises expected inflation, it is not optimal to issue only indexed debt. The reason is that, at the point of zero nominal debt, the cost of "wrong" incentives are of a lower order of magnitude than the gains from hedging against economic shocks. These issues are first analyzed in a simple macroeconomic model in which we derive the economic structure and the welfare function from individual preferences. The setting is one of discretionary policy, where the government sets taxes and the money supply every period but is committed to honoring debt. We generalize the results in various directions. They are fairly robust with respect to changes in assumptions on the policy setting. The hedging argument also holds up in more general macroeconomic models: shocks to the supply side and effects due to shifts of the Phillips-curve exert additional influences on the optimal amount of nominal debt. We outline how the approach could be applied to long term debt and foreign currency bonds. For both types of securities, similar arguments as for nominal bonds apply.

Bollerslev, Tim

PD November 1985. **TI** A Conditionally Heteroskedastic Time Series Model for Security Prices and Rates of Return Data. **AA** Department of Economics, UC San Diego. **SR** UC San Diego Department of Economics Discussion Paper: 85-32; UCSD, Department of Economics, D-008, La Jolla, CA 92093. **PG** 18. **PR** No Charge. **JE** 211, 313. **KW** Return Distributions. GARCH. Mixtures. T-Distributions. Generalized Autoregressive Conditional Heteroskedasticity.

AB A conditionally heteroskedastic model with conditional t-distributed errors is derived by introducing an additive unobservable error term in the conditional variance equation. The small sample properties of estimation and testing in the t-distribution are analysed by means of a simple Monte Carlo study. As an empirical illustration the Generalized Autoregressive Conditional Heteroskedastic (GARCH) model is applied to the Standard and Poor's 500 Common Stock Composite Price Index.

Bourgeois, L. J. III

PD November 1985. **TI** Strategic Decision Processes in High Velocity Environments: Four Cases in the Microcomputer Industry. **AU** Bourgeois, L. J. III; Eisenhardt, Kathleen M. **AA** Bourgeois: Graduate School of Business, Stanford University. Eisenhardt: Department of Industrial Engineering and Engineering Management, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 852; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 38. **PR** No Charge. **JE** 631, 511. **KW** Strategy Analytics. Microcomputer Industry.

AB The research question addressed by this study is: How do executives formulate successful strategies in industries where the rate of change has such a high velocity that the traditional models may not be applicable? To wit, how is strategy formulated under conditions of (1) limited or no information (the industry is too new), and (2) where there is such fast movement in the industry that there would be no time to process the information even if it were available? What we report here is a set of hypotheses induced from a clinical investigation of four firms. We will describe the context of the research and outline the study design and the data gathering method. Then, we will describe the companies and their decisions. Finally, we will offer our conclusions in the form of hypotheses for further testing.

Boyer, Robert

PD December 1984. **TI** Analyses de La Crise Americaine: A Propos D'un Ouvrage Recent (Analysis of the Current American Crisis: Some Comments on Beyond the Wasteland). **AA** CEPREMAP. **SR** CEPREMAP Discussion Papers: 8501; CEPREMAP - Bibliotheque, 140, rue du Chevaleret - 75013 Paris (France). **PG** 42. **PR** 10 FF. **JE** 030, 130. **KW** American Crisis. Pax Americana. Capital-Labor. Capitalist-Citizen Accords. After 1945.

AB First the paper emphasizes the difficulties of the neo-classical, Keynesian and institutionalist frameworks in interpreting the present crisis. Then a brief survey of the radical analyses is presented and the recent book by Samuel Bowles, David M. Gordon and Thomas Weisskopf "Beyond the Wast Land" is discussed with more details.

Since the end of the 60's, the three pillars of post-war growth (Pax Americana, Capital-Labor and Capitalist-Citizen Accords) have been eroded. Then these notions are compared with the equivalent ones within the "french regulation" approach ("regime d'accumulation", "rapport salarial", "compromis institutionnalise"). Finally, a last part discusses the consequences for economic policy of both frameworks: would a significant wage increase and an extension of democratic rights foster a way out of the crisis?.

PD January 1985. **TI** L'insertion Internationale Conditionne-t-elle les Formes Nationales D'emploi? Premiers Resultats d'une Analyse Statistique. (Are Jobs Dependent on International Openness? Some Results from a Statistical Analysis of European Countries). **AU** Boyer, Robert; Ralle, Pierre. **AA** Boyer: CEPREMAP. Ralle: Eleve a l'Ensae. **SR** CEPREMAP Discussion Papers: 8508; Bibliotheque - CEPREMAP, 140-142, rue du Chevaleret - 75013 Paris (FRANCE). **PG** 31. **PR** 10 FF. **JE** 423, 123. **KW** European Economies. European Industries. Labour Market. Crisis. External Constraint.

AB The relations between economic efficiency (growth, investment, productivity) and international openness (shares of imports and exports in national production) on one side, and types of jobs on the other are studied through data analysis. Seven European Countries, during three periods (1960-1972, 1973-1978, 1979-1981 ou 1984) define as many items as industries and economies. Four conclusions are discussed: no clear link between efficiency and the nature of jobs; trends towards a new segmentation of labour markets, but specific to each society; diverging economic mechanisms and social organisations in the industrial branches and the services sectors; and significant transformations in jobs structures, but slower than the rapid economic changes spurred by the present crisis.

PD January 1985. **TI** Croissances Nationales et Contrainte Exterieure Avant et Apres 1973: Les Enseignements d'une Analyse en Composantes Principales (National Growth and External Constraint After and Before 1973: Data Analysis on European Countries). **AU** Boyer, Robert; Ralle, Pierre. **AA** Boyer: CEPREMAP. Ralle: Eleve a l'Ensae. **SR** CEPREMAP Discussion Papers: 8507; Bibliotheque - CEPREMAP, 140-142, ru du Chevaleret - 75013 Paris (FRANCE). **PG** 44. **PR** 10 FF. **JE** 122, 123. **KW** European Economies. European Industries. Crisis. Growth. Investment. Productivity.

AB The medium term dynamic model of European economies and industries over 2 and then 3 periods (1960-1972, 1973-1978, 1979-1981 or 84) is studied through some key variables on economic efficiency (growth, investment, productivity) and two parameters on external trade (shares of imports and exports in value added). Three major conclusions are reached: the likely breaking down of the post-war pattern growth; the lack of any clear model of virtuous competitiveness promoting industrial employment; and strong discrepancies and diverging trends since 1973 among E.E.C. countries.

Bradford, David F.

PD September 1985. **TI** A Problem of Financial Market Equilibrium When the Timing of Tax Payments is Indeterminate. **AA** Woodrow Wilson School, Princeton University. **SR** Woodrow Wilson School of Public and International Affairs Discussion Papers in Economics: 100; Woodrow Wilson School of Public and International Affairs, Princeton University, Princeton, NJ 08544. **PG** 19. **PR** No Charge. **JE** 321, 323, 313. **KW** Dividend Tax. Corporate Distributions. Government Deficits.

AB If firms are indifferent about the timing of dividends, the government's cash flow from taxes on dividends is indeterminate. In an earlier paper, I showed in the context of a world without uncertainty that variations in tax *receipts from this source would have no real effects.* The extension of the analysis to a world of risk turns out to involve new elements that may be of some general interest. In particular, the conditions for neutrality seem less likely to be fulfilled in a practical context.

Brecher, Richard A.

TI The Global Correspondence Principle: A Generalization. **AU** Bhagwati, Jagdish N.; Brecher, Richard A.; Hatta, Tatsuo.

Brock, William A.

PD April 1985. **TI** On Characterizing Optimal Competitive Programs in Terms of Decentralizable Conditions. **AU** Brock, William A.; Majumdar, Mukul. **AA** Brock: Department of Economics, University of Wisconsin. Majumdar: Department of Economics, Cornell University, and University of Wisconsin. **SR** Cornell Department of Economics Working Paper: 333; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 24. **PR** No Charge. **JE** 021. **KW** Informationally Decentralized Resource Allocation Mechanisms. Infinite Horizon Economy.

AB This note is motivated by the recent work of Hurwicz and Majumdar (1984 a,b) on designing informationally decentralized resource allocation mechanisms that are optimal in an infinite-horizon economy. In the well-known literature on the theory of intertemporal resource allocation (developing out of Ramsey (1928) and Malinvaud (1953)), optimality is characterized in terms of (i) period-by-period conditions on intertemporal profit and utility maximization relative to a system of competitive prices and (ii) a transversality condition on the sequence of values of inputs computed at these prices (the condition requires that in the "discounted" model this sequence must go to zero and that in the "undiscounted" model this sequence must remain uniformly bounded). It turns out that when the technology is stationary, it is indeed possible to characterize optimality in terms of the usual competitive conditions (developed by Gale (1967) and others) and yet another period-by-period condition that involves two other parameters.

Brown, Donald J.

TI Comparative Statics and Local Indeterminacy in OLG Economics: An Application of the Multiplicative Ergodic Theorem. **AU** Geanakoplos, John; Brown, Donald J.

Buiter, Willem H.

PD October 22, 1985. **TI** Macroeconomic Policy Design in an Interdependent World Economy: An Analysis of Three Contingencies. **AA** Economic Growth Center, Yale University. **SR** Yale Economic Growth Center Discussion Paper: 492; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 49 pages. **PR** $2.00. **JE** 023, 423. **KW** Macro Policy Coordination. International Economic Interdependence.

AB The paper uses a small analytical two-region (the United States and the Rest of the Industrial World) model, to analyze three issues concerning international economic interdependence and macroeconomic policy coordination that have been raised in connection with the September 1985 World Economic Outlook published by the IMF. They are: (1) What should be the monetary and/or fiscal response in the Rest of the Industrial World to a tightening of United States fiscal policy and what should be the United States monetary response? (2) What should be the monetary and/or fiscal response in the United States and in the Rest of the Industrial World to a "collapse of the United States dollar?" The paper highlights the importance of determining the causes of such a "hard landing" for the United States dollar, as the appropriate policy responses are very sensitive to this; (3) What should be the macroeconomic policy response in the Industrial World to a disappointing real growth performance? Again the correct identification of the reason(s) for the disappointment is shown to be crucial. The final section discusses and qualifies the activist policy conclusions derived from the formal analysis.

Bulow, Jeremy

PD July 1985. **TI** A Theory of Dual Labor Markets with Application to Industrial Policy, Discrimination and Keynesian Unemployment. **AU** Bulow, Jeremy; Summers, Lawrence H. **AA** Summers: Department of Economics, Harvard University. Bulow: Graduate School of Business, Stanford University. **SR** Harvard Institute for Economic Research Discussion Paper: 1169; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 49. **PR** $3.00. **JE** 821, 616, 813, 917. **KW** Dual Labor Markets. Involuntary Unemployment. Occupational Segregation. Industrial Policy.

AB This paper develops a model of dual labor markets based on employers' need to motivate workers. In order to elicit effort from their workers, employers may find it optimal to pay more than the going wage. This changes fundamentally the character of labor markets. The model is applied to a wide range of labor market phenomena. It provides a coherent framework for understanding the claims of industrial policy advocates. It also can provide the basis for a theory of occupational segregation and discrimination which will not be eroded by market forces. Finally, the model provides the basis for a theory of involuntary unemployment.

Burmeister, Edwin

TI Two Estimators for the APT Model when Factors are Measured. **AU** McElroy, Marjorie B.; Burmeister, Edwin; Wall, Kent D.

Cameron, A. Colin

PD May 1985. **TI** Econometric Models Based on Count Data: Comparisons and Applications of Some Estimators and Tests. **AU** Cameron, A. Colin; Trivedi, Pravin K. **AA** Cameron: Stanford University. Trivedi: Australian National University. **SR** Australian National University Working Papers in Economics and Econometrics: 123; Department of Economics, Australian National University, P.O. Box 4, Canberra A.C.T. 2601, AUSTRALIA. **PG** 41. **PR** No Charge. **JE** 211, 913. **KW** Generalized Poisson Models. Pseudo Maximum Likelihood Estimation. Tests of Overdispersion. Doctor Consultations. Health Insurance.

AB This paper deals with specification, estimation and tests of single equation reduced form type equations in which the dependent variable takes only non-negative integer values. Poisson and compound Poisson models provide a natural starting point though they do involve assumptions likely to be rather strong in econometric work. A variety of possible stochastic models and their implications are discussed, as well as the choice of estimation method given uncertainty about the data generation process. A number of estimators including maximum likelihood (MLE), pseudo maximum likelihood (PMLE) and quasi generalised pseudo maximum likelihood (QGPMLE) and their properties are discussed and compared using recently available theoretical results. The paper then considers the role of tests in sequential revision of the model specification beginning with the Poisson case. Certain tests of rival structural hypotheses would be possible only if panel data were available. Tests of the Poisson model based on the familiar principles of the Wald, the likelihood ratio and score (Lagrange multiplier) tests are considered. It is shown that Cox's tests of overdispersion and Lee's score tests are equivalent. The estimators and tests are then applied to a model of the number of consultations with a doctor or specialist. The data, which are derived from the Australian Health Survey 1977-78, consist of 5190 observations on the number of consultations and thirteen explanatory variables including, in particular, the insurance status of the individuals. A major issue of interest in this application is whether the more highly insured individuals have a greater demand for consultations. It is found that the conclusions in respect to this issue are not sensitive to the stochastic specification of the model.

Campbell, J. Y.

TI The Term Structure of Euromarket Interest Rates: An Empirical Investigation. **AU** Clarida, Richard H.; Campbell, J. Y.

Caplin, Andrew

PD September 1985. **TI** Inflation, Menu Costs and Endogenous Price Variability. **AU** Caplin, Andrew; Spulber, Daniel F. **AA** Caplin: Department of Economics, Harvard University. Spulber: University of Southern California. **SR** Harvard Institute for Economic Research Discussion Paper: 1181; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 44. **PR** $2.75. **JE** 134. **KW** Price Adjustment. Price Variability. Inflation Variability.

AB This paper presents a model with costly price adjustment in which relative price variability is derived by aggregating individual firm price adjustments. The model builds on the Sheshinski-Weiss model of optimal price adjustment under stochastic inflation. The steady state properties of their single firm model are derived. Menu costs of price adjustments are shown to drive a wedge between the variance of individual firm prices and the variance of aggregate inflation. Then a consistent aggregate version of the model is constructed. It is shown that relative price variability exactly equals the wedge between the variance of firm and aggregate price increases. This wedge is increasing in both the mean and variance of inflation. Thus, the level and variability of inflation are positively associated with relative price variability.

PD September 1985. **TI** On 64 per cent Majority Rule. **AU** Caplin, Andrew; Nalebuff, Barry. **AA** Caplin: Department of Economics, Harvard University. Nalebuff: Department of Economics, Princeton University. **SR** Harvard Institute for Economic Research Discussion Paper: 1180; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 30. **PR** $2.50. **JE** 025. **KW** Social Choice. 64 per cent Majority Rule.
AB We present a reconciliation of the problem of social choice combining the suggestions of Condorcet and Arrow. Using a new mathematical formulation of social agreement, we demonstrate the viability of voting under a 64 per cent-majority rule; that is, the status quo is overturned when 64 per cent vote against it. We then show how our approach is related to Condorcet's original proposal.

Carruth, Alan A.

PD July 1985. **TI** Miner's Wages in Post-war Britain: an Application of A Model of Trade Union Behaviour. **AU** Carruth, Alan A.; Oswald, Andrew J. **AA** Carruth: University of Kent. Oswald: Institute of Economics and Statistics, Oxford University. **SR** London School of Economics, Centre for Labour Economics Discussion Paper: 225; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 40. **PR** No Charge. **JE** 824, 831. **KW** Labour Market Studies. Wages. Employment.
AB The paper studies the determination of wages in the British coal industry. A utility-maximising model of a trade union is used to represent the behaviour of the National Union of Mineworkers. A non-linear structural model is derived and is estimated by Full Information Maximum Likelihood. The results are quite encouraging: there is support for a neoclassical demand curve for miners' labour, and a significant estimate of workers' relative risk aversion.

Cavanagh, Christopher L.

TI An Analysis of the Selection of Arbitrators. **AU** Bloom, David E.; Cavanagh, Christopher L.

PD April 1985. **TI** A Modified Multinomial Logit Model. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1149; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 28. **PR** $2.50. **JE** 211. **KW** Multinomial Logit Model. Multivariate Dependent Distributions.
AB A general technique is developed for constructing multi-variate dependent distributions with specified marginal distributions. This method is used to construct modified versions of the multinomial logit and nested multinomial logit models. These modified models preserve the computational simplicity of the logit type models, but allow for more complex patterns of choice substitutability. Tests of the independence of irrelevant alternatives assumption and related assumptions about patterns of choice substitutability are developed on the basis of these models.

PD April 1985. **TI** Second Order Admissibility of Likelihood Based Tests. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1148; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 31. **PR** $2.50. **JE** 211. **KW** LR Test. Wald Test. LM Test. Second Order Admissibility. Likelihood Model.
AB Edgeworth approximations to sampling distributions are used to characterize the class of second order admissible tests of one-dimensional hypotheses against one sided alternatives in a regular likelihood model. It is shown that standard tests used in econometrics -- such as the Wald, likelihood ratio, and Lagrange multiplier tests -- are second order admissible when the information matrix is estimated using either the expected or observed information. However, if the outer product is used to estimate the information matrix, the tests are second order inadmissible. The second order inadmissibility is quantified using the Hodges-Lehmann deficiency measure. A censored normal regression example illustrates that the deficiency of second order inadmissible tests can be quite large.

Caves, Richard E.

TI Capital Commitment and Profitability: An Empirical Investigation. **AU** Ghemawat, Pankaj; Caves, Richard E.

TI Mergers and Bidders' Wealth: Managerial and Strategic Factors. **AU** You, Victor L.; Caves, Richard E.; Henry, James S.; Smith, Michael M.

PD October 1985. **TI** Exporting Behavior and Market Structure: Evidence from the United States. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1188; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 32. **PR** $2.50. **JE** 611, 442. **KW** Exported Output. Market Structure.
AB The main purpose of this paper is to analyze data newly available for the United States on the variability among producers of the proportions of their output exported. Subject to serious limitations that are explained below, the data set permits us to test for the United States

patterns that have been observed in several other industrial countries. Before turning to those tests, we review the relevant theory and existing evidence.

Cernohous, Zdenek

PD November 1984. **TI** Developments Outside the United States Affecting the Supervision of International Bank Lending Operations. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 8414; Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 43. **PR** No Charge. **JE** 312. **KW** Banking Supervision. Country Risk Exposure. Global Consolidated Reporting. Loss Provisions.

AB The paper focuses on two broad regulatory problem areas. One is the regulatory response at the national level to banks' growing "country risks" exposures; the other is the continued lack of an effective international supervisory cooperation. The paper reviews in detail regulations and supervisory practices pertaining to banks' lending and country risk exposures in selected financial market center countries, including Germany, France, Japan, the United Kingdom, Switzerland and Luxemburg. It finds that, for the most part, regulatory responses at the national level to excessive country risk exposures in banks' loan portfolios has been sporadic. At the international level, the Basle Committee has spearheaded efforts to standardize regulatory practices and to strengthen international supervisory cooperation. However, as the paper shows, apart from an inter-EEC arrangement which mandates, effective mid-1985, the exchange of information among the members' bank supervisory authorities, progress in attaining effective cooperation among national regulatory authorities has been slow. In fact, a full supervision of banks' worldwide operations may not be attainable as long as a large number of "tax haven" countries continue to enforce strict bank secrecy laws.

Chamberlain, Jay

TI Farm Foreclosures Moratorium Legislation: What is the Lesson from the Past?. **AU** Adler, Moshe; Chamberlain, Jay.

Chiesa, Gabriella

PD September 9, 1985. **TI** The International Transmission of Fiscal Policy on Welfare, Investment and Trade: An Intertemporal Approach. **AA** University of Bologna. **SR** University College London Discussion Paper: 85-17; Department of Political Economy, University College, Gower Street, London WC1E 6BT, England. **PG** 28. **PR** No Charge. **JE** 321, 411, 423. **KW** International Fiscal Policy.

AB This paper specifies the equilibrium of the world economy according to a two goods, per period, two country-two period full optimization set up under the assumptions of a fully integrated world capital market and full rationality of all economic agents, firms, households and governments whose decisions are subject to intertemporal budget constraints. Then the international transmission of fiscal policy, both of permanent and temporary nature, as far as welfare, investment and trade balance are concerned, is discussed under the assumption that there is full employment. The implications of short run sticky wages and variable employment on patterns of consumption and investment in the two countries are derived.

Chirinko, Robert S.

PD June 1985. **TI** Tobin's Q and Financial Policy. **AA** Committee on Policy Studies, University of Chicago, and Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 332; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 47. **PR** No Charge. **JE** 023. **KW** Tobin's Q. Investment.

AB Recent research in macroeconomics has emphasized the importance of linking the financial and real sectors and the need for working with optimizing models. Tobin's Q model of investment would appear to provide a framework that can satisfy these two criteria. In contrast to the original presentation of the Q model, the formal development has not recognized that the firm actively participates in a number of financial markets; in this broader context, we show that Q is likely to be an uninformative, and possibly misleading, signal for investment expenditures. We then endeavor to turn this negative theoretical result to positive advantage in resolving a number of empirical problems with Q models, but the modifications dictated by the theory receive little support from the data. On both theoretical and empirical grounds, we conclude that Q theory is unlikely to provide the basis for a satisfactory investment model linking the financial and real sectors.

Clarida, Richard H.

PD April 1985. **TI** The Balance of Payments Adjustment Mechanism in a Rational Expectations Equilibrium. **AA** The Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 769; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 24. **PR** No Charge. **JE** 431. **KW** Balance of Payments Adjustment Dynamics. Price Levels.

AB This paper provides a choice theoretic, general equilibrium account of the balance of payments adjustment process and the determination of national price levels in a world comprised of countries populated by rational households. Balance of payments adjustment dynamics arise in the equilibrium of this model from the precautionary saving behavior of risk-averse households who self-insure against random productivity fluctuations by accumulating, via balance of payments surpluses in productive periods, buffer stocks of domestic money which can be drawn down to finance payments deficits, and thus a less variable profile of consumption relative to output, when productivity is unexpectedly low. Precautionary saving is shown to exhibit the partial-adjustment-to-target behavior typically postulated in the monetary approach literature. The existence of a rational expectations equilibrium in which the distribution of international reserves among central banks is stationary is established.

PD May 1985. **TI** International Lending and Borrowing in a Stochastic Sequence Equilibrium. **AA** The Cowles Foundation, Yale University. **SR** Yale

Cowles Foundation Discussion Paper: 771; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 30. **PR** No Charge. **JE** 441, 431. **KW** International Lending and Borrowing. Stochastic Productivity Fluctuations.

AB The objective of this paper is to study international lending and borrowing in general equilibrium framework in which countries are subject to stochastic productivity fluctuations. The role of time preference, borrowing limits, and lump sum taxation are rigorously analyzed, yielding results which enrich those obtained in the existing literature.

PD July 1985. **TI** Consumption, Liquidity Constraints, and Asset Accumulation in the Presence of Random Fluctuations. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 705R; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 24. **PR** No Charge. **JE** 023. **KW** Permanent Income Hypothesis. Optimal Consumption Behavior.

AB Recent empirical research 'Flavin (1981), Hagashi (1982) has rejected the certainty-equivalent formulation of permanent income hypothesis 'Hall (1978). These findings are often attributed to households' inability to borrow completely against expected future labor income. This paper is a theoretical investigation of optimal consumption behavior under risk aversion, random income fluctuations, and borrowing restrictions. Our principle objective is to establish the existence and to investigate the properties of the stationary probability distribution which characterizes the asymptotic behavior of consumption under these conditions.

PD September 1985. **TI** The Term Structure of Euromarket Interest Rates: An Empirical Investigation. **AU** Clarida, Richard H.; Campbell, J. Y. **AA** Clarida: The Cowles Foundation, Yale University. Campbell: Princeton University. **SR** Yale Cowles Foundation Discussion Paper: 772; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 25. **PR** No Charge. **JE** 313. **KW** Term Structure. Risk Premia. Euromarket Interest Rates. Single Latent Variable Model.

AB This paper is an empirical investigation of the predictability and comovement of risk premia in the term structure of Euromarket interest rates. We show that variables which have been used as proxies for risk premia on uncovered foreign asset positions also predict excess returns in Euromarket term structures, while variables which have been used as proxies for risk premia in the term structure also predict excess returns on taking uncovered foreign asset positions. These findings suggest that risk premia in the Euromarket term structures and on uncovered foreign asset positions move together. We test formally the hypothesis that risk premia on uncovered 3-month EuroDM and Eurosterling deposits and on rolling over 1-month versus holding 3-month Eurodollar deposits move in proportion to a single latent variable. We are unable to reject this hypothesis. We are also unable to reject the hypothesis that the risk premia on these three strategies and those on rolling over 1-month Eurosterling (EuroDM) deposits versus holding a 3-month Eurosterling (EuroDM) deposit move in proportion to a single latent variable. The single latent variable model can be interpreted atheoretically, as a way of characterizing the extent to which predictable asset returns 'move together'; or it can be interpreted as in Hansen and Hodrick (1983) and Hodrick and Srivastava (1983) as a specialization of the ICAPM in which assets have constant betas on a single, unobservable benchmark portfolio.

Clemhout, S.

PD 1985. **TI** Common-Property Exploitations Under Risks of Resource Extinctions. **AU** Clemhout, S.; Wan, H. Y. Jr. **AA** Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 343; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 22. **PR** No Charge. **JE** 721. **KW** Renewable Resources. Resource Depletion. Common-Property.

AB For a renewable resource under the random hazards of extinction, a variational correspondence principle is introduced to show under what conditions, joint optimization can increase both the resource stock in stasis and the survival prospect of the resource. The analysis is independent of the assumption of particular function forms.

Cohen, Mark A.

PD September 1985. **TI** Enforcing Government Policy: The Evolution of Efficient Regulations. **AU** Cohen, Mark A.; Rubin, Paul H. **AA** Bureau of Economics, Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper Series: 131; Federal Trade Commission, Bureau of Economics, Industry Analysis, 6th and Pennsylvania Avenue, NW, Washington, DC 20580 - Attn: Working Paper Coordinator. **PG** 34. **PR** No Charge. **JE** 025, 916, 513. **KW** Private. Enforcement. Public Policy. Efficient Regulation.

AB Many government policies are inefficiently implemented because government regulators lack incentives to adopt efficient rules. This paper argues for the use of private enforcement agents to implement government policy. By endowing private enforcement agents with the correct incentives, three efficiency gains are expected relative to public enforcement: First, this approach can be applied to market-based (as opposed to command-and-control) policies, and hence has the benefits associated with these policies. Second, a private organization can be expected to have lower operating costs than a government bureaucracy. Finally, it is argued that the rules that evolve to implement the policy will be efficient. This final benefit is shown to be analogous to common law efficiency. Several examples are discussed, including auto safety and pollution control.

PD November 1985. **TI** Optimal Enforcement Strategy to Prevent Oil Spills: An Application of a Principal-Agent Model with Moral Hazard. **AA** Bureau of Economics, Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 133; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue NW, Washington, D.C. 20580. **PG** 53. **PR** No Charge. **JE** 722. **KW** Enforcement

of Environmental Regulations. Oil Spills. Principal-Agent Models.
AB This paper provides a general framework for the design of an efficient government monitoring and enforcement program to reduce the occurrence of random externalities. The role of government monitoring is derived explicitly in a principal-agent model where the government determines the probability of detection and appropriate penalties. The United States Coast Guard's oil spill prevention program is analyzed in this manner. It is estimated that the current penalty for spilling oil may be too low for very large spills, and that government expenditures on enforcement could be reduced. Furthermore, the current policy that requires cleanup of all spills may be socially inefficient for small spills.

Conway, Roger K.

TI The Foundations of Econometrics - Are There Any?. **AU** Swamy, P. A. V. B.; Conway, Roger K.; von zur Muehlen, Peter.

Cooper, Richard N.

PD November 1985. **TI** The United States As An Open Economy. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1193; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 36. **PR** $2.75. **JE** 441, 122. **KW** International Investment. Open Economy.
AB It is widely recognized that the United States has become more integrated into the rest of the world economy than was true, say, 25 years ago. For reasons that I hope to make clear, the United States is more heavily integrated into the world economy also than it was in the 1920s, the last period of great foreign investment, or in the 1890s as well, although in certain respects the United States was very open to foreign events a hundred years ago and indeed felt them, as when the Baring collapse in London set off the United States bank panic of 1890.

Cooper, Russell

PD October 1984. **TI** Expansionary Government Policy in an Economy with Commodity and Labor Contracts. **AA** Department of Economics, University of Iowa. **SR** Yale Cowles Foundation Discussion Paper: 727; Cowles Foundation, 20 Hillhouse Avenue, Yale Station, P.O. Box 2125, New Haven, CT 06520. **PG** 22. **PR** No Charge. **JE** 311, 822. **KW** Labor Contracts. Money Shocks.
AB This paper considers a model in which all exchange is mediated by contracts. The analysis explores the indexation of labor and commodities contracts to observable variations in government spending financed by money creation. In one of the many equilibria, prices and nominal wages are shown to be independent of current money shocks. Except in the extreme equilibrium exhibiting full indexation, policy shocks will generate correlated movements in output and employment over time. The analysis thus suggests an inverse relationship between indexation of contracts and persistence of policy effects.

Copeland, Laurence S.

PD October 1985. **TI** Inflation, Interest Rate Risk and the Variance of Common Stock Prices. **AU** Copeland, Laurence S.; Stapleton, Richard C. **AA** University of Manchester. **SR** New York University Salomon Brothers Center Working Paper: 364; Salomon Brothers Center, Graduate School of Business Administration, New York University, 100 Trinity Place, New York, NY 10006. **PG** 30. **PR** $2.00. **JE** 313, 134. **KW** Interest Rate Risk. Profit Risk. Inflation. Rational Expectations. Cash Flows.
AB The empirical relationships between stock prices, inflation and interest rates have been well documented by Fama (1982), Modigliani and Cohn (1979), Friend and Hasbrouck (1981) and Geske and Roll (1983). This paper develops a model in which individual stock returns react in different degrees to changes in expected inflation because of the different levels of indexation applying to their underlying cash flows. We employ a rational expectations framework where future stock and bond prices depend on the conditional expectations of corporate cash flows and inflation. Inflation impacts nominal interest rates via the Fisher effect. We show that, at the individual stock level, the reaction of stock prices to changes in nominal interest rates depends upon a) the maturity, or more accurately, the duration of the firm's cash flows b) the extent to which interest rate changes reflect changes in real interest rates or merely changes in expected inflation and c) the degree to which the firm's cash flows are indexed against inflation.

Daniel, Terrence E.

TI Natural Gas Exports in a Deregulation Environment. **AU** Goldberg, Henry M.; Daniel, Terrence E.

Dasgupta, Swapan

PD 1985. **TI** Characterization of Intertemporal Optimality in Terms of Decentralizable Conditions: The Discounted Case. **AU** Dasgupta, Swapan; Mitra, Tapan. **AA** Dasgupta: Dalhousie University. Mitra: Cornell University. **SR** Cornell Department of Economics Working Paper: 346; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 29. **PR** No Charge. **JE** 111, 721. **KW** Ramsey Multisector Growth Model. Competitive Program Optimality.
AB The aim of this paper is to present some results on the characterization of optimality of "competitive" programs, in terms of a "decentralizable" condition, in the context of a standard Ramsey type multisector growth model (Ramsey (1928)), where the technology, the period welfare function and the period discount factor (which is assumed less than one) are respectively stationary over time.

de Palma, Andre

TI Effects of Capacity Constraints on Peak Period Traffic Congestion. **AU** Ben-Akiva, Moshe; de Palma, Andre; Kanaroglou, Pavlos.

Delong, J. Bradford

PD July 1985. **TI** Is Increased Price Flexibility Stabilizing?. **AU** Delong, J. Bradford; Summers, Lawrence H. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research

Discussion Paper: 1174; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 27. **PR** $2.50. **JE** 133. **KW** Price Flexibility. Overlapping Contracts. Stabilization.
AB This paper uses Taylor's model of overlapping contracts to show that increased wage and price flexibility can easily be destabilizing. This result arises because of the Mundell effect. While lower prices increase output, the expectation of falling prices decreases output. Simulations based on realistic parameter values suggest that increases in price flexibility might well increase the cyclical variability of output in the United States.

Demange, Gabrielle
PD December 6, 1985. **TI** Free Entry and Stability in a Cournot Model. **AA** Laboratoire d'Econometrie de L'Ecole Polytechnique Paris, France. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series): 463; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 37. **PR** $4.00. **JE** 611. **KW** Cournot Model. Nash Equilibrium. Stability. Free Entry.
AB Two stability concepts are relevant for a Nash equilibrium in a Cournot model: the free entry condition and the internal stability. In this paper, the stability properties of all equilibria, whatever the number of active firms is, are studied simultaneously. It turns out that under usual assumptions, an equilibrium that is stable in both senses exists and is expected to be obtained in the long run.

Dennis, Geoffrey E. J.
TI Financial Innovations and the Interest Elasticity of Private Expenditures. **AU** Akhtar, M. A.; Dennis, Geoffrey E. J.

Desai, Meghnad
PD February 1984. **TI** Wages, Prices and Unemployment - A Quarter Century after the Phillips Curve. **AA** Department of Economics, The London School of Economics and Political Science. **SR** London School of Economics, Econometrics Programme Discussion Paper: A.43; Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. **PG** 31. **PR** No Charge. **JE** 821, 023. **KW** Phillips Curve. Inflation. Unemployment.
AB The history of the econometric work on wages and prices, ie, on the Phillips curve - has been a chequered one. The two main issues which weave through this history are the theoretical foundations for the observed correlation between money wage changes (or price changes) and unemployment and the empirical stability of such an observed correlation. Phillips' classic 1958 article still remains a good starting point and although the relationship has been specified, questioned, rejected as being unstable and reinterpreted, we shall see that much of this is due to a misreading of the original. We begin by examining in some detail Phillips' pioneering article. This is because it has often been ignored or its argument simplified beyond recognition. It is made to seem as if a naive economic theory was used to force the data through a misspecified relation which broke down soon after the initial publication.

Dickens, William T.
TI The Impact of the Runaway Office on Union Certification Elections in Clerical Units. **AU** Freiberg, Beatrice J.; Dickens, William T.

Dominguez, Nestor D.
PD December 1, 1984. **TI** Investment and Q: an Analysis of Covariance Approach. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8418; Research Papers, Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. **PG** 95. **PR** No Charge. **JE** 522, 321, 313. **KW** Investment. Tobin's Q. Tax Policy. Analysis of Covariance. Random Effects.
AB The empirical study of corporate investment has long received attention from economists because of the important role of investment expenditures in determining aggregate demand and the expansion of the economy's production possibility frontier. In this essay we formulate and estimate an investment equation based on an adjustment cost version of Tobin's q theory. The model we estimate assumes a random effects formulation with the components of variance interpreted as stochastic shocks to adjustment costs. The data we use is a large panel of nonfinancial United States corporations over the 1962-1981 period. Our results suggest that a strict interpretation of the q model is not supported by the data, and that previous estimates of the effect of q on investment are biased upwards.

Donsimoni, Marie Paule
PD April 1985. **TI** Variations in Endowments and Utilities. **AU** Donsimoni, Marie Paule; Polemarchakis, Heraklis M. **AA** Donsimoni: Department of Economics, Universite Catholique de Louvain. Polemarchakis: Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-27; 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** 021, 022, 024. **KW** Distribution. Utility.
AB We show the variation in the distribution of utilities is not in general related to the underlying variation in the distribution of endowments.

PD August 1985. **TI** Intertemporal Equilibrium and Disadvantageous Growth. **AU** Donsimoni, Marie Paule; Polemarchakis, Heraklis M. **AA** Donsimoni: Department of Economics, Universite Catholique de Louvain. Polemarchakis: Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-35; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 13. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 021, 024. **KW** Disadvantageous Growth. Overlapping Generations Models.
AB Growth may be disadvantageous in a single

competitive economy of overlapping generations with production and investment, in spite of Walrasian stability.

Dow, James

TI The Consistency of Welfare Judgements with A Representative Consumer. **AU** Werlang, Sergio Ribeiro da Costa; Dow, James.

Drazen, Allan

PD September 1985. **TI** Involuntary Unemployment and Aggregate Demand Spillovers in an Optimal Search Model. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Papers: 25-85; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 34. **PR** No Charge. **JE** 023, 821. **KW** Unemployment. Search. Aggregate Demand.

AB A general equilibrium model is presented which combines search and aggregate demand approaches to unemployment. Search is modelled as a matching process. Unemployed workers must search for vacant firms and vice-versa, where the search intensity of each side depends on the other side's intensity. Even when unemployed workers search optimally and wages have been endogeneously driven down to their minimum feasible level, involuntary unemployment dependent on spillovers of insufficient aggregate demand is possible. For a reasonable specification of product demand, any level of unemployment can be an equilibrium.

Dubin, Jeffrey A.

PD September 1985. **TI** The Returns to Insulation Upgrades: Results from a Mixed Engineering/Econometric Model. **AU** Dubin, Jeffrey A.; Henson, Steven E. **AA** Dubin: California Institute of Technology. Henson: Western Washington University. **SR** California Institute of Technology Social Science Working Paper: 582; Caltech, 228-77, Pasadena, CA 91125. **PG** 45. **PR** No Charge. **JE** 921, 722, 723. **KW** Electricity. Insulation.

AB This paper estimates a new model of residential electricity demand. It differs from previous work in two ways. First, we utilize individual monthly billing data in a pooled time-series/cross-section framework. Second, we use an engineering/thermal load technique to model the household space-heating technology. This allows more precise separation of the effects of economic variables from those of weather, and permits simulation of the effects of various conservation policies. We estimate the model using data from the Pacific Northwest, and use the results to analyze three conservation measures: a price increase, a reduction in thermostat settings, and an improvement of insulation levels. We find average rates of return for insulation upgrades of 4.9 percent for ceilings and 8.3 percent for walls.

PD October 1985. **TI** Evidence of Block Switching in Demand Subject to Declining Block Rates - A New Approach. **AA** Division of the Humanities and Social Sciences, California Institute of Technology. **SR** California Institute of Technology Social Science Working Paper: 583; Division of the Humanities and Social Sciences (228-77), Caltech, Pasadena, CA 91125. **PG** 21. **PR** No Charge. **JE** 229, 921, 132. **KW** Rates Schedules. Electricity. Consumer Demand.

AB This paper considers the problem of forecasting demand subject to a non-linear rate schedule. We develop an empirical model of electricity demand subject to a quantity determined rate schedule and suggest a new procedure to estimate population taste variation. Using micro-level data from the 1975 Washington Center for Metropolitan Studies (WCMS) survey, we provide evidence on the prevalence and extent of block switching.

Duffie, J. Darrell

PD November 1985. **TI** Price Operators: Extensions, Potentials, and the Markov Valuation of Securities. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 813; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 18. **PR** No Charge. **JE** 213, 313, 021. **KW** Operators. Extensions. Potentials. Markov. Valuation. Price. Securities.

AB This paper provides properties of price operators, functions that map the payoff of a contingent claim to its market value as a function of the state of the economy. The principal objective is the construction of a Markov process under which the market value of a security is the expected sum of future dividends of the security, where dividends are a function of the Markov process. First we provide conditions for a norm-preserving arbitrage-free (positive) extension of an arbitrage-free price operator from the space of actually marketed assets to the space of all possible assets. This can be useful for the characterization of equilibrium in settings of asymmetric information or sequential trade. Then we show, in the multiperiod setting, that the market value of a security may be treated as the Markov potential of its dividend, and show several properties that derive from this characterization. Finally, we demonstrate the existence of an invariant measure for the corresponding Markov process under which the mean current value of any security is its discounted mean future payoff. The fixed discount factor is the spectral radius of the valuation operator, the largest possible fixed discount rate on any security.

PD November 1985. **TI** Stochastic Equilibria with Incomplete Financial Markets. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 811; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 21. **PR** No Charge. **JE** 021, 313. **KW** Equilibrium. Incomplete Markets.

AB We demonstrate the existence of equilibria with incomplete financial markets for stochastic economies whose information structure is given by an event tree. The well known examples of non-existence of equilibria are precluded by restricting attention to purely financial securities paying in units of account, rather than "real" securities, claiming contingent commodities. Financial markets may be incomplete: some consumption streams may be impossible to obtain by any trading strategy. Securities may be individually precluded from trade at arbitrary sets of nodes (states and dates). Sufficient conditions for the existence of stochastic equilibria are: continuous, convex, strictly monotonic preferences; and wealth accessibility: the existence of a trading strategy for each agent that, in conjunction with endowment market values, leaves strictly positive wealth at each node. A sufficient (but not necessary) condition for wealth accessibility is positive non-zero endowments for each agent at each node, and strictly positive aggregate endowments. A corollary states that any regime of security prices precluding arbitrage can be embedded in an equilibrium. That is, with fixed security prices, spot goods prices can be adjusted to clear both spot and security markets.

Dutta, Jayasri

PD July 1985. **TI** Assets, Shocks and Memory. **AU** Dutta, Jayasri; Polemarchakis, Heraklis M. **AA** Dutta: Barnard College and University of Southampton. Polemarchakis: Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-34; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 33. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 021, 023, 131. **KW** Shocks. Memory. Incomplete Asset Markets.

AB In an economy in which the only exogenous uncertainty is in the realization of white noise shocks, and a Pareto optimal competitive equilibrium with complete asset markets is independently and identically distributed in time, competitive equilibrium processes with incomplete asset markets are necessarily processes with memory; they display serial dependence, and possibly cycles, in output, employment, and prices or the rate of interest.

PD July 1985. **TI** Testing for Intrinsic Homogeneity. **AU** Dutta, Jayasri; Leon, Hyginus L. **AA** Dutta: Barnard College and University of Southampton. Leon: University of Southampton. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-33; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 31. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 211. **KW** Homogeneity. Stability. Parameter Distribution. Testing.

AB This paper suggests a method for testing the hypothesis that the parameters in a linear regression model are independent and identically distributed, a situation which is described as "intrinsic homogeneity." We propose two separate tests; one for independence, and the other for identical distributions.

PD August 1985. **TI** The Wage-Goods Constraint on a Developing Economy: Theory and Evidence. **AA** Barnard College and University of Southampton. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-32; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 40. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 112, 121. **KW** Terms of Trade. Dual Economy. Industrial Growth. India.

AB In a dual economy, the traditional, or agricultural sector generally has a relatively low supply response to prices. If, in addition, the real wages of the modern sector are denominated at least partly in terms of the product of agriculture, then its output sets an upper bound on employment in the industry (i.e. the modern sector). Such a constraint may be binding in the short run, whenever the level of food production is low. This is called the "wage-goods constraint." This paper examines the analytics of a wage-goods constraint in the framework of a two-commodity model of a dual economy, with surplus labor, where (unconstrained) industrial output is demand-determined. The effects of either expansionary or redistributive policy may be quite different, and sometimes perverse, in a situation where the wage-goods constraint is binding. The shortage of wage-goods, arising from agricultural stagnation, may in fact be sustained in the long run because it pays producers in both sectors to "stay where they are." This is analyzed in a long-run version of the model. The paper also reports empirical evidence on the validity of the wage-goods constraint in India, between 1955 and 1980.

Eckstein, Zvi

PD June 1985. **TI** Agricultural Supply Response Using Vector Autoregression (Var) with Panel Data: Some Evidence from India. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 27-85; Department of Economics, Tel-Aviv University, Ramat Aviv, ISRAEL. **PG** 33. **PR** No Charge. **JE** 711. **KW** Supply. Vector Autoregression. Panel Data. Expectations. India. Agriculture.

AB A dynamic agricultural vector autoregression econometric model is specified and estimated for the standard supply response model using panel data. The model is estimated using twenty years of district level data for three regions in northern India where in each region there are several districts. The results indicate the importance of the dynamics in agricultural decision making as well as the simultaneity of the allocation of resources and prices of the different crops. The estimation results with respect to the different crops and regions are presented and discussed in detail in the paper.

Edison, Hali J.

PD October 1985. **TI** The U.K. Sector of the Federal Reserve's MultiCountry Model: The Effects of Monetary and Fiscal Policies. **AA** Division of International Finance, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 267; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 26. **PR** No Charge. **JE** 133, 122, 023. **KW** Econometric Models. Stabilization Policy.

AB The purpose of this paper is to describe and to analyse in some detail the U.K. sector of the Federal Reserve's Multicountry Model (MCM). The analysis focuses on the effects of shifts in U.K. monetary and fiscal policies at three levels: 1) within the unlinked U.K. sector, 2) within the linked MCM framework, and 3) within the linked MCM under the assumption that U.K. policy shifts are coordinated with those in other countries. In comparing the unlinked MCM U.K. sector with other U.K. models such as the LBS and National Institute it is found that all the models have similar government expenditure multipliers but the components of GNP respond quite differently. The contrast between linked and unlinked simulation illustrates the importance of international feedback effects.

PD October 1985. **TI** Optimal Currency Basket in a World of Generalized Floating: An Application to the Nordic Countries. **AU** Edison, Hali J.; Vardal, Erling. **AA** Edison: International Finance Division, Federal Reserve Board. Vardal: Institute of Economics, University of Bergen, Norway. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 266; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 33. **PR** No Charge. **JE** 431. **KW** Optimal Currency Basket. Exchange Rates.
AB The purpose of this paper is to derive optimal weights for a currency basket taking into consideration the objective of the policymaker. We carefully distinguish between the two terms: effective exchange rate index and currency basket, which are often used interchangeably in the literature. In general, our analysis is an extension of the work of Branson-Katseli and Lipschitz-Sundararajan and then applied to the Nordic countries. We use the policy objective of minimizing fluctuation in export production and illustrate our results using Norway, Sweden and Finland. The weights we derive create optimal currency baskets which are different from the ones used in the countries.

Eichengreen, Barry

PD February 1985. **TI** From Survey to Sample: Labor Market Data for Interwar London. **AU** Eichengreen, Barry; Freiwald, Susan. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1136; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PR** $2.00. **JE** 044. **KW** Interwar Unemployment.
AB Our purpose in this paper is to describe a survey of London's interwar labor market and suggest its likely uses, but also to indicate methodological problems encountered in the course of efforts to construct from it an historical data set. Transforming a contemporary sample survey into an historical data set involves questions of judgement, interpretation and methodology. We address these in the course of describing our work with a particular survey. The study in question, known as the New Survey of London life and Labour, was conducted at the London School of Economics in the period 1928-32 under the direction of Hubert Llwellyn Smith. Our objective has been to extract from this survey a sample which can be used to paint a picture of unemployment in interwar London and to characterize the influence of unemployment insurance. As the reader will see, much as the interests and motives of contemporary investigators inevitably influenced the nature of their survey, our own interests and orientation inevitably condition our approach to transforming these interwar survey data into an historical data set.

PD June 1985. **TI** The Impact of Unions on Labor Earnings and Hours at the End of the 19th Century. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1166; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 57. **PR** $3.50. **JE** 831, 042. **KW** Union Wage Effect. Unionism. Hours of Work.
AB Taking as a case study the Iowa labor market in the 1890s, this paper examines anew the impact of unionization on the earnings and hours of labor. The conclusions strongly contradict the thrust of the existing literature. Not only is evidence adduced of a statistically significant union earnings premium, but this 19th century earnings premium appears to have been as large as those estimated for the post-World War II era. From this evidence it does not seem that union density had to rise to mid-20th century levels before unions were able to elevate the earnings of their members. Douglas's early conclusion that unions were able to secure for their members "appreciably higher wages" is borne out by these results. In addition to its impact on the average level of unionists' earnings, 19th century unionism, much like its 20th century counterpart, was associated with a smaller variation in the earnings of males than was the nonunion organization of work. To this extent, the wage-leveling influence of American unions emerges as a remarkably long-lived historical regularity. If unions succeeded even in the 19th century in obtaining for their members substantial wage gains, there is little evidence of comparable success in reducing the length of the workday. There is no evidence that male union members worked noticeably shorter days at the end of the 19th century. If anything, male union members worked longer days in the winter months, when hours of work were most likely to be rationed.

PD October 1985. **TI** Debt and Default in the 1930s: Causes and Consequences. **AU** Eichengreen, Barry; Portes, Richard. **AA** Eichengreen: Department of Economics, Harvard University. Portes: Birbeck College, University of London and Centre for Economic Policy Research. **SR** Harvard Institute for Economic Research Discussion Paper: 1186; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 61. **PR** $3.75. **JE** 041, 443. **KW** External Debt. Default. Pattern of Borrowing. Incidence of Default. Realized Returns.
AB In the absence of a systematic analysis of the interwar record with which recent developments might be compared, it is difficult to determine the relevance of this historical experience to recent difficulties in international capital markets. To provide a basis for comparison, this paper sets out to analyze the pattern of borrowing, the incidence of default and the returns realized by foreign lenders. Its first part describes the contours of international lending in the 1920s and 1930s. Drawing on work by Eaton and Gersovitz (1981) and other investigators of the experience of the 1970s, we use regression analysis to summarize cross-section variations in the pattern and magnitude of sovereign indebtedness. The next part of the paper considers the incidence and

correlates of default, estimating variants of modern models of debt capacity to explore the extent of association between standard measures of economic structure and performance and subsequent interruptions to debt service. In the final part of the paper we provide a long-run perspective on default and on the remedies available to creditors. The provisions of loan contracts are reviewed with an eye toward analyzing the scope for renegotiation. We then present new estimates of the rate of return on foreign loans floated in the 1920s, disaggregating these estimates between loans in default and loans in good standing as a way of constructing a measure of the costs of default as incurred by lenders, and comparing realized rates of return on loans made in different years, to different countries and to different classes of borrowers.

PD October 1985. **TI** The Australian Recovery of the 1930's in International Comparative Perspective. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1184; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 45. **PR** $2.75. **JE** 122, 048, 431. **KW** Currency Devaluation. Australia. Depression. Recovery.
AB This paper compares the relationship of currency devaluation to economic recovery in Australia and 10 European countries. The framework upon which this analysis is based is, with extensions, the model developed in Eichengreen and Sachs (1985). Seen from the perspective of that model, the pattern of Australia's recovery and its relationship to currency devaluation conform to a considerable extent to that pattern and that relationship in the 10 European economies. From most points of view the Australian depression and recovery are not cut from a different cloth but simply tailored to a different style.

PD October 1985. **TI** Macroeconomics and History. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1183; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 70. **PR** $3.50. **JE** 023, 031, 036. **KW** Macroeconomics. Macroeconomic History.
AB For the historian, the relationship of economic history to macroeconomics is very subtle and complex. That relationship must be at the same time intimate -- as when historians draw (as they should) both technique and topic from current macroeconomics -- and distant, for the economic historian's approach to macroeconomic problems should differ fundamentally from the economist's. The argument is that macroeconomic history is a quite distinct -- in ways to be specified -- but by no means independent discipline from macroeconomics. In what follows, I will attempt to develop this argument by example (rather than discourse on methodology).

PD December 1985. **TI** Conducting the International Orchestra: The Bank of England and Strategic Interdependence Under the Classical Gold Standard. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1200; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 36. **PR** $2.75. **JE** 041, 423, 432. **KW** International Policy Coordination. Gold Standard. Central Bank. Bank of England.
AB This paper presents a series of theoretical explorations of the circumstances under which central bank leadership is likely to emerge in asymmetrical models of the classical gold standard. In relation to the historical literature, it seeks to provide a sounder understanding of the basis for the Bank of England's leadership role. In relation to the literature on international economic policy coordination, it seeks to shed light on the conditions under which leader-follower solutions to noncooperative monetary policy games are likely to emerge. I proceed by attempting to incorporate into a simple model of the classical gold standard sterling's role as an international reserve currency and Britain's status as an international creditor. I then explore the strategic implications of these theoretical extensions in a noncooperative setting. Strikingly, the introduction of sterling's reserve currency role provides an immediate explanation for the Bank of England's adoption of leadership and generates, despite the imposition of symmetry elsewhere in the model, the result that the Bank of England possessed an exceptionally powerful pull over international flows of gold. In contrast, the introduction of Britain's creditor status does not increase the incentive for the Bank of England to adopt a leadership role.

Eisenhardt, Kathleen M.

TI Strategic Decision Processes in High Velocity Environments: Four Cases in the Microcomputer Industry. **AU** Bourgeois, L. J. III; Eisenhardt, Kathleen M.

Eldor, Rafael

PD October 1985. **TI** Discriminating Monopoly, Forward Markets and International Trade. **AU** Eldor, Rafael; Zilcha, Itzhak. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Papers: 23-85; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 13. **PR** No Charge. **JE** 022, 442, 411. **KW** Discriminating Monopoly. Forward Markets. Hedging. Separation Theorem.
AB This paper analyzes a price discriminating firm which sells its produce both in the domestic and on the world market under either exchange rate uncertainty or foreign price uncertainty. The firm is a monopoly in the domestic market but a price taker on the world market. The effect of uncertainty on production and export when no forward markets exist is investigated. It is shown that under some conditions, the export increases when one introduces uncertainty. It is also shown that in the presence of forward markets, the "separation theorem" holds and total output increases to that level of the perfectly competitive firm. The optimal hedging policy of this firm is also analyzed.

Ellwood, David T.

PD September 1985. **TI** Poverty in America: Is Welfare the Answer or the Problem?. **AU** Ellwood, David T.; Summers, Lawrence H. **AA** Summers: Department of Economics, Harvard University. Ellwood: JFK School of Government, Harvard University.

SR Harvard Institute for Economic Research Discussion Paper: 1178; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 35. **PR** $2.50. **JE** 914, 911. **KW** Poverty. Welfare Programs.
AB This paper reviews the current policies for fighting poverty and explores the impact they have had. We begin by reviewing trends in poverty, poverty spending and economic performance. It is immediately apparent that economic performance is the dominant determinant of the measured poverty rate over the past two decades. Government assistance programs expanded greatly over this period, but the growth in cash assistance was too modest to have major effects, and the large growth in in-kind benefits could not reduce measured poverty since such benefits are not counted as income. Next we focus on three groups: the disabled, female family heads, and unemployed black youth. We find little evidence that government deserves the blame for the problems of each group, and suggest that the broad outlines of current policies are defensible on economic grounds.

Englander, A. Steven

PD March 1984. **TI** The Interaction of Research and Training in Agricultural Development. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8402; Federal Reserve Bank of New York, New York, NY 10045. **PG** 21. **PR** No Charge. **JE** 110, 621, 713, 811. **KW** Technology Transfer. Research. Wheat. CIMMYT. Agriculture. Technological Change. Training. Education.
AB This paper examines the relationship between technology transfer, agricultural research and the training of researchers. A model is constructed to examine the question of whether a research system in a developing country should adopt foreign technologies or emphasize the development of local technologies. Subsequently, empirical results are presented which indicate that the scope for technology transfer CIMMYT developed wheat varieties were several hundred kilograms per hectare more productive than traditional local varieties, but were themselves inferior to local varieties which were crosses with, or reselections of, the Mexican varieties. Finally there is a discussion of resource allocation between research and training and how high turnover rates for scientific personnel can distort the allocation of resources.

Engle, Robert F.

PD October 1985. **TI** Applications of Kalman Filtering in Econometrics. **AU** Engle, Robert F.; Watson, Mark W. **AA** Watson: Department of Economics, Harvard University. Engle: Department of Economics, UC San Diego. **SR** Harvard Institute for Economic Research Discussion Paper: 1187; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 48. **PR** $3.00. **JE** 211, 212, 723, 313. **KW** Kalman Filter. State Space Model. Electricity Sales. Multivariate Unobserved Components. Dividends. Equity.
AB This paper will present two serious applications of the Kalman filter. These applications were selected to illustrate the power of the state space formulation in solving a wide variety of problems. The first application uses the TVP model to forecast and "weather normalize" electricity sales while the second uses the multivariate unobserved components model to build a rational expectations model of the relation between dividends and equity prices.

Ericsson, Neil R.

PD June 1985. **TI** Conditional Econometric Modelling: An Application to New House Prices in the United Kingdom. **AU** Ericsson, Neil R.; Hendry, David F. **AA** Ericsson: International Finance Division, Federal Reserve Board. Hendry: Nuffield College, Oxford. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 254; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC. **PG** 53. **PR** No Charge. **JE** 212, 932. **KW** Conditional Models. Conditioning. Diagnostic Testing. Dynamics. Econometrics. Economics. Encompassing. Evaluation Criteria. Exogeneity. Expectations. House Prices. Housing. Information Sets. Marginalising. Plans. Time Series.
AB The statistical formulation of the econometric model is viewed as a sequence of marginalising and conditioning operations which reduce the parameterisation to manageable dimensions. Such operations entail that the "error" is a derived rather than an autonomous process, suggesting designing the model to satisfy data-based and theory criteria. The relevant concepts are explained and applied to data modelling of United Kingdom new house prices in the framework of an economic theory-model of house builders. The econometric model is compared with univariate time-series models and tested against a range of alternatives.

Estrella, Arturo

PD August 1984. **TI** The Collateralized Mortgage Obligation: A Statistical Analysis of Its Cash Flows. **AU** Estrella, Arturo; Silver, Andrew. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8406; Research Papers, Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. **PG** 18. **PR** No Charge. **JE** 313, 315. **KW** Mortgages. Mortgage-Backed Securities. Collateralized Mortgage Obligations.
AB The conventional wisdom regarding collateralized mortgage obligations (CMOs) is that they offer a wider variety of cash flows to investors than do standard mortgage pools and that they reduce the cash flow timing uncertainty arising from mortgage prepayments. The cash flows, in fact, cannot be more predictable for all CMO investors. Simulation analysis shows that the cash flows are less predictable for most CMO investors. These results also hold for variants of CMOs with different prepayment allocation schedules. Examination of a specific loss function indicates that despite a wider selection of expected cash flows, CMOs do not dominate standard pools.

Fair, Ray C.

PD May 24, 1985. **TI** The Use of Expected Future Variables in Macroeconometric Models. **AA** The Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 718; Cowles Foundation, Yale University, 30 Hillhouse Avenue, New Haven, CT 06520. **PG** 34. **PR** No Charge. **JE** 212, 023. **KW** Macroeconometric Models. Expectations. Macro Policy. Rational Expectations.

AB A more sophisticated expectational hypothesis than is traditionally used in the specification of macroeconometric models is tested in this paper. Economic agents are assumed to use a vector of variables Z sub t in forming their expectations for periods t+1 and beyond. These expectations may or may not be rational in the Muth sense. The results provide some evidence in favor of the more sophisticated hypothesis, but they are not strong enough to allow much weight to be put on the hypothesis as yet. The evidence in favor of the hypothesis is strongest for households' response to future wages and prices in their consumption and labor supply decisions and for the Fed's response to future inflation rates. The sensitivity of the policy properties of my macroeconometric model to the more sophisticated hypothesis is also examined in the paper. The properties are not sensitive for a policy action in which government expenditures are changed. They are somewhat sensitive for an action in which personal tax rates are changed. In the latter case the properties are also sensitive to whether or not the policy action is anticipated.

Falvey, Rodney E.

PD June 1985. **TI** Uncertainty and the Choice of Protective Instrument. **AU** Falvey, Rodney E.; Lloyd, Peter J. **AA** Falvey: Economics, RSPacS, Australian National University. Lloyd: Economics Department, University of Melbourne. **SR** Australian National University Working Papers in Economics and Econometrics: 125; Department of Statistics, The Faculties, Australian National University, PO Box 4, Canberra ACT AUSTRALIA 2601. **PG** 31. **PR** No Charge. **JE** 026, 411. **KW** Producer and Consumer Choice under Uncertainty. Political Economy Model.

AB This paper examines the choice among protective instruments. The choice among instruments, as well as the level of assistance, is determined according to the relative effects on producers' and consumers' expected utility under uncertainty. A model of a government acting in the public interest is contrasted with a model in which it acts in the interest of various private groups. In some situations a quota turns out to be the optimal choice of instrument.

Farr, Helen T.

PD May 1985. **TI** Revisions in the Monetary Services (Divisia) Indexes of Monetary Aggregates. **AU** Farr, Helen T.; Johnson, Deborah. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 189; Special Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 53. **PR** No Charge. **JE** 220, 223. **KW** Divisia Indexes. Monetary services Indexes.

AB This paper describes, in detail, revisions to the data underlying the computation of the Monetary Services (Divisia) indexes. The revisions were necessary to restore consistency of the data with the original concepts and principles underlying the indexes. Data on both monetary asset stocks and own rates were affected. Further, some changes have been made in computational methodology: in particular, the Fisher Ideal index formula has replaced the Divisia index formula, and the conversion of discount-basis interest rates to yields has been improved. Finally, the indexes have been given the new, more informative, name of Monetary Services indexes (MSI). In keeping with the primary purpose of the paper -- to serve as a basic data reference for the MSI -- limited analysis is done comparing the properties of the new (MSI) and the old (Divisia) indexes. The analysis highlights the sources of the differences between the two sets of indexes and shows, based on autocorrelation and cross correlation analyses, that there are similarities in the properties of the new and old indexes.

Flamm, Harry

TI Industrial Policy under Monopolistic Competition. **AU** Helpman, Elhanan; Flamm, Harry.

Frankel, Allen B.

PD September 1985. **TI** Some Implications of the President's Tax Proposals for United States Banks with Claims on Developing Countries. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 263; Federal Reserve Board, 20th and C Streets, NW, Washington, DC 20551. **PG** 17. **PR** No Charge. **JE** 441, 312, 323. **KW** Foreign Tax Credit. Bank Taxation. Tax Reform. Developing Country Debt.

AB This paper examines some implications of the President's 1985 tax reform plan for United States banks with claims on developing countries. An assessment is presented of how the plan would modify, or eliminate, a variety of mechanisms by which banks shelter income from taxation. A particular focus of the paper is an analysis of the consequences for large U.S. banks of the proposed change in the computation of the U.S. tax credit for taxes paid to foreign countries.

Frech, H. E. III

PD February 1985. **TI** Preferred Provider Organizations and Health Care Competition. **AA** Department of Economics, University of California at Santa Barbara. **SR** University of California Santa Barbara Department of Economics Working Papers: 250; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 24. **PR** No Charge. **JE** 913. **KW** Health Care. Health Insurance. PPO's. Preferred Provider Organizations. Health Maintenance Organizations. HMO's.

AB The preferred provider organization (PPO) is the most dramatic and promising innovation in American health insurance since the early days of the health maintenance organization (HMO). PPOs are intended to reduce the costs of health care. They are so new that there are no official governmental nor industry definitions, nor statistics. Yet, the limited available literature shows that they are growing very rapidly, especially in the West. In this essay, I will examine the methods by which they try to reduce health care costs and my view of their potential to control health care costs. The PPO strategies for reducing health care costs can be boiled down to utilization or quantity control and the provision of discounts or controls on price. The former is essentially identical to the quantity control of the HMO. The latter is more interesting. It amounts to an attempt to improve the efficiency of competition in health care. The major goal of this paper is to analyze this competition-enhancing effect of PPOs. While the PPOs seem generally very procompetitive, there is a danger of monopoly in buying health care (monopsony) if individual PPOs get too large or if they collude in dealing with hospitals and physicians.

PD August 1985. **TI** Monopoly in Health Insurance: The Economics of Kartell versus Blue Shield of Massachusetts. **AA** Department of Economics, University of California Santa Barbara. **SR** University of California Santa Barbara Department of Economics Working Papers: 254; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 53. **PR** No Charge. **JE** 913. **KW** Blue Shield. Health Insurance. Balance Billing.
AB This paper discusses the Kartell versus Blue Shield case on balance billing. Massachusetts Blue Shield's ban on balance billing, in the context of its market power and other policies, leads to insurance with insufficient consumer copayment. Predictably, the result is a very poor record for cost containment. There are also more subtle harmful effects on quality, innovation and on the style of medical practice. Whether or not Judge Breyer is right that Blue Shield should be viewed as a purchaser and that purchasers should be allowed to exploit their market power as they see fit, the ban is bad public policy. Although the immediate appeal of lower prices is clear enough, the ultimate effects are bad for the Massachusetts consumers, the poor, physicians and competing health insurers. The only real beneficiary is Massachusetts Blue Shield itself.

Freiberg, Beatrice J.

PD August 1985. **TI** The Impact of the Runaway Office on Union Certification Elections in Clerical Units. **AU** Freiberg, Beatrice J.; Dickens, William T. **AA** Freiberg: Office of the New York City Comptroller. Dickens: Department of Economics, University of California at Berkeley. **SR** UC Berkeley Working Papers in Economics: 200; Department of Economics, UC Berkeley, CA 94720. **PG** 26. **PR** No Charge. **JE** 831. **KW** Unions. Run-Away-Shops. Logit. Voting. Clerical Workers. Union Certification Elections.
AB The authors estimate a model of voting in union certification elections including a measure of the ease with which employers may relocate work as an independent variable. The work mobility variable is found to have a strong negative influence on union support.

Freiwald, Susan

TI From Survey to Sample: Labor Market Data for Interwar London. **AU** Eichengreen, Barry; Freiwald, Susan.

Frenkel, Jacob A.

PD October 1985. **TI** Aspects of Dual Exchange-Rate Regimes. **AU** Frenkel, Jacob A.; Razin, Assaf. **AA** Frenkel: Department of Economics, University of Chicago.
Razin: Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Papers: 32-85; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 46. **PR** No Charge. **JE** 431. **KW** Dual Exchange Rates.
AB The paper deals with some analytical aspects of dual exchange-rate regimes and traces out all the way through the precise effects of the associated monetary policies. In specifying the dual exchange-rate regime we examine the implications of two alternative formulations. In both the government pegs the commercial exchange rate but they differ in their treatment of financial transactions. The government sets a binding quota on the volume of external borrowing and allows for a free market determination of the financial exchange rate, in the first formulation, while it pegs the dual exchange-rate premium and allows for a free mobility of capital, in the second formulation. The paper establishes the equivalence between the two systems, investigates the severe limitations that intertemporal solvency constraints impose on the long-run viability of the dual exchange-rate regimes, and considers explicitly the effects of a devaluation on the exchange-rate premium and the external debt.

Friedman, Benjamin M.

PD April 1985. **TI** Portfolio Choice and the Debt-to-Income Relationship. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1145; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 11. **PR** $1.25. **JE** 023, 322, 313. **KW** Debt:GNP Ratio. Debt-to-Income Ratio. Investor's Aggregate Portfolio.
AB The ratio of outstanding debt to gross national product in the United States has shown essentially no time trend over a period measured not in years but in decades. The research reported in this paper indicates that lenders' portfolio behavior exhibits characteristics that could provide a plausible explanation for this phenomenon. Given the long-run stability of the United States economy's wealth in relation to income, the question of lenders' behavior explaining the stable aggregate debt-to-income ratio turns on whether investors treat debt and other assets as close or distant substitutes in their portfolios. Analysis of financial assets' respective risk properties indicates that debt and equity are indeed sufficiently distant substitutes for lenders' behavior to confine the debt-to-income ratio within relatively narrow limits. In particular, the substitutability of debt and equity securities is sufficiently limited that very large movements in expected return differentials -- movements so large as presumably to elicit offsetting responses from borrowers -- would be required to induce major changes in the debt share of investors' aggregate portfolio, and hence in the economy's aggregate debt-to-income ratio.

PD April 1985. **TI** Crowding Out or Crowding In? Evidence on Debt-Equity Substitutability. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1144; Department of Economics, Littauer Center,

Harvard University, Cambridge, MA 02138. **PG** 29. **PR** $2.00. **JE** 313, 322. **KW** Deficit Financing. Risk. Portfolio Substitutabilities. Securities.
AB When the composition of assets outstanding in the market changes, the pattern of expected asset returns also changes, shifting to whatever return structure will induce investors to hold just the new composition of existing assets. The object of this paper is to determine, on the basis of the respective risks associated with the returns to broad classes of financial assets in the United States, and hence on the basis of the implied portfolio substitutabilities among these assets, how government deficit financing affects the structure of market-clearing expected returns on debt and equity securities traded in United States markets. The empirical results indicate that government deficit financing raises expected debt returns relative to expected equity returns, regardless of the maturity of the government's financing.

Frydl, Edward J.

TI Some Features of Financial Asset Accumulation in the United States. **AU** Akhtar, M. A.; Frydl, Edward J.

Gagey, Frederic

PD March 1985. **TI** Experimental Economics Applied to Teaching: Elaboration of a Microeconomic Game. **AU** Gagey, Frederic; Rey, Patrick. **AA** Ensae. **SR** Unite de Recherche, Document de Travail Ensae/insee: 8504; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, France. **PG** 34. **PR** No Charge. **JE** 012. **KW** Experimental Economics. Teaching. Pedagogical Games.
AB Experimental economics, which has recently developed significantly, seems likely today to constitute a helpful tool in the teaching of economics. After presenting the main stages of research in this field, we shall give methodological points for organizing pedagogical games. As an example, we propose here a simple game, which can be easily used in its present form to introduce students to microeconomics.

Geanakoplos, John

PD July 1985. **TI** The Existence, Regularity and Constrained Suboptimality of Competitive Allocations When the Asset Market is Incomplete. **AU** Geanakoplos, John; Polemarchakis, Heraklis M. **AA** Geanakoplos: Cowles Foundation, Yale University. Polemarchakis: Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-28; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 53. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 021, 022, 024. **KW** Competitive Equilibrium. Existence. Suboptimality.
AB Let assets be denominated in an a priori specified numeraire. Whether or not the asset market is complete, a competitive equilibrium exists as long as arbitrage is possible when assets are free. Generically, the set of competitive equilibria is finite, and the equilibrium prices and allocations in the commodity spot markets are uniquely determined by the asset allocation in a neighborhood of a competitive equilibrium. We show that if the asset market is incomplete, a competitive equilibrium allocation is generically constrained suboptimal: there exists an arbitrarily small reallocation of the existing assets, which leads to a Pareto improvement in welfare when prices and allocations in the commodity spot markets adjust to maintain equilibrium.

PD October 1985. **TI** Walrasian Indeterminacy and Keynesian Macroeconomics. **AU** Geanakoplos, John; Polemarchakis, H. R. **AA** Geanakoplos: Yale University. Polemarchakis: Columbia University. **SR** Yale Cowles Foundation Discussion Paper: 778; Cowles Foundation, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 50. **PR** No Charge. **JE** 023, 021. **KW** Overlapping Generations. Perfect Foresight. Short Run Policy Effectiveness.
AB Overlapping generations models with or without production or a portfolio demand for money display a fundamental indeterminacy. Expectations matter; and they are not, in the short run, constrained by the hypotheses of agent optimization, rational expectations, and market clearing. No short run policy analysis is possible without some explicit understanding of how agents expect the economy to respond to the policy. In this framework of perfect foresight and market clearing prices, it is possible to make Keynesian assumptions about the rigidity of money wages and the exogeneity of "animal spirits" of investors, to use the standard IS-LM apparatus, and to derive Keynesian conclusions about the short run effectiveness of policy. Alternatively, starting from different but no less rational expectations, one can derive the "new classical" neutrality propositions.

PD October 1985. **TI** A Theory of Hierarchies Based on Limited Managerial Attention. **AU** Geanakoplos, John; Milgrom, Paul. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 775; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 55. **PR** No Charge. **JE** 512, 511. **KW** Hierarchical Organizations. Classical Team Theory. Optimal Hierarchical Forms.
AB Our purpose in this paper is to investigate the economics of managed organizations by focusing on the decision problem of management. As in classical team theory, our analysis ignores the problem of conflicting objectives and is based on the problem of coordinating the decisions of several imperfectly informed actors. However, unlike classical team theory, we concentrate on the choice by managers of what to know, as well as what to do, and we allow for the possibility that bounded rationality limits their ability to understand subtle messages.

PD October 11, 1985. **TI** Comparative Statics and Local Indeterminacy in OLG Economics: An Application of the Multiplicative Ergodic Theorem. **AU** Geanakoplos, John; Brown, Donald J. **AA** The Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 773; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 34. **PR** No Charge. **JE** 021. **KW** OLG Economies. Overlapping Generations. Equilibrium.

AB This study is an effort to give a simple measure of the local size of the equilibrium set of OLG economies in which there may be more than one good and more than one consumer per period, and in which the generations may differ across time.

PD October 11, 1985. **TI** Real Indeterminacy with Financial Assets. **AU** Geanakoplos, John; Mas, Colell Andreu. **AA** Geanakoplos: The Cowles Foundation, Yale University. Mas-Colell: Harvard University. **SR** Yale Cowles Foundation Discussion Paper: 770R; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 14. **PR** No Charge. **JE** 313. **KW** Incomplete Financial Markets. Real Indeterminacy. Complete Markets Hypothesis.

AB The purpose of this paper, which takes up after D. Cass (1984a, 1984b), is to find the degree of real indeterminacy inherent in models with purely financial assets. We solve the problem for the case where there are enough traders (precisely, the number of traders is larger than the number of bonds) and the asset returns structure is in general position. We find that if the number of bonds is non-zero and fewer than the number of states then, generically, the number of dimensions of real indeterminacy is S-1, one less than the number of states. There is something of a surprise in the above result, namely the dimension of real indeterminacy does not depend on the number of bonds (except in the two limit cases). Indeed one initial conjecture was S-B. This points to an intriguing qualitative discontinuity at the complete market configuration. If markets are financially complete then the model is determinate. Let just one bond be missing and the model becomes highly indeterminate. Thus, in this sense, the complete markets hypothesis lacks robustness.

Geanakoplos, John D.

PD August 30, 1985. **TI** Existence, Regularity, and Constrained Suboptimality of Competitive Allocations when the Asset Market is Incomplete. **AU** Geanakoplos, John D.; Polemarchakis, Heraklis M. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 764; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 45. **PR** No Charge. **JE** 313. **KW** Asset Markets. Competitive Equilibria. Incomplete Asset Markets.

AB Let assets be denominated in an a priori specified numeraire. Whether or not the asset is complete, a competitive equilibrium exists as long as arbitrage is possible when assets are free. Generically, the set of competitive equilibria is finite, and the equilibrium prices and allocations in the commodity spot markets are uniquely determined by the asset allocation in a neighborhood of a competitive equilibrium. If the asset market is incomplete, a competitive equilibrium allocation is generically constrained suboptimal: there exists an arbitrarily small reallocation of the existing assets, which leads to a Pareto improvement in welfare when prices and allocations in the commodity spot markets adjust to maintain equilibrium.

Geary, Patrick T.

PD August 1985. **TI** Modelling Migration to the New World: Some Problems. **AU** Geary, Patrick T.; O Grada, Cormac. **AA** Geary: Department of Economics, Saint Patrick's College. O Grada: Department of Political Economy, University College Dublin. **SR** Centre for Economic Policy Research Discussion Paper: 72; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, England. **PG** 11. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 042, 044, 823. **KW** Migration. Labour Economics. New World.

AB An important drawback of single equation migration models is that in effect they assume wages and employment to be independent of the level of migration. Williamson has proposed instead a simple general equilibrium model with labour supply and demand equations for sending and receiving countries and a migration equation. The model yields a reduced form migration equation without current wage terms, casting doubt on the single-equation specifications which include such terms. Using data on migration flows from some European countries to the United States for 1870-1914, Williamson estimated the parameters of the structural model from the reduced form equation and extraneous information. The results are broadly as predicted by theory. However, when the structural model is estimated, this is no longer the case. This prompts a closer look at the model. It is argued that by assuming third country flows are exogenous, Williamson's estimation of his model is of a less general equilibrium nature than might appear. However, implementation of a full general equilibrium strategy is ruled out by data considerations. Instead, richer specifications of the model's equations are formulated and estimated. The results remain disappointing. The strategy recommended by Williamson seems potentially more applicable to modern migrations with better data.

PD August 1985. **TI** Immigration and the Real Wage: Time Series Evidence from the United States, 1820-1977. **AU** Geary, Patrick T.; O Grada, Cormac. **AA** Geary: Department of Economics, Saint Patrick's College. O Grada: Department of Political Economy, University College Dublin. **SR** Centre for Economic Policy Research Discussion Paper: 71; 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** 042, 823, 824. **KW** Labour Economics. Migration.

AB How migration affects economic welfare in sending and receiving countries is an important issue. This paper deals mainly with one aspect, the relation between immigration and the real wage in the host country. Theory is ambivalent on the outcome. While it is plausible to see immigration depressing the real wage consequent on increased labour supply, consideration of scale economies and migrant selection bias argue for a rise, at least in the medium term. The hypothesis that immigration affects the real wage implies that the former "precedes" or "leads" the latter. This can be expressed in terms of the Granger-causal ordering of the series. We present bivariate and trivariate evidence on the ordering for United States immigration 1820-1977, and find that Granger-causality runs mainly from immigration to real wages, and not the reverse. Similar analysis of the relationship between immigration and GNP produced weak and inconclusive results. Investigation of the direction and magnitude of the immigration-real wage effect shows that it is negative, but modest.

Ghemawat, Pankaj

PD May 1985. **TI** Capital Commitment and Profitability: An Empirical Investigation. **AU** Ghemawat, Pankaj; Caves, Richard E. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1152; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 25. **PR** $2.00. **JE** 611. **KW** Entry Deterrence. Profitability. Capital Commitments. Theory of Supergames.

AB Modern theoretical contributions to industrial organization have emphasized the importance of capital commitment but offered contrary predictions about its consequences for the monopoly rents that market incumbents could accrue. Models of entry deterrence indicate that incumbents' profits may increase with the scope for capital commitments, while the theory of supergames predicts that they may decline. Overall, our statistical study of firms in concentrated producer-goods markets favors the supergames hypothesis. We test a number of interactive hypotheses in an attempt to discriminate more finely among conditions in which commitment opportunities would repel entrants or promote warfare among incumbents. Most of them are not confirmed, but the inflexibility of the production process interacts with capital-intensity as predicted by the supergame hypothesis. Other interactions seem, on balance, to depict opportunities to deter entry, notably forward integration of the business in question.

Giavazzi, Francesco

PD June 1985. **TI** Monetary Policy Interactions under Managed Exchange Rates. **AU** Giavazzi, Francesco; Giovannini, Alberto. **AA** Giavazzi: Universita di Venezia, Italy. Giovannini: Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-26; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 26. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 131, 423, 431, 432. **KW** Cooperative Equilibria. Noncooperative Equilibria. Managed Exchange Rates. Beggar Thy Neighbor.

AB Popular discussions of managed exchange rate systems often state that harmonization of monetary policies and convergence of macroeconomic performances are sufficient conditions to prevent exchange rate realignments in the face of common exogenous shocks. In this paper we show that in some circumstances realignments may occur purely as a result of lack of coordination even when policymakers' objectives are identical and the countries' structures are perfectly symmetric. The paper further explores the motivation for using the exchange rate as a policy tool to optimally redistribute country-specific shocks in goods or assets markets.

Gilbert, Richard J.

PD May 1984. **TI** Competition with Lumpy Investment. **AU** Gilbert, Richard J.; Harris, Richard G. **AA** Gilbert: University of California, Berkeley. Harris: Queen's University. **SR** UC Berkeley Institute of Business and Economic Research, Research Papers in Economics: 84-4; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 38. **PR** $3.00. **JE** 021, 022, 026, 611. **KW** Competition in Markets. Nash Competitors. Sub-Game Perfect Equilibrium. Scale Economies. Cournot-Nash Game.

AB In markets with increasing returns to scale in investment, competition will occur over both the amount and the timing of new capital construction. This paper develops a theory of competition in markets with indivisible and irreversible investments. The consequences of competition depend on the strategies and information available to the competitors. If firms act as Nash competitors with binding contracts, revenues will exceed costs for any number of firms and otherwise identical firms will earn different profits. In the absence of binding contracts, competition over the timing of investment can completely dissipate profits in a sub-game perfect equilibrium with two or more firms.

Giles, David E. A.

TI Preliminary -- Test Estimation of the Error Variance in Linear Regression. **AU** Mikolajczyk, Judith A.; Giles, David E. A.; Wallace, T. Dudley.

Giovannini, Alberto

TI Monetary Policy Interactions under Managed Exchange Rates. **AU** Giavazzi, Francesco; Giovannini, Alberto.

Goldberg, Henry M.

PD December 1985. **TI** Natural Gas Exports in a Deregulation Environment. **AU** Goldberg, Henry M.; Daniel, Terrence E. **AA** Faculty of Business, University of Alberta. **SR** Stanford Hoover Institution Working Papers in Economics: E-85-30; Domestic Studies Program, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 27. **PR** No Charge. **JE** 421, 721. **KW** Natural Gas. Canadian Exports. BALANCE Energy Model. Natural Gas Trade.

AB This paper analyzes key policy issues regarding Canadian natural gas exports to the United States during the 1980's and beyond. A multi-regional, intertemporal model of future North American natural gas trade is used to derive market equilibrium flows and prices under various scenarios. This linear programming/econometric model is an extension of the BALANCE Canadian energy model to include a full North American natural gas transportation network and demand representations for imported gas in major United States regions. Results from the model indicate the incentive for Canada to move away from a uniform border price system for gas exports to a system of uniform wellhead export price with varying Canada-United States border prices depending on transportation costs. This is examined when domestic Canadian and/or export gas prices and volumes are deregulated. It is shown that there will likely be a substantial increase in North American gas trade in the future. Expanded Canadian natural gas exports to the United States Northeast are uncertain because of the high capital costs of new pipeline systems, implying a need for negotiation between the two countries to explore potential mutually beneficial cost and risk sharing arrangements.

Goldberg, Michael A.

PD April 1985. **TI** The Effect of Futures Markets on Money Demand. **AA** Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 78; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 23. **PR** No Charge. **JE** 313, 311. **KW** Futures. Money Demand.

AB To date, futures market research has concentrated on the hedging-effectiveness and price-discovery aspects of these markets with relatively little research done on their macroeconomic effects. The objective of this paper is to determine the impacts of futures markets on money demand. This is accomplished by modelling the individual's precautionary demand for money balances within a portfolio-theoretic context when credit markets are incomplete. The paper concludes that futures markets can affect an individual's money demand when futures contracts are used to hedge the risk in the individual's current asset portfolio, but not when they are used to hedge intertemporal shifts in the investment-opportunity set. Furthermore, when individuals have homogeneous assessments of securities returns and all assets are marketable, changes in basis risk between futures and spot prices have short-term effects tantamount to money supply changes.

Goldstein, Elizabeth Ann

PD June 1984. **TI** A Theoretical Model of Countertrade. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8404; 33 Liberty Street, New York, NY 10045. **PG** 22. **PR** No Charge. **JE** 411, 421, 422, 430. **KW** Countertrade. Barter. Foreign Exchange. International Trade. Exchange Rate. Compensation.

AB In response to the world recession and decreased lending to LDCs, the use of countertrade to facilitate international trade has been on the rise. In light of this, it is important to examine whether countertrade actually benefits the countries engaged in it. This article addresses this issue by examining when countertrade supplements traditional trade thus benefiting the partners and when countertrade's costs make the partners worse off. This is accomplished using a stylized model of countertrade between a debtor and creditor country. The results of the model show that, during periods when widespread use of trade impediments reduce import and export levels, countertrade can supplement traditional trade in the short-run by providing an alternative to an exchange rate depreciation. Equally important, it provides a marketing service for the debtor country's exports and a way to circumvent foreign exchange controls. Consequently, in the short run, countertrade alleviates part of the debtor countries' need for foreign exchange. Over time, however, countertrade can reduce the debtor's supply of foreign exchange in two ways. It can cause a deterioration in the debtor country's aggregate terms of trade which reduces its foreign exchange earning ability. And, by allowing debtors to circumvent impediments to trade, it reduces the urgency policymakers may feel to change the domestic economy in ways needed for trade to be conducted freely and creates the potential for countertrade to become institutionalized. Together, these effects can reduce the foreign exchange supply to the debtor country so much that, in the longer run, both partners would have been better off without countertrade. Countertrade is therefore only a temporary solution for the liquidity squeeze in debtor countries. It treats the symptoms when access to the multilateral trade and payments system is inhibited.

PD November 16, 1984. **TI** Countertrade: A Stop Gap Solution to Foreign Exchange Shortages. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 8424; Federal Reserve Bank of New York Research Papers, 33 Liberty Street, New York, NY 10045. **PR** No Charge. **JE** 411, 421, 422. **KW** Countertrade. Barter. Compensation. Foreign Exchange. International Trade. Exchange Rate.

AB In response to the world recession and decreased lending to LDCs, the use of countertrade to facilitate international trade has been on the rise. In light of this, it is important to examine whether countertrade actually benefits the countries engaged in it. This paper addresses this issue by examining the benefits and costs of countertrade to the individual debtors and creditors that participate in it. Evidence presented in the paper suggests that, during periods when widespread use of trade impediments reduce import and export levels, countertrade can supplement traditional trade on a temporary basis by providing an alternative to an exchange rate depreciation. Equally important, it provides a marketing service for the debtor country's exports and a way to circumvent foreign exchange controls. Consequently, on a temporary basis, countertrade alleviates part of the debtor country's need for foreign exchange and provides a "second best" trading mechanism. Over time, however, by allowing debtors to circumvent these impediments to trade, countertrade delays changes in domestic policies which can slow domestic reform and the general recovery in debtor countries. In addition, if countertrade is successful in this environment governments may be motivated to institutionalize it thus freezing in existing economic inefficiencies. It is therefore crucial that debtor countries address their domestic problems and reduce obstacles to free trade even as they are, of necessity, practicing countertrade. Otherwise, countertrade's costs will reduce their ability to seize future market opportunities.

Goulder, Lawrence H.

PD December 1985. **TI** Intergenerational and Efficiency Effects of Tax and Bond Financed Changes in Government Spending. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1201; Department of

Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 42. **PR** $2.75. **JE** 322, 023, 321. **KW** Government Spending. Financing Government Spending. Bond Financing. Tax Financing.

AB In the United States a considerable policy debate concerns the extent to which current increases in government spending should be financed through bonds or through taxes. The financing choice can have serious implications for economic growth and for the distribution of welfare across generations. For this study a multisector general equilibrium model with overlapping generations was developed to explore both the efficiency and distributional implications of the different financing alternatives. The model permits one to evaluate these alternatives in a setting where the strong conditions of Ricardian equivalence need not be imposed: the effects of tax-financed and bond-financed temporary increases in government spending are simulated in an environment of distortionary taxes and under different assumptions regarding individuals' foresight and the strength of the bequest motive. Under static expectations, the distributional consequences of the alternative financing methods conform to what one might have predicted: bond finance generally favors the currently older members of the population while tax finance is better for the current young and the yet unborn. In addition, according to a measure of efficiency based on discounted compensating variations, tax finance generally entails smaller efficiency losses than those under bond finance. Under perfect foresight, however, tax and bond finance have more similar distributional and efficiency consequences. With regard to efficiency, in particular, the advantage of tax finance over bond finance diminishes to the extent that individuals can anticipate future changes in tax rates and are induced to alter the intertemporal pattern of labor supply.

Gourieroux, C.

PD May 1985. **TI** A General Theory for Asymptotic Tests. **AU** Gourieroux, C.; Monfort, A. **AA** INSEE, Unite Recherche. **SR** Document de Travail Ensae/insee: 8509; I.N.S.E.E., Unite de Recherche, 18 Bd Adolphe Pinard, 75014 Paris, France. **PG** 32. **PR** No Charge. **JE** 211. **KW** Asymptotic Tests. Likelihood. Moments. M-Estimators.

AB A general framework for asymptotic tests is proposed. This framework contains as particular cases tests based on various estimation techniques: maximum likelihood methods, pseudo-maximum likelihood (P.M.L) methods and quasi-generalized P.M.L. methods, m-estimation methods, moments or generalized moments methods, and asymptotic least squares. Moreover the null hypothesis has a general "mixed" form, including the usual implicit and explicit form.

PD May 1985. **TI** A General Approach to Serial Correlation. **AU** Gourieroux, C.; Monfort, A.; Trognon, A. **AA** Gourieroux: CEPREMAP. Monfort and Trognon: INSEE/ENSAE. **SR** Document de Travail INSEE/ENSAE: 8508; INSEE, Unite De Recherche, 18 Bd. Adolphe Binard, 75675 Paris cedex 14, France. **PG** 43. **PR** No Charge. **JE** 211. **KW** Score Test. Serial Correlation. Partially Observable Models.

AB In this article the testing and estimation problems are discussed in the case of serial correlation. Various models are particular cases of the general framework considered: the non-linear simultaneous equations models, the probit models, the tobit models, the desequilibrium models, the frontier models. In this context, it is shown that the score test can be written explicitly and that the statistic obtained is a generalization of that of Durbin-Watson; moreover the maximum likelihood estimation procedure is shown to be robust with respect to serial correlation.

PD June 1985. **TI** Testing Unknown Linear Restrictions on Parameter Functions. **AU** Gourieroux, C.; Monfort, A.; Renault, E. **AA** Gourieroux: CEPREMAP. Monfort and Renault: INSEE. **SR** CEPREMAP Discussion Papers: 8516; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, France. **PG** 58. **PR** No Charge. **JE** 211. **KW** Hypothesis Testing. Mixed Form.

AB We consider test of null hypotheses of the form: there exists a k-dimensional vector m such that h(kappa) = H(kappa)m, where kappa is the q-dimensional parameter of interest and h and H are known functions of size (p, 1) and (p, k). The obtained test procedures are applied to various problems: test of rational expectation, test for common roots, test for the orders of an ARMA process, & test for co-integration.

Gourieroux, Christian

PD 1985. **TI** Verification Empirique de Deux Schemas D'anticipation: Adaptatif et Rationnel. **AU** Gourieroux, Christian; Peaucelle, Irina. **AA** Gourieroux: CEPREMAP. Peaucelle: CNRS. **SR** CEPREMAP Discussion Papers: 8517; CEPREMAP, 142, rue du Chevaleret, 75013 Paris, France. **PG** 34. **PR** 10 FF. **JE** 022, 821. **KW** Aggregation Problem. Employment Expectations. Extrapolative Expectation Hypothesis. Rational Expectation Hypothesis.

AB In this paper we perform empirical tests on the expectations of employment made by the firms. We use qualitative panel data from quarterly tendency surveys in industry. We verify the validity of rational and extrapolative expectation hypotheses on aggregated level, according to the economic and size characteristics of the firms and taking into account explicitly the qualitative aspect of individual responses. We study in both cases the aggregation problem.

Graetz, Michael J.

PD December 1985. **TI** The Tax Compliance Game: Toward an Interactive Theory of Law Enforcement. **AU** Graetz, Michael J.; Reinganum, Jennifer F.; Wilde, Louis L. **AA** Graetz: Yale Law School. Reinganum: Caltech. Wilde: Caltech. **SR** Caltech Social Science Working Paper: 589; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 66. **PR** No Charge. **JE** 323, 916. **KW** Tax Compliance. Tax Evasion. Law Enforcement.

AB The existing paradigm for the economic analysis of tax compliance provides an inadequate theory of the revenue collection process. Even as a purely economic model, its exclusive focus on individual taxpayers' decisionmaking promotes an unduly restrictive vision of the compliance problem and potential responses to it. In this paper we outline a more comprehensive theoretical basis for analyzing tax compliance, and illustrate it with a simple model. We believe our approach to be a significant improvement in the economic theory of law enforcement because it views the noncompliance problem as an interactive system. In our theoretical construct, individual decisionmaking not only depends upon and responds to the detection and punishment structure, but, unlike prior models, we also explicitly include the law enforcement agency -- in this case the Internal Revenue Service -- as an important interactive element. Initially we outline our general approach and its differences from the existing economic law enforcement paradigm. We then detail a simple model and its results and compare these results both to the prior literature and to some of our ongoing research in an effort to illustrate how our theoretical construct may affect predictions. Finally, we describe potential extensions of the model, examine its robustness with respect to various underlying assumptions and offer suggestions for further research, including possible applications to other law enforcement contexts.

Grandmont, Jean Michel

PD March 1985. **TI** Distributions of Preferences and the "Law of Demand". **AA** CEPREMAP. **SR** CEPREMAP Discussion Papers: 8513; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, France. **PG** 19. **PR** 10 FF. **JE** 022. **KW** Aggregate Competitive Demand. Revealed Preference.

AB This paper gives sufficient conditions for the Jacobian matrix of aggregate competitive demand to be negative definite. This strong property implies that the weak axiom of revealed preference is satisfied in the aggregate, and that total demand for each good is a decreasing function of its own price. These sufficient conditions involve restrictions on the distribution of preferences and are independent of the distribution of income. The approach relies upon the notion of a homothetic transformation of a preference relation. The possible usefulness for aggregation problems of more general affine transformations, which induce a nice algebraic structure on the space of preferences, is also pointed out. It is shown how the result of the paper is related to a similar result obtained by W. Hildenbrand (Econometrica (1983)) who imposed restrictions on the distribution of income.

PD July 1985. **TI** Stability of Cycles and Expectations. **AU** Grandmont, Jean Michel; Laroque, Guy. **AA** Grandmont: CEPREMAP And CNRS. Laroque: INSEE. **SR** CEPREMAP Discussion Papers: 8519; CEPREMAP, 142, rue du Chevaleret, 75013 Paris, France. **PG** 20. **PR** 10 FF. **JE** 021, 022, 023, 131. **KW** Business Cycles. Expectations. Learning.

AB The actual dynamics of an economy depends on how agents forecast the future at every date as a function of their information on the past, while possibly learning the structure of their environment. We show in the case of a one dimensional state variable that under mild conditions on expectations functions, a given cycle with perfect foresight that is stable in the actual dynamics is stable in a fictitious backward perfect foresight dynamics. We exhibit a restricted class of expectations functions for which the converse is true.

PD August 1985. **TI** Stabilizing Competitive Business Cycles. **AA** CEPREMAP and CNRS. **SR** CEPREMAP Discussion Papers: 8518; CEPREMAP, 142, rue du Chevaleret, 75013 Paris, France. **PG** 31. **PR** 10 FF. **JE** 021, 022, 023, 131, 311, 321, 322. **KW** Business Cycles. Stabilization Policy.

AB This paper studies how stylized monetary (proportional money transfers), fiscal (lump sum money transfers) and public expenditure policies may eliminate endogenous deterministic cycles and stationary Markov sunspot equilibria in a simple version of the overlapping generations model.

Gray, Malcolm R.

PD June 1985. **TI** Generalizing The Partial Adjustment Model. **AA** Centre for Economic Policy Research, Australian National University. **SR** Australian National University Working Papers in Economics And Econometrics: 126; Department of Statistics, Australian National University, and P.O. Box 4, Canberra, ACT 2601 AUSTRALIA. **PG** 41. **PR** No Charge. **JE** 132. **KW** Partial Adjustment Model. Trend Neutrality.

AB The partial adjustment model (PAM) is used in almost all econometric modelling enterprises. It appears as the stock adjustment principle in demand for money and investment studies and provides a good deal of the dynamics in the large macroeconometric models. In spite of its wide use, its fundamental properties have frequently been questioned. For example, it is widely known that, although any fixed level of the target will be asymptotically approached under PAM, operation of PAM with a linearly trending target results, asymptotically, in a gap between the variable and its target. Davidson has christened the property of asymptotically approaching a trending target "trend neutrality". The usual response to the absence of trend neutrality in PAM has been to attempt to extend the dynamic order of the adjustment equation in such a way to introduce it. The three main conclusions of this paper are that there is not a strong general case for imposing trend neutrality upon adjustment equations, that dynamic order extension is not consistent with intertemporal optimisation of the conventional type of cost function, and that adoption of the sort of procedures advocated by Wallis may well be the most constructive response to the problems.

Green, Jerry

PD October 1985. **TI** Sequential Innovation and Market Structure. **AU** Green, Jerry; Laffont, Jean Jacques. **AA** Green: Department of Economics, Harvard University. Laffont: Universite des Sciences Sociales, Toulouse, France. **SR** Harvard Institute for Economic Research Discussion Paper: 1185; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 12. **PR** $1.25. **JE** 621, 611. **KW** Sequential Innovation. Evolving Markets. Market Structure.

AB This paper concerns the introduction of a sequence of new, higher-quality durable products in a market in which there already exists a lower-quality substitute. The product has the further attribute that a real resource cost is incurred at the time a higher-quality product is first used. This stylized feature of our model represents several common characteristics of commodities in evolving markets. Computers and electronic consumer durables are evident examples. The two key features of this commodity, its exogenously improving quality and the cost incurred in first-time use, interact in interesting ways. We study the cases of a monopoly who can control the product price over time, and a sequential oligopoly in which the currently-best variety of the good is produced by only one firm, but each improvement is owned by a new potential entrant. In the monopoly case there is a tendency for the monopolist to suppress the earlier technologically inferior varieties of the product, waiting for the better ones that will be available later, even when it would be socially optimal for the consumers to switch to the earlier innovation and switch again to the subsequent variety. The reason for this is that the monopolist can sell the subsequent innovation for a higher price if consumers do not own the earlier innovation. In the sequential duopoly case a different phenomenon is operative. There is a tendency for the earlier innovation to be produced and sold, at a profit, when it should be suppressed in favor of waiting for the superior quality good. This is because consumers correctly believe that if they do not buy early, the subsequent innovation's producer will charge them a monopoly price and they will get no surplus.

Green, Jerry R.

PD September 1985. **TI** Implementation Through Sequential Unanimity Games. **AU** Green, Jerry R.; Laffont, Jean Jacques. **AA** Green: Department of Economics, Harvard University. Laffont: Universite des Sciences Sociales de Toulouse. **SR** Harvard Institute for Economic Research Discussion Paper: 1177; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 37. **PR** $2.75. **JE** 025. **KW** Social Decision Rules. Sequential Voting. Implementability.

AB In this paper we study the implementation of social decision rules in a particular family of economic environments and by means of a particular type of sequential voting process. In these problems there are two agents, each of whom receives a real-valued piece of information. They must choose between two collective decisions: a status quo giving a known level of utility, and an alternative whose value to each of them depends positively on the information they both possess. In this paper we examine two issues. The first concerns the nature of the extensive form game through which implementation takes place. By the revelation principle we know that one form of the game that can implement any implementable decision rule is for the players simultaneously to announce their private information, and for these announcements to determine the outcome without further strategic interaction. In this paper we characterize the decision rules implementable through the use of a particular type of extensive form, rather than through any extensive form. The second question studied in this paper is that of the willingness of the players to terminate their process of communication at the terminal nodes of the game tree being used.

Grilli, Vittorio U.

PD December 1985. **TI** Investment Banking Contracts in a Speculative Attack Environment: Evidence from the 1890's. **AA** Department of Economics, University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 28; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 47. **PR** No Charge. **JE** 314, 310, 042. **KW** Investment Banking Contract. Speculative Attacks.

AB In this paper we investigate the empirical relevance of a particular version of investment banking contract theories. We focus on a single observation, the contract of 1895 between the Belmont-Morgan Syndicate and the United States Treasury. Given the impossibility of using standard statistical techniques, we develop a different methodology in order to examine the explanatory power of the model. This procedure consists of a series of sequential steps aiming to reproduce the economic and institutional conditions in which the contract under investigation was formed. We obtain estimates of parameters which completely summarize the environment, as far as the contracting process is concerned. The final step is to produce the contract which would have been optimal in the estimated setting, according to the theory under examination. We show that there exists a set of possible scenarios that support the actual Belmont-Morgan contract as the optimal outcome.

Grubb, David

PD October 1985. **TI** Topics in the Oecd Phillips Curve. **AA** Centre for Labour Economics, London School of Economics. **SR** London School of Economics, Centre for Labour Economics Discussion Paper: 231; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 50. **PR** No Charge. **JE** 824. **KW** Wage Equation. Phillips Curve.

AB Using annual data for 19 countries from 1950 to 1973, some shown in graphs, this paper estimates a simple wage equation in which percentage unemployment and inflation are correlated with an average coefficient exceeding -1, and then shows how this coefficient varies as the specification is changed. The coefficient is larger for cyclical than for long run changes in unemployment; larger for the OECD as a whole than for one country alone, probably because OECD demand affects inflation through oil and other commodity prices; and larger when inflation rates are high than when they are low. Several other issues are examined, among then the 'wage explosion' in 1969-70 and vacancies or capacity utilization as alternative explanatory variables for wages.

Han, Aaron

PD July 1985. **TI** Nonparametric Analysis of a Generalized Regression Model: The Maximum Rank Correlation Estimator. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1173; Department of Economics, Littauer Center, Harvard University,

Cambridge, MA 02138. **PG** 21. **PR** $1.25. **JE** 211. **KW** Maximum Rank Correlation Estimator. Nonparametric Estimates.
AB The paper considers estimation of a model, y = D.F(x'B, u), where the composite transformation D.F is specified such that D is monotonic and F is strictly monotonic. The paper generalizes the standard data analysis where the functional form of D.F is parametrized. The estimator which it proposes is the maximum rank correlation estimator that is nonparametric in the functional form of D.F and nonparametric in the distribution of the error terms. The estimator is shown to be strongly consistent for the regression parameters up to a scale coefficient.

Han, Aaron K.

PD March 1985. **TI** Asymptotic Efficiency Calculations for the Partial Likelihood Estimator. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1139; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 18. **PR** $1.25. **JE** 211. **KW** Partial Likelihood Estimator. Exponential Survival Model. Fixed Right Censoring. Asymptotic Efficiency.
AB The asymptotic efficiency of the partial likelihood estimator is evaluated for an exponential survival model with multiple covariates. The results include general approximation formulae of the efficiency under the censoring, specifically the fixed right censoring and the fixed right censoring with random entry.

PD September 1985. **TI** A Nonparametric Analysis of Transformations. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1182; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 23. **PR** $2.00. **JE** 211. **KW** Transformations. Linear Model. Nonparametric Estimation. Strong Consistency. Monte Carlo.
AB The paper proposes a new nonparametric estimator of the transformation model where the transform z sub i = z(y sub i, l) of the original data 'y sub i satisfies the linearity. This estimator is derived using the rank correlation of Kendall (1938) and is shown to be strongly consistent. We illustrate the estimator in a Monte Carlo study based on the original model of Box and Cox (1964). The findings include a surprising result that even under normality the gains of efficiency in mean squared error can be as much as ten fold for the proposed estimator against the maximum likelihood and the minimax estimators. This finding appears to hold consistently in circumstances where the variances of the maximum likelihood estimates differ significantly from the l-known case.

PD December 1985. **TI** Large Sample Properties of Nonparametric Estimators in Generalized Regression Models. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1199; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 34. **PR** $2.50. **JE** 211. **KW** Generalized Regression Model. Nonparametric Estimation. Consistency. Asymptotic Normality. Hypothesis Testing.
AB For generalized regression model y = F(x' B + u) where F is monotonically increasing, the paper proposes nonparametric estimators of B which do not assume the functional form of F, the distribution of u, nor the distribution of x. The merit of these estimators are the tractable large sample properties which are shown as consistent and asymptotically normal with a convergence rate better than the square root of N. Based on these results, the paper then considers a nonparametric hypothesis testing procedure.

Hansen, Lars Peter

PD August 1985. **TI** Econometric Modelling of Asset Pricing under Rational Expectations. **AA** University of Chicago. **SR** NORC Program in Quantitative Economic Analysis Discussion Paper: 85-14; Program in Quantitative Economic Analysis, NORC, Chicago, IL 60637-2667. **PG** 52. **PR** $2.00; send requests to NORC Librarian. **JE** 313, 212. **KW** Asset Prices. Aggregate Fluctuations. Stochastic Equilibria.
AB This paper uses parametric models that posit the existence of a complete set of securities markets to interpret a body of empirical literature that studies the relation between aggregate fluctuations and asset prices.

PD October 1985. **TI** The Role of Conditioning Information in Deducing Testable Restrictions Implied by Dynamic Asset Pricing Models. **AU** Hansen, Lars Peter; Richard, Scott F. **AA** Hansen: University of Chicago. Richard: Carnegie-Mellon University. **SR** NORC Program in Quantitative Economic Analysis Discussion Paper: 85-13; Program in Quantitative Economic Analysis, NORC, Chicago, IL 60637-2667. **PG** 66. **PR** $2.00; send requests to NORC Librarian. **JE** 313. **KW** Asset Pricing Models. Unconditional Moments. Conditioning Information.
AB The purpose of this paper is to investigate testable implications of equilibrium asset pricing models. We derive a general representation for asset prices that displays the role of conditioning information. This representation is then used to examine restrictions implied by asset pricing models on the unconditional moments of asset payoffs and prices. In particular, we analyze the effect of information omission on the mean-variance frontier of one-period returns on portfolios of securities. Also, we deduce an information extension of equilibrium pricing functions that is useful in deriving restrictions on the unconditional moments of payoffs and prices.

Hansson, Ingemar

PD June 1985. **TI** Investment Subsidies and the Optimality of Time-Consistent Capital Taxation. **AU** Hansson, Ingemar; Stuart, Charles. **AA** Hansson: University of Lund, Sweden. Stuart: University of California Santa Barbara. **SR** University of California Santa Barbara Department of Economics Working Papers: 252; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 26. **PR** No Charge. **JE** 323. **KW** Optimal Capital Taxation. Investment Subsidies.
AB An optimal path of capital taxes involves high taxes

on current capital and low taxes on future capital. Such a path is typically not time-consistent since any future government would also find it optimal to impose high taxes on capital during the period it is in power. Earlier authors have considered situations in which commitment is required to attain the first-best allocation. We show that, even in the absence of commitment, the first-best allocation is a time-consistent equilibrium if government subsidizes investment in addition to taxing capital. The introduction of investment subsidies thus alleviates the suboptimality of time-consistent capital taxation.

PD August 1985. **TI** Labor Supply Estimation: A General Equilibrium Approach. **AU** Hansson, Ingemar; Stuart, Charles. **AA** Hansson: University of Lund, Sweden. Stuart: Department of Economics, University of California Santa Barbara. **SR** University of California Santa Barbara Department of Economics Working Papers: 253; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 19. **PR** No Charge. **JE** 824. **KW** Elasticity of Labor Supply. General Equilibrium Model.
AB Using a cross-section of 22 OECD economies, we regress aggregate labor on marginal tax rates and on a component of productivity that is independent of labor. Estimates of utility parameters are recovered by postulating an aggregate general-equilibrium structure for each economy, solving analytically for the equilibrium response of labor to variations in taxes and productivity, and applying the regression estimates. We then compute the traditional wage and income elasticities of labor supply for each country's aggregate household. The magnitudes of these elasticities are generally in accord with estimates from studies of cross-sections of households, which we interpret as confirmation of the predictive power of the general-equilibrium model.

Hanweck, Gerald A.

PD May 1984. **TI** A Theoretical Comparison of Bank Capital Adequacy Requirements and Risk Related Deposit Insurance Premia. **AA** Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 72; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 31. **PR** No Charge. **JE** 312. **KW** Bank Capital Adequacy. Risk Exposure of Federal Insurer. FDIC.
AB In this paper, it is argued that bank capital adequacy can best be assessed only on an individual bank basis, given the present fixed rate premium for deposit insurance set by the FDIC and the regulatory instruments that focus on portfolio regulation and capital requirements. Essentially, this discussion draws on partial equilibrium models developed by a number of authors. The basic proposition developed from these models is that, with fixed rate premium federal deposit insurance, the FDIC and other bank regulators need varying capital ratios or portfolio composition constraints in order to control the risk exposure of the federal insurer.

TI A Dynamic Analysis of Bank Failure. **AU** Avery, Robert B.; Hanweck, Gerald A.

TI An Analysis of Risk-Based Deposit Insurance For Commercial Banks. **AU** Avery, Robert B.; Hanweck, Gerald A.; Kwast, Myron L.

TI Competitive Viability In Banking: Scale, Scope, and Product Mix Economies. **AU** Berger, Allen N.; Hanweck, Gerald A.; Humphrey, David B.

Harris, Charles P.

PD June 11, 1985. **TI** Local Government in Queensland. **AA** Department of Economics, James Cook University. **SR** Australian National University Centre for Research on Federal Financial Relations, Occasional Paper: 35; Centre for Research on Federal Financial Relations, Copland Building, TheAustralian National University, GPO Box 4, Canberra ACT 2600, AUSTRALIA. **PG** 28. **PR** No Charge. **JE** 324. **KW** Local Government. Functions of Local Government. Local Government Finance.
AB This paper is concerned with a broad review of local government in Queensland, Australia, in particular with the legal status of local government bodies, their functions, their sources of funds, and the future prospects for local government in the State. In particular changes over the decade 1971-72 to 1981-82 are examined for types of outlays and sources of funds for all local authorities. The paper concludes with a discussion of future sources of local government funds with regard to local taxes, user charges, government grants, and loans.

Harris, Richard G.

TI Competition with Lumpy Investment. **AU** Gilbert, Richard J.; Harris, Richard G.

PD January 1985. **TI** Market Structure and Trade Liberalization: A General Equilibrium Assessment. **AA** Department of Economics, Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 584; Department of Economics, Queen's University, Kingston, Ontario CANADA K7L 3N6. **PG** 30. **PR** $2.50 Canada; $3.00 United States; $3.50 foreign. **JE** 422. **KW** Trade Barriers.
AB The paper examines the consequences of a 50 percent cut of tariff and non-tariff trade barriers within an applied general equilibrium model of the Canadian economy. The large welfare gains are explained in terms of scale economies and the procompetitive effects of import competition. Some sensitivity results are also reported.

Hart, Sergiu

PD June 1985. **TI** The Potential: A New Approach to the Value in Multi-Person Allocation Problems. **AU** Hart, Sergiu; Mas, Colell Andreu. **AA** Hart: Department of Economics, Harvard University, and Tel Aviv University. Mas-Colell: Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1157; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 42. **PR** $2.75. **JE** 026. **KW** Shapley Value. Harsanyi Value. The Potential.
AB Let P be a real-valued function defined on the space

of cooperative games with side-payments, satisfying the following condition: in every game, the marginal contributions of all players (according to P) are efficient (i.e., add up to the worth of the grand coalition). It is proved that there exists just one such function P -- called the potential -- and moreover that the resulting payoff vector coincides with the Shapley value. The potential approach is also shown to yield other characterizations for the Shapley value; in particular, in terms of a new internal consistency property. Further results deal with weighted Shapley values (which emerge from the above consistency) and with the non-side-payments case (where the Harsanyi value is obtained).

Harvey, A. C.

PD May 1984. **TI** Estimation Procedures for Structural Time Series Models. **AU** Harvey, A. C.; Peters, S. **AA** Harvey: Department of Statistics, The London School of Economics and Political Science. Peters: Econometrics Programme, The London School of Economics and Political Science. **SR** London School of Economics, Econometrics Programme Discussion Paper: A.44; Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. **PG** 45. **PR** No Charge. **JE** 211. **KW** Structural Time Series Model. Forecasting. Kalman Filter. Stochastic Trend. Unobserved Components Model. EM Algorithm.

AB A class of univariate time series models based on the traditional decomposition into trend, seasonal and irregular components is defined and shown to have certain desirable properties. A number of methods of computing maximum likelihood estimators are then considered. These include direct maximization of various time domain likelihood functions computed using the Kalman filter, indirect maximisation using the EM algorithm and the maximisation of a frequency domain likelihood function. The asymptotic properties of the estimators are given and a comparison between the various methods in terms of computational efficiency and accuracy is made. The methods are then extended to models with explanatory variables.

PD August 1984. **TI** Trends and Cycles in Macroeconomic Time Series. **AA** Department of Statistics, The London School of Economics and Political Science. **SR** London School of Economics, Econometrics Programme Discussion Paper: A.45; Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. **PG** 45. **PR** No Charge. **JE** 211. **KW** Time Series Modelling. Macroeconomics. Trends. Cycles.

AB After a preliminary discussion of the data the evidence in the correlogram is re-examined in the light of various formulations of trend plus cycle models. An alternative class of models in which the cycle is incorporated into the trend is also proposed. Both classes of models, which in the terminology of Harvey and Todd (1983) and Engle (1978), are 'structural' models, are shown to be consistent with correlograms found for the series in question. The statistical properties of these structural models are discussed, then the series are analysed, and estimates of the unknown structural parameters are computed by a maximum likelihood procedure based on the Kalman filter.

Hasbrouck, Joel

PD October 1985. **TI** Ex Ante Risk Premia and Ex Post Variance in Linear Return Models: An Econometric Analysis. **AA** Department of Finance, New York University. **SR** New York University Salomon Brothers Center working Paper: 362; Salomon Brothers Center, Graduate School of Business Administration, New York University, 100 Trinity Place, New York, NY 10006. **PG** 34. **PR** $2.00. **JE** 313, 026. **KW** Risk Premia. Return Variance. Variance Estimation. Uncertainty Measures.

AB This paper is an empirical analysis of the relationships among ex ante risk premia, factors influencing risk premia and ex post return variance. The methodology involves specification of a model consisting of a linear return function and a linear variance function. Estimation of the latter is accomplished by using the squared estimated residuals from the return estimation as the dependent variable. It is proved that OLS parameter estimates and White's covariance matrix estimate are consistent in the variance estimation. The technique is applied to United States stock market return data from 1953-1982, using ex ante uncertainty measures derived from survey data. The results indicate that these ex ante measures are insignificantly related to expected risk premia, but significantly related to ex post return variance.

Hatta, Tatsuo

TI The Global Correspondence Principle: A Generalization. **AU** Bhagwati, Jagdish N.; Brecher, Richard A.; Hatta, Tatsuo.

Hatton, T. J.

PD June 1985. **TI** The Analysis of Unemployment in Interwar Britain: A Survey of Research. **AA** Department of Economics, Essex University. **SR** Centre for Economic Policy Research Discussion Paper: 66; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, England. **PG** 50. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 823, 824. **KW** Interwar Labour Market. Unemployment Insurance. Non-Market Clearing. Structural Unemployment.

AB This paper gives an overview of quantitative work on the interwar labour market, a topic which has received growing attention in recent years. Much of this has been stimulated by the application of simple models to measure the impact of unemployment insurance on labour supply. A review of the evidence leads us to stress the importance of non-market clearing as the appropriate paradigm, which shifts the discussion to the determinants of labour demand and the appropriate methods of modelling it. The issue of wage determination is central to the debate and stress is placed on characterizing the institutional framework of wage setting. Finally, the issue of structural unemployment is addressed and we conclude that structural change and labour immobility were not such an important cause of interwar unemployment as is sometimes thought.

Heckman, James J.

PD May 1985. **TI** Heterogeneity, Aggregation and Market Wage Functions: An Empirical Model of Self-Selection in the Labor Market. **AU** Heckman, James J.; Sedlacek, Guilherme. **AA** Heckman: University of Chicago. Sedlacek: Carnegie-Mellon University. **SR** NORC Program in Quantitative Economic Analysis Discussion Paper: 85-12; Program in Quantitative Economic Analysis, NORC, 6030 S. Ellis Avenue, Chicago, IL 60637-2667. **PG** 76. **PR** \$2.00; send requests to NORC Librarian. **JE** 821, 813, 824. **KW** Self-Selection. Heterogeneous Skills. Wage Distribution.

AB This paper presents an empirical equilibrium model of self-selection in the labor market that recognizes the existence of measured and unmeasured heterogeneous skills. We derive a model of the sectoral allocation of workers of different demographic types and present a new econometric procedure for combining micro and macro data to estimate supply and demand functions for unmeasured sector-specific productive attributes. Our model extends previous empirical work on wage equations by introducing determinants of aggregate market demand and supply into an explicit, economically interpretable estimating equation. These extensions are required to produce a model that fits the distribution of wages for the United States labor market.

Helpman, Elhanan

PD October 1985. **TI** Industrial Policy under Monopolistic Competition. **AU** Helpman, Elhanan; Flamm, Harry. **AA** Helpman: Department of Economics, Tel-Aviv University. Flamm: Institute of International Economic Studies, Stockholm, Sweden. **SR** Tel Aviv Foerder Institute for Economic Research Working Papers: 33-85; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, Israel. **PG** 34. **PR** No Charge. **JE** 422, 323, 616. **KW** Tariff. Export Subsidy. Output Subsidy. R and D Subsidy.

AB We study the general equilibrium effects of tariffs, export subsidies, output subsidies and R and D subsidies in a monopolistically competitive sector that produces differentiated products. Apart from allocative effects we examine the desirability of these policies from a welfare point of view. It is shown that a small tariff is welfare improving, but that the other instruments result in ambiguous welfare changes. The results depend on identifiable details of the production structure, the sectoral interlinkages through factor markets and preferences. These results are compared to other discussions in the literature.

Hendry, David F.

TI Conditional Econometric Modelling: An Application to New House Prices in the United Kingdom. **AU** Ericsson, Neil R.; Hendry, David F.

Henry, James S.

TI Mergers and Bidders' Wealth: Managerial and Strategic Factors. **AU** You, Victor L.; Caves, Richard E.; Henry, James S.; Smith, Michael M.

Henson, Steven E.

TI The Returns to Insulation Upgrades: Results from a Mixed Engineering/Econometric Model. **AU** Dubin, Jeffrey A.; Henson, Steven E.

Hildreth, Clifford

PD November 1, 1985. **TI** The Cowles Commission in Chicago, 1939-1955. **AA** Department of Economics, University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 225; 315 Science Classroom Building, Center for Economic Research, University of Minnesota, Minneapolis, MN 5545. **PG** 190. **PR** No Charge. **JE** 030. **KW** Cowles Commission. Probability Approach. Simultaneous Equations. Activity Analysis. Equilibrium. Social Choice.

AB The work of the Cowles Commission from 1939-55 is reviewed and relations to subsequent work noted.

Hilke, John C.

PD November 1985. **TI** A Note on the Economies of Network Television Advertising. **AU** Hilke, John C.; Nelson, Philip B. **AA** Bureau of Economics, Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 132; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue NW, Washington, D.C. 20580. **PG** 18. **PR** No Charge. **JE** 611, 531. **KW** Advertising. Economies of Scope. Television.

AB This study examines transaction prices for network and spot advertising on television taken from antitrust case documents. The evidence presented supports the view that there can be sizeable cost savings associated with the use of network rather than spot TV. However, it is also apparent that this general statement may have to be tempered for particular products which appeal to different demographic groups and, perhaps, for different time periods. Furthermore, while spot TV advertising does appear to be more expensive, the difference in cost between spot and network TV rates does not appear to be as large as sometimes reported. The cost disadvantage of spot, identified in case documents, ranged from 5% to 45%.

Hilton, R. Spence

TI Exchange Rate Uncertainty and International Trade: Some Conceptual Issues and New Estimates for Germany and The United States. **AU** Akhtar, M. A.; Hilton, R. Spence.

Hirsch, Gary

TI Importance of Marginal Costs in Inventory Models. **AU** Baybars, Ilker; Bogaert, Frank; Hirsch, Gary; Kekre, Sunder.

TI Batching and Capacity Models for Metered Flow and Manufacturing Cells. **AU** Baybars, Ilker; Bogaert, Frank; Hirsch, Gary; Kekre, Sunder.

Holmstrom, B.

PD April 1985. **TI** Aggregation and Linearity in the Provision of Intertemporal Incentives. **AU** Holmstrom, B.; Milgrom, Paul. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion

Paper: 742; Cowles Foundation, 30 Hillhouse Avenue, Yale Station, P.O. Box 2125, New Haven, CT 06520. **PG** 53. **PR** No Charge. **JE** 026. **KW** Intertemporal Incentives. Linear Incentive Schemes.

AB One of the main findings of the principal-agent literature has been that incentive schemes should be sensitive to all information that bears on the agent's actions. As a manifestation of this principle, incentive schemes tend to take quite complex (non-linear) forms. In contrast, real world schemes are often based on aggregate information with a rather simple structure. This paper considers the optimality of linear schemes that use only aggregated information. The hypothesis is that linear schemes are to be expected in situations where the agent has a rich set of actions to choose from, because richness in action choice allows the agent to circumvent highly nonlinear schemes. We show that optimal compensation schemes are indeed linear functions of appropriate accounting aggregates in a multi-period model where the agent can observe and respond to his own performance over time. Furthermore, when profits evolve according to a controlled Brownian motion (with the agent at the controls) the optimal compensation scheme is linear in profits. The optimal scheme can be computed as if the principal could only choose among linear rules in a corresponding static problem. Applications of this ad hoc principle appear quite promising and are briefly illustrated.

Hoover, Kevin D.

PD November 25, 1985. **TI** Money, Prices and Finance in the New Monetary Economics. **AA** Department of Economics, University of California, Davis. **SR** UC Davis Research Program in Applied Macroeconomics and Macro Policy: 31; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 20. **PR** No Charge. **JE** 134, 311, 313. **KW** Money. Inflation. Monetary Policy.

AB The paper reconsiders Fama's influential argument that the price level and the real choices of economic agents are independent of the volume and composition of private financial portfolios, including bank deposits. The argument rests on the "separation theorem" -- the claim that the real services of banks are independent of their financial portfolios. It is shown that an incomplete analysis of the role of financial assets in the economy leads to a failure to distinguish between the real bookkeeping or accounting services of cash or bank deposits, which are separable from portfolio composition, and their real settlement services, which are not. The failure of the separation theorem undermines Fama's argument and his policy conclusions that control of the monetary base is sufficient to control the price level and that banks and related financial intermediaries stand in no need of special regulation.

PD December 30, 1985. **TI** Econometrics as Observation: An Investigation of the Logic of Causal Inference. **AA** Department of Economics, University of California, Davis. **SR** UC Davis Research Program in Applied Macroeconomics and Macro Policy: 33; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 49. **PR** No Charge. **JE** 211, 036. **KW** Causality. Causal Inference. Lucas Critique. New Classical Economics. Econometrics. Simultaneous Systems. Methodology.

AB The paper considers possible responses to the problem that the true processes that generate macroeconomic data are unobservable. Two polar approaches are the atheoretical method of using vector autoregressions without identifying restrictions and the heroic a priori approach of trying to derive all the needed restrictions from economic theory. Both approaches are examined and found wanting. Econometrics as observation is developed as a third approach which avoids the difficulties of the alternatives. This approach starts with a characterization of causality in the underlying data-generating process, where causality is analyzed in terms of controllability of one variable by another. It is then shown that a definite underlying causal ordering has observable consequences for the invariance or noninvariance of various conditional and marginal probability distributions. From estimates of these distributions it is then possible to obtain evidence relevant to discerning the true underlying causal ordering.

Hsiao, Cheng

PD May 1985. **TI** Benefits and Limitations of Panel Data. **AA** Department of Economics, University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8505; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 52. **PR** No Charge. **JE** 211, 220. **KW** Cross-Sectional Units. Time Series Data. Panel Data.

AB Observations for a number of cross-sectional units over time have become increasingly available. The new data sources enable econometricians to construct and test more complicated behavioral models than a single cross-sectional or time series data set would allow. The availability of new data sources, however, also raises new issues. In this paper we review some basic econometric methods that have been used to analyze such data sets. We also indicate areas of research where panel data may be useful.

Hui, Weng T.

TI An Empirical Study of Long-term Unemployment in Australia. **AU** Trivedi, Pravin K.; Hui, Weng T.

PD May 1985. **TI** Duration Dependence, Targeted Employment Subsidies and Unemployment Benefits. **AU** Hui, Weng T.; Trivedi, Pravin K. **AA** Faculty of Economics, Australian National University. **SR** Australian National University Working Papers in Economics and Econometrics: 122; Department of Economics, Australian National University, GPO Box 4, Canberra 2601, AUSTRALIA. **PG** 28. **PR** No Charge. **JE** 821, 822. **KW** Duration Dependence. Employment Subsidies. Unemployment.

AB This paper examines the economic effects of introducing employment subsidy programs on the behaviour of individuals from a targeted unemployed group. A job search model is used to show how the availability and timing of a subsidy program can provide disincentives to the unemployed finding or accepting job offers in the pre-subsidy period which increase the average duration of unemployment. On the other hand, participation in the employment program can increase the post-subsidy probability of leaving unemployment. We show how the optimal waiting period and the period of subsidy may be chosen by a policy maker. Expected costs and benefits are modelled and simulation results from a numerical optimisation exercise are presented to highlight the nature of the trade-offs and the information required by the policy maker.

Huizinga, John

PD August 1985. **TI** Interest Rates, Money Supply Announcements, and Monetary Base Announcements. **AU** Huizinga, John; Leiderman, Leonardo. **AA** Leiderman: Department of Economics, Tel-Aviv University. Huizinga: Graduate School of Business, University of Chicago. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 26-85; Department of Economics, Tel-Aviv University, Ramat Aviv, ISRAEL. **PG** 63. **PR** No Charge. **JE** 311. **KW** Money Supply Announcements. Monetary Base Announcements. Interest Rates.

AB This paper presents a new set of empirical regularities on the link between interest rates, money supply announcements and monetary base announcements. Among the main findings reported are: (i) unexpected increases in the announced monetary base have a significantly positive effect on interest rates during the period from October 1979 to October 1982; (ii) although unexpected money supply and monetary base announcements have the same impact on interest rates, they have different implications for the future behavior of the money supply and monetary base; (iii) the significant response of longer-term interest rates to unexpected monetary announcements is reflecting a response of current and expected future short-term rates -- i.e. term-structure premia are not altered by these announcements.

Humphrey, David B.

PD May 1984. **TI** Check Processing and ACH Scale Economics After Federal Reserve Pricing. **AA** Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 70; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 27. **PR** No Charge. **JE** 312. **KW** Check Processing. ACH Scale Economies. Federal Reserve.

AB Significant scale economies still exist in ACH procesing at Federal Reserve offices. Their existence implies that costs could be further reduced if some Reserve Bank ACH operations were consolidated with others (some illustrative cost reduction estimates are provided). Pricing of Reserve Bank check processing operations has reduced market share by 25 percent. It has also eliminated the scale diseconomies estimated to have existed prior to pricing. As a result, resource allocation has improved (and constant average costs, rather than increasing average costs, are the rule in check processing).

TI The Role of Interstate Banking in the Diffusion of Electronic Payments Technology. **AU** Berger, Allen N.; Humphrey, David B.

TI Competitive Viability In Banking: Scale, Scope, and Product Mix Economies. **AU** Berger, Allen N.; Hanweck, Gerald A.; Humphrey, David B.

Hunter, John

PD January 1985. **TI** Dynamic Extensions to Models of Adjustment Based on the Solution of Quadratic Loss Function. **AA** Econometrics Programme, The London School of Economics and Political Science. **SR** London School of Economics, Econometrics Programme Discussion Paper: A.51; Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. **PG** 32. **PR** No Charge. **JE** 211. **KW** Rational Expectation Models. Disequilibrium Models. Quadratic Loss Function.

AB The following paper deals with dynamic extensions to the type of rational or consistent expectations models described by Sargent (1978) and specified by Sargan (1982) in an optimal control format. The Sargan paper differs from that of Sargent by incorporating costs of being away from equilibrium as well as costs of adjustment, also that paper analyses different specifications of the same model to derive simple and efficient estimators. The problem with such models is that they impose strong restrictions on the dynamic processes associated with the exogenous variables. There are two ways in which these models can be made to exhibit richer dynamics, either by allowing more general loss functions or in the Sargan case, by extending the static equilibrium condition to include lagged or future values of the exogenous variables. First we will look at generalisations of quadratic loss functions starting with the simple extension of including a cross product term and then looking at the dynamic solutions associated with the most general types of models. Then we will introduce simple extensions to the static equilibrium condition and extend that to the general pth order lag and rth order lead case. And finally we compare the two types of modelling strategy and discuss methods of estimation.

Hurst, Christopher

PD November 1985. **TI** A Tale of two Simulations -- Integrating Water Sector Planning Into Economy Wide Planning Models. **AU** Hurst, Christopher; Rogers, Peter. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 142D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 34. **PR** No Charge. **JE** 721, 121, 711. **KW** Agricultural Planning. Integrating Macro and Micro Economic Concerns. Water. Bangladesh.

AB In recent years the appropriateness of large scale planning models has come to be questioned due to their large data requirements. In this paper a simple water resources model is constructed for use on a microcomputer with the primary objective of giving insights into the system modelled. The model minimizes the present value of investments for water resources development, given prespecified land use options. A simple, linear, macroeconomic model is also incorporated into the model framework to allow for an examination of the interactions between growth in the agricultural sector, and the performance of the overall economy. A case study of Bangladesh is discussed and optimal investments for a range of scenarios are calculated for the period 1980 to 2010. The present model exploits two larger simulation models that have been extensively used in Bangladesh. The model shows how the substance of both of these models can be simplified and used effectively in a linear programming model set up for a microcomputer.

Islam, Shafiqul

PD September 1984. **TI** Foreign Debt of the United States and the Dollar. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8415; Research and Statistics Function, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 54. **PR** No Charge. **JE** 431. **KW** United States Foreign Debt. United States Current Account. The Dollar.

AB This paper assesses the implications of large and growing United States current account deficits and the rapid deterioration of the U.S. net creditor position for the dollar and the U.S. economy. A major finding is that although the U.S. became a net creditor sixty five years ago, its net asset position never became very large, and in fact, has been declining as a percent of GNP since the early fifties. Another finding is that, according to current dollar measures of gross and net debt popular in LDC debt literature, the U.S. has long been the world's "top debtor nation". But, in terms of conventional measures of "debt burden", the United States ranks far below Brazil and Mexico. Finally, if the current strength of the dollar persists, the future rate of deterioration of the U.S. current account deficit and of the net foreign debt position would be unprecedented. Although this course of the U.S. net debt position and hence the current strength of the dollar are not sustainable indefinitely, theoretical reasoning and empirical analysis provide little clue as to when, how much and how fast the dollar may fall.

PD November 1985. **TI** Two Papers on Financing the United States Current Account Deficit. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8509; Research and Statistics Function, Federal Reserve Bank of New York, 33 Liberty Street, New York, New York 10045. **PG** 44. **PR** No Charge. **JE** 431. **KW** Capital Flows. United States Current Account. The Dollar.

AB The first paper highlights a few stylized facts about the shifts in the pattern of gross and net United States capital flows that have accompanied the rising dollar and the deteriorating United States current account deficit. A major finding is that it is the first time in the post-war United States history that a large and growing current account deficit has been accompanied by a rapid rise in net private inflows. In the past, such deficits have been associated with net private outflows and official inflows. The second paper addresses the concern that over the next few years ex ante financing for the United States current account deficit may dry up causing a collapse of the dollar and sharp rises in the United States interest rates. The evidence suggests that there are no identifiable stock or flow constraints that may limit foreign inflows over the medium term. A sudden loss of confidence, however, can cause a dollar crisis within a short period of time.

Jackman, Richard

PD September 1985. **TI** A Wage-Tax, Worker-Subsidy Policy for Reducing the "Natural" Rate of Unemployment. **AU** Jackman, Richard; Layard, Richard. **AA** Centre for Labour Economics, LSE. **SR** London School of Economics, Centre for Labour Economics Discussion Paper: 228; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 24. **PR** No Charge. **JE** 822. **KW** Unemployment. Tax and Subsidy Policies.

AB The paper shows that a tax on wages offset by a subsidy on employment in a balanced budget package will reduce the equilibrium rate of unemployment for two types of reasons. First, it will alter wage-setting behaviour by changing the incentives perceived by wage-setters, in such a way as to raise the level of employment. Second, it will shift demand from high-wage to low-wage sectors, which given higher unemployment rates in the latter, will also reduce unemployment. The theoretical framework of the paper is imperfect competition, and unemployment is generated either because firms set "efficient wages" above the market-clearing level, or because of monopoly trade unions.

PD October 1985. **TI** Structural Unemployment. **AU** Jackman, Richard; Roper, Stephen. **AA** London School of Economics. **SR** London School of Economics, Centre for Labour Economics Discussion Paper: 233; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 58. **PR** No Charge. **JE** 823, 824. **KW** Unemployment. Structural Unemployment.

AB This paper proposes a definition of structural unemployment based on its effect on the rate of job hirings. Measures of structural unemployment based on this definition are constructed and compared with other possible definitions. The paper also examines the relationship between structural unemployment and shifts in the u/v curve. The main results for the British economy are that, while there has undoubtedly been an increase in the rate of change of the industrial structure in recent years, its impact on aggregate unemployment appears to be small. Much of the increase in measured structural unemployment that has been observed could be regarded as a symptom of depressed demand rather than a result of increased structural imbalance.

Jaffe, Adam B.

PD December 1985. **TI** Technological Opportunity and Spillovers of R and D: Evidence From Firms' Patents, Profits and Market Value. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1197; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 33. **PR** $2.50. **JE** 621. **KW** R and D Spillovers. Patents. Technology.

AB This paper presents evidence that firms' patents, profits and market value are systematically related to the "technological position" of firms' research programs. Further, firms are seen to "move" in technology space in response to the pattern of contemporaneous profits at different positions. These movements tend to erode excess returns. "Spillovers" of R and D are modelled by examining whether the R and D of neighboring firms in technology space has an observable impact on the firm's R and D success. Firms whose neighbors do much R and D produce more patents per dollar of their own R and D, with a positive interaction that gives high R and D firms the largest benefit from spillovers. In terms of profit and market value, however, their are both positive and negative effects of nearby firms' R and D. The net effect is positive for high R and D firms, but firms with R and D about one standard deviation below the mean are made worse off overall by the R and D of others.

Jarque, C. M.

TI Tests for Serial Dependence in Limited Dependent Variable Models. **AU** Robinson, Peter M.; Bera, A. K.; Jarque, C. M.

Johnson, Deborah

TI Revisions in the Monetary Services (Divisia) Indexes of Monetary Aggregates. **AU** Farr, Helen T.; Johnson, Deborah.

Jordan, J. S.

PD December 6, 1985. **TI** Instability in the Implementation of Walrasian Allocations. **AA** University of Minnesota. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series): 464; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 63. **PR** $4.00. **JE** 021, 026. **KW** Cournot Equilibrium. Walrasian Equilibrium. Game Form. Stability.

AB The existence of game forms which implement Walrasian allocations as Cournot (Nash) equilibrium outcomes is well known. However, if the equilibria are also required to be locally dynamically stable, at least for environments with unique Walrasian allocations, this paper shows that the requisite game forms do not exist. Our definition of a game form entails certain regularity conditions, and requires the Cournot equilibrium to be unique when the Walrasian equilibrium is unique. The main result is that for such a game form, there does not exist a continuous-time strategy adjustment process which ensures the local stability of Cournot equilibria throughout a certain class of environments having unique Walrasian equilibria. Each trader adjusts his strategy in response to his own characteristics and the observed current strategies of others; but the direction and magnitude of adjustments are not constrained by any behavioral assumptions. The definitions permit the inclusion of an artificial player, such as an auctioneer, so the well known tatonnement instability emerges as a special case.

Joshi, Heather

PD April 1985. **TI** Does Elastic Retract? The Effect of Recession on Women's Labour Force Participation. **AU** Joshi, Heather; Owen, Sue. **AA** Joshi: Centre for Population Studies, London School of Hygiene and Tropical Medicine. Owen: Department of Economics, University College Cardiff. **SR** Centre for Economic Policy Research Discussion Paper: 64; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, England. **PG** 47. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 824, 813, 220. **KW** Female Labour Force Participation. Discouraged Worker Effects. Census Data. Labour Force Survey.

AB The existence and extent of cyclically-induced changes in the size of the conventionally-defined labour force is examined for women aged 20-59 in Britain, 1951-81. The method is to compare changes in the actual labour force between decennial censuses and recent biennial Labour Force Surveys with estimates of the hypothetical change in the labour force had the pressure of demand remained constant. 'Actual' changes in the labour force have been adjusted for changes in census coverage. The 'hypothetical' changes have been simulated from an econometric model fitted to time series data on the proportion of women in each age group or cohort who are employees or students. These methods are not precise, but if there were large and consistent 'discouraged worker' effects among prime-age women we would have expected stronger evidence of the phenomenon than this data provided. Whether or not potential workers are counted as members of the labour force seems to be far more sensitive to the way in which evidence about the unregistered margins of the labour force is collected than to the availability of job opportunities.

Kaliski, S. F.

TI Structural Change in the Distribution of Unemployment Duration: Canada, 1978-82. **AU** Beach, Charles M.; Kaliski, S. F.

Kalt, Joseph

PD April 1985. **TI** Market Structure, Vertical Integration, and Long-Term Contracts in the (Partially) Deregulated Natural Gas Industry. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1151; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 35. **PR** $2.50. **JE** 611, 723, 613. **KW** Natural Gas. Natural Gas Regulation. Vertical Integration.

AB The evolving structure of the gas industry will significantly influence its efficiency and competitive performance. Identifying the direction and strength of this influence will contribute to answering the questions of how much and what kind of (de)regulation is compatible with economic criteria of sound policy. Accordingly, this study undertakes the tasks of (1) outlining the economic and regulatory factors that will drive the future structure of the gas industry, and (2) assessing the likely performance of a restructured industry. I end up focussing most heavily on questions of vertical integration and vertical contractual relationships -- as opposed to the issues surrounding the horizontal makeup of the various stages of the gas industry.

Kalt, Joseph P.

PD March 1985. **TI** The Impact of Domestic Environmental Regulatory Policies on United States International Competitiveness. **AA** Energy and Environmental Policy Center, Harvard University. **SR** Harvard Energy and Environmental Policy Center Discussion Paper: E-85-02; Energy and Environmental Policy Center, John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 37. **PR** $7.50. **JE** 420, 722, 613. **KW** Regulation. Trade. Pollution. International Competitive Position. Environmental Regulation.

AB This paper finds that United States environmental regulations have contributed significantly to the deterioration of United States international competitiveness. The imposition of comprehensive federal environmental regulations since the late 1960s has raised United States costs of producing pollution-intensive goods relative to its trading partners' costs of producing these goods. In addition, this paper finds that social (e.g., health and safety) regulation and economic (e.g., price and entry) regulation in the manufacturing sector can be a source of competitive disadvantage and that the reform of economic regulation undertaken in the late 1970s has most likely improved United States trade performance. While many studies of United States trade performance have focused on such factors as the age of the United States capital stock and the productivity of United States labor, this study provides the first systematic, economy-wide evidence that domestic regulations can and do significantly affect United States international competitiveness. The magnitude of the negative impact of environmental policy on United States trade performance is due to the style, rather than the stringency, of United States regulation. The nation's environmental standards are about at the average for industrialized countries, but its costs of achieving these standards are near the very highest. This most fundamentally reflects the country's insistence on mandating abatement techniques, rather than mandating emission levels and leaving polluters free to meet those levels by least-cost methods. Indeed, this study argues that a decline in trade performance should not necessarily serve as a justification for weakening United States environmental standards. It may well be in the nation's -- and the world's -- interest to produce "clean" goods at home. Relatively poorer nations may quite rightly choose to improve their growth by exporting "dirty" goods.

PD March 1985. **TI** The Impact of Domestic Regulatory Policies on International Competitiveness. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1141; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 37. **PR** $2.75. **JE** 421, 613, 616. **KW** Environmental Regulation. Trade Patterns.

AB In this study, I report attempts to assess the power of domestic regulatory costs as explainers of both inter-industry and aggregate trade performance. It turns out that the bulk of the quantifiable, disaggregable regulatory costs borne by domestic firms are typically the costs associated with environmental controls. Consequently, my quantitative analysis is directed most centrally at this form of regulation. Based on a Heckscher-Ohlin (cum Leamer) setup, it appears that the major increase in environmental regulation that can be dated from the early 1970s has, in fact, significantly altered United States trade patterns--contrary to at least my (albeit weakly-held) priors. The imposition of environmental controls has apparently left the United States relatively poorly-endowed--from the perspective of private actors--with clean air and water, and has put the United States at a comparative disadvantage in the implicit trade that takes place in (embodied) air and water resources. When available information on non-environmental regulatory costs is coupled with the more detailed and reliable data on environmental regulatory costs, there is evidence that the overall impact of domestic regulatory policy on trade performance has been negative, particularly in the manufacturing sector.

PD April 1985. **TI** Natural Gas Decontrol, Oil Tariffs, and Price Control: An Intertemporal Comparison. **AA** Energy and Environmental Policy Center. **SR** Harvard Energy and Environmental Policy Center Discussion Paper: E-85-03; Energy and Environmental Policy Center, John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 26. **PR** $7.50. **JE** 723, 411, 613. **KW** Energy Regulation. Tariffs. Natural Gas. Oil. Natural Gas Regulation.

AB This paper examines the wellhead decontrol of natural gas prices within the context of international energy markets. It finds that, from the points of view of domestic producers and the economy as a whole, price control policies of the type that have been imposed on domestic natural gas wells provide fewer benefits and are more costly than both energy tariff policies and, most likely, laissez faire policies. The analysis suggests that insofar as the foregone social surplus produced by natural gas price controls is now a sunk cost, the economy may benefit from past price controls to the extent that the United States enters the era of deregulated wellhead prices with more natural gas resources than it otherwise would have had. These resources provide a substitute for foreign energy supplies, and therefore the act of decontrol will most likely reduce the level of both imports and import prices.

Kanaroglou, Pavlos

TI Effects of Capacity Constraints on Peak Period Traffic Congestion. **AU** Ben-Akiva, Moshe; de Palma, Andre; Kanaroglou, Pavlos.

Kanbur, S. M. Ravi

PD October 1985. **TI** Income Transitions and Income Distribution Dominance. **AU** Kanbur, S. M. Ravi; Stromberg, Jan O. **AA** Kanbur: Department of Economics, University of Essex and Woodrow Wilson School, Princeton University. Stromberg: Institute of Mathematical and Physical Sciences, University of Tromso, Norway. **SR** Woodrow Wilson School of Public and International Affairs Discussion Papers in Economics: 101; Woodrow Wilson School of Public and International Affairs, Princeton University, Princeton, NJ 08544. **PG** 16. **PR** No Charge. **JE** 024. **KW** Income

Distribution.
Mobility.
AB This note analyses dominance relations between sequences of income distributions generated by income transition mechanisms. Necessary and sufficient conditions on these mechanisms are derived for a dominance relation to continue once established.

Kannan, Srinivasan

TI An Adjustment Procedure for Predicting Systematic Risk. **AU** Bera, Anil K.; Kannan, Srinivasan.

Kashyap, A. K.

PD September 1984. **TI** Estimating Distributed Lag Relationships Using Near-Minimax Procedures. **AU** Kashyap, A. K.; Swamy, P. A. V. B.; Mehta, J. S.; Porter, R. D. **AA** Mehta: Temple University, Philadelphia. Kashyap, Swamy, and Porter: Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 187; Special Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 39. **PR** No Charge. **JE** 211. **KW** Distributed Lag Estimator. Smoothness Restrictions. Shiller's Estimator. Almon's Estimator.
AB This paper introduces a new Bayesian distributed lag estimator which is consistent with Shiller's smoothness prior and uses sample data to improve the operating characteristics of both Almon's and Shiller's estimators. We discuss the estimator's sampling properties and present the forecasting formulas which can be used with this estimator to obtain the best linear unbiased predictions of the dependent variable in Shiller's model. We conclude with an empirical example which demonstrates our estimator's superiority in forecasting relative to either Almon's or Shiller's estimator.

Katz, Barbara Goody

PD October 1985. **TI** Stochastic Rationing by Waiting List. **AU** Katz, Barbara Goody; Owen, Joel. **AA** Graduate School of Business Administration, New York University. **SR** New York University Salomon Brothers Center Working Paper: 363; Salomon Brothers Center, Graduate School of Business Administration, New York University, 100 Trinity Place, New York, NY 10006. **PG** 6. **PR** $2.00. **JE** 022. **KW** Stochastic Queuing. Waiting Lists.
AB In a stochastic queueing environment in which participants maximize expected utility, changes in queueing parameters have predictable impacts on waiting list size. For example, a decrease in mean service time cannot produce a decrease in waiting list size when arrival rate and mean service time are functionally independent.

Katz, Eliakim

PD May 1985. **TI** Labour Migration and Risk Aversion in LDCs. **AU** Katz, Eliakim; Stark, Oded. **AA** Stark: Department of Economics, Harvard University, and Bar-Ilan University. Katz: Bar-Ilan University. **SR** Harvard Institute for Economic Research Discussion Paper: 1155; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 29. **PR** $2.50. **JE** 821, 823, 941. **KW** Labor Migration. Wealth.
AB In this paper we question the pioneering work of Todaro (1969) and Harris and Todaro (1970) which states that rural-to-urban labour migration in LDCs is an individual response to a higher urban expected income. We demonstrate that rural-to-urban labour migration is perfectly rational even if urban expected income is lower than rural income. We achieve this under a set of fairly stringent conditions: an individual decision-making entity, a one-period planning horizon, and global risk aversion. We obtain the result that a small chance of reaping a high reward is sufficient to trigger rural-to-urban labour migration. Our result hinges on one of two explanations. The first is an explicit and realistic assumption concerning the incompleteness of capital markets. Hence there is a cross-market spillover from cause to conduct. The policy implication suggested by this analysis is that manipulation of rural-to-urban migration of labour requires interference in capital markets. Improving the operational efficiency of financial markets, especially in the rural areas, is distinct from narrowing an intersectoral (expected) wage differential. At least in part, migration is the intermediary between capital markets and labour markets where deficiency in the former is partially corrected. When we connect our analysis with the recent work on migration and relative deprivation, we present the second explanation, which demonstrates that labour migration may occur even if it constitutes an actuarially unfair risk. Individuals who care both about wealth (or income) and rank (relative deprivation or satisfaction) and who are globally risk-averse in wealth and in rank might still be better off taking actuarially unfair risks with respect to wealth in migrating to the urban area if by so doing they face even a small prospect of greatly enhancing both their wealth and rank. The likelihood that migration will pay off depends crucially on the shape of the population wealth (or income) density function. Indeed, the strength of our results lies in the fact that, in general, wealth density functions are of the requisite shapes.

Katz, Michael L.

PD October 1985. **TI** Product Compatibility Choice in a Market with Technological Progress. **AU** Katz, Michael L.; Shapiro, Carl. **AA** Katz: Department of Economics, Princeton University. Shapiro: Woodrow Wilson School, Princeton University. **SR** Woodrow Wilson School of Public and International Affairs Discussion Papers in Economics: 102; Woodrow Wilson School of Public and International Affairs, Princeton University, Princeton, NJ 08544. **PG** 37. **PR** No Charge. **JE** 022, 611. **KW** Compatibility. Network Externalities. Technological Progress.
AB In markets where the advantages to going along with the crowd, i.e., network externalities, are significant, firms' product compatibility choices are an important determinant of industry performance. This paper analyzes such choices in a two-period duopoly model with technological progress. When the rate of progress is certain, if one firm has a superior product (or lower costs) in both periods, then that firm prefers product incompatibility, even if compatibility can be achieved costlessly. On the other hand, a firm that enjoys lower

costs today but will be at a cost disadvantage tomorrow prefers compatible products. Second-period consumers also prefer compatibility, but first-period consumers may not. We also study the relation between the private and social incentives to achieve product compatibility. In the case of uncertain technological progress, we find that firms who initially are symmetrically placed always prefer compatibility, as do second-period consumers. Asymmetries between the firms can, however, cause them to prefer incompatibility. To the extent that technological progress for one product is weakly (or negatively) correlated with the other, the firms tend to prefer compatibility.

Kekre, Sunder

TI Importance of Marginal Costs in Inventory Models. **AU** Baybars, Ilker; Bogaert, Frank; Hirsch, Gary; Kekre, Sunder.

TI Batching and Capacity Models for Metered Flow and Manufacturing Cells. **AU** Baybars, Ilker; Bogaert, Frank; Hirsch, Gary; Kekre, Sunder.

Kennedy, Joseph V.

PD May 8, 1985. **TI** A Reexamination of Professional and Popular thought on Assistance for Economic Development: 1949-1952. **AU** Kennedy, Joseph V.; Ruttan, Vernon W. **AA** Department of Agricultural and Applied Economics, University of Minnesota, St. Paul. **SR** University of Minnesota Economic Development Center Bulletin: 85-3; Economic Development Center, Department of Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 55. **PR** No Charge. **JE** 443, 112, 031. **KW** United States Development Assistance Policy. International Aid.

AB The Point IV program marks a logical beginning in the study of United States aid to developing countries. Today's perception is that this program concentrated on high capital content technology, building toward a takeoff point for growth. A review of professional literature and analysis of congressional hearings shows that this was not the case. Point IV's two components consisted of (1) small amounts of assistance for technology transfer projects and (2) public guarantees of private investments in LDC's. This program received wide support in congress as well as from the business, labor, agricultural, and public interest communities. Within two years, however, the program's emphasis had changed dramatically to emphasize security concerns.

Khandker, Shahidur R.

PD August 5, 1985. **TI** What Influences Patterns of Women's Work in Rural Bangladesh?. **AA** Economic Growth Center, Yale University. **SR** Yale Economic Growth Center Discussion Paper: 489; Economic Growth Center, Yale University, P.O. Box 1987, Yale Station, New Haven, CT 06520. **PG** 31. **PR** $2.00. **JE** 121, 813, 812. **KW** Women's Work. Economic roles. Women's Status. Women's Work Patterns. Bangladesh.

AB Determinants of women's work patterns in rural households need to be identified for public policy programs that seek to improve the well-being of the rural population. Since women, who constitute more than half of the total population, are directly involved in the production of household goods, their participation in production activities may be a precondition for economic development in a country such as Bangladesh. Understanding the individual, household, market, and community factors that cause variations in women's work patterns may lead to more successful government policies in a rural economy. A multiple logit analysis of cross-sectional women's time-use data from rural Bangladesh suggests that women's time-use patterns are not fixed by the society but are partially influenced by individual- and household-level economic constraints. This also suggests that women respond to market opportunities when such opportunities are available. Human capital variables, such as woman's education, appear to increase the probability that women will work in non-familial market jobs, and hence increase women's participation in market-oriented development activities. In contrast, market interventions which raise women's wages are shown to increase the probability of women's involvement more in familial market-oriented activities, such as handicraft production, than in non-familial non-farm activities. Government regulation aiming to curb dowry increases the probability that women will stay home. Improving the public delivery system of schooling, health, and credit, although perhaps reducing women's current involvement in more market-oriented activities such as handicraft production and market jobs, has, however, other important effects, such as raising the quality of children, and hence, the well-being of the rural population in the long run.

Kiefer, Nicholas M.

PD July 1985. **TI** A Comparison of Labor Market Equilibria Under Different Institutional Organizations. **AA** Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 342; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 24. **PR** No Charge. **JE** 225, 820. **KW** Economic Data. Welfare Comparisons. Equilibrium Dynamics. Labor Market Institutions.

AB The possibilities of long-term contracts and the question of the workers' access to securities markets have implications for the interpretation of economic data. This paper develops equilibrium models under various assumptions about labor market institutions and studies their implications for the dynamics of economic data. The main conclusion is that cross-economy comparisons, with a goal of assessing welfare or efficiency, should be based on a comparison of real allocations, for example consumption and employment, not on earnings data.

TI Bayesian Analysis of the Specification of Simultaneous Equations Models. **AU** Anant, T. C. A.; Kiefer, Nicholas M.

Kim, Taesung

PD July 15, 1985. **TI** Equilibria in Abstract Economics with a Measure Space of Agents and with an Infinite Dimensional Strategy Space. **AU** Kim, Taesung; Prikry, Karel; Yannelis, Nicholas C. **AA** Kim and Yannelis: Department of Economics, University of Minnesota. Prikry: Department of Mathematics, University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Papers: 218; Department of Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 22. **PR** No Charge. **JE** 021, 026. **KW** Nash Equilibrium. Abstract Economy. Existence of Equilibrium.

AB The existence of an equilibrium for an abstract economy with a measure space of agents and with an infinite dimensional strategy space is proved. Agent's preferences need not be ordered, i.e., need not be transitive or complete, and therefore need not be representable by utility functions. The proof which follows closely the arguments in Yannelis-Prabhakar '26 is based on a Caratheodory-type selection theorem.

PD July 15, 1985. **TI** On a Carathodory-type selection theorem. **AU** Kim, Taesung; Prikry, Karel; Yannelis, Nicholas C. **AA** Kim and Yannelis: Department of Economics, University of Minnesota. Prikry: Department of Mathematics, University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Papers: 217; Department of Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 12. **PR** No Charge. **JE** 021, 022, 026. **KW** Measurable Selection. Continuous Selection. Carathodory-type Selection. Open Lower Sections. Measurable graph.

AB We offer a new Caratheodory-type selection theorem. This result arose naturally from the authors' '9 study of equilibria in abstract economies (generalized games) with a measure space of agents.

Kling, Arnold S.

PD August 1985. **TI** Anticipatory Capital Flows and the Behavior of the Dollar. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 261; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 27. **PR** No Charge. **JE** 441, 431, 023. **KW** International Capital Flows. Exchange Rate. Open-Economy Macroeconomics.

AB In this paper, I argue that the value of the dollar is influenced by the "state of long-term expectation" and that market expectations do not appear to embody a return to steady state. I suggest that the recent strength of investment in the United States reflects "animal spirits" and that investors appear to expect the investment boom to be sustained indefinitely. Finally, I show how an adverse shift in perceptions concerning the profitability of investment, by altering this state of expectations and thereby affecting international capital flows, conceivably could put upward pressure on interest rates that would outweigh the downward pressure coming from the actual slowdown in investment.

PD August 1985. **TI** Simulating Exchange Rate Shocks in the MPS and MCM Models: An Evaluation. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 260; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 28. **PR** No Charge. **JE** 431, 130. **KW** Exchange Rate. Macroeconometric Models. Effects of Exchange Rate Appreciation.

AB In 1983 and 1984, the United States economy staged a vigorous economic recovery at a time when the value of the dollar was high and rising, leading to a steady deterioration of the trade balance. The strength of both the economy and the dollar exceeded most forecasts. This raises a question: are there expansionary effects from a currency appreciation that are overlooked when we focus solely on the trade balance? The purpose of this paper is to try and resolve the issue of whether or not an appreciation of the dollar is expansionary. To do so, I evaluate the simulation properties of the MPS and MCM models. As part of this evaluation, I develop a "back-of-the-envelope" model to serve as a third alternative against which to compare the two large econometric models.

Krahl, Lane

PD April 1985. **TI** Marginal-Cost Pricing of Municipal Water: A Case Study of Braintree, Massachusetts. **AA** Energy and Environmental Policy Center, Harvard University. **SR** Harvard Energy and Environmental Policy Center Discussion Paper: E-85-04; Energy and Environmental Policy Center, John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 42. **PR** $7.50. **JE** 723, 022. **KW** Water. Pricing.

AB The theoretical framework for marginal-cost pricing of municipal water is applied in a case study of Braintree, Massachusetts. Braintree is not a growing community. The demand for water will probably not increase during the next five years. However, the costs of operating the system will increase with inflation. The system is currently being used to capacity and the Water Department has a water conservation program. The issues facing the water system are how to collect needed revenues and encourage conservation so the system will not be overtaxed. The principal water supply for Braintree comes from the Great Pond complex. Richardi Reservoir is the secondary source. The water from Richardi Reservoir is pumped into the Great Pond complex on an as-needed basis. In designing a rate structure for Braintree, demand and system costs were projected over a five year planning period, 1984 through 1988. The results of the projections showed that the system will have to pump 1,460 million gallons of water per year at an average annual cost of $1,844,364. The costs are divided into three categories: 1) customer costs, including administrative, metering and billing costs, 2) commodity costs, including pumping and treatment costs, and 3) capacity costs, including capital and maintenance costs. Approximately one third of the total costs falls into each category. The marginal-cost analysis of the system identified two bases for price discrimination: spatial and temporal. The spatial difference in the cost of supplying water arises from the need for booster pumps to insure delivery to Braintree Highlands. When the booster pumps are operating, the commodity cost of delivery to Braintree Highlands increases by $0.12 per 100 cubic feet. The temporal difference in the cost of water is associated with the use of Richardi Reservoir. When water is pumped from Richardi Reservoir the commodity cost per 100 cubic feet increases by $0.10. The marginal capacity costs could not be quantified in either case, but if they were included, the cost differentials would be even greater.

Kramer, Roderick M.

PD October 1985. **TI** Deterrence and Security in a Dangerous World: How Much is Enough?. **AA** Graduate School of Business Stanford University. **SR** Stanford Graduate School of Business Research Paper: 844; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 68. **PR** No Charge. **JE** 114, 026. **KW** Deterrence. National Security. Decision Making. Prospect Theory. Arms Race.

AB In a security dilemma, interdependent decision makers must choose between allocating limited but valuable resources to enhance security or to achieve other goals. The present study investigated the effects of decision frame, level of social categorization, and feedback about others' behavior on individuals' resource allocation decisions. One hundred and twenty-six subjects were recruited in groups of six and subdivided into three-person subgroups. Although subjects were led to believe they were interacting via linked computer terminals, in actuality the interaction was simulated and bogus feedback about others' behavior provided. Across a series of trials, subjects had to decide between allocating resources to a security pool or monetary pool. Decision frame was varied to make salient either security deficits or monetary deficits. Level of social categorization was manipulated to reinforce either collective level or subgroup level group boundaries. Finally, feedback about others' behavior suggested either that members of subjects' own subgroup were announcing large security allocations compared to outgroup members or that they were announcing small allocations relative to outgroupers. Security allocations were influenced by all three factors.

PD December 9, 1985. **TI** Social Values and Cooperative Response to a Simulated Resource Conservation Crisis. **AU** Kramer, Roderick M.; McClintock, Charles G. **AA** Kramer: Graduate School of Business, Stanford University. McClintock: University of California at Santa Barbara. **SR** Stanford Graduate School of Business Research Paper: 858; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 33. **PR** No Charge. **JE** 026, 025, 722. **KW** Collective Action. Social Dilemmas. Cooperation. Interdependence. Social Values.

AB The present study examines the relationship between individuals' social motives or values and their level of cooperation during a simulated resource conservation crisis. Prior to the resource task, a decomposed game procedure was used to classify subjects as cooperatively or noncooperatively oriented. Subjects, in groups of six, were led to believe they shared access to a replenishing resource pool via a system of linked computer terminals. Across a series of trials, subjects had to choose between maximizing their own short-term gain and exercising personal restraint to preserve the collective resource. False feedback about the group's use of the resource and the rate at which it replenished itself was varied to indicate either that the resource was being sustained or that collective overuse was rapidly depleting it. As predicted, cooperatively oriented individuals responded to resource depletion with greater self-restraint than did those classified as noncooperators. Analysis of pretrial and posttrial data indicate that social values were also related to individuals' expectations about the task and perceptions of others.

Kwast, Myron L.

TI An Analysis of Risk-Based Deposit Insurance For Commercial Banks. **AU** Avery, Robert B.; Hanweck, Gerald A.; Kwast, Myron L.

Laffargue, Jean Pierre

PD February 1985. **TI** Decomposition des Consequences Internationales des Politiques Nationales en Effets Mondial et Differentiel. Application au modele multi-pays de Fair (Decomposition of the International Consequences of National Policies into a World and a Difference Effect. Application to the Fair's Multicountry Model). **AA** CEPREMAP et Universite de Paris. **SR** CEPREMAP Discussion Papers: 8509; Bibliotheque - CEPREMAP, 140-142, ru du Chevaleret - 75013 Paris (FRANCE). **PG** 46. **PR** 10 FF. **JE** 423. **KW** Multinational Econometric Model. Decomposition. Aggregation. Dynamic Multipliers.

AB In a perfectly homogenous world the consequences of an economic policy decision of country i on its partners are the combination of: 1) the effects of this decision on the world aggregated variables. They can be explained by a small model representing the closed world economy; and 2) effects which modify the situation of i relative to the rest of the world. They can be formalized by a model which has the same structure as models representing a small country opened to international markets. This decomposition becomes impossible if regional or national specific characters are taken into account. But it is a good starting point from which we can progressively introduce these local peculiarities, and use simulations to investigate and interpret their consequences on dynamic multipliers. This paper applies this procedure to a 14 country multinational econometric model.

Laffont, Jean Jacques

TI Implementation Through Sequential Unanimity Games. **AU** Green, Jerry R.; Laffont, Jean Jacques.

TI Sequential Innovation and Market Structure. **AU** Green, Jerry; Laffont, Jean Jacques.

Lahiri, Somdeb

PD September 24, 1985. **TI** A Note on the Existence of an Optimal Solution for Concave Infinite Horizon Economic Models. **AA** Department of Economics, University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 221; Department of Economics, 1035 Management and Economics Building, University of Minnesota, Minneapolis, MN 55455. **PG** 9. **PR** No Charge. **JE** 213. **KW** Existence of Solutions. Concave Infinite Horizon Models. Maximization Problems.

AB The purpose of this paper is to establish conditions for the existence of an optimal solution in concave maximization problems in infinite horizon economic models.

Laroque, Guy

TI Stability of Cycles and Expectations. **AU** Grandmont, Jean Michel; Laroque, Guy.

Laskar, Daniel

PD December 1984. **TI** International Cooperation and Exchange Rate Stabilisation. **AA** CEPREMAP. **SR** CEPREMAP Discussion Papers: 8506; Bibliotheque - CEPREMAP, 140-142, rue du Chevaleret - 75013 Paris (FRANCE). **PG** 23. **PR** 10 FF. **JE** 430, 431, 423. **KW** Exchange Rate. Fluctuations. Policy Coordination. International Cooperation. Foreign Exchange Intervention. Monetary Independence.

AB We consider a two country world where policymakers of each country have at their disposal one policy instrument and want to reduce the fluctuations of two variables: an internal variable, such as domestic output or price, on the one hand, and the exchange rate, on the other hand. Using a quite general symmetric reduced form model, we show that at the non cooperative Nash equilibrium policymakers do not give enough weight to the exchange rate stabilization objective and, therefore, that the exchange rate fluctuates more than what it would at any Pareto optimum. The magnitude of the gap between the two types of solutions increases when we go from a negative to a positive transmission mechanism.

Layard, Richard

TI A Wage-Tax, Worker-Subsidy Policy for Reducing the "Natural" Rate of Unemployment. **AU** Jackman, Richard; Layard, Richard.

PD October 1985. **TI** Annual Report, 1984/85. **AA** Center for Labour Economics, L.S.E. **SR** London School of Economics, Centre for Labour Economics Discussion Paper: 232; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 26. **PR** No Charge. **JE** 824. **KW** Annual Report. Unemployment. Labour Economics.

AB This is the Centre's Annual Report, which contains lists of and a discussion of the work done by the Centre during 1984/85.

Le, Van Cuong

PD December 1984. **TI** Frontieres D'incertitude, Sous Information Parfaite Dans les Modeles Macroeconometriques (Uncertainty Frontier with Full Information in Macroeconometric Models). **AA** CEPREMAP. **SR** CEPREMAP Discussion Papers: 8504; Bibliotheque -CEPREMAP, 140-142, rue du Chevaleret - 75013 Paris (FRANCE). **PG** 47. **PR** 10 FF. **JE** 023, 211. **KW** Uncertainty Frontier. Macroeconometric Model. Variance-Covariance Matrices. Quadratic Welfare Functions. Contrastochastic Feedback Controls. Matrix Riccati Equation.

AB In this paper, we characterise the uncertainty frontier with full information, in a macroeconometric model. The uncertainty frontier, the definition of which is due to Deleau & Malgrange '1979, is the set of the least semi-definite positive variance-covariance matrices of the objective-variables stabilised by contrastochastic policies. We prove that if the model is in final form, this frontier is the set of variance-covariance matrices of the objective variables which are stabilised by different non "singular" quadratic criteria; in the case of a model in state variables, it is shown that the stationary uncertainty frontier is the set of the variance-covariance matrices of the objective-variables stabilised by "stable" linear contrastochastic feedback controls associated with non "singular" quadratic welfare functions. As a corollary of our results, we have the existence, and eventually the uniqueness, of a solution of a matrix Riccati equation which arises in the theory of discrete time dynamic control.

Lehmann, Bruce N.

PD August 1985. **TI** Mutual Fund Performance Evaluation: A Comparison of Benchmarks and Benchmark Comparisons. **AU** Lehmann, Bruce N.; Modest, David M. **AA** Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-31; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 56. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 313, 520. **KW** Mutual Fund Performance. Investment Management. Arbitrage Pricing Theory. APT.

AB Our primary goal in this paper is to ascertain whether the absolute and relative rankings of managed funds are sensitive to the benchmark chosen to measure normal performance. We employ the standard CAPM benchmarks and a variety of Arbitrage Pricing Theory benchmarks to investigate this question. We found that there is little similarity between the absolute and relative mutual fund rankings obtained from alternative benchmarks which suggest the importance of knowing the appropriate model for risk and expected return in this context. In addition, the rankings are quite sensitive to the method used to construct the APT benchmark. One would reach very different conclusions about the funds' performance using smaller numbers of securities in the analysis or less efficient methods for estimating the necessary factor models than one would arrive at using the maximum likelihood procedures with 750 securities. We did, however, find the rankings of the funds are not very sensitive to the exact number of common sources of systematic risk that are assumed to impinge on security returns. Finally, we found statistically significant measured abnormal performance using all the benchmarks. The economic explanation of this phenomenon appears to be an open question.

PD August 1985. **TI** The Empirical Foundations of the Arbitrage Pricing Theory II: The Optimal Construction of Basis Portfolio. **AU** Lehmann, Bruce N.; Modest, David M. **AA** Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-30; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 54. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 313, 520. **KW** APT. Arbitrage Pricing Theory. Basis Portfolio Construction.

AB The Arbitrage Pricing Theory (APT) of Ross (1976) presumes that a factor model describes security returns. In this paper, we provide a comprehensive examination of the merits of various strategies for constructing basis portfolios that are, in principle, highly correlated with the common factors affecting security returns. Three main conclusions emerge from our study. First, increasing the number of securities included in the analysis dramatically improves basis portfolio performance. Our results indicate that factor models involving 750 securities provide markedly superior performance to those involving 30 to 250 securities. Second, comparatively efficient estimation procedures such as maximum likelihood and restricted maximum likelihood factor analysis (which imposes the APT mean restriction) significantly outperform the less efficient instrumental variables and principal components procedures that have been proposed in the literature. Third, a variant of the usual Fama-MacBeth portfolio formation procedure, outperformed the Fama-MacBeth procedure and proved equal to or better than more expensive quadratic programming procedures.

PD August 1985. **TI** The Empirical Foundations of the Arbitrage Pricing Theory I: The Empirical Tests. **AU** Lehmann, Bruce N.; Modest, David M. **AA** Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-29; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 64. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 313, 520. **KW** Asset Pricing Models. Arbitrage Pricing Theory. APT.

AB This paper provides a detailed and extensive examination of the validity of the APT based on maximum likelihood factor analysis of large cross-sections of securities. Our empirical implementation of the theory proved incapable of explaining expected returns on portfolios composed of securities with different market capitalizations although it provided an adequate account of the expected returns of portfolios formed on the basis of dividend yield and own variance where risk adjustment with the CAPM employing the usual market proxies failed. In addition, it appears that the zero beta version of the APT is sharply rejected in favor of the riskless rate model and that there is little basis for discriminating among five and ten factor versions of the theory.

Leibenstein, Harvey

PD December 1985. **TI** On Relaxing the Maximization Postulate. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1198; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 28. **PR** $2.50. **JE** 511, 022. **KW** Decision Procedures. Optimization. Maximization Postulate.

AB Decision procedures which can result in suboptimal outcomes are described. The frequency of suboptimal decisions and the degree of suboptimality are related by the Yerkes-Dodson Law to the amount of pressure felt by the decision maker. Conventions within firms are likely to be suboptimal decision procedures, but they serve to prevent an even worse prisoner's dilemma outcome. Most decision sets at a point in time, and over a period of time, are likely to be a mix of optimal and suboptimal procedures. The possibility of nonoptimal decisions is a logical necessity and an implication of any nontrivial interpretation of the maximization postulate. In nontrivial cases the words, "maximization," "optimization," and "choice," imply multiple options, and the possibility of choosing any option, and therefore the existence and possible choice of options other than the optimal one. Several modes of reasoning against relaxing the maximization postulate are considered. In general, the type of reasoning employed contradicts that essential comparative meaning of optimality and/or choice. It is of interest to have a decision theory that incorporates the possibility of nonoptimal decisions in order to be able to examine basic sources of X-inefficiency within firms and the overall economy.

Leiderman, Leonardo

TI Interest Rates, Money Supply Announcements, and Monetary Base Announcements. **AU** Huizinga, John; Leiderman, Leonardo.

Leon, Hyginus L.

TI Testing for Intrinsic Homogeneity. **AU** Dutta, Jayasri; Leon, Hyginus L.

Leonard, Daniel

PD December 1984. **TI** Capital Market and Labour Choice in A Dynamic Model of the Family: A Special Case. **AA** University of New South Wales. **SR** CEPREMAP Discussion Papers: 8510; Bibliotheque - CEPREMAP, 140-142, rue du Chevaleret - 75013 Paris (FRANCE). **PG** 14. **PR** 10 FF. **JE** 841. **KW** Dynamic Model of the Family. Production Function. Capital Market. Labour Choice.

AB This paper extends the analysis of a previous study of a dynamic model of the family where the number of children per family was restricted to integer values. The discontinuities which appear in the phase line destroyed the existence, uniqueness and stability of the steady state. We now try to smooth the production function by introducing a capital market or another variable input. Some discontinuities disappear but the properties of the steady state remain.

Leuthold, Jane H.

PD Sept 1985. **TI** The Buoyancy of Ivory Coast Taxes. **AU** Leuthold, Jane H.; NGuessan, Tchetche. **AA** Department of Economics, University of Illinois at Urbana-Champaign. **SR** University of Illinois at Urbana-Champaign BEBR Faculty Working Paper: 1182; Department of Economics, University of Illinois, 1206 S. 6th Street, Champaign, IL 61820. **PG** 14. **PR** No Charge. **JE** 323. **KW** Double-logarithmic Functions. Tax. Buoyancy of Tax. Ivory Coast.

AB Buoyancy reflects the ability of a tax structure to generate revenues during economic growth. In this study, the buoyancy of taxes in the Ivory Coast was estimated using annual data from the time period 1965 to 1975. Double-logarithmic functions relating tax receipts to GDP were estimated for each of the major Ivorian taxes. The most buoyant taxes were identified as the income taxes and the least buoyant were the customs duties and excises on alcohol and tobacco. The buoyancy of total taxes in the Ivory Coast was found to be less than in three other countries. The results of the study are helpful in understanding the fiscal system of the Ivory Coast.

Lieberman, Marvin B.

PD November 1985. **TI** Patents, Learning by Doing, and Market Structure in the Chemical Processing Industries. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 859; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 38. **PR** No Charge. **JE** 621. **KW** Patents. R and D. Learning By Doing.

AB This paper analyzes propensity to patent and the effect of patented process innovations on output prices for a sample of 24 chemical products. Econometric count data models (Poisson and negative binomial) are used given the discrete nature of the patent data. The results show that process patent activity was stimulated by growth in industry cumulative output ("learning by doing") rather than by expenditures on R and D. Market concentration had a significant negative effect on patenting. Reductions in output prices were closely linked to growth in cumulative output, but only weakly to the rate of patenting. These results differ from those obtained in patent studies based on more aggregate data.

Lien, Da Hsiang Donald

PD July 1985. **TI** Parameterization and Two-stage Conditional Maximum Likelihood Estimation. **AU** Lien, Da Hsiang Donald; Vuong, Quang H. **AA** Division of Humanities and Social Sciences, California Institute of Technology. **SR** California Institute of Technology Social Science Working Paper: 578; Division of Humanities and Social Sciences, Caltech, Pasadena, CA 91125. **PG** 41. **PR** No Charge. **JE** 211. **KW** Parameterization. Two-Stage Maximum Likelihood Estimation.

AB This paper considers the case where, after appropriate reparameterization, the probability density function can be factorized into a marginal density function and a conditional density function such that one of them involves fewer parameters. Then, two types of two-stage conditional maximum-likelihood estimators, 2SCMLEI and 2SCMLEII, can be considered according to whether the marginal or the conditional density has fewer parameters. Our first result indicates that, under some identification assumptions, there is a connection between the number of parameters in the marginal (or conditional) density functions under the two reparameterizations. Moreover, conditions for asymptotic equivalence and numerical equivalence between these two-stage estimators and the FIML estimator are obtained. Finally, examples are provided to illustrate our results.

Linhart, Daniele

PD 1985. **TI** Naissance D'un Consensus (Birth of a Consensus). **AU** Linhart, Daniele; Linhart, Robert. **AA** Linhart, D.: CNAM, CNRS. Linhart, R.: CEPREMAP. **SR** CEPREMAP Discussion Papers: 8515; CEPREMAP, 142, rue du Chevaleret, 75013 Paris, France. **PG** 37. **PR** 10 FF. **JE** 833. **KW** Labor Organization. Trade Union. Collective Bargaining. Worker Participation.

AB We study, here, the recent social, economic and technological conditions which incite trade unions and employers to try to promote a deeper participation of wage earners in the firm. On the employers side, new characteristics of markets and low reliability of new technologies drive the management to look for a different form of work organisation. On the trade unions side, given the crisis they undergo, the objectives are first to allow workers to express directly their needs and second to find the ways of their involvement in the firm. So called lois Auroux tried to synthesize these trends. But the analysis of their implementation in the firm shows that conditions are not fulfilled for such an evolution to take place smoothly.

Linhart, Robert

TI Naissance D'un Consensus (Birth of a Consensus). **AU** Linhart, Daniele; Linhart, Robert.

Lipietz, Alain

PD March 1985. **TI** Fordisme, Fordisme Peripherique et Metropolisation (Fordism, Peripheral Fordism and Metropolisation). **AA** CEPREMAP and CNRS. **SR** CEPREMAP Discussion Papers: 8514; CEPREMAP, 142, rue du Chevaleret, 75013 Paris, France. **PG** 48. **PR** 10 FF. **JE** 731, 931. **KW** Fordism. Development. Towns. Space.

AB First this paper summarizes the analysis of new industrialization within the Third-World in terms of peripheral fordism, and it shows the importance of the phenomenon. Then it addresses the issue: why is this peripheral fordism usually linked with a boosting metropolisation, by contrast with late central fordisms such as France or Italy where this evolution happened to be more controlled? Three answers are suggested: the unachievement of demographic transition in Third World, some agricultural structures evicting rural populations, & the spatial strategies of firms developing upon world point - to - point branch-circuits, and not on continuous interregional spaces.

PD August 1985. **TI** Le National et le Regional: Quelle Autonomie Face A La Crise Capitaliste Mondiale?. **AA** CEPREMAP And CNRS. **SR** CEPREMAP Discussion Papers: 8521; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, France. **PG** 34. **PR** 10 FF. **JE** 731, 941, 423. **KW** Territorial Development. Hegemony.

AB This theoretical paper tries to set a bridge between former theorizations about unequal territorial development (articulation of modes of production, regimes of accumulation, & modes of regulation). It emphasizes the importance of "hegemonic blocks" with their proper space, the national one. This lays some skepticism about neo-liberal propositions to get out of crises through less state, more international private competition, and more local social regulation. A more progressive way should combine more accurately international, national and regional actions.

Lloyd, Peter J.

TI Uncertainty and the Choice of Protective Instrument. **AU** Falvey, Rodney E.; Lloyd, Peter J.

Los, Cornelis A.

PD November 1984. **TI** Measurement Problems of Inflation Disaggregation. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8417; Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 29. **PR** No Charge. **JE** 227. **KW** Disaggregation Algebra. GNP Expenditure components. Price Indices. Heterogeneous Time Series. Structural Instability.

AB Why do the three quarterly GNP inflation measures differ so much when they are built up from the same underlying price data? Algebraically and in tables using data of the second quarter of 1984, it is shown that these differences occur because of quarterly shifts in the composition of the nation's product. Disaggregation of the inflation contributions of the GNP components also makes it clear why, for quarterly analyses, the GNP chain price index is superior to both the implicit GNP deflator and the fixed-weight GNP price index. In particular, the implicit GNP deflator can give severely distorted inflation signals.

PD February 1985. **TI** EMEPS User Manual: Computer Programs to Estimate Models with Evolutionary Parameter Structures. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8501; Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 78. **PR** No Charge. **JE** 214, 211. **KW** Time-Varying Parameters. Computer Programs. Interactive. Maximum Likelihood. Search Estimator. Iterative Estimator. Kalman Filters. Information Filters. Akaike's Information Criterion. Observability. Controllability.

AB EMEPS is a set of computer programs for the Estimation of Models with Evolutionary Parameter Structures for econometricians, statisticians, engineers, biometricians, meteorometricians, sociometricians, politicometricians, psychometricians and others who use techniques common to econometrics. EMEPS's interactive estimation programs are relatively easy to use and show great flexibility in handling a wide variety of models with evolutionary parameter structures and a single measurement observation equation. EMEPS consists of three programs: EMEPS-1 searches, in a restricted multidimensional rectangular search domain, for the optimal estimates of constant hyperstructural parameters, which describe the evolution of structural parameters processes. EMEPS-1 uses the full information maximum likelihood function computed from the Kalman (information) filter innovations, as a discrimination criterion. EMEPS-2 is the main program of this set of programs. It estimates, in iterative-recursive fashion, the trajectories of the evolutionary structural parameters and of their corresponding covariance matrices, and the estimates of the constant hyperstructural parameters describing these evolutionary parameter processes. EMEPS-2 also provides values for Akaike's Information Criterion to assist the researcher in his/her quest for an optimal specification. EMEPS-3 is a special program used in combination with EMEPS-1 and EMEPS-2. It determines a critical positive integer, on which depends the invertibility of the one-period-forward predicted covariance matrices of the structural parameters and, therefore, the feasibility of the information filters used in EMEPS-1 and EMEPS-2.

PD March 1985. **TI** Monte Carlo Studies of Econometric Estimators of Evolutionary Parameter Structures. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8502; Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 62. **PR** No Charge. **JE** 211. **KW** Monte Carlo Methods. State and Parameter Estimation. Maximum Principle. Information Filters. Evolutionary Parameters. Hyperstructure. Identification. Kalman Filters. Time Varying Parameters.

AB Our local, iterative, maximum likelihood estimator for Econometric Models with Evolutionary Parameter Structures (EMEPS) estimates the time-varying mean and covariance matrix of evolutionary structural parameters, as well as their constant hyperstructure. On the basis of 200 replications of sizes between 25 and 400 observations and over a range of stable through marginally unstable parameter processes, we find that this sufficient estimator is somewhat biased, but efficient, according to parametric and nonparametric measures of bias, dispersion, and dispersion including bias. When the number of observations increases above 50, the small initial biases virtually disappear, and the efficiency of the estimates increases geometrically. The estimates of the evolutionary structural parameters show neither systematic over- nor underestimation, and their errors show only very weak residual autocorrelation, which tends to disappear when the number of observations is increased. On average between 90 and 100 percent of the variation of the structural parameter processes is explained. The estimates of the constant hyperstructure of the stable processes are normally distributed for 100 or more observations and the usual test statistics can be applied.

PD April 1985. **TI** Regression Analysis and Diagnosis by an Evolutionary Parameter Estimator. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8503; Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 72. **PR** No Charge. **JE** 211. **KW** Hyperstructure. Misspecification. Model Selection. Test Statistics. Encompassment. Maximum Likelihood.

AB The generic Econometric Model with Evolutionary Parameter Structures (EMEPS) encompasses at least 16 basic linear models discussed in the statistical literature. The test statistics of conventional regression analysis, applied to time series computer generated by these 16 models, selects only one of the sixteen cases as the proper model, i.e. the model with constant parameters. The conventional test statistics show in these 15 cases only "misspecification," and do not identify the other 15, fully legitimate models. However, a recently developed interative maximum likelihood estimator, which is not based on derivatives, and which embodies the encompassing EMEPS structure, properly diagnoses all 16 specific models by judicious, systematic, over- and underfitting of the proposed hyperparametric structures. It provides good tracking performance of the evolutionary structural parameters.

Lucas, Robert E. B.

PD April 1985. **TI** Motivations to Remit: Evidence from Botswanna. **AU** Lucas, Robert E. B.; Stark, Oded. **AA** Stark: Department of Economics, Harvard University. Lucas: Boston University. **SR** Harvard Institute for Economic Research Discussion Paper: 1143; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PR** $2.50. **JE** 823, 921. **KW** Migration. Remittances. Botswana. Income Redistribution.

AB Despite the important role played by migrants' remittances, no systematic theory of remittance behavior exists and surprisingly little statistical evidence on determinants of remittances has appeared. This paper presents several hypotheses for motivations to remit, ranging from pure altruism to self-interest. However, a far richer array of predictions emerges from a model of tempered altruism or enlightened self-interest, in which remittances are one element in a self-enforcing arrangement between migrant and home. This range of arguments provides a framework for interpreting evidence on remittance patterns among individual migrants in Botswana. The paper closes with some thoughts on dualistic theories of development when mutually beneficial understandings between urban migrants and rural homes prevail.

MacLead, William Bentley

PD September 18, 1985. **TI** Reputation and Hierarchy in Dynamic Models of Employment. **AU** MacLead, William Bentley; Malcomson, James M. **AA** MacLead: Queen's University. Malcomson: University of Southampton. **SR** Queen's Institute for Economic Research Discussion Paper: 628; Department of Economics, Queen's University, Kingston, Ontario, Canada K7L 3N6. **PG** 53. **PR** $2.50 Canada; $3.00 United States; $3.50 Foreign. **JE** 026, 821. **KW** Reputation. Hierarchy. Contracts.

AB The purpose of this paper is to explore the nature of employment contracts in a dynamic model when workers are of varying, unobservable ability, and there is moral hazard on both sides of the contract. The combination of all these elements results in a contract structure very different from those arising when each of them is considered separately. We find that even though a worker's ability is chosen from a continuum, the equilibrium contract is characterized by a hierarchy consisting of a finite number of ranks. Reputation effects are modelled as a Bayesian game, and are needed to ensure workers will not shirk. Further we show that workers cannot be immediately assigned to the appropriate rank. Rather they are promoted up through the ranks until they reach a level consistent with their ability.

Mahajan, Vijay

PD November 1985. **TI** An Evaluation of Estimation Procedures for New Product Diffusion Models. **AU** Mahajan, Vijay; Mason, Charlotte H.; Srinivasan, V. **AA** Mahajan: Edwin L. Cox School of Business, Southern Methodist University. Mason: School of Business Administration, University of North Carolina at Chapel Hill. Srinivasan: Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 851; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 38. **PR** No Charge. **JE** 531. **KW** Product Diffusion.

AB We compare four procedures for estimating new product diffusion models, viz., ordinary least squares, maximum likelihood estimation, nonlinear least squares, and algebraic estimation. The paper first discusses the advantages and disadvantages of the four estimation procedures. An empirical comparison is then made using seven data sets. The results indicate that the nonlinear least squares procedure provides better one-step ahead forecasts. This conclusion, based on the Bass diffusion model, holds up for the two other diffusion models tested, viz., the Mansfield model and the Gompertz curve.

Majumdar, Mukul

TI On Characterizing Optimal Competitive Programs in Terms of Decentralizable Conditions. **AU** Brock, William A.; Majumdar, Mukul.

PD September 1985. **TI** Multisector Growth Models. **AA** Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 344; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 9. **PR** No Charge. **JE** 021, 111. **KW** Multisector Growth Models. Resource Allocation Mechanisms.

AB The possibility (or otherwise) of designing an informationally decentralized resource allocation mechanism that leads to optimal outcomes has been the subject of considerable speculation and over the last thirty years, it has become a "classical" problem in dynamic models with an infinite horizon. In what follows, I shall review some recent results that throw new light on this topic.

Malcomson, James M.

TI Reputation and Hierarchy in Dynamic Models of Employment. **AU** MacLead, William Bentley; Malcomson, James M.

Mankiw, Gregory N.

PD April 1985. **TI** Do We Reject Too Often? Small Sample Bias in Tests of Rational Expectations. **AU** Mankiw, Gregory N.; Shapiro, Matthew D. **AA** Mankiw: MIT. Shapiro: Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 743; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 20. **PR** No Charge. **JE** 131, 211. **KW** Rational Expectations. Non Stationary Time Series. Detrending. Small Sample Bias.

AB We examine the small sample properties of tests of rational expectations models. We show using Monte Carlo experiments that these tests can be extremely biased toward rejection for sample sizes typical in applied research. These biases are important when the time series examined are highly autoregressive. We also show that these tests are even more biased with detrended data. We present correct small sample critical values for our canonical problem.

PD December 1985. **TI** The Allocation of Credit and Financial Collapse. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1195; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 25. **PR** $2.00. **JE** 022, 026, 315. **KW** Asymmetric Information. Credit Allocation.

AB This paper examines the allocation of credit in a market in which borrowers have greater information concerning their own riskiness than do lenders. It illustrates (1) the allocation of credit is inefficient and at times can be improved by government intervention, and (2) small changes in the exogenous risk-free interest rate can cause large (discontinuous) changes in the allocation of credit and the efficiency of the market equilibrium. These conclusions suggests a role for government as the lender of last resort.

Mankiw, N. Gregory

PD September 1984. **TI** Trends, Random Walks, and Tests of the Permanent Income Hypothesis. **AU** Mankiw, N. Gregory; Shapiro, Matthew D. **AA** Mankiw: MIT. Shapiro: Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 725; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 15. **PR** No Charge. **JE** 131, 211, 921. **KW** Non Stationary Time Series. Detrending. Permanent Income Hypothesis. Small Sample Bias.

AB Recent studies find that consumption is excessively sensitive to income. These studies assume that income is stationary around a deterministic trend. The data, however, do not reject the hypothesis that disposable income is a random walk with drift. If income is indeed a random walk, then the standard testing procedure is greatly biased toward finding excess sensitivity. Moreover, if income is borderline stationary, this procedure is also seriously biased.

PD January 4, 1985. **TI** Risk and Return: Consumption Beta Versus Market Beta. **AU** Mankiw, N. Gregory; Shapiro, Matthew D. **AA** Mankiw: MIT. Shapiro: Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 738; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 30. **PR** No Charge. **JE** 313, 921. **KW** Capital Asset Pricing Model. Consumption. Risk. Portfolio Theory.

AB Much recent work emphasizes the joint nature of the consumption decision and the portfolio allocation decision. In this paper, we compare two formulations of the Capital Asset Pricing Model. The traditional CAPM suggests that the appropriate measure of an asset's risk is the covariance of the asset's return with the market return. The consumption CAPM, on the other hand, implies that a better measure of risk is the covariance with aggregate consumption growth. We examine a cross-section of 464 stocks and find that the beta measured with respect to a stock market index outperforms the beta measured with respect to consumption growth.

PD October 1985. **TI** Do We Reject Too Often? Small Sample Properties of Tests of Rational Expectation Models. **AU** Mankiw, N. Gregory; Shapiro, Matthew D. **AA** Mankiw: Department of Economics, Harvard University. Shapiro: Yale University. **SR** Harvard Institute for Economic Research Discussion Paper: 1191; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 12. **PR** $1.25. **JE** 023, 212. **KW** Rational Expectations Models. Autoregressive Time Series Models. Small Sample Properties.

AB We examine the small sample properties of tests of rational expectations models. We show using Monte Carlo experiments that the asymptotic distribution of test statistics can be extremely misleading when the time series examined are highly autoregressive. In particular, a practitioner relying on the asymptotic distribution will reject true models too frequently. We also show that this problem is especially severe with detrended data. We present correct small sample critical values for our canonical problem.

PD October 1985. **TI** The Changing Behavior of the Term Structure of Interest Rates. **AU** Mankiw, N. Gregory; Miron, Jeffrey A. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1190; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 31. **PR** $2.50. **JE** 313, 311. **KW** Term Structure. Interest Rates. Expectations Theory.

AB We reexamine the expectations theory of the term structure using data at the short end of the maturity spectrum. We find that prior to the founding of the Federal Reserve System in 1915, the spread between long rates and short rates has substantial predictive power for the path of interest rates; after 1915, however, the spread contains much less predictive power. We then show that the short rate is approximately a random walk after the founding of the Fed but not before. This latter fact, coupled with even slight variation in the term premium, can explain the observed change in 1915 in the performance of the expectations theory. We suggest that the random walk character of the short rate may be attributable to the Federal Reserve's commitment to stabilizing interest rates.

PD December 1985. **TI** The Equity Premium and the Concentration of Aggregate Shocks. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1196; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 15. **PR** $1.25. **JE** 313, 220, 026. **KW** Shocks. Estimating Risk Aversion. CAPM. Aggregation Theorems. Representative Consumer Models.

AB This paper examines an economy in which aggregate shocks are not dispersed equally throughout the population. Instead, while these shocks affect all individuals ex ante, they are concentrated among a few ex post. The equity premium in general depends on the concentration of these aggregate shocks; it follows that one cannot estimate the degree of risk aversion from aggregate data alone. These findings suggest that the empirical usefulness of aggregation theorems for capital asset pricing models is limited.

Mann, Catherine L.

PD August 1985. **TI** Trade Policy for the Multiple Product Declining Industry. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 259; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 35. **PR** No Charge. **JE** 411, 422. **KW** Tariff. Commercial Policy. Declining Industry. Heterogeneous Products. Economies of Scale. Economies of Scope.

AB Increasing returns to scale and scope in production technology combined with product substitutability in demand yields an environment where free trade may not maximize domestic country welfare. If not, there is an optimal tax on imports that depends on the cross-elasticity of demand between the products in the spectrum and on the degree of economies of scale and scope in technology. However, even if protection may be warranted in the short run, the long run solution is consistent with the theory of comparative advantage.

Maravall, Agustin

PD January 1984. **TI** The Transmission of Data Noise Into Policy Noise in Monetary Control. **AU** Maravall, Agustin; Pierce, David A. **AA** Maravall: Bank of Spain. Pierce: Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 184; Special Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 41. **PR** No Charge. **JE** 311, 223. **KW** Monetary Targets. Money Supply Statistics. Data Noise.

AB In terms of setting policy, the Federal Open Market Committee is not necessarily misled by errors in preliminary data. In the present paper we find that noise in the data induces relatively little "noise" in actual policy. The results suggest that the incoming figures are not taken entirely at face value, but rather that in effect a signal-plus-noise separation is made. In fact, we conclude that, on average, for a unit unexpected deviation in the rate of growth of M1 with respect to its target, measured with preliminary data, to a close approximation one-third of that deviation will represent transitory noise which is ignored, one-third an undesired deviation which is compensated, associated mainly with money supply shocks, and one-third an unexpected deviation which is accommodated, primarily associated with shocks stemming from the demand side. It is seen how the different reaction towards demand and supply shocks, together with the signal extraction, explain why noise in the data have little effect on the setting of monetary targets.

Marquez, Jaime

PD July 1985. **TI** Currency Substitution and the New Divisia Monetary Aggregates: The United States Case. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 257; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 37. **PR** No Charge. **JE** 311, 431. **KW** Money Demand. Currency Substitution. Divisia Aggregates.

AB The purpose of this paper is to examine the extent to which the behavior of aggregate money holdings is influenced by foreign exchange considerations, an influence that has been labeled as currency substitution. Knowledge of the extent to which monies of different countries can substitute for each other is important for the design and implementation of monetary policy. However, existing empirical analyses of currency substitutions rest on official estimates of money holdings which imply an infinite elasticity of substitution between different monetary assets. Analyses of economic monetary aggregates do not impose the assumption of infinite elasticity of substitution, but no foreign exchange considerations are allowed. This paper combines both approaches into a unified explanation of money demand behavior.

PD July 1985. **TI** The International Transmission of Oil Price Effects and OPEC's Pricing Policy. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 256; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 32. **PR** No Charge. **JE** 723, 422, 431. **KW** OPEC. Oil Price Effects. Oil Price Determination. Stabilization Policies in Oil Importing Countries.

AB Analysis of oil-price effects generally maintain the assumption that oil-importers can be treated as small economies, which allows oil-price changes to be treated as exogenously set by OPEC. Analyses of oil-price determination rely on the assumption that the demand for oil is a stable function, which implies that real income of oil importers is unaffected by oil-price changes. Our analysis treats oil prices and economic activity as jointly determined. The effects of exogenous oil-price changes are studied in a simple theoretical world model. Hotelling's analysis is generalized to allow for both oil-price feedback effects and stabilization policies.

PD October 1985. **TI** Money Demand in Open Economies: A Currency Substitution Model for Venezuela. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 265; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 29. **PR** No Charge. **JE** 311, 431. **KW** Money Demand. Currency Substitution. Venezuela.

AB This paper investigates the extent to which domestic money balances in Venezuela are influenced by foreign exchange considerations. To this end, individuals are assumed to choose the levels of foreign and domestic money that minimize the borrowing costs associated with a given level of monetary services. The solution to this optimization problem yields a closed form domestic money demand function. This specification is estimated and the results point to an elasticity of currency substitution in excess of one. Conditioned on these estimates, the paper presents estimates of the out-of-sample exchange-rate risk for the period 1981-1982, prior to the collapse of the fixed exchange rate system in 1983.

Marshall, John M.

PD February 1985. TI Optimum Insurance of Natural Hazards for People Who Don't Want Any. AA Department of Economics, University of California Santa Barbara. SR University of California Santa Barbara Department of Economics Working Papers: 249; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. PG 41. PR No Charge. JE 026, 921. KW Natural Hazards. Insurance.

AB This paper deals with the question of how much insurance for natural hazards is desirable. The answer is complicated because it involves the larger question of what welfare analysis should be applied. The first section of the paper therefore discusses the reasoning behind the approach to welfare analysis that it adopts. The following section concerns the relation between insurance and the incentives for reducing natural hazards. It studies the objectives and limitations of a policy of subsidizing insurance of natural hazards.

Martens, Joann E.

PD November 19, 1985. TI Do Unit Sales Predict Car Sales?. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 8508; Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. PG 13. PR No Charge. JE 921. KW Unit Sales. Automobile Demand.

AB Unit sales are a strong predictor of personal consumption expenditures for new automobiles but a weak predictor of retail sales of new cars. The household expenditures measure only includes purchases of new cars whereas the retail automobile sales measure new and used cars, trucks, parts and other nonautomobile sales. The estimation of automobile demand from unit sales involves an ordinary least squares regression corrected for first-order autocorrelation using the Cochrane-Orcutt procedure.

Mas, Colell Andreu

TI The Potential: A New Approach to the Value in Multi-Person Allocation Problems. AU Hart, Sergiu; Mas, Colell Andreu.

PD July 1985. TI A Price Equilibrium Existence Problem in Topological Vector Lattices. AA Department of Economics, Harvard University. SR Harvard Institute for Economic Research Discussion Paper: 1168; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. PG 29. PR $2.50. JE 021. KW Infinite Dimensional Linear Spaces. Existence of Price Equilibrium. Topological Vector Lattices.

AB A price equilibrium existence theorem is proved for exchange economies whose consumption sets are the positive orthant of arbitrary topological vector lattices. The motivation comes from economic applications showing the need to bring within the scope of equilibrium theory commodity spaces whose positive orthant has empty interior, a typical situation in infinite dimensional linear spaces.

TI Real Indeterminacy with Financial Assets. AU Geanakoplos, John; Mas, Colell Andreu.

Maskin, Eric

PD May 1985. TI Input Versus Output Incentive Schemes. AU Maskin, Eric; Riley, John. AA Maskin: Department of Economics, Harvard University. Riley: University of California at Los Angeles. SR Harvard Institute for Economic Research Discussion Paper: 1156; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. PG 30. PR $2.50. JE 026. KW Incentive Schemes. Monitoring. Instruments.

AB It is an obvious proposition that the more instruments a principal uses, the better the incentive scheme he can design for a group of agents -- at least if he can commit himself to the scheme he announces. Typically, however, each instrument used requires monitoring some aspect of agents' behavior, and monitoring is often costly. As a step toward a theory of optimal monitoring, one may ask, therefore, which subsets of instruments are the most effective by themselves, assuming that it is prohibitively expensive to monitor everything. We attempt to answer that question in this paper for a simple two good model. We consider a population of agents with identical preferences for two goods. Agents differ according to their productive capabilities. One good can be consumed directly or used as an input in the production of the other. We suppose that the principal's objective is to raise a prescribed level of revenue at a minimum social cost. Equivalently, he seeks to maximize revenue subject to the constraint that agents' welfare is held at a prescribed level. Clearly, the principal can do better (or, at least, no worse) by having the payment scheme depend on both input and output rather than just one. But which of the two would be selected, if the principal had to choose between monitoring input and output, may not be obvious. We shall show that, allowing for general nonlinear incentive schemes, monitoring output is superior under plausible assumptions on preferences and technology. Roughly speaking, these require that more productive agents supply larger inputs when only lump sum taxes are used. Nonetheless, there remain cases in which input monitoring dominates. We provide conditions that characterize when each of the instruments is better.

Mason, Charlotte H.

TI An Evaluation of Estimation Procedures for New Product Diffusion Models. AU Mahajan, Vijay; Mason, Charlotte H.; Srinivasan, V.

McAleer, Michael

PD October 1985. TI Statistical Inference in Non-nested Econometric Models. AU McAleer, Michael; Pesaran, Hashem M. AA McAleer: Australian National University. Pesaran: Trinity College, Cambridge. SR Australian National University Working Papers in Economics and Econometrics: 128; Department of Statistics, Faculty of Economics, Australian National University, PO Box 4, Canberra Act 2601, AUSTRALIA. PG 50. PR No Charge. JE 211. KW Atkinson's Comprehensive Model Approach. Cox's Centred Likelihood Ratio Statistic. Kullback-Leibler Information Criterion. Non-Nested Hypotheses. The Cox Principle.

Separate Hypotheses.
AB The purpose of this paper is to discuss and shed light on some procedures that are available for testing non-nested (or separate) hypotheses in the statistics and econometrics literature. Since many of these techniques may also be exploited in other disciplines, it is hoped that an elaboration of the principal theoretical findings may make them more readily accessible to researchers in other disciplines. Several simple examples are used to illustrate the concepts of nested and non-nested hypotheses and, within the latter category, 'global' and 'partial' non-nested hypotheses. Two alternative methods of testing non-nested hypotheses are discussed and contrasted: the first of these is Cox's modification of the likelihood ratio statistic and the second is Atkinson's comprehensive model approach. A major emphasis is placed on the role of the Cox Principle of hypothesis testing, which enables a broad range of hypotheses to be tested within the same framework. The problem associated with the application of the comprehensive model approach to composite non-nested hypotheses is also highlighted, with Roy's Union-intersection Principle being presented as a viable method of dealing with this problem. Simulation results concerning the finite sample properties of various tests are discussed, together with an analysis of some attempts to correct the poor size of the Cox and related tests.

McClintock, Charles G.

TI Social Values and Cooperative Response to a Simulated Resource Conservation Crisis. **AU** Kramer, Roderick M.; McClintock, Charles G.

McElroy, Marjorie B.

PD January 31, 1985. **TI** Additive General Error Model for Production, Cost, and Derived Demand of Share Systems. **AA** Department of Economics, Duke University. **SR** Duke Working Papers in Economics: 85-09A; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 47. **PR** $1.50. **JE** 022. **KW** Production Functions. Cost Functions. Demand Systems. Share Systems. Error Specification. Stochastic Production Frontiers. Technical Errors.
AB Many empirical studies of production specify a deterministic model of the firm, derive the implied behavioral equations (input demand or share system) and then "embed this system in a stochastic framework" by tacking on linear error terms. In contrast this paper proposes "General Error Models (GEMs)" where the error specification is an integral part of the optimization model. GEMs are the statistical embodiment of Stigler's view that apparent observed inefficiencies reflect the investigator's ignorance of the true optimization problem. Additive GEMs are proposed, estimated, tested and related to the specification of stochastic frontiers with technical errors.

PD June 5, 1985. **TI** Two Estimators for the APT Model when Factors are Measured. **AU** McElroy, Marjorie B.; Burmeister, Edwin; Wall, Kent D. **AA** McElroy: Department of Economics, Duke University. Burmeister: Department of Economics, University of Virginia. Wall: Department of Engineering Science and Systems, University of Virginia. **SR** Duke Working Papers in Economics: 85-10; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 9. **PR** No Charge. **JE** 313. **KW** APT. CAPM. Observable Factors. Estimation Techniques.
AB Nonlinear SUR and ITSUR techniques are proposed for the estimation of the APT and the CAPM when the factors are observed. These techniques estimate all of the parameters of the model simultaneously and directly impose the models' nonlinear parameter restrictions.

McKenzie, Colin R.

TI Tests for Normality with Stable Alternatives. **AU** Bera, Anil K.; McKenzie, Colin R.

Meese, Richard

PD July 1984. **TI** Testing for Bubbles in Exchange Waters: The Case for Sparkling Rates. **AA** University of California, Berkeley. **SR** UC Berkeley Institute of Business and Economic Research, Research Papers in Economics: 84-6; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 31. **PR** $3.00. **JE** 431, 313, 441. **KW** Bilateral Exchange Rates. Asset Market Bubbles. Monetary Exchange Rate Model.
AB This paper investigates the possibility that the observed deviations of major bilateral exchange rates from values implied by market fundamentals is a consequence of rational asset market bubbles. Using a new econometric methodology for detecting asset market bubbles, the no bubble hypothesis is soundly rejected for the dollar-Deutschemark and dollar-pound rates using monthly data over the period 1973-1982.

PD August 1985. **TI** Was It Real? The Exchange Rate-Interest Differential Relation, 1973-1984. **AU** Meese, Richard; Rogoff, Kenneth. **AA** Meese: School of Business Administration, University of California at Berkeley. Rogoff: Department of Economics, University of Wisconsin. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 268; Federal Reserve Board, 20th & C Streets, N.W., Washington, DC 20551. **PG** 38. **PR** No Charge. **JE** 431, 211. **KW** Exchange Rate. Forecast Tests. Monetary Model. International Economics.
AB The main result of Meese and Rogoff '1983 a,b is that small structural exchange rate models forecast major dollar exchange rates no better than a naive random walk model. This result obtains even when the model forecasts are based on actual realized values of the explanatory variables. Here we improve our methodology by implementing a new test of out-of-sample fit; the test is valid even for overlapping long-horizon forecasts. We find that the dollar exchange rate models perform somewhat less badly over the recent Reagan regime period than over the episodes studied previously. The methodology is also applied to the mark/yen and mark/pound exchange rates, and to real exchange rates. Finally, we test to see if real exchange rates and real interest differentials can be represented as a cointegrated process. The evidence suggests that there is no single common influence inducing nonstationarity in both real exchange rates and real interest differentials.

Mehta, J. S.

TI An Examination of Distributed Lag Model Coefficients Estimated with Smoothness Priors. **AU** Thurman, S. S.; Swamy, P. A. V. B.; Mehta, J. S.

TI Estimating Distributed Lag Relationships Using Near-Minimax Procedures. **AU** Kashyap, A. K.; Swamy, P. A. V. B.; Mehta, J. S.; Porter, R. D.

TI On a Neglected Measure of Multicollinearity. **AU** Swamy, P. A. V. B.; Mehta, J. S.

Mignus, B.

TI Dynamique de L'investissement Avec Couts D'ajustement Contrainte de Debouches et D'investissement. **AU** Artus, Patrick; Mignus, B.

Mikolajczyk, Judith A.

PD October 1985. **TI** Preliminary -- Test Estimation of the Error Variance in Linear Regression. **AU** Mikolajczyk, Judith A.; Giles, David E. A.; Wallace, T. Dudley. **AA** Mikolajczyk and Giles: Monash University. Wallace: Duke University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 13/85; Department of Econometrics and Operations Research, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 25. **PR** No Charge. **JE** 211. **KW** Error Variance Estimators. Preliminary Test.

AB In this paper we extend and generalise the results reported by Giles et al. (1985) on the properties of certain estimators of the error variance in a regression model, when a preliminary test of a linear hypothesis involving the model's structural coefficients has been undertaken. The framework adopted, and the style of the various proofs, draw heavily on this earlier work.

Milgrom, Paul

TI Aggregation and Linearity in the Provision of Intertemporal Incentives. **AU** Holmstrom, B.; Milgrom, Paul.

TI A Theory of Hierarchies Based on Limited Managerial Attention. **AU** Geanakoplos, John; Milgrom, Paul.

Miller, Marcus H.

PD August 1985. **TI** Monetary Stabilization Policy in an Open Economy. **AA** Department of Economics, University of Warwick. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 262; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 27. **PR** No Charge. **JE** 133, 134, 311, 431. **KW** Stabilization Policy. Optimal Control. Floating Exchange Rates. Time Consistency.

AB This paper investigates optimal stabilization policy in a small open economy using a continuous time model in which inflation depends on future monetary policy as well as past inflation. The impact of monetary policy is assumed to operate via real interest rates and the real exchange rate and the setting of real interest rates is chosen so as to minimise quadratic costs of fluctuations in output and inflation, subject to varying expectations in the foreign exchange market. Analytical expressions and simulation results are presented for "time inconsistent" optimal policy, the "dynamic programming" solution, for policy which ignores the exchange rate effects when setting real interest rates, and for the "optimal linear feedback" rule.

Mills, Edwin

TI Modeling Indian Migration and City Growth 1960-2000. **AU** Becker, Charles; Mills, Edwin; Williamson, Jeffrey G.

Mills, Rodney H.

TI United States Banks' Lending to Developing Countries: A Longer-Term View. **AU** Terrell, Henry S.; Mills, Rodney H.

PD September 1985. **TI** Comparing Costs of Note Issuance Facilities and Eurocredits. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 264; Federal Reserve Board, 20th and C Streets, Washington, DC 20551. **PG** 14. **PR** No Charge. **JE** 433. **KW** International Lending. Banks. Securities. Innovations.

AB Since early 1984, note issuance facilities (Note Issuance Facilities and Eurocredits) have in considerable degree replaced syndicated Eurocurrency bank credits in international credit markets, especially for borrowers in industrial countries, because borrowers have found it cheaper to bypass bank syndications and obtain funds more directly by issuing Euronotes. Factors behind this include an increasing awareness of borrowing possibilities, more freedom for Japanese investors to buy foreign securities, a drop in the relative popularity of bank obligations with investors, and banks' desire to slow asset growth to improve capital ratios. Measurement of the cost savings to borrowers on NIFs as compared with Eurocredits is difficult because of limited comparison possibilities. Most NIFs arranged so far have not been drawn on through issuance of notes, and few of the actual issuers have arranged LIBOR-priced Eurocredits recently. In the 12 cases, as of mid-1985, where meaningful comparisons could be made, it appears that the cost savings to the borrowers ranged from about 10 to around 50 basis points. All of the savings were in the interest spread, where the NIFs appear to have been about 15 to 55 basis points cheaper. Fee costs were slightly higher on NIFs than on Eurocredits; although front-end fees are lower, the total fee costs for NIFs are higher because of the annual facility fee paid to banks that underwrite the NIF.

Miron, Jeffrey A.

TI The Changing Behavior of the Term Structure of Interest Rates. **AU** Mankiw, N. Gregory; Miron, Jeffrey A.

Mitra, Tapan

TI Characterization of Intertemporal Optimality in Terms of Decentralizable Conditions: The Discounted Case. **AU** Dasgupta, Swapan; Mitra, Tapan.

Modest, David M.

TI Mutual Fund Performance Evaluation: A Comparison of Benchmarks and Benchmark Comparisons. **AU** Lehmann, Bruce N.; Modest, David M.

TI The Empirical Foundations of the Arbitrage Pricing Theory II: The Optimal Construction of Basis Portfolio. **AU** Lehmann, Bruce N.; Modest, David M.

TI The Empirical Foundations of the Arbitrage Pricing Theory I: The Empirical Tests. **AU** Lehmann, Bruce N.; Modest, David M.

Monfort, A.

TI A General Theory for Asymptotic Tests. **AU** Gourieroux, C.; Monfort, A.

TI A General Approach to Serial Correlation. **AU** Gourieroux, C.; Monfort, A.; Trognon, A.

TI Testing Unknown Linear Restrictions on Parameter Functions. **AU** Gourieroux, C.; Monfort, A.; Renault, E.

Mookherjee, Dilip

PD August 1985. **TI** Shadow Pricing with Suboptimal Policy Rules. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 846; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 22. **PR** No Charge. **JE** 024, 113, 322. **KW** Shadow Prices. Border Price Rule. Suboptimal Policy. Profit Effects.

AB This paper aims to clarify different views on the validity of the Little-Mirrlees border price rule for project evaluation in a context where the Government chooses its controls suboptimally in a systematic fashion. The rule is shown to be valid quite generally for small public sector projects when the Government's response restores market-clearing in markets for nontradeables and foreign exchange. It can be invalid in contexts of (a) non-market clearing or (b) private sector projects that generate profits distributed to households. In the latter case special treatment of profit effects is required, along the lines described by Little and Mirrlees.

TI Institutional Structure and the Logic of Ongoing Collective Action. **AU** Bendor, Jonathon; Mookherjee, Dilip.

Nabar, Prafulla

PD October 1985. **TI** Default Risk, Resolution of Uncertainty and the Interest Rate on Corporate Loans. **AU** Nabar, Prafulla; Stapleton, Richard C.; Subrahmanyam, Marti. **AA** Nabar and Subrahmanyam: New York University. Stapleton: Manchester Business School. **SR** New York University Salomon Brothers Center Working Paper: 361; Salomon Brothers Center, Graduate School of Business Administration, New York University, 100 Trinity Place, New York, NY 10006. **PG** 35. **PR** $2.00. **JE** 313, 521. **KW** Default Risk. Bond Rates. Cash Flows.

AB This paper considers default risk and its impact on promised interest rates of bonds in a discrete-time multiperiod framework. The discrete-time framework facilitates the valuation of debt claims which have payment schedules with annual or semi-annual payments. The multiperiod aspect is important, not just because cash flow and payments to debtholders occur at several points in time, but also because it enables us to consider alternative debt covenants and their impact on the value of debt claims. Further, in a multiperiod context, the relationship between the cash flows and value is complex and depends, in particular, on the temporal resolution of uncertainty, our focus of attention in this paper.

Nalebuff, Barry

TI On 64 per cent Majority Rule. **AU** Caplin, Andrew; Nalebuff, Barry.

Neelin, Janet

PD October 1985. **TI** Sectoral Shifts and Canadian Unemployment. **AA** Industrial Relations Section, Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 200; Industrial Relations Section, Princeton University, Firestone Library, Princeton, NJ 08544. **PG** 19. **PR** $1.00 plus postage. **JE** 824. **KW** Sectoral Shifts. Unemployment. Canada. Lilien.

AB In this paper Lilien's (1982) hypothesis that sectoral shifts in employment raise aggregate unemployment is tested using Canadian quarterly data. Lilien's framework is extended to investigate regional labour market rigidities and to distinguish between industry shifts that are correlated with changes in aggregate activity, and those which are exogenous to the overall level of activity. The robustness of the results to various changes in model specification is also investigated. I find that in Canada exogenous shifts in employment between sectors do not have a significant effect on the aggregate unemployment rate.

Nelson, Philip B.

TI A Note on the Economies of Network Television Advertising. **AU** Hilke, John C.; Nelson, Philip B.

NGuessan, Tchetche

TI The Buoyancy of Ivory Coast Taxes. **AU** Leuthold, Jane H.; NGuessan, Tchetche.

Nordhaus, W.

PD September 1985. **TI** Forecasting Efficiency: Concepts and Applications. **AA** The Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 774; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 26. **PR** No Charge. **JE** 132, 211. **KW** Forecasting Accuracy. Forecast Efficiency. Efficient Forecasts.

AB The question of forecasting accuracy is, of course, one that has been the subject of numerous investigations over the last two decades. The present study contributes to this line of research in two ways. First, we introduce a new concept, called "forecast efficiency," that measures the extent to which information is incorporated into forecasts. This concept is closely related to concepts of efficiency used in the analysis of stock and other financial markets. The paper proves two readily testable propositions about efficient forecasts. Second, the empirical part of the study examines forecast efficiency by looking at forecast revisions ("fixed-horizon forecasts"), rather than a series of forecasts of different events ("rolling-horizon forecasts") as is the case for most studies of forecasting. This new approach to estimation in certain circumstances will provide a more powerful test of forecast efficiency. A number of fixed-horizon forecasts are collected and these are tested for forecast efficiency.

O Grada, Cormac

TI Modelling Migration to the New World: Some Problems. **AU** Geary, Patrick T.; O Grada, Cormac.

TI Immigration and the Real Wage: Time Series Evidence from the United States, 1820-1977. **AU** Geary, Patrick T.; O Grada, Cormac.

OBrien, James M.

PD March 1985. **TI** Are There Speculative Bubbles in Stock Prices?. **AA** Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 76; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 28. **PR** No Charge. **JE** 313. **KW** Stock Prices. Speculative Bubbles.

AB This paper considers the question of whether stock prices contain speculative bubbles, as has been suggested based on results of "implied variance bounds" tests. Non-explosive and explosive bubble arguments are described and some difficulties with the arguments discussed. Several tests are derived and implemented for the two types of bubble processes. The tests do not give significant evidence of either type of bubble process, although the martingale model is not fully confirmed. Price behavior surrounding market panics in 1929 and earlier is also looked at within the context of bubble arguments.

PD April 1985. **TI** Stock Index Futures, Transactions Costs, and Capital Formation in a Capital Asset Pricing Framework. **AA** Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 77; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 37. **PR** No Charge. **JE** 313. **KW** Futures Markets. Capital Formation.

AB Using a capital asset pricing framework, market demand and supply equations for risky assets and a risk-free asset are derived when market participants incur portfolio transactions costs. The potential effects of the transactions costs on capital formation are examined and a stock index futures market which involves transactions cost savings is then introduced. The structure of the futures market and its consequences for capital formation are determined. Some results are that transactions cost wealth and feedback effects are ambiguous but the substitution effects reduce the aggregate capital stock and shift its composition toward the more risky activities. Stock index futures tend to undo the effects of leveraging but not other transactions costs.

Orren, Gary R.

PD June 1985. **TI** What's New About the New Media?. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 133D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 63. **PR** No Charge. **JE** 211, 621. **KW** Technology. Video. Media. Politics. Cable Satelites. Videotex.

AB This paper represents a first step toward understanding the political implications of new media technologies. The central question concerns how the new media differ from their predecessors. Telecommunications technologies change so rapidly and so unpredictably that it is folly to attempt detailed predictions of what particular new technologies--cable, direct broadcast satellites, videotex, etc.--will look like in the future, or what the media mix will be. But we can hope to assess the underlying "generic properties" which the new media technologies share. Six such properties are highlighted. The new technologies will produce: more information available to the public; faster retrieval and transmission of messages; greater consumer control over the media; greater ability to target media messages; a more decentralized communications industry; and capacity for a genuinely interactive flow of messages. The paper concludes with some speculation about what these changes mean for politics and government.

Osband, Kent

PD November 1985. **TI** Eliciting Forecasts: A General Characterization of Scoring Rules. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1194; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 37. **PR** $2.50. **JE** 132, 026. **KW** Forecasting. Scoring Rules. Incentives.

AB An agent is requested to submit a forecast, with the agent's compensation (the "score") tied to the forecast and to the future observed outcome. The agent is presumed to choose the forecast so as to maximize expected score. Scoring rules are called proper if they always encourage sincere reporting, no matter what the agent's underlying beliefs are. This article provides a virtually complete characterization of proper scoring rules for arbitrary types of forecasts.

Oswald, Andrew J.

PD July 1985. **TI** Is Wage Rigidity Caused by "Lay-offs by Seniority"?. **AA** Institute of Economics and Statistics, Oxford University. **SR** London School of Economics, Centre for Labour Economics Discussion Paper: 226; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 31. **PR** No Charge. **JE** 821. **KW** Labour Market Studies. Wages. Employment.

AB The main purpose of this paper is to criticise the argument that the institution of "lay-offs by seniority" leads to real wage rigidity. It suggests that, as a way of sharing risk optimally, seniors should find it in their interest, even when firms are risk-neutral, to have wage flexibility. Under lay-offs by seniority the famous Baily-Azariadis wage sickness theorem no longer holds. The paper discusses an alternative theoretical approach which assumes kinked utility functions.

TI Miner's Wages in Post-war Britain: an Application of A Model of Trade Union Behaviour. **AU** Carruth, Alan A.; Oswald, Andrew J.

Oudiz, Gilles

PD June 1985. **TI** European Policy Coordination: An Evaluation. **AA** I.N.S.E.E., Unite de Recherche. **SR** Document de Travail Ensae/insee: 8507; I.N.S.E.E., Unite de Recherche, 18 Bd Adolphe Pinard, 75014 Paris, France. **PG** 57. **PR** No Charge. **JE** 423. **KW** Policy Coordination. Monetary Zone. EEC.

AB Non coordination of macroeconomic policies leads to unduly "beggar thy neighbor" strategies which are clearly suboptimal for the European Community as a whole. Given the high degree of interdependence of their economies, European governments have a clear incentive to try to export their inflation or their unemployment abroad. No formal model is needed to conclude that among countries which have similar structures, similar goals and similar policy instruments, such a competition is bound to be hopeless and costly for everyone. In this paper we try to shed some more light on these aspects of European policy coordination both through the use of a simple analytic model and through an empirical evaluation of the potential gains of superior European strategies.

PD June 1985. **TI** Strategies Economiques Europeennes: Coordination Ou Confrontation? **AA** I.N.S.E.E., Unite de Recherche. **SR** Document de Travail Ensae/insee: 8506; I.N.S.E.E., Unite de Recherche, 18 Bd Adolphe Pinard, 75013 Paris, France. **PG** 47. **PR** No Charge. **JE** 423, 432. **KW** Policy Coordination. Monetary Zone.

AB In the recent years a series of papers have tried to renew the analysis of policy coordination by applying to the standard macroeconomic modelling of open economies well know concepts of game theory. Even though the framework is not in itself a novelty and draws heavily on standard duopoly theory it usefully highlights two essential aspects of the "game" which is taking place among the European economies: - Governments have a variety of targets which they cannot achieve simultaneously given a scarcity of policy instruments. - The policy actions of each government have an impact on their partners' economies. These externalities can be best handled through policy coordination and some pareto superior outcome might be achieved. In this paper we would like to shed some more light on European policy coordination through the use of a simple analytic model.

Owen, Joel

TI Stochastic Rationing by Waiting List. **AU** Katz, Barbara Goody; Owen, Joel.

Owen, Robert F.

PD November 1984. **TI** A Comparative Study of the Inter-industry Determinants and Economic Performance of Foreign Direct Investments in France and Canada. **AU** Owen, Robert F.; Aubertin, Pascal. **AA** Owen: American College in Paris. Aubertin: University of Ottawa. **SR** CEPREMAP Discussion Papers: 8503; Bibliotheque - CEPREMAP, 140-142, rue du Chevaleret - 75013 Paris (France). **PG** 59. **PR** 20 FF. **JE** 441. **KW** Chow Tests. Inter-Industry Determinants. Foreign Investment. Manufacturing Industries. French. Canada. American Subsidiaries. Multinational Corporations.

AB Using generalized Chow tests and other statistical analysis, this paper examines the comparability of the inter-industry determinants of foreign direct investment and overall foreign penetration in 38 French and Canadian manufacturing industries. The economic performance of foreign subsidiaries and domestically controlled firms in France are also studied; that of the American subsidiaries is shown to be quite different from their competitors in a relatively few, but important, industrial sectors. By highlighting a number of differences between the French and Canadian investment experiences, the other empirical findings also emphasize the diffuse and electric nature of the compensating advantages enjoyed by multinational corporations from different home countries. The present study finds little evidence that tariff protection explains the inter-industry pattern of foreign direct investment in France. However, the overall analysis for France is subject to possible qualification due to the lack of more disaggregate data.

Owen, Sue

TI Does Elastic Retract? The Effect of Recession on Women's Labour Force Participation. **AU** Joshi, Heather; Owen, Sue.

Page, Talbot

PD November 1985. **TI** Responsibility, Liability, and Incentive Compatibility. **AA** Environmental Quality Laboratories, California Institute of Technology. **SR** Caltech Social Science Working Paper: Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 51. **PR** No Charge. **JE** 022, 026, 722. **KW** Strict Liability. Incentive Compatibility. Own-Cost-Bearing. Toxics.

AB In this paper I ask what should be the assignment of liability for risks of toxic chemicals, and more generally, I develop a theory of liability based on two principles. The first is responsibility as own-cost-bearing and is justified on the grounds of fairness. The second is efficiency and is justified on the grounds of welfare. These two principles provide a joint foundation to the theory of incentive compatibility, which is an important consideration in the design of liability systems.

Passmore, Stuart Wayne

PD December 1984. **TI** Time of Day Pricing and the Elasticity of Demand for Computing Services. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8421; Research Papers, Research and Statistics Function,

Federal Reserve Bank of New York, New York, NY 10045. **PG** 24. **PR** No Charge. **JE** 921, 636. **KW** Computer Use. Demand Elasticities.
AB This paper proposes a simple quadratic model of the individual computer user. The user chooses both a consumption pattern and a level of consumption to maximize utility. The model allows corner solutions and yields a tractable procedure for the estimation of demand elasticities.

PD December 1984. **TI** Can Unions Be Barriers to Entry?. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8420; Research Papers, Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. **PG** 29. **PR** No Charge. **JE** 611, 831. **KW** Unions. Barriers to Entry. Dominant Firm. Monopoly.
AB This article examines the possibility of a labor union and a dominant firm tacitly colluding to damage rivals through industry wide, high wage contracts. In essence, the dominant firm grants the union higher wages in return for actions by the union to raise the labor cost of rivals.

PD December 1984. **TI** Ramsey Optimal Price and Capacity with Uncertainty. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8419; Research Papers; Research and Statistics Function, Federal Reserve Bank of New York; New York, NY 10045. **PG** 15. **PR** No Charge. **JE** 641, 022. **KW** Ramsey Pricing. Economic Capacity. Indirect Utility Function. Uncertain Demand.
AB This paper has four goals. First, to discuss Ramsey pricing rules when demand is uncertain and when capacity is chosen jointly with prices. Second, to simplify the discussion of capacity choice by proposing an indirect utility function which incorporates capacity. Third, to examine the restrictions aggregation places on the form of the proposed indirect utility function. Fourth, to examine the impact of shifts in risk on optimal price and capacity.

PD September 1985. **TI** Strategic Groups and the Profitability of Banking. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Papers: 8507; Federal Reserve Bank of New York, Research and Statistics Function, 33 Liberty Street, New York, NY 10045. **PG** 16. **PR** No Charge. **JE** 312. **KW** Wholesale Banking. Retail Banking. Strategic Niche.
AB The business press has long emphasized the importance of a "strategic niche" in running a profitable firm. This study attempts to quantify the idea of a strategic niche and apply that quantification to multinational and large regional bank holding companies. The results indicate that there are two distinct types of banking among the largest multinational banks. These are wholesale and retail banking. On average, both types of banking are equally profitable. The degree of focus in a bank's strategy can have a small, but significantly positive impact on profitability.

Peaucelle, Irina
TI Verification Empirique de Deux Schemas D'anticipation: Adaptatif et Rationnel. **AU** Gourieroux, Christian; Peaucelle, Irina.

Perron, Pierre
TI Testing the Random Walk Hypothesis: Power Versus Frequency of Observation. **AU** Shiller, Robert J.; Perron, Pierre.

Pesaran, Hashem M.
TI Statistical Inference in Non-nested Econometric Models. **AU** McAleer, Michael; Pesaran, Hashem M.

Peters, S.
TI Estimation Procedures for Structural Time Series Models. **AU** Harvey, A. C.; Peters, S.

Petit, Pascal
PD 1985. **TI** La Relation Automisation-Emploi: Effet Productivite et Effet Qualite (Automization and Employment: The Productivity and Quality Effects). **AU** Petit, Pascal; Tahar, G. **AA** Petit: CEPREMAP And CNRS. Tahar: CEJEE-Toulouse I. **SR** CEPREMAP Discussion Papers: 8520; CEPREMAP, 142, rue du Chevaleret, 75013 Paris, France. **PG** 46. **PR** 10 FF. **JE** 621, 111, 825. **KW** Growth. Employment. Technical Progress. Diffusion.
AB This paper on automatization and employment underlines the specificity of the present reorganization of work in manufacturing industries. It distinguishes the usual productivity effects from quality effects which enlarge the market. Speed and level of diffusion of new technics in the seven main OECD countries allow for the estimation of these quality effects. A simple growth model gives an estimation of output and employment elasticities to the diffusion processes. It suggests that only a much faster diffusion than the one of the other countries can link automatization and employment growth.

Phillips, Peter C. B.
PD September 1984. **TI** The Exact Distribution of the Wald Statistic. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 722; Cowles Foundation, Yale University, P.O. Box 2125, Yale Station, New Haven, CT 06520. **PG** 19. **PR** No Charge. **JE** 211. **KW** Matrix Fractional Calculus. Wald Statistic. Distribution Theory.
AB This paper derives the exact distribution of the Wald statistic for testing general linear restrictions on the coefficients in the multivariate linear model. This generalizes all previously known results including those for the standard F statistic in linear regression, for Hotelling's T-squared test and for Hotelling's generalized T-squared test. Conventional classical assumptions of normally distributed errors and nonrandom exogenous variables are employed.

PD September 84. **TI** Testing for Serial Correlation and Unit Roots Using a Computer Function Routine Based on ERA's. **AU** Phillips, Peter C. B.; Reiss, Peter C. **AA** Phillips: Cowles Foundation, Yale University. Reiss: Stanford University. **SR** Yale Cowles Foundation Discussion Paper: 721; Cowles Foundation, Yale University, 30 Hillhouse Avenue, P.O. Box 2125, Yale Station, New Haven, CT 06520. **PG** 59. **PR** No

Charge. **JE** 211. **KW** Rational Approximations. Serial Correlation. Computer Function Routines. Critical Values.
AB This paper initiates a research program to provide computer function routines that can be used to deliver critical values or significance levels for statistical tests. These routines are easily integrated into existing econometric software and can be made available on a user call basis. The mathematical formulae underlying these approximants belong to the family of extended rational approximants (ERA's) introduced in '15. The first part of this paper extends the algebraic theory of ERA's to distribution function approximation. Composite functional approximants are also developed to treat the parameter multidimensionality that is common in practical applications. The second part of the paper reports a detailed application of the approach to the distribution of the serial correlation coefficient under spherical Gaussian errors. The formulae we extract are error-corrected Edgeworth approximants that yield at least three decimal place accuracy over the entire distribution for all sample sizes (T > = 4). These approximants can be used to mount a variety of tests, including tests for serial correlation and unit roots. Further extensions of this work to higher order serial correlation coefficients that are used in the Box-Jenkins model identification process are discussed in the conclusion.

PD April 1985. **TI** The Distribution of FIML in the Leading Case. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 739; Cowles Foundation, Yale University, P.O. Box 2125, Yale Station, New Haven, CT 06520. **PG** 8. **PR** No Charge. **JE** 211. **KW** Distribution Theory. Stiefel Manifold. Invariant Measure. FIML. LIML.
AB In a recent article '1984a Phillips showed that the distribution of the limited information maximum likelihood (LIML) estimator of the coefficients of the endogenous variables in a single structural equation is multivariate Cauchy in the leading (totally unidentified) case. The purpose of the present note is to show that the same result holds for the full information maximum likelihood (FIML) estimator. Our proof relies on the theory of invariant measures on a Stiefel manifold. This approach provides a major simplification of the derivation of the LIML result given in the earlier article and extends to the FIML case without difficulty. We start by illustrating its use for LIML.

Piche, Catherine

TI Brokered Deposits and Bank Soundness: Evidence and Regulatory Implications. **AU** Shaffer, Sherrill; Piche, Catherine.

Pierce, David A.

TI The Transmission of Data Noise Into Policy Noise in Monetary Control. **AU** Maravall, Agustin; Pierce, David A.

PD January 1984. **TI** Four Discussions. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 183; Special Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 29. **PR** No Charge. **JE** 211. **KW** Multiple Time Series. Local Trend Estimation. Time Series. Model Checking. Forecasting. Seasonal Adjustment.
AB I: Forecasting and Seasonal Adjustment: Retrospect and Prospect. Ways are surveyed in which forecasting and seasonally adjusting economic time series interact, in statistical and econometric contexts. II: Comments on "Model Checking in Time Series Analysis" by Paul Newbold. The main developments since the Box-Pierce Q-statistic are recapitulated, the importance of issues besides the construction of tests with correct significance levels is stressed, and problems with models with lagged dependent variables are pointed out. III: Discussion of "Local Trend Estimation and Seasonal Adjustment Of Economic and Social Time Series" by P.B. Kenny and J. Durbin. It is pointed out that models can shed further light even on empirical approaches to seasonal adjustment, and that the way a model is used can be at least as important as how it is specified. IV: Discussion of "the Measurement of Linear Dependence and Feedback Between Multiple Time Series" by John Geweke. It is pointed out that Geweke's measures are directly related to the R sub 2 measures developed by Pierce (1979).

Pines, David

TI The Demand for a Risky Asset whose Price is Stochastically Related to a Price of a Consumption Good. **AU** Schwartz, Abba; Pines, David.

Pissarides, C. A.

PD September 1985. **TI** Observable Shocks and Equilibrium Cycles in a Model of Money and Growth. **AA** Centre for Labour Economics, L.S.E. **SR** London School of Economics, Centre for Labour Economics Discussion Paper: 230; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 58. **PR** No Charge. **JE** 131, 111. **KW** Business Cycles. Unemployment. Monetary Shocks.
AB The paper introduces a labour market characterized by stochastic job matchings and unemployment into the standard model of money and growth. It shows that the balanced growth path is characterised by a constant unemployment rate. Observable changes in the rate of monetary growth produce cyclical responses in unemployment through their effect on the real rate of interest. The paper shows that the amplitude of these fluctuations is greater than the response of steady-state unemployment to the familiar inflation-tax effect of higher monetary growth.

Polemarchakis, H. R.

TI Walrasian Indeterminacy and Keynesian Macroeconomics. **AU** Geanakoplos, John; Polemarchakis, H. R.

Polemarchakis, Heraklis M.

TI Variations in Endowments and Utilities. **AU** Donsimoni, Marie Paule; Polemarchakis, Heraklis M.

TI Assets, Shocks and Memory. **AU** Dutta, Jayasri;

Polemarchakis, Heraklis M.

TI The Existence, Regularity and Constrained Suboptimality of Competitive Allocations When the Asset Market is Incomplete. AU Geanakoplos, John; Polemarchakis, Heraklis M.

TI Intertemporal Equilibrium and Disadvantageous Growth. AU Donsimoni, Marie Paule; Polemarchakis, Heraklis M.

TI Existence, Regularity, and Constrained Suboptimality of Competitive Allocations when the Asset Market is Incomplete. AU Geanakoplos, John D.; Polemarchakis, Heraklis M.

Poole, Keith

PD June 1985. TI The Unidimensional Congress. AU Poole, Keith; Rosenthal, Howard. AA Graduate School of Industrial Administration, Carnegie-Mellon University. SR Carnegie-Mellon GSIA Working Paper Series: 44; Graduate School of Industrial Administration, Carnegie-Mellon University, Schenley Park, Pittsburgh, PA 15213. PR No Charge. JE 025. KW Unidimensional Congress. Roll Call Voting.

AB A simple unidimensional spatial model is shown to provide a highly accurate description of roll call voting in the United States Congress. The recovered liberal-conservative dimension is temporally stable and has dominated voting since World War I. The Depression and other events did not give rise to a change in the major axis aligning the legislators. The dimension was temporarily upset by the civil rights issues of the sixties, but the dimension in place today is highly similar to that in place in the twenties. These results are established by first performing annual or biannual scalings via maximum likelihood estimation of the parameters of a unidimensional stochastic utility model and then carrying out singular value decompositions (with missing entries) of the Senate and House matrices formed by the legislator coordinates from 90 separate scalings. Other results in the paper emphasize the rather surprising highly liberal positions of Southern Democrats prior to World War II, the long-term liberal trend in American politics from the Depression to the sixties, and the recent increasing polarization of the two parties. The movement in the conservative direction initiated with the Reagan administration is not large in magnitude by historical standards.

Porter, R. D.

TI Estimating Distributed Lag Relationships Using Near-Minimax Procedures. AU Kashyap, A. K.; Swamy, P. A. V. B.; Mehta, J. S.; Porter, R. D.

Portes, Richard

TI Debt and Default in the 1930s: Causes and Consequences. AU Eichengreen, Barry; Portes, Richard.

Porteus, Evan L.

TI Setup Reduction and Increased Effective Capacity. AU Spence, Anne M.; Porteus, Evan L.

Possen, Uri M.

PD September 1985. TI Automatic Stabilizers and Macroeconomic Stability. AA Cornell University and Hebrew University of Jerusalem. SR Cornell Department of Economics Working Paper: 345; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. PG 38. PR No Charge. JE 023, 133. KW Automatic Stabilizers. Supply Shocks. Demand Shocks.

AB This paper studies the "stabilizing" impact of several automatic stabilizers in a world where both demand and supply shocks are possible. The paper finds that the various automatic stabilizers have similar impacts on the fluctuation in output. Also, indexation of automatic stabilizers has a different impact on the economy than does indexation of wage payments. Finally, when facing both types of shocks the impact on output in all cases depends on the sign of one condition, the sign of which depends on the relative variability of supply and demand shocks and the importance of induced components of demand on output.

PD November 1985. TI Some Short Run Implications of Reaganomics. AU Possen, Uri M.; Slutsky, Stephen M. AA Slutsky: University of Florida. Possen: Department of Economics, Cornell University, and Hebrew University of Jerusalem. SR Cornell Department of Economics Working Paper: 347; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. PG 53. PR No Charge. JE 023, 321, 311, 323. KW Reaganomics. Tax Reform. Progressive Taxes. Monetary Policy.

AB This paper presents a macroeconomic model in which government produces public goods using its own labor and private sector inputs. Complementarity or substitutability between public and private goods is allowed. Also, a more complete transactions variable that differentiates between flows through the government and the private sector is included. This model finds, for example, that tax reform that reduces progressivity tends to have an ambiguous effect, autonomous increases in taxes in the classical region are expansionary, monetary policy is more potent than tax policy in the short run, and switching from social programs to military depends on government efficiency and public/private complementarity.

Poterba, James M.

PD June 1985. TI A Tax-Based Test for Nominal Rigidities. AU Poterba, James M.; Rotemberg, Julio J.; Summers, Lawrence H. AA Summers: Department of Economics, Harvard University. Poterba: Department of Economics, MIT. Rotemberg: Sloan School of Management, MIT. SR Harvard Institute for Economic Research Discussion Paper: 1164; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. PG 50. PR $3.00. JE 323, 023, 824. KW Nominal Rigidities. Wage Rigidity. Price Rigidity. Tax Incidence.

AB In classical macroeconomic models with flexible wages and prices, whether a tax is levied on producers or consumers does not affect its incidence. However, if wages or prices are rigid in the short run, as they are in Keynesian macroeconomic models, then shifting a tax from one side of the market to the other may have real effects. Tax changes therefore provide potential tests for the presence of nominal rigidities. This paper examines the price and output effects of revenue-neutral shifts between direct and indirect taxation. The results, based on post-war data from both Great Britain and the United States, reject the view that wages and prices are completely flexible in the short run.

PD June 1985. **TI** Public Policy Implications of Declining Old Age Mortality. **AU** Poterba, James M.; Summers, Lawrence H. **AA** Summers: Department of Economics, Harvard University. Poterba: Department of Economics, MIT. **SR** Harvard Institute for Economic Research Discussion Paper: 1163; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 53. **PR** $3.50. **JE** 913, 918. **KW** Mortality. Morbidity. Aging. Frailty.
AB This paper explores some policy implications of declining mortality among the elderly population. There are two views of how medical progress will affect the social burden of caring for the aged. One holds that prolonging the lives of frail individuals will result in rapidly increasing medical and other costs per aged person. A second view suggests that medical progress and behavioral changes will reduce both mortality and morbidity rates, lowering the average cost per person of caring for the aged. This paper investigates recent trends in the health status of the elderly to distinguish between these two views. The findings suggest that reductions in morbidity and mortality have been roughly counterbalanced by the rising frailty of the surviving population. Age specific institutionalization rates and medical cost patterns have been relatively stable for the last two decades, suggesting neither dramatic improvements nor sharp reductions in the health status of the elderly.

Prikry, Karel

TI Equilibria in Abstract Economics with a Measure Space of Agents and with an Infinite Dimensional Strategy Space. **AU** Kim, Taesung; Prikry, Karel; Yannelis, Nicholas C.

TI On a Carathodory-type selection theorem. **AU** Kim, Taesung; Prikry, Karel; Yannelis, Nicholas C.

Ralle, Pierre

TI L'insertion Internationale Conditionne-t-elle les Formes Nationales D'emploi? Premiers Resultats d'une Analyse Statistique. (Are Jobs Dependent on International Openness? Some Results from a Statistical Analysis of European Countries). **AU** Boyer, Robert; Ralle, Pierre.

TI Croissances Nationales et Contrainte Exterieure Avant et Apres 1973: Les Enseignements d'une Analyse en Composantes Principales (National Growth and External Constraint After and Before 1973: Data Analysis on European Countries). **AU** Boyer, Robert; Ralle, Pierre.

Ravallion, Martin

PD May 1985. **TI** Are Informationally Unbiased Expectations Necessarily Rational?. **AA** Department of Economics, Research School of Pacific Studies, Australian National University. **SR** Australian National University Working Papers in Economics and Econometrics: 121; Department of Statistics, The Faculties, Australian National University, PO Box 4, Canberra ACT 2600, AUSTRALIA. **PG** 11. **PR** No Charge. **JE** 026, 132. **KW** Rational Expectations. Forecasting Bias. Storage.
AB It is argued that a rational and well-informed individual will not generally choose a Muth-rational expectation of an uncertain future. for this result in a model of the intertemporal consumption decision. This assumes that expectations can affect ex-post utility independently of any ex-ante actions taken by the individual.

PD May 1985. **TI** Price Stabilization and Famine Mortality. **AA** Department of Economics, Research School of Pacific Studies, Australian National University. **SR** Australian National University Working Papers in Economics & Econometrics: 120; Department of Statistics, The Faculties, Australian National University, PO Box 4, Canberra ACT 2600, AUSTRALIA. **PG** 30. **PR** No Charge. **JE** 133, 713. **KW** Famine. Survival. Food Consumption. Price Stabilization.
AB This paper examines the case for price stabilization as a policy instrument against famine. The argument is built on a theoretical model of the relationship between mortality risk and foodgrain consumption. The model implies that there will be survival gains for potential famine victims from mean preserving stabilizations of foodgrain consumption. It is argued that these gains are likely to persist in the presence of individual opportunities for storage or savings. Necessary and sufficient conditions are derived for price stabilization to also have a beneficial effect on famine mortality. A quantitative assessment is made of the potential gains in terms of reduced famine mortality from the stabilization of rice prices during the 1876-78 famine in Madras and the 1974 famine in Bangladesh.

PD September 19, 1985. **TI** Towards A Theory of Famine Relief Policy. **AA** Research School of Pacific Studies, Australian National University. **SR** Australian National University Working Papers in Economics and Econometrics: 127; Department of Statistics, The Faculties, Australian National University, PO Box 4, Canberra Act 2600, AUSTRALIA. **PG** 32. **PR** No Charge. **JE** 713, 024. **KW** Famine Mortality. Relief Aid. Price Stabilization. Famine Relief. Food Distribution.
AB A theoretical model of the relationship between famine mortality and food distribution is proposed. The model offers a framework for evaluating alternative famine relief policies in terms of their effects on mortality. General implications for the allocation of emergency relief aid and foodgrain price stabilization policies are examined. An empirical assessment of the potential for price stabilization as a famine relief policy is made for two famines in South Asia.

Razin, Assaf

TI Aspects of Dual Exchange-Rate Regimes.

AU Frenkel, Jacob A.; Razin, Assaf.

Reinganum, Jennifer F.

TI The Tax Compliance Game: Toward an Interactive Theory of Law Enforcement. **AU** Graetz, Michael J.; Reinganum, Jennifer F.; Wilde, Louis L.

Reiss, Peter C.

TI Testing for Serial Correlation and Unit Roots Using a Computer Function Routine Based on ERA's. **AU** Phillips, Peter C. B.; Reiss, Peter C.

Renault, E.

TI Testing Unknown Linear Restrictions on Parameter Functions. **AU** Gourieroux, C.; Monfort, A.; Renault, E.

Reuben, Lucy J.

PD June 1984. **TI** An Empirical Test of the Debt Maturity Structure Irrelevance Problem. **AA** Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Research Papers in Banking and Financial Economics: 71; Financial Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 26. **PR** No Charge. **JE** 521. **KW** Debt Maturity Structure. Returns to Firm.

AB As the wealth of the stockholder is dependent upon the value of the firm, much has been written addressing the effect of corporate financing policies. However, this research is primarily concerned with the capital structure of the firm, largely ignoring the attendant problem of maturity structure. This study presents empirical evidence concerning the effects of the maturity composition of the firm's liabilities using a market model based approach. The effect of the proportion of short-term debt to long-term debt on the returns to the firm is the focus of the analysis. Results from the period 1964-1969 indicate that debt maturity composition had no impact on firm returns; but results from the seventies suggest that high levels of short-term debt were associated with lower returns to the firm.

Rey, Patrick

PD November 1984. **TI** The Logic of Vertical Restraints. **AU** Rey, Patrick; Tirole, Jean. **AA** Department of Economics, MIT. **SR** Unite de Recherche, Document de Travail Ensae/insee: 8501; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, France. **PG** 30. **PR** No Charge. **JE** 611, 024. **KW** Industrial Organization. Public Policy. Antitrust Rules. Vertical Restraints.

AB This paper analyses the consequences upon social welfare of vertical restraints such as resale price maintenance or exclusive territories, in an uncertain environment. It is shown here that these practices are not always privately and socially desirable, and that social and private interests may be in conflict. The roles played by agents' risk-aversion and by the nature of uncertainty are particularly emphasized.

TI Experimental Economics Applied to Teaching: Elaboration of a Microeconomic Game. **AU** Gagey, Frederic; Rey, Patrick.

Richard, Scott F.

TI The Role of Conditioning Information in Deducing Testable Restrictions Implied by Dynamic Asset Pricing Models. **AU** Hansen, Lars Peter; Richard, Scott F.

Riley, John

TI Input Versus Output Incentive Schemes. **AU** Maskin, Eric; Riley, John.

Roberts, J.

TI Tiebout Bias and the Demand for Local Public Schooling. **AU** Rubinfeld, D.; Shapiro, P.; Roberts, J.

Robinson, P. M.

PD 1985. **TI** On A Model for A Time Series of Cross Sections. **AA** Department of Economics, The London School of Economics and Political Science. **SR** London School of Economics, Econometrics Programme Discussion Paper: A.49; Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. **PG** 21. **PR** No Charge. **JE** 211. **KW** Panel Data Models. Continuous Time.

AB Dynamic stationary models for mixed time series and cross-section data are studied. The models are of simple, standard form except that the unknown coefficients are not assumed constant over the cross section; instead each cross-sectional unit draws a parameter set from an infinite population. The models are framed in continuous time, which facilitates the handling of irregularly-spaced series, and observation times that vary over the cross-section, and covers also standard cases in which observations at the same regularly-spaced times are available for each unit. A variety of issues are considered, in particular stationarity and distributional questions, inference about the parameter distributions, and the behaviour of cross-sectionally aggregated data.

PD 1985. **TI** Testing for Serial Correlation in Regression with Missing Observations. **AA** Department of Economics, The London School of Economics and Political Science. **SR** London School of Economics, Econometrics Programme Discussion Paper: A.48; Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. **PG** 15. **PR** No Charge. **JE** 211. **KW** Missing Observations. Time Series Regression. Serial Correlation. Score Test. Portmanteau Statistics. Asymptotic Normality. Local Asymptotic Normality. Pitman Efficiency.

AB In order to test for serial correlation in residuals from static time series regression in the presence of missing data, the score principle is applied both to the likelihood conditional on the observation times, and to an unconditional form of likelihood. Asymptotic distributions of the test statistics are established, under both the null hypothesis of no serial correlation, and sequences of local, correlated alternatives, enabling analytic comparison of efficiency.

Robinson, Peter M.

PD 1985. **TI** Tests for Serial Dependence in Limited

Dependent Variable Models. **AU** Robinson, Peter M.; Bera, A. K.; Jarque, C. M. **AA** Robinson: Department of Economics, The London School of Economics and Political Science. Bera: University of Illinois, Urbana-Champaign. Jarque: Secretaria de Programacion y Presupuesto, Mexico. **SR** London School of Economics, Econometrics Programme Discussion Paper: A.50; Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. **PG** 15. **PR** No Charge. **JE** 211. **KW** Serial Dependence. Limited Dependent Variable Models.

AB As noted by Maddala and Nelson '1974 and Robinson '1982, asymptotically efficient estimators under serial dependence are in general very difficult to compute in the limited dependent variable situation and their asymptotic statistical properties seem difficult to obtain, unlike in the classical regression model. For the latter reason the only asymptotically locally most powerful tests available are Lagrange multiplier (LM) tests (Rao '1948, Silvey '1959) because these require estimation of the model only under the null white noise hypothesis. Such tests are proposed in Section 2 for the Tobit model, against autoregressive alternatives. In the Appendices, the LM statistic for the Tobit model is derived against a more general class of serially correlated alternatives and its asymptotic null distribution established.

TI Tests for Serial Dependence and Other Specification Analysis in Models of Markets in Disequilibrium. **AU** Bera, Anil K.; Robinson, Peter M.

Rodrik, Dani

PD September 1985. **TI** Disequilibrium Exchange Rates as Industrialisation Policy. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 137D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 52. **PR** No Charge. **JE** 112, 422. **KW** Exchange-Rate Policy. Learning-By-Doing. Industrialisation.

AB This paper deals with a long-standing puzzle: why are developing countries so reluctant to change their exchange rates when their currencies have become blatantly overvalued? The argument developed here is the following: under circumstances that are fairly common to real economies, a policy which deliberately maintains the exchange rate at a disequilibrium level can be welfare-increasing by promoting structural change. This can come via the presence of a systematic link between the real exchange rate and the manufacturing sector's terms of trade vis-a-vis agriculture. The paper considers two models -- one only briefly -- where there exists a systematic relationship between these two. In the first the relationship is the result of technological factors, and in the second it is due to quantitative restrictions on imports. Using a two-period, two-sector general equilibrium model, this chapter demonstrates that the presence of such a link provides authorities with a tool which can be manipulated to bring industrial growth. While the primary motivation for the model is provided by the case of developing countries, it is argued that the central idea is relevant to countries with very different economic structures as well, including possibly some which might benefit from disequilibria of the opposite kind.

PD September 1985. **TI** Trade and Capital-account Liberalization. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 136D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 30. **PR** No Charge. **JE** 422, 411. **KW** Trade Liberalization. Fix-Price Models. Trade Policy.

AB This paper analyzes the process of trade and capital-account liberalization in a Keynesian framework with unemployed resources. Previous studies on this subject have ignored the potential interactions between the liberalization process and the pre-existing distortions in the economy. This paper derives the optimal liberalization policy (given the Keynesian context) and solves for explicit formulas for the import tariffs and the capital-account tax in a two-period general equilibrium model. It is argued that a trade reform is likely to have recessionary effects in the short-run if the capital account has already been liberalized.

Roemer, John E.

PD August 11, 1985. **TI** A Note on Interpersonal Comparability and the Theory of Fairness. **AA** Department of Economics, University of California, Davis. **SR** University of California at Davis Department of Economics Working Paper: 261; Department of Economics, University of California, Davis, CA 95616. **PG** 16. **PR** No Charge. **JE** 024. **KW** Fairness. Interpersonal Comparability.

AB It is shown that there are certain inconsistencies in the approaches which writers have taken to the concept of envy-freeness, or fairness. In particular, the notion of fairness in a production economy is quite different from the notion of fairness in a pure exchange economy. Implicitly, in production economies, the standard notion of fairness assumes a kind of interpersonal comparability. A general criticism is made of the effort to glean conclusions about justness of allocations without making interpersonal comparisons of utility.

PD August 15, 1985. **TI** Axiomatic Bargaining Theory on Economic Environments. **AA** Department of Economics, University of California, Davis. **SR** University of California at Davis Department of Economics Working Paper: 264; Department of Economics, University of California, Davis, CA 95616. **PG** 40. **PR** No Charge. **JE** 026. **KW** Bargaining Theory. Axiomatic Bargaining.

AB Axiomatic bargaining theory, from Nash on, characterizes utility allocating mechanisms, which have as their domain the space of utility possibility sets and threat points. Any 'economic' information which may exist is discarded from the domain (information on endowments, utility functions, production functions, etc.). This work shows that bargaining theory can be reconstructed on a domain of economic environments. Thus, economic foundations are provided for bargaining theory. The purpose is to provide a model in which there is language to discuss property rights, which is absent from classical bargaining theory.

PD August 15, 1985. **TI** A Challenge to Neo-Lockeanism. **AA** Department of Economics, University of California, Davis. **SR** University of California at Davis Department of Economics Working Paper: 259; Department of Economics, University of California, Davis, CA 95616. **PG** 37. **PR** No Charge. **JE** 024, 025, 026. **KW** Bargaining Theory. Property Rights.

AB Suppose we wish to postulate that people populating a world have joint ownership rights over the world's external resources (land, etc.), and private ownership of their own skills and talents. What distributions of labor and output are consistent with these property rights? An axiomatic approach is studied, and it is shown that the only allocation mechanism which respects necessary conditions for respecting these property rights is one which equalizes the welfares of people. One could say that public ownership of the external world 'trumps' private ownership of self.

PD September 1985. **TI** History's Effect on the Distribution of Income. **AA** Department of Economics, University of California, Davis. **SR** University of California at Davis Department of Economics Working Paper: 266; Department of Economics, University of California, Davis, CA 95616. **PG** 16. **PR** No Charge. **JE** 022, 041, 821. **KW** Distribution of Income. Class Struggle.

AB In the debate on the transition from feudalism to capitalism, it is often argued that different real wages, in different parts of Europe, were explained in large part by differential class power. Some authors argue that class power is more important than relative factor scarcities in the determination of the real wage. While not arguing against this position, this paper provides an example of an equilibrium model in which there is a backward bending supply curve of peasant labor, and the possibility of several equilibria (with different wage-profit ratios) being associated with the same degree of relative factor scarcity. Hence, it is possible to show very different real wage levels emerging from a supply-demand model, without recourse to arguments about class power.

PD December 23, 1985. **TI** Beyond Exploitation: Public Ownership of the External World vs. Private Ownership of Self. **AA** Department of Economics, UC Davis. **SR** UC Davis Economics Department Working Paper: 271; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 26. **PR** No Charge. **JE** 025, 052, 027. **KW** Exploitation. Public Ownership. Property Rights.

AB What does public ownership of the means of production mean? In this paper, an answer is offered by examining allocation mechanisms on a space of economic environments. Public ownership of alienable assets is reflected in distributional properties of the allocation mechanism. In a world where the land is publicly owned, but each person owns his own labor, and land and labor are used to produce corn, what allocation mechanisms respect public ownership of the land and private ownership of labor? An answer is proposed, and this approach is contrasted to the Marxian attack on private ownership by use of the exploitation statistic, here claimed to be inadequate.

Rogers, Peter

TI A Tale of two Simulations -- Integrating Water Sector Planning Into Economy Wide Planning Models. **AU** Hurst, Christopher; Rogers, Peter.

PD November 1985. **TI** Management of Water Resources in the United States: Current Context And Future Strategies. **AU** Rogers, Peter; Rubin, Kenneth. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 141D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 34. **PR** No Charge. **JE** 721, 722. **KW** Water. Waste-Water. Federal Policy.

AB The paper examines the historical basis of our current water problems and suggests some broad policy approaches to dealing with water problems in the future. The paper argues for a "Federal Water Policy" not a unified "National Water Policy". Such a policy must include surface and groundwater and water supply and wastewater management in an integrated manner. The paper concludes that the current federal emphasis on cost sharing and increasing user fees be pursued and extended with the goal of a complete federal financial disengagement within the next decade. The federal role would then be restricted to regulation, research and development, and to acting as a banker for states and localities for capital developments.

Rogoff, Kenneth

TI Was It Real? The Exchange Rate-Interest Differential Relation, 1973-1984. **AU** Meese, Richard; Rogoff, Kenneth.

Roper, Stephen

TI Structural Unemployment. **AU** Jackman, Richard; Roper, Stephen.

Rosenthal, Howard

TI The Unidimensional Congress. **AU** Poole, Keith; Rosenthal, Howard.

Rosenzweig, Mark R.

PD September 4, 1985. **TI** Schooling, Information and Non-Market Productivity: Contraceptive Use and Its Effectiveness. **AU** Rosenzweig, Mark R.; Schultz, T. Paul. **AA** Rosenzweig: University of Minnesota. Schultz: Yale University. **SR** Yale Economic Growth Center Discussion Paper: 490; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 37. **PR** $2.00. **JE** 841, 851. **KW** Household Productivity. Fertility. Schooling.

AB While the effects of schooling on market earnings have been well documented, the evidence on the returns to schooling in the nonmarket sector, particularly in activities associated with the household, is less clear. In this paper the technology associated with human reproduction is estimated to examine the influence of schooling on productivity in this household activity. Our results imply that schooling enhances couples' abilities (i) to decipher information about household inputs which require careful use and for which there is relatively little information and (ii) to learn about their own biological capacities or fecundity. In particular, we found that more educated couples were both more likely to know how to use and able to use more efficiently so called "ineffective" contraceptive methods than were less schooled couples, but the more educated did not obtain substantially higher efficiency compared to the less educated from contraceptives prescribed and/or installed by medical doctors, such as the pill or IUD, for which there is little scope for misuse. Moreover, our evidence indicated, based on estimates of couples' differing biological propensities to conceive and their contraceptive choice behavior, that more educated couples were better able than less educated couples to perceive these reproductive propensities, for which the market provides little direct information. As a consequence of these different information skills associated with schooling, a difference in fecundity of one standard deviation among college graduates was associated with a difference of .7 unplanned conceptions, whereas a similar difference in fecundity among wives who were grade school graduates led to almost twice as large a difference in unplanned conceptions (1.3). The superior ability of the more educated couples to perceive their biological capacities to bear children and their wider knowledge of contraceptive methods helps explain why, despite the greater variability in their exposure to the risk of conception via marriage, the variability in the completed family size of more educated couples is less than that of similar couples with less schooling. Our results suggest that the returns to schooling investment may be understated when such returns are measured in terms of only market outcomes. Moreover, in accord with studies of the returns to schooling and extension services in agriculture, we find that schooling and birth control information-dissemination programs are clearly substitutes, in the sense that the least-educated couples may gain the most from such programs.

Rotemberg, Julio J.

TI A Tax-Based Test for Nominal Rigidities. **AU** Poterba, James M.; Rotemberg, Julio J.; Summers, Lawrence H.

Rothwell, Geoffrey

PD November 26, 1985. **TI** Comparing Models of Electric Utility Behavior. **AA** California Institute of Technology. **SR** Caltech Social Science Working Paper: 588; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 44. **PR** No Charge. **JE** 613, 723. **KW** Electricity. Regulation. Profit. Decision Making. Capacity Investment.

AB Several models of electric utility behavior have been suggested and tested. Among them are profit and revenue maximization and cost and revenue minimization, the latter being the stated objective of many public utilities. These four models are compared empirically by examining power plant choice from 1970 to 1977. The net present value (profit) model yields the highest estimated likelihood and its parameters are consistent with a priori theory. Firms were attempting to maximize their return, while minimizing fixed and variable costs. Also, I find no evidence that the difference between the allowed rate of return and the cost of capital influenced technology choice.

Rubenstein, Ariel

PD September 10, 1985. **TI** A Sequential Theory of Bargaining. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series): 478; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 46. **PR** $4.00. **JE** 022, 026. **KW** Bargaining. Perfect Equilibrium. Alternating Offers. Markets. Incomplete Information. Nash Bargaining Solution.

AB The paper reviews the development of the sequential strategic approach to the bargaining problem. The four main themes of the paper are: (a) the infinite-alternating-offers, sequential-bargaining model. (b) the relationship of the strategic approach to the Nash Axiomatic solution. (c) bargaining with incomplete information. (d) bargaining as the building block for models of markets.

Rubin, Kenneth

TI Management of Water Resources in the United States: Current Context And Future Strategies. **AU** Rogers, Peter; Rubin, Kenneth.

Rubin, Paul H.

TI Enforcing Government Policy: The Evolution of Efficient Regulations. **AU** Cohen, Mark A.; Rubin, Paul H.

Rubinfeld, D.

PD April 1985. **TI** Tiebout Bias and the Demand for Local Public Schooling. **AU** Rubinfeld, D.; Shapiro, P.; Roberts, J. **AA** Department of Economics, University of California Santa Barbara. **SR** University of California Santa Barbara Department of Economics Working Papers: 251; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 33. **PR** No Charge. **JE** 912, 614. **KW** Selectivity Bias. Public Education. Tiebout Bias.

AB In this paper we pursue the possibility of Tiebout bias by spelling out the sources of such bias in a micro demand model. The micro approach has substantial promise here because the data may be rich enough to allow one to test for Tiebout bias and to the extent that it is present, devise new and better estimation techniques. This paper provides a start in that direction by suggesting the conditions under which Tiebout bias might occur and by attempting to estimate the extent to which this bias may be present. The paper goes further by suggesting a model structure in which more detailed questions concerning the specification and estimation of the demand for local public goods can be answered. The structure is sufficiently broad to allow for the inclusion of political as well as economic determinations of the demand and supply of local public goods. The paper contains the empirical analysis of the demand for local public schooling with and without Tiebout bias corrections. The results make it clear that Tiebout bias can be an important problem, but that the estimates of its importance are sensitive to the model of community choice and public goods choice.

Ruttan, Vernon W.

TI A Reexamination of Professional and Popular thought on Assistance for Economic Development: 1949-1952. **AU** Kennedy, Joseph V.; Ruttan, Vernon W.

PD May 8, 1985. **TI** Technical and Institutional Change in Agricultural Development: Two Lectures. **AA** Department of Agricultural and Applied Economics, University of Minnesota, St. Paul. **SR** University of Minnesota Economic Development Center Bulletin: 85-1; Economic Development Center, Department of Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 63. **PR** No Charge. **JE** 112, 711, 621. **KW** Technical Change. Institutional Change. Agricultural Development.

AB In the first paper six models of the role of technical change in agricultural development are outlined. These are the (a) resource exploitation, (b) conservation, (c) location, (d) diffusion and (e) high pay-off export models. In the second paper a model of induced institutional innovation is developed and tested against industrial experience.

Sakai, Yoshikiyo

PD December 1985. **TI** Conditional Pareto Optimality of Stationary Equilibrium in a Stochastic Overlapping Generations Model. **AA** Department of Economics, University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 219; Department of Economics, 1035 Management and Economics, University of Minnesota, 271 19th Avenue, So., Minneapolis, MN 55455. **PG** 9. **PR** No Charge. **JE** 021. **KW** Overlapping Generations. Conditional Pareto Optimality. Exogenous Supply of Dividends.

AB In this paper, I describe and analyze a pure exchange overlapping generations model in which endowments and the dividends of an asset in fixed supply are exogenous and random; they follow a finite state Markov process. It is shown (i) that a stationary equilibrium exists and (ii) that no stationary allocation is Pareto superior to any stationary equilibrium allocation, where Pareto superiority is defined in terms of the conditional expected utilities agents maximize in the competitive setting. The main contribution of the paper is the optimality proof.

Salim, Rashid

PD Sept 1985. **TI** Adam Smith's Acknowledgements: Neo-Plagiarism and the Wealth of Nations. **AA** Department of Economics, University of Illinois at Urbana-Champaign. **SR** University of Illinois at Urbana-Champaign BEBR Faculty Working Paper: 1180; Department of Economics, University of Illinois, 1206 S. 6th Street, Champaign, IL 61820. **PG** 47. **PR** No Charge. **JE** 031. **KW** Wealth of Nations. Adam Smith. Demand and Supply.

AB This paper argues that the Wealth of Nations contains a substantial amount of unacknowledged borrowings; these borrowings were necessitated by Adam Smith's inability to clearly comprehend the logic of demand and supply. As a result, he borrowed his "economics" from whatever source he found compatible with his own philosophical leanings.

Sargan, J. D.

PD July 1984. **TI** A Study of Alternative Wald Tests for Dynamic Specification. **AA** Department of Economics, The London School of Economics and Political Science. **SR** London School of Economics, Econometrics Programme Discussion Paper: A.46; Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. **PG** 35. **PR** No Charge. **JE** 211. **KW** Wald Test. Dynamic Specification Tests.

AB In previous articles '3, it was theoretically shown that the Wald test for the presence of common factors in a set of lag polynomials in some cases is not distributed asymptotically in a chi-square distribution and empirical work showed that in these cases the finite sample distribution is biased downward compared with standard asymptotic chi-square distribution. This result is investigated using Monte Carlo methods for some simple models. An attempt is then made to develop alternative forms of the constraints which do not suffer from these problems and the results of using the corresponding Wald test is considered using a further set of simulations of the same model.

PD October 1984. **TI** Alternative Models for Rational Expectations in some Simple Irregular Cases. **AA** Department of Economics, The London School of Economics and Political Science. **SR** London School of Economics, Econometrics Programme Discussion Paper: A.47; Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE. **PG** 26. **PR** No Charge. **JE** 211. **KW** Non-Stationary Rational Expectations Models.

AB This paper is concerned to discuss the non-uniqueness of the solution path in models containing rational expectations of the type labelled non-regular in '3. It does this by considering relatively simple models, starting from the model of Gourieroux, Laffont, Monfort '1.

Sargent, Thomas J.

PD September 1985. **TI** Identification and estimation of a model of hyperinflation with a continuum of "sunspot" equilibria. **AU** Sargent, Thomas J.; Wallace, Neil. **AA** Sargent: Department of Economics, University of Minnesota. Wallace: Federal Reserve Bank of Minneapolis. **SR** University of Minnesota Center for Economic Research Discussion Papers: 220; Economics Research Library, 525 Science Classroom Building, University of Minnesota, Minneapolis, MN 55455. **PG** 47. **PR** No Charge. **JE** 134. **KW** Hyperinflation. Sunspot Equilibria. Identification.

AB This paper constructs a model with two structural equations: the government budget constraint and a linear version of Cagan's portfolio balance equation. The model contains a continuum of equilibria with "sunspot equilibria." Closed forms for the solutions are found. Even though there is a continuum of equilibria, the model is overidentified econometrically, so that the model restricts time series data on price levels and currency stocks. We describe how the free parameters of the model can be estimated, including some parameters that serve to index particular members of the continuum of equilibria. The sunspot equilibria hold out some promise of explaining anomalies in the observed behavior of inflation and real balances during hyperinflations.

Sarig, Oded H.

PD October 1985. **TI** Dividend Policy and Capital Structure: An Optimal Choice of a Combined Signal. **AA** Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-37; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 31. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 521, 022. **KW** Dividends. Capital Structure. Signalling. Leverage.

AB This paper explores a model in which firms signal their true quality by precommitting to certain cash outflows. Two financial policies can be used to precommit: dividends and debt service obligations. We find sufficient conditions for the resultant informational equilibrium to entail concomitant signalling by both financial policies. In this equilibrium better firms choose to pay higher dividends and to be more levered than lower quality firms. The comparative statics of the model are then compared to extant empirical evidence.

Schinasi, Garry J.

PD November 1985. **TI** Canadian Financial Markets: The Government's Proposal for Reform. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 269; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 25. **PR** No Charge. **JE** 312, 314, 611. **KW** Commercial Banking. Financial Intermediaries. Market Structure. Canada.

AB This paper discusses Canada's financial sector, recent institutional changes, and the Government's recent (April 1985) proposal for financial market reform and its likely impact. Canada's financial markets have been dominated by traditional financial institutions known as the "four pillars". Although traditions and regulations have contributed to the evolution of Canadian financial markets, economic conditions and customer-provided incentives have recently created the major impetus for change. Structural changes have occurred along three separate but related tracks: product and service innovation by banks and near-banks; less market segmentation; and conglomeration. Political pressures have led the federal and provincial governments involved to accommodate the changes that occurred and to encourage changes that were clearly inevitable. The Government of Canada is currently proposing sweeping regulatory reform of financial institutions to encourage more competition for the dominant chartered banks, to establish more effective safeguards to protect consumers, to ban self-dealing, and to insure the stability of the financial system. If implemented, the proposal may alter the traditional roles of financial institutions and their relationship with the federal government.

Schultz, T. Paul

TI Schooling, Information and Non-Market Productivity: Contraceptive Use and Its Effectiveness. **AU** Rosenzweig, Mark R.; Schultz, T. Paul.

Schwartz, Abba

PD October 1985. **TI** The Demand for a Risky Asset whose Price is Stochastically Related to a Price of a Consumption Good. **AU** Schwartz, Abba; Pines, David. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Papers: 29-85; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 52. **PR** No Charge. **JE** 022, 932. **KW** Portfolio-Choice. Consumer-Investor. Risky Asset. Tenure Choice. Housing.

AB This paper deals with the demand function of a consumer-investor for a risky asset whose returns are related to a price of a consumer good. It investigates how the aforementioned demand function shifts in response to changes in the parameters which govern the stochastic relation between the returns on the risky asset and the price of the "associated" good and changes in the parameters of the utility function (its degree of risk aversion and the elasticity of substitution between the consumed goods). The results of this investigation are applied to the problem of tenure choice of housing services and to some stylized facts which characterize inflationary processes.

Scotchmer, Suzanne

PD February 1985. **TI** The Short Run and Long Run Benefits of Environmental Improvement. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1135; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 30. **PR** $2.50. **JE** 931. **KW** Hedonic Prices. Environmental Improvement. Amenities.

AB Beginning with an axiom of separability in willingness to pay for space and amenities, we develop a general technique to evaluate the benefits of nonmarginal improvements to amenities in the short run and the long run. If cross-section observations are made on both hedonic prices p(a) and lot sizes s(a, y) (where y is the resident's income), there is sufficient information in hedonic price data to reveal preferences. This is because the hedonic price function p(a) has two marginal properties. dp(a)/da = -m sub a'a, s(a, y);u/s(a, y) where m sub a is the marginal rate of substitution between money and a particular attribute. In addition, p(a)=-m sub s'a, s(a, y);u, where -m sub s is the marginal rate of substitution between money and lot-size on type-a land.

Sedlacek, Guilherme

TI Heterogeneity, Aggregation and Market Wage Functions: An Empirical Model of Self-Selection in the Labor Market. **AU** Heckman, James J.; Sedlacek, Guilherme.

Segerstrom, Paul S.

PD October 1985. **TI** Symmetric and Asymmetric Punishments in the Theory of Noncooperative Collusion.

AA Department of Economics, Michigan State University. SR Econometrics and Economic Theory Workshop Paper: 8504; Department of Economics, Michigan State University, East Lansing, MI 48824. PG 28. PR No Charge. JE 026. KW Noncooperative Collusion. Subgame Perfection. Punishment.

AB Since Friedman '1971, it has been well-known that in symmetric repeated Cournot duopoly games with discounting, the monopoly cartel can be supported as a (subgame) perfect equilibrium outcome path by symmetric Cournot-Nash punishments, for discount parameters sufficiently close to one. This paper explores the extent to which alternative perfect equilibrium strategies can be used for discount parameters below Friedman's critical value. A necessary and sufficient condition is presented for two-phase symmetric punishments to support the cartel for the entire range of discount parameters for which any perfect equilibrium strategies support the cartel. When this condition does not hold, asymmetric punishments must be used for sufficiently low discount parameters. In either case, the lowest discount parameter such that the monopoly cartel is supported by perfect equilibrium strategies is always strictly lower than Friedman's critical value.

Shaffer, Sherrill

PD February 1984. TI Sector Growth and Self Employment. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 8411; Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. PG 28. PR No Charge. JE 821, 824. KW Upward Sloping Age-Earnings Profile. Consumption Loan Model. Self Employment.

AB A Samuelsonian consumption loan model is used to construct an alternative theory of upward sloping age-earnings profiles. One implication of the model is that, within a single industry or sector, a negative relationship should exist between anticipated sector growth and the percentage of self-employed workers. This relationship is tested using unpublished BLS figures for SIC two-digit industries. Results indicate broad support for the hypothesis. Alternative interpretations of the findings are considered and found unconvincing.

PD August 1984. TI Competition, Consistent Conjectures, and Realism. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 8410; Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. PG 16. PR No Charge. JE 611. KW Competition. Consistent Conjectures. Long Run Equilibrium.

AB Bresnahan (1981) and Perry (1982) have shown that the Bertrand or competitive outcome is the only consistent equilibrium in conjectural variations for firms with constant marginal costs, homogeneous output, and symmetric conjectures. However, competition results in zero economic profits for each firm, necessitating that fixed costs be zero in the long run. This point, mentioned by Bresnahan, is formally proven here using a result of Das (1981). In addition, we derive symmetry as an implication of the duopoly model, showing that it need not be regarded as a mere assumption. The former result undermines, and the latter result strengthens, the realism of consistent conjectures models.

PD November 1984. TI Brokered Deposits and Bank Soundness: Evidence and Regulatory Implications. AU Shaffer, Sherrill; Piche, Catherine. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 8405; Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. PG 39. PR No Charge. JE 314. KW Brokered Deposits. Regulation. Bankruptcy. Deposit Insurance.

AB Much attention has been recently directed toward possible linkages between the use of brokered deposits by banks and the incidence of bank failure. This study examines statistical evidence of such a linkage. Within the group of commercial banks that used brokered deposits at all, a significant correlation was found between the percentage of deposits derived from brokers and an index of financial weakness. Threshold effects (nonlinearities) in this relationship were tested. In addition, statistical linkages were tested between use of brokered deposits and relative cost to the FDIC across a sample of failed banks. Banks with brokered funds in excess of 5 to 10 percent of their total deposits tended to impose a greater relative cost burden on the FDIC than other failed banks in the sample. However, this burden did not appear to increase proportionately at threshold levels of 15 to 20 percent. Without attempting to disentangle the directions of causality, we conclude on the basis of the evidence that some form of prudential regulation could suffice to minimize these problems. If such regulation were to take the form of a percentage limitation on brokered deposits, then our findings suggest a range of 5 to 10 percent of total deposits as appropriate.

PD July 1985. TI Regulation by Taxation. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 8506; Research and Statistics Function, Federal Reserve Bank of New York, New York, NY 10045. PG 10. PR No Charge. JE 612, 613. KW Regulation. Market Power. Externalities. Optimality. Uncertainty.

AB Conventional tools by which government agencies regulate industry typically require the regulator to have the exact knowledge of all relevant cost and benefit functions in order to achieve optimality. Theoretical schemes have been proposed to circumvent this difficulty in special cases. This note explores the possibility of employing a two-part tax schedule to achieve optimality under uncertainty, for general patterns of firm interaction.

Shapiro, Carl

TI Product Compatibility Choice in a Market with Technological Progress. AU Katz, Michael L.; Shapiro, Carl.

Shapiro, Matthew D.

TI Trends, Random Walks, and Tests of the Permanent Income Hypothesis. AU Mankiw, N. Gregory; Shapiro, Matthew D.

PD January 1985. **TI** Capital Utilization and Capital Accumulation: Theory and Evidence. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 736; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 53. **PR** No Charge. **JE** 131, 641. **KW** Investment. Capacity Utilization. Capital. Labor Demand.

AB A firm may acquire additional capital input by purchasing new capital or by increasing the utilization of its current capital. The margin between capital accumulation and capital utilization is studied in a model of dynamic factor demand where the firm chooses capital, labor, and their rates of utilization. A direct measure of capital utilization -- the work week of capital -- is incorporated into the theory and estimates. The methodology advocated by Hansen and Singleton (1982) is used to obtain estimates of the model's parameters. This methodology allows the firm's decision problem to depend on expected values of future endogenous and exogenous variables without imposing strict assumptions on functional form or the distribution of shocks to the system. The estimates imply that capital stock is costly to adjust while the work week of capital is essentially costless to adjust. Hence, the work week of capital overshoots the steady state when innovations in policy or other shocks change the demand for capital. Short run variation in the demand for capital is met by changing utilization. Long run variation is met by changing the stock. The estimated response of the capital stock to changes in its price and in the required rate of return is substantial and it takes place more quickly than found in other estimates. These results provide an important challenge to the view that input prices and required rates of return are empirically unimportant in models of the demand for capital.

PD January 1985. **TI** The Dynamic Demand for Capital and Labor. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 735; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 34. **PR** No Charge. **JE** 131, 641. **KW** Investment. Capital. Labor Demand.

AB A model of the dynamically interrelated demand for capital and labor is specified and estimated. The estimates are of the first-order conditions of the firm's problem rather than of the closed-form decision rules. This use of the first-order conditions allows a random rate of return and a flexible specification of the technology. The estimates do not imply the very slow rates of adjustment displayed in other, related estimates of the demand for capital. Because adjustment is estimated to be rapid, there is, contrary to the standard view, scope for factor-prices to affect investment at relatively high frequencies.

TI Risk and Return: Consumption Beta Versus Market Beta. **AU** Mankiw, N. Gregory; Shapiro, Matthew D.

TI Do We Reject Too Often? Small Sample Bias in Tests of Rational Expectations. **AU** Mankiw, Gregory N.; Shapiro, Matthew D.

TI Do We Reject Too Often? Small Sample Properties of Tests of Rational Expectation Models. **AU** Mankiw, N. Gregory; Shapiro, Matthew D.

Shapiro, P.

TI Tiebout Bias and the Demand for Local Public Schooling. **AU** Rubinfeld, D.; Shapiro, P.; Roberts, J.

Sharma, Sunil

TI Dynamic Optimization with a Non-Convex Technology: Determination of Critical Stocks. **AU** Anant, T. C. A.; Sharma, Sunil.

Shaw, Kathryn L.

PD October 1985. **TI** An Assessment of the Effect of Risk Aversion on the Quit Decision of Married Men. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Economic Activity Section Working Paper: 56; Economic Activity Section, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 37. **PR** No Charge. **JE** 813, 821, 824, 826. **KW** Quit Rates. Turnover. Human Capital. Risk Aversion.

AB This paper hypothesizes that the quit propensity of married men rises significantly with an increase in their wives' income. This result is driven by the assumption of risk averse preferences. Assuming that the quit decision is characterized by uncertainty and assuming constant relative risk aversion, the expected value of quitting is theoretically greater for married men with working wives, because the presence of a working wife reduces the portion of household human capital wealth which is placed in the more risky quit option. Using a longitudinal data set of households, the Panel Study of Income Dynamics, the empirical results are strongly consistent with the hypothesis. Moreover, the positive effect of the wife's income on the husband's quit propensity is quite large. One implication of these results is that as the participation rate of married women has risen dramatically over time, the quit rate of married men may well have risen substantially.

PD October 1985. **TI** Occupational Change, Employer Change, and the Transferability of Skills. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Economic Activity Section Working Paper: 55; Economic Activity Section, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 41. **PR** No Charge. **JE** 812, 813, 824, 851. **KW** Occupation. Turnover. Human Capital. Wage Rates.

AB This paper develops and estimates a human capital investment model of occupational change. Three features of the investment process determine the value of occupational change: the intensity of investment in occupational skills, the transferability of occupational skills, and the returns to joint employer-occupational change. After developing proxies for skill intensity and skill transferability, it is possible to infer the individual's expected income paths for alternative occupations over his life cycle. The model is estimated using the work history contained in a panel data set, the National Longitudinal Survey of Young Men. The results indicate that a 25 percent increase in the transferability of skills to an alternative occupation will increase the probability of movement to that occupation by about 11 percent for young men and by about twice that for men at age 40. The results also demonstrate that occupational change rises significantly with tenure with the current employer.

Shea, Gary S.

PD July 1985. **TI** Long Memory Models of Interest Rates, the Term Structure, and Variance Bounds Tests. **AA** International Finance Division, Federal Reserve Board and Department of Finance, The Pennsylvania State University. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 258; Federal Reserve Board, 20th and C Streets, N.W., Washington, DC 20551. **PG** 45. **PR** No Charge. **JE** 313. **KW** Term Structure. Interest Rates. Variance Bounds. Long Memory. Bootstrap. Monte Carlo. Rational Expectations. Fractional Difference.

AB Variance bounds tests of the rational expectations hypothesis of the interest rate term structure are sensitive to the stochastic characterization of short-term interest rates used. When a long memory or fractional difference nonstationary time series model is used in preference to a mean stationary model, the rational expectations hypothesis is not rejected. Long memory models of interest rates are estimated and tested against alternatives. Their forecasting properties are also examined. Hypothesis tests are based upon bootstrapping (Monte Carlo) methodologies.

Sheffrin, Steven M.

PD October 1985. **TI** Have Economic Fluctuations Been Dampened? A Look at Evidence Outside the United States. **AA** Department of Economics, University of California at Davis. **SR** UC Davis Research Program in Applied Macroeconomics and Macro Policy: 30; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 20. **PR** No Charge. **JE** 131, 044. **KW** Fluctuations. Economic History. Business cycles. Europe.

AB Until recently, economists of all beliefs took it for granted that the severity of economic fluctuations had decreased sharply following World War II. Recent work has challenged this view. This study attempts to shed light on whether there was a true reduction in the severity of economic fluctuations by examining the experience of six European countries. With one exception, these countries did not experience a substantial reduction in the severity of the business cycle.

PD December 1985. **TI** Joan Robinson and the New Classical Economists as Critics of Keynesian Economics. **AA** Department of Economics, University of California, Davis. **SR** UC Davis Research Program in Applied Macroeconomics and Macro Policy: 32; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 23. **PR** No Charge. **JE** 031, 130. **KW** Joan Robinson. New Classical Economists.

AB This paper contends that the criticisms of American Keynesian economics by Joan Robinson and the New Classical Economists share many similarities. In particular, their views on risk and uncertainty, dynamics, and even econometrics, although not identical, share similar preoccupations. The differences, as well as the similarities, of their views is highlighted.

Shen, T. Y.

PD September 1985. **TI** Factor Saving Bias in Inventions. **AA** Department of Economics, University of California, Davis. **SR** University of California at Davis Department of Economics Working Paper: 267; Department of Economics, University of California, Davis, CA 95616. **PG** 34. **PR** No Charge. **JE** 621, 825. **KW** Bias in Inventions. Labor-Saving Bias.

AB In this paper an inherent labor-saving bias in the historical flow of inventions is deduced from the asymmetry between human and physical capital in supplying the input characteristics required in the production process. A functional approach, viewing the production process as a function relating the required input characteristics to the pre-specified output characteristics, is employed. The function describes a physical system. Invention is the discovery of a new physical system. This approach eliminates the dichotomy between product and process inventions. An important finding of this paper is the crucial importance of new products as a source of the labor-saving bias.

Sherman, Joel D.

PD August 1984. **TI** Towards a Federal Role in Financing Interstate Equalisation in United States Education. **AA** Pelavin Associates, Incorporated. **SR** Australian National University Center for Research on Federal Financial Relations Occasional Paper: 33; Centre for Research on Federal Financial Relations, Copland Building, Australian National University, GPO Box 4, Canberra, ACT 2601, AUSTRALIA. **PG** 27. **PR** No Charge. **JE** 912. **KW** Education Finance. Grants-in-Aid. Federal Education Policy.

AB The paper briefly describes the evolution of the federal role in education in the United States and current federal programs. It then presents a framework for analysing the fiscal effects of federal programs on the states, using three criteria of equalisation as the basis for the analysis. The paper then analyses the distributional consequences of federal formula grants and highlights changes in fiscal impact over the first three years of the Reagan Administration. It concludes with an assessment of the need for a federal role in financing interstate equalisation in future years and recommendations for federal policy that promote interstate equalisation.

Shiller, Robert J.

PD October 1984. **TI** Stock Prices and Social Dynamics. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 719R; Cowles Foundation, Yale University, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 74. **PR** No Charge. **JE** 313. **KW** Efficient Markets. Speculative Bubbles. Fashions. Fads.

AB The empirical evidence that is widely interpreted as supporting the efficient markets theory in finance actually does not rule out the possibility that changing fashions or fads among investors have an important influence on prices in financial markets. A model of the impact of such fashions on prices is proposed and used in an exploratory data analysis of the aggregate United States Stock Market in the 20th century.

PD December 1984. **TI** Testing the Random Walk Hypothesis: Power Versus Frequency of Observation. **AU** Shiller, Robert J.; Perron, Pierre. **AA** Shiller: Cowles Foundation, Yale University. Perron: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 732; Cowles Foundation, Yale University, P.O. Box 2125, Yale Station, New Haven, CT 06520. **PG** 28. **PR** No Charge. **JE** 211, 313. **KW** Random Walk. Unit Roots. Power Function. Efficient Markets Hypothesis.
AB Power functions of tests of the random walk hypothesis versus stationary first order autoregressive alternatives are tabulated for samples of fixed span but various frequencies of observation. For a t-test and normalized test, power is found to depend, for a substantial range of parameter values, more on the span of the data in time than on the number of observations. For a runs test, power rapidly declines as the number of observations is increased beyond a certain point.

Shubik, M.

PD October 9, 1985. **TI** The Uses, Value and Limitations of Game Theoretic Methods in Defense Analysis. **AA** Cowles Foundation for Research in Economics, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 766; Cowles Foundation for Research in Economics, Yale University, Box 2125 Yale Station, New Haven, CT 06520. **PG** 40. **PR** No Charge. **JE** 114, 026. **KW** Game Theory. War. National Defense.
AB The central contribution of game theory to defense analysis has been a language for the understanding of how to formulate and study strategic or cross-purposes optimization in situations involving two or more actors. It is suggested here in this discussion that two fundamentally different classes of application of game theory to problems in defense have emerged. The first is the application of two-person zero sum game theory to military, primarily tactical situations which for the purposes at hand can be reasonably well modeled in this manner. The second is the application of two or more person nonconstant sum game theory to strategic problems involving threat analysis, crises control and the interface between international diplomatic relations and war.

Silver, Andrew

TI The Collateralized Mortgage Obligation: A Statistical Analysis of Its Cash Flows. **AU** Estrella, Arturo; Silver, Andrew.

Sims, Christopher A.

PD December 1985. **TI** A Rational Expectations Framework for Short Run Policy Analysis. **AA** Department of Economics, University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 223; Department of Economics, 1035 Management and Economics, University of Minnesota, 271 19th Avenue, So., Minneapolis, MN 55455. **PG** 24. **PR** No Charge. **JE** 023, 133, 211. **KW** Lucas' Critique. Policy Analysis. Conditional Projections.
AB The point this paper makes is as follows: we can ordinarily expect that accurate conditional projections of the effects of policy choices will be useful to policy makers; we can expect that there will be autonomous variation in policy in the data, so that statistical estimation will be valuable in preparing such conditional projections; and the identifying assumptions required to bring the data to bear in forming the projections will be much less than a complete behavioral interpretation of each equation in the probability model, in fact not even requiring separation of expectational dynamics from other dynamics.

Skott, Peter

PD July 1985. **TI** On General Equilibrium Theory and the Costs of Spurious Generality. **AA** University of Copenhagen and University College London. **SR** University College London Discussion Paper: 85-25; Department of Political Economy, University College London, Gower Street, London WC1E 6BT. **PG** 24. **PR** No Charge. **JE** 021, 036. **KW** Choice Theoretic Foundations. Disaggregation. Natural Units. Representative Agents. Sequential Patterns.
AB It is argued that the commodity and agent space generality of general equilibrium theory is illusory. Commodity space aggregation is unavoidable and agent aggregation is desirable: without the use of 'representative agents' preferences will not be stable. Furthermore, the emphasis in general equilibrium theory on choice theoretic foundations and commodity and agent disaggregation leads to a neglect of basic aspects of time and the passage of time; in the time dimension there is almost complete aggregation.

TI Theories of Monopoly Capital - A Critique. **AU** Auerbach, Paul; Skott, Peter.

Skully, Michael T.

PD May 1985. **TI** Financial Institutions and Markets in Papua New Guinea. **AA** Department of Finance, University of New South Wales. **SR** Australian National University Development Studies Centre Working Paper: 85/4; Development Studies Centre, Australian National University, GPO Box 4, Canberra ACT 2600, AUSTRALIA. **PG** 100. **PR** No Charge. **JE** 314. **KW** Papua New Guinea. Banks. Finance Companies. Financial Institutions.
AB The paper examines the development and operations of Papua New Guinea's financial institutions and markets. The institutions covered include the Bank of Papua New Guinea, the commercial banks, the Papua New Guinea Development Bank, Resources Investment and Finance, finance companies, savings and loan societies, the Investment Corporation of Papua New Guinea, the Investment Corporation Fund of Papua New Guinea, general insurance companies, life insurance companies, reinsurance companies, superannuation and pension funds, the Mineral Resources Stabilization Fund, commodity stabilization funds, the National Housing Commission, the National Investment and Development Authority, and the provincial development corporations. The markets include the interbank market, government securities market, intercompany market, foreign exchange market and the

potential for a stock market and commodity exchange. The paper ends with a brief examination of the government's success with localization in terms of ownership, staffing and business, its monetary policy, and the country's overall economic prospects.

Slutsky, Stephen M.

TI Some Short Run Implications of Reaganomics. **AU** Possen, Uri M.; Slutsky, Stephen M.

Smith, Michael M.

TI Mergers and Bidders' Wealth: Managerial and Strategic Factors. **AU** You, Victor L.; Caves, Richard E.; Henry, James S.; Smith, Michael M.

Spence, Anne M.

PD December 13, 1985. **TI** Setup Reduction and Increased Effective Capacity. **AU** Spence, Anne M.; Porteus, Evan L. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 842; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 22. **PR** No Charge. **JE** 522, 512, 641. **KW** Setup Reduction. Japanese Manufacturing. Overtime. Capacity Management.

AB Setup reduction is an important aspect of the Just-In-Time (JIT) and Zero Inventory (ZI) concepts. This paper continues the study of the benefits of such reduction. Porteus (1985b) examined the tradeoff between investment in reduced setups and operating (holding and setup) costs. He later introduced a relationship between lotsizing and quality that identified benefits, due to improved quality, to be achieved by setup reduction. Investment in improved process quality was also considered in that article. This paper looks at the increased effective capacity that results from setup reduction. A certain amount of time, as well as expense, is required for each setup within a multiproduct firm. By reducing the time required for setups, less time is required to carry out those setups. That time can either be used to reduce lot sizes from artificially high levels caused by limited capacity or to reduce overtime used. We use an EOQ-like setting with stationary deterministic demand rates for each product. This simple model allows explicit solutions to be derived, not only for optimal setup time reduction, but for optimal overtime as well. Numerical examples illustrate the results.

Spindt, Paul A.

PD August 1984. **TI** The Federal Reserve's New Operating Procedures: A Post Mortem. **AU** Spindt, Paul A.; Tarhan, Vefa. **AA** Spindt: Board of Governors of the Federal Reserve System. Tarhan: Loyola University of Chicago. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 186; Special Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 22. **PR** No Charge. **JE** 311. **KW** Monetary Policy. Operating Procedures. Federal Reserve Board. Reserves Targeting. Money Growth Volatility. Interest Rate volatility.

AB In this paper we propose to accomplish two things. First, we examine the controversy over how to characterize the Federal Reserve's new operating procedures of 1979 -- that is, as nonborrowed reserves targeting or borrowed reserves targeting -- by appeal to the empirical record. Since different characterizations of the new procedures imply different "causality" relationships among money and various reserve measures, we use causal detection tests to determine which is consistent with the data. Second, we develop a formal model of the new operating procedures which is used to investigate whether the procedures may have contributed in an essential way to the increased volatility in money growth and long term interest rates which was experienced under their practice. By way of brief preview, we find that the evidence supports the Federal Reserve's characterization of the new procedures as nonborrowed reserves targeting but that at the same time the procedures may have contributed to increased volatility in money growth and long term rates by introducing nonstationarity in the market for borrowed reserves.

Spulber, Daniel F.

TI Inflation, Menu Costs and Endogenous Price Variability. **AU** Caplin, Andrew; Spulber, Daniel F.

Srinivasan, V.

TI An Evaluation of Estimation Procedures for New Product Diffusion Models. **AU** Mahajan, Vijay; Mason, Charlotte H.; Srinivasan, V.

Stahl, II Dale O.

PD 1985. **TI** Fixed-Cost Queues and Price Dynamics. **AA** Department of Economics, Duke University. **SR** Duke Working Papers in Economics: 85-09; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 18. **PR** $1.50. **JE** 021. **KW** Fixed-Cost Queues. Stability. Price Adjustment.

AB Because of the prevalence of the fixed-cost feature of real-world queues, it is important to extent the results of Stahl (1984a). Will the stability results continue to hold? This paper studies the polar case of "fixed-cost" queues, in which the average waiting time is the same for all buyers (or sellers), and the person at the head of the queue can buy (or sell) whatever quantity desired. The analysis encounters three technical difficulties. First, the feasible set is non-convex, so an atomless economy is modeled. Secondly, to obtain Lipschitzean aggregate demand, the endowments are assumed to be diffusely distributed. Third, the presence of kinks at Walrasian Equilibria necessitates analysis in terms of generalized Jacobians. A necessary condition for the price adjustment process to be locally asymptotically stable is that the equilibrium be "non-critical". However, it is shown that for a wide class of non-pathological economies, Walrasian equilibria are critical points. A simple example is provided.

Stapleton, Richard C.

PD October 1985. **TI** Arbitrage Pricing Theory: The Way Forward?. **AA** Manchester Business School. **SR** New York University Salomon Brothers Center Working Paper: 365; Salomon Brothers Center, Graduate School of Business Administration, New York University, 100 Trinity Place, New York, NY 10006. **PG** 34. **PR** $2.00. **JE** 313. **KW** APT. Arbitrage Pricing Theory.

AB On December 7th, 1984, the Australian Graduate School of Management hosted a one-day seminar with the above title. It was co-organized by Peter Dodd of A.G.S.M. and myself, and 25 leading Australian researchers in finance were invited to attend. The purpose of the seminar was to examine the current state of the art of Arbitrage Pricing Theory. A most stimulating day ensued mainly due to the efforts of our contributors and discussants. The purpose of this article is to record the main contributions and conclusions of the day's proceedings. We begin with two short papers on the theory by Greg Connor and myself with comments by Marti Subrahmanyam and Greg Connor. This is followed by two contributions by Marti Subrahmanyam and Bernd Ludecke on empirical tests of Arbitrage Pricing Theory with comments by Greg Connor and by Norman Sinclair.

TI Inflation, Interest Rate Risk and the Variance of Common Stock Prices. **AU** Copeland, Laurence S.; Stapleton, Richard C.

TI Default Risk, Resolution of Uncertainty and the Interest Rate on Corporate Loans. **AU** Nabar, Prafulla; Stapleton, Richard C.; Subrahmanyam, Marti.

PD October 1985. **TI** The Intertemporal Stability of Risk Prices in Rational Expectations Models. **AU** Stapleton, Richard C.; Subrahmanyam, Marti. **AA** Stapleton: Manchester Business School. Subrahmanyam: New York University. **SR** New York University Salomon Brothers Center Working Paper: 360; Salomon Brothers Center, Graduate School of Business Administration, New York University, 100 Trinity Place, New York, NY 10006. **PG** 25. **PR** $2.00. **JE** 026, 313. **KW** Rational Expectations. Risk Aversion. Asset Pricing. Risk Adjusted Discount Rates.
AB Rational expectations models in macroeconomics usually assume that market participants have risk neutral preferences. On the other hand, asset pricing models in the finance literature have the effects of risk aversion as their central theme. The advantage of the former models is that the response of prices to the evolution of expectations is made explicit. By contrast, in the latter theory, the dynamic structure of expectations is rarely examined in detail. Here, we look at the conditions under which risk aversion can be introduced, while maintaining the simple structure of the rational expectations models. We derive necessary and sufficient conditions for risk adjusted discount rates to be constant, and hence, for asset prices to fluctuate purely in response to innovations in expectations of corporate profits.

Stark, Oded

TI Motivations to Remit: Evidence from Botswanna. **AU** Lucas, Robert E. B.; Stark, Oded.

TI Labour Migration and Risk Aversion in LDCs. **AU** Katz, Eliakim; Stark, Oded.

Stern, Steve

PD October 9, 1985. **TI** Promotion and Mandatory Retirement. **AA** Department of Economics, University of virginia. **SR** Yale Economic Growth Center Discussion Paper: 491; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 34. **PR** $2.00. **JE** 821, 022. **KW** Retirement. Pensions. Promotion. Wages.
AB In this paper, a firm maximizes profits over choices of wage schedules, hiring schedules, pension schedules and mandatory retirement ages in a model with turnover costs and a productivity function which depends upon position and experience. It is shown that firms may have reason to institute a mandatory retirement age and that they can accomplish the same goal through proper uses of wage and pension schedules.

Stock, James H.

PD May 1985. **TI** Semiparametric Hedonics. **AA** Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 131D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 18. **PR** No Charge. **JE** 211. **KW** Nonparametric Regression. Hedonics.
AB A common objective in econometric analyses of hedonic markets is to obtain estimates of parameters describing consumer preferences for one or more of the attributes which constitute the traded good. However, because the marginal price of each attribute is never observed and because both the attribute levels and their marginal prices are choice variables (since the budget set is nonlinear), a satisfactory technique to obtain this objective has remained elusive. In this paper, a new two-step procedure is proposed to estimate these preference parameters. In the first step, non-parametric kernel regression is used to estimate the marginal prices for observed attributes; in the second, nonlinear two-stage least squares is used to estimate the preference parameters. The resultant estimator is shown to be consistent and asymptotically normal (converging at the rate root-n) with an estimable covariance matrix.

PD June 1985. **TI** Measuring Business Cycle Time. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 134D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 39. **PR** No Charge. **JE** 131, 221. **KW** Nonlinear Time Series Models. Business Cycles. Continuous Time Models.
AB In contrast to conventional time series methodology, the traditional business cycle analysis of the NBER assumed that aggregate economic variables evolve on a time scale defined in terms of business cycles themselves rather than months. Do macroeconomic variables appear to evolve on a data-dependent rather than a calendar time scale? Using a first-order time deformation model, evidence presented here supports the view that variables evolve in economic rather than calendar time. However, the estimated economic time scale has little in common with business cycle time scales used by Burns and Mitchell (1946) or Neftci (1983, 1985), providing evidence against the transformations used in traditional business cycle analysis.

PD July 1985. **TI** Nonparametric Policy Analysis.

AA John F. Kennedy School of Government, Harvard University. SR Harvard John F. Kennedy School of Government Discussion Paper: 135D; Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 49. PR No Charge. JE 211, 931. KW Hedonic Regression. Kernel Regression. Nonparametric Regression. Welfare Analysis. Hazardous Waste.

AB Econometric policy analysis often entails estimating the effect on a given dependent variable of changing the distribution of certain independent variables that government policy can influence. In particular, this paper addresses the problem of estimating the benefits of cleaning up unsafe hazardous waste sites using housing value data. A nonparametric estimator of these benefits is proposed assuming that the regression function can be written as the sum of an unknown function of independent variables, cell-specific effects, and an independent error term. The estimator, based on kernel nonparametric regression, is shown to be consistent and asymptotically normal. When applied to sales data on single family residences from 19 Boston suburbs, the average benefits of cleaning up two local hazardous waste sites are estimated to be $51 and $136 per house, implying total benefits of $3.9 million and $10.5 million.

Stromberg, Jan O.

TI Income Transitions and Income Distribution Dominance. AU Kanbur, S. M. Ravi; Stromberg, Jan O.

Stuart, Charles

TI Investment Subsidies and the Optimality of Time-Consistent Capital Taxation. AU Hansson, Ingemar; Stuart, Charles.

TI Labor Supply Estimation: A General Equilibrium Approach. AU Hansson, Ingemar; Stuart, Charles.

Stuckmeyer, Charles S.

PD June 1985. TI The Putty-Clay Perspective on the Capital-Energy Complementarity Debate. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System, Economic Activity Section Working Paper: 51; Economic Activity Section, Board of Governors of the Federal Reserve System, Washington, DC 20551. PG 25. PR No Charge. JE 723, 522. KW Energy. Investment. Putty-Clay Technology. Non-nested Hypothesis Tests. Capital-Energy Complementarity.

AB This paper argues that capital-energy complementarity is a short-run phenomenon reflecting the fixed ex post nature of factor employment in a putty-clay technology. When an empirical specification is employed that measures firms' ex ante choice of technique, capital and energy are found to be long-run substitutes. However, further analysis of the standard translog and putty-clay models with nonnested hypothesis tests reveals that neither specification is an adequate representation of technology. The results suggest that there is a dynamic adjustment process in the data that is not fully captured in either model.

Subrahmanyam, Marti

TI Default Risk, Resolution of Uncertainty and the Interest Rate on Corporate Loans. AU Nabar, Prafulla; Stapleton, Richard C.; Subrahmanyam, Marti.

TI The Intertemporal Stability of Risk Prices in Rational Expectations Models. AU Stapleton, Richard C.; Subrahmanyam, Marti.

Such, Carol L.

PD October 28, 1985. TI Interactions Between Signaling and Repeated Play with Borrower Default. AA Federal Reserve Bank of Minneapolis. SR Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series): 480; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. PG 255. PR $4.00. JE 022, 026, 315. KW Credit Rationing. Signaling. Repeated Play. Separating Equilibria. Pooling Equilibria.

AB Informational asymmetries are inherent in most credit transactions. Borrowers have a more accurate assessment of the risk of loan default than do their creditors. Monitoring through a signaling device and standing relationships between the contracting parties can be used to mitigate the asymmetries in the market. The purpose of this study is to investigate the interactions between these two mechanisms when both are employed. Two distinct models of signaling with repeated play are developed for a market in which many small firms are vying for credit from a single lender over a two-period horizon. In the first model, the size of the loan is allowed to vary among entrepreneurs; hence, the demand for credit from a single entrepreneur gives rise to a downward-sloping demand curve. The loan size in the second model is held constant for all entrepreneurs. However, the distribution of reservation wages among entrepreneurs generates a downward-sloping aggregate demand curve for credit. Borrowers possess private information about their risk category; the lender can share this information only imperfectly by structuring contract terms that induce borrowers to reveal their true identities. In both models, separating and pooling equilibria are studied for both perfect and imperfect creditor strategies.

Summers, Lawrence H.

TI A Tax-Based Test for Nominal Rigidities. AU Poterba, James M.; Rotemberg, Julio J.; Summers, Lawrence H.

TI Public Policy Implications of Declining Old Age Mortality. AU Poterba, James M.; Summers, Lawrence H.

TI Gibson's Paradox and the Gold Standard. AU Barsky, Robert B.; Summers, Lawrence H.

TI Is Increased Price Flexibility Stabilizing?. AU Delong, J. Bradford; Summers, Lawrence H.

PD July 1985. TI Issues in National Savings Policy. AA Harvard University, Economic Department. SR Harvard Institute for Economic Research Discussion Paper: 1170; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 37. **PR** $2.75. **JE** 221, 023, 322. **KW** National Saving. Savings Rates. Budget Balance.

AB This paper reviews a number of issues relating to the policy goal of increasing national savings. The first section considers the measurement and definition of national savings. Comparisons of current United States savings rates with those of other countries and with the past United States experience are presented. The second section considers possible avenues through which public policy can increase national savings. While most discussion has centered on the effects of changes in the rate of return received by savers, this is far from the only channel through which policy can affect savings. I conclude that changes in public savings or dissaving through budget surpluses or deficits are the most potent and reliable policy tool for altering the savings rate. The third section of the paper examines a crucial savings policy question. Where will extra savings go? Both empirical estimates and econometric model simulations suggest that a surprisingly small share of induced extra savings will find their way into increased plant and equipment investment. A major effect of increased savings would be to reduce capital inflows and improve American competitiveness.

TI A Theory of Dual Labor Markets with Application to Industrial Policy, Discrimination and Keynesian Unemployment. **AU** Bulow, Jeremy; Summers, Lawrence H.

PD September 1985. **TI** Taxation and the Size and Composition of the Capital Stock: An Asset Price Approach. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1179; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 58. **PR** $3.50. **JE** 323, 313. **KW** Tax Reform. Capital Taxation. Incidence.

AB This paper develops an asset price approach to the analysis of capital taxation. The costs of adjusting capital stocks cause tax changes to have important impacts on the valuation of existing capital. The recapitalizations associated with tax reforms represent an important aspect of their incidence. These effects are studied within the context of an empirically calibrated general equilibrium model. The model extends previous work by explicitly treating the process of adjustment following tax reforms, treating in detail the relationship between tax rules and interest rates and examining the differential incidence effects of corporate tax reductions and investment incentives.

TI Poverty in America: Is Welfare the Answer or the Problem?. **AU** Ellwood, David T.; Summers, Lawrence H.

Swamy, P. A. V. B.

TI An Examination of Distributed Lag Model Coefficients Estimated with Smoothness Priors. **AU** Thurman, S. S.; Swamy, P. A. V. B.; Mehta, J. S.

PD February 1984. **TI** The Foundations of Econometrics - Are There Any?. **AU** Swamy, P. A. V. B.; Conway, Roger K.; von zur Muehlen, Peter. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 182; Special Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 50. **PR** No Charge. **JE** 211, 212. **KW** Foundations of Econometrics.

AB The reason why our title asks such a question is that few econometric textbooks clarify or even consider the foundations of econometrics. Hence, our purpose in this paper is to articulate these foundations. By "foundations" we mean the econometricians' view of the relationship between the economic theories upon which they base their models and the statistical methods they use to reach conclusions about the nature of the real world. The difficulties in understanding the foundations of econometrics are obvious and formidable. For example, the neoclassical economists' methodology may not be compatible with the foundations of statistics even though econometrics was designed to deal with the application of statistical procedures to economic problems. What is usually discussed under the rubric of economic methodology is more concerned with the general interests of philosophers of science than with the specific interests of econometric theorists 'Blaug (1980) and Boland (1982). In contrast, our view is that a proper study of econometric foundations should be concerned strictly with the foundations as manifested in the nature of econometric theories. In this paper, we argue that the accepted views of the appropriate methodologies for empirical investigation of neoclassical economic theories are inadequate to clarify the foundations of econometrics.

TI Estimating Distributed Lag Relationships Using Near-Minimax Procedures. **AU** Kashyap, A. K.; Swamy, P. A. V. B.; Mehta, J. S.; Porter, R. D.

PD April 1985. **TI** On a Neglected Measure of Multicollinearity. **AU** Swamy, P. A. V. B.; Mehta, J. S. **AA** Swamy: Board of Governors of the Federal Reserve System. Mehta: Temple University. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 188; Special Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 27. **PR** No Charge. **JE** 211. **KW** Multicollinearity. Measuring Multicollinearity.

AB A number of attempts have been made to specify precisely when multicollinearity is present in a regression model as well as to identify its sources, see Belsley (1984) and references therein. Somewhat surprisingly, the measure of multicollinearity employed by Theil (1971, Chapter 4) is completely overlooked in this literature. Theil's measure, unlike its competitors, is not blind to certain important sources and effects of multicollinearity. Accordingly, Theil's measure has certain virtues which are not possessed by other measures; it deserves explicit consideration as a measure of multicollinearity. We first relate the conventional definition of multicollinearity to an unconventional but useful definition of an orthogonal regression model. This relationship highlights the distinction between apparent and real multicollinearity. We then use insights from this relationship to show how a variety of measures used in the numerical analysis literature to detect and assess multicollinearity are deficient. This leads to the measure of multicollinearity considered by Theil, which is analyzed both theoretically and empirically.

Swamy, Subramanian

PD November 1985. **TI** Theoretical Aspects of Index Numbers. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1192; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 47. **PR** $3.00. **JE** 220, 227. **KW** Index Numbers. duality.

AB In this paper, I propose to rigorously investigate the foundations of the economic theory of index numbers. In a number of ways this present work represents an advance over the earlier study of Samuelson and Swamy (1974). In particular I propose to deal with duality of index numbers when homotheticity is not assumed. The analytical framework is utility theory, but extensions of results to production theory is almost always apparent.

Sweeney, Richard H.

PD November 1985. **TI** The Pricing of Interest Rate Risk: Evidence from the Stock Market. **AU** Sweeney, Richard H.; Warga, Arthur D. **AA** Sweeney: Claremont McKenna College. Warga: Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-38; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 33. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 311, 313. **KW** Interest Rate Risk. Arbitrage Pricing Theory. APT. APT Model.

AB This paper addresses the issue of whether firms are required to pay an ex-ante premium to investors for bearing the risk of interest rate changes. A two-factor APT model with the market and changes in the yield on long term government bonds as factors is employed. The paper shows that empirically most of the interest-sensitive stocks are in the utility industries, and that there is reasonable evidence that the interest factor is priced in the sense of the APT. Several sources for the interest sensitivity are considered, and regulatory lags are focused on as a likely candidate. Whether interest rate changes reflect primarily changes in expected inflation, changes in expected real rates, or both, is examined and empirical results are provided to support our conjectures.

Swego, G. P.

PD November 1985. **TI** Bank Asset Management and Financial Insurance. **AA** Faculty of Political Science, University of Rome. **SR** New York University Salomon Brothers Center Working Paper: 366; Salomon Brothers Center, Graduate School of Business Administration, New York University, 100 Trinity Place, New York, NY 10006. **PG** 19. **PR** $2.00. **JE** 314. **KW** Insurance. Financial Intermediaries. Financial Insurance.

AB The next years will witness an increasing competition and interaction between the two main types of financial intermediaries: banks and insurance companies. In this scenario we propose a theoretical framework derived from portfolio theory for analysing some problems related to financial insurance. The necessary conditions for the existence of an acceptable insurance premium that we have derived have, however, a wider scope and can be applied to a broad spectrum of insurance problems in which the risky event cannot be embedded in a broader class with deterministic properties.

Tahar, G.

TI La Relation Automisation-Emploi: Effet Productivite et Effet Qualite (Automization and Employment: The Productivity and Quality Effects). **AU** Petit, Pascal; Tahar, G.

Tarhan, Vefa

TI The Federal Reserve's New Operating Procedures: A Post Mortem. **AU** Spindt, Paul A.; Tarhan, Vefa.

Tauchen, George

PD July 1985. **TI** Statistical Properties of Generalized Method of Moments Estimates of Structural Parameters Using Financial Market Data. **AA** Department of Economics, Duke University. **SR** Duke Working Papers in Economics: 85-08; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 57. **PR** $1.50. **JE** 211, 313. **KW** Generalized Method of Moments. Sample Properties. Financial Markets.

AB The purpose of this paper is to investigate the small sample properties of the GMM procedure applied to financial market data. Among the questions to be addressed are the properties of the estimates and the quality of the asymptotic approximations for small versus large instrument sets. In addition the validity of the test of the overidentifying restrictions will be examined. Information on the small sample properties of this procedure is important; we should clearly be aware of the conditions under which the procedure can give biased and misleading point and interval estimates.

Terrell, Henry S.

PD July 1985. **TI** United States Banks' Lending to Developing Countries: A Longer-Term View. **AU** Terrell, Henry S.; Mills, Rodney H. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Papers: 255; Federal Reserve Board, 20th and C Streets, Washington, DC 20551. **PG** 12. **PR** No Charge. **JE** 433. **KW** United States Banks. International Lending. Developing Countries.

AB There was very little net new lending by United States banks to developing countries in 1983-84, following the heavy lending of preceding years. When non-spontaneous lending to Brazil, Mexico and some other Latin American countries is deducted, there was an absolute decline in United States banks' claims on these countries. However, estimates of net new lending based on changes in outstanding claims understate the amount of net new lending to these countries in 1983-84 by an amount on the order of $3-1/2 billion. This is because outstanding claims were reduced by a number of factors other than repayments; such factors included loan charge-offs, sales of claims to non-bank investors, the exercize of official guarantees, and the statistical effects of exchange rate changes. Other aspects of United States bank lending to developing countries in 1983-84 were an increased concentration of the outstanding claims at the largest banks, and an increased concentration of the claims towards the public sector of the borrowing countries.

Thurman, S. S.

PD February 1984. **TI** An Examination of Distributed Lag Model Coefficients Estimated with Smoothness Priors. **AU** Thurman, S. S.; Swamy, P. A. V. B.; Mehta, J. S. **AA** Thurman: Congressional Budget Office. Swamy: Board of Governors of the Federal Reserve System. Mehta: Temple University. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 185; Special Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 30. **PR** No Charge. **JE** 211. **KW** Distributed Lag Estimation. Shiller's Estimates. Smoothness Restrictions. Bayesian Estimates.

AB Shiller (1973) proposed a Bayes estimator for a distributed lag model in which the shape of the distributed response schedule is subjected to certain a priori "smoothness" restrictions. It is important to examine critically the theoretical assumptions which underlie Shiller's restrictions and seek, by way of enhancement, methods which utilize data based information to improve the robustness of Shiller's estimator. After deriving such a method, this paper computes the operating characteristics of the original and modified Shiller estimators to compare them with meaningful competitors for satisfactory performance.

Tirole, Jean

TI The Logic of Vertical Restraints. **AU** Rey, Patrick; Tirole, Jean.

Tobin, James

PD September 1985. **TI** Neoclassical Theory in America: J. B. Clark and Fisher. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 776; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 36. **PR** No Charge. **JE** 031. **KW** Neoclassical Economics. J. B. Clark. Irving Fisher.

AB The intellectual breakthroughs that mark the neoclassical revolution in economic analysis occurred in Europe around 1870. The next two decades witnessed lively debates in which the new theory more or less absorbed or was absorbed in the classical tradition that preceded and provoked it. In the 1890s, according to Joseph A. Schumpeter (1954, p. 754) there emerged "a large expanse of common ground and. a feeling of repose, both of which created, in the superficial observer, an impression of finality -- the finality of a Greek temple that spreads its perfect lines against a cloudless sky." Of course the temple was by no means complete. Its building and decoration continue to this day, even while its faithful throngs worship within. American economists were not present at the creation. To a considerable extent they built their own edifice independently, designing some new architecture in the process. They participated actively in the international controversies and syntheses of the period 1870-1914. At least two Americans were prominent builders of the "temple," John Bates Clark and Irving Fisher. They and others brought neoclassical theory into American journals, classrooms, and textbooks, and its analytical tools into the kits of researchers and practitioners. Eventually, for better or worse, their paradigm would dominate economic science in this country. This paper discusses their contribution.

Trivedi, Pravin K.

PD May 1985. **TI** An Empirical Study of Long-term Unemployment in Australia. **AU** Trivedi, Pravin K.; Hui, Weng T. **AA** *Australian National University.* **SR** Australian National University Working Papers in Economics and Econometrics: 124; Department of Economics, Australian National University, P.O. Box 4, Canberra A.C.T. 2601, AUSTRALIA. **PG** 31. **PR** No Charge. **JE** 824, 122, 131. **KW** Duration Dependence. Gross Flows. Discrete Hazard Rate. Real Wages. Long-Term Unemployment. Supply Shocks.

AB This paper has two parts. The first part concentrates on modelling transitions out of unemployment using aggregated gross flow data. Some equations are estimated using monthly transition probabilities for March-April 1984. This analysis produces evidence consistent with negative duration dependence but sheds no light on the role of macroeconomic factors. The second part focusses on this issue. A time-series analysis of the proportion of long-term unemployed using data for four age and sex groups provides evidence that a proportionately greater increase in long-term unemployment in Australia in the 1970s has been associated with reduction in job availability and the impact of certain supply shocks.

TI Econometric Models Based on Count Data: Comparisons and Applications of Some Estimators and Tests. **AU** Cameron, A. Colin; Trivedi, Pravin K.

TI Duration Dependence, Targeted Employment Subsidies and Unemployment Benefits. **AU** Hui, Weng T.; Trivedi, Pravin K.

Trognon, A.

TI A General Approach to Serial Correlation. **AU** Gourieroux, C.; Monfort, A.; Trognon, A.

Tuma, Elias H.

PD October 8, 1985. **TI** The Economics of Occupation in Palestine since 1948. **AA** Department of Economics, University of California, Davis. **SR** University of California at Davis Department of Economics Working Paper: 268; Department of Economics, University of California, Davis, CA 95616. **PG** 31. **PR** No Charge. **JE** 114, 121, 917. **KW** Military. Occupation. Theories. Effects. Middle East.

AB Our hypotheses are that military occupation of parts of Palestine by Israel, Jordan and Egypt between 1948 and 1967 and by Israel since 1967 have been economically

https://doi.org/10.1017/S095100790000005X Published online by Cambridge University Press

beneficial at least to the occupying party and that occupation before or after 1967 would not have been, nor will it in the future be terminated because of economic factors. Indeed, occupation may have been economically beneficial also to the occupied territories and this would also have discouraged withdrawal and encouraged continuation of the occupation. I suggest further that the economic policies and effects varied according to whether the occupation was intended as temporary or permanent, that the intentions changed over time, and that in both cases the net economic benefits were positive.

PD November 15, 1985. **TI** The Capitulations: The Middle East and Europe - A Reinterpretation. **AA** Department of Economics, University of California, Davis. **SR** University of California at Davis Department of Economics Working Paper: 269; Department of Economics, University of California, Davis, CA 95616. **PG** 33. **PR** No Charge. **JE** 044, 045. **KW** Capitulations. Ottoman Empire. Economic Impact.
AB This is an investigation of the theory and impact of the capitulations and an attempt to measure the magnitude and distribution of their effects on the Ottoman Empire. The emphasis has been on evolution of the institution in the early period and on its effects in the later period, especially the 18th and 19th centuries. The approach has depended mostly on qualitative and interdisciplinary analysis, though quantitative measures have been applied where possible. Contrary to previous conclusions, it seems doubtful that the Ottoman capitulations were voluntarily or freely entered into, or that they were simply to remove trade barriers and cement friendly relations between nations. One may also question the idea that they were simply agreements of extraterritoriality, or that they were based on reciprocity. On the contrary, it appears that the capitulations were a dynamic institution which changed according to the distribution of power among the parties which might compete for the same privileges, the incentives generated by the expected returns, the degree of risk in seeking and holding on to the capitulations, and the alternatives available. It is possible to visualize a system of capitulations starting as mild friendly favors and evolving into exploitive imposed concessions, which would eventually be abolished either because the conferring party has been defeated and dominated, or because of internal rebellion and determination to achieve genuine independence. An attempt has been made to formulate a theory of capitulations, identify the conditions which make exploitation feasible, and specifically the expected pattern of distribution of costs and benefits resulting therefrom. While it is evident that the Caps have had negative effects on the Ottoman Empire, it is less evident that the impact was sufficient to cause economic retardation or sustain underdevelopment. The impact, however, could have aggravated the weaknesses or strengthened the obstacles which faced the Empire especially in the last two centuries before its decline.

Tzannatos, Zafiris

PD July 1985. **TI** The Effect of Sex Anti-Discriminatory Legislation on the Variability of Female Employment in Britain. **AU** Tzannatos, Zafiris; Zabalza, Antonio. **AA** Tzannatos: University of Buckingham. Zabalza: University of Valencia. **SR** London School of Economics, Centre for Labour Economics Discussion Paper: 223; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 28. **PR** No Charge. **JE** 917, 813. **KW** Employment. Sex Discrimination Legislation. Britain.
AB This paper examines the variability of female employment in the 1970's period. It is based on data from the New Earnings Survey so that the behaviour of employment in the manual - non-manual and manufacturing - non-manufacturing sectors can be studied separately. At an aggregate level, the results are compared to those derived by using data from the Department of Employment to ensure that the results are not simply the product of possible sampling variation of the New Earnings survey. The findings of this paper, though far from conclusive, indicate that female employment vis-a-vis the male employment became more stable after 1976. There may be many reasons for the decrease in relative variability of female employment in the second half of the 1970s; however, the way our sample is split coincides with the implementation of the Equal Pay Act and Sex Discrimination Act which have become effective since 1976.

van Wijnbergen, Sweder

PD June 1985. **TI** Oil Price Shocks, Unemployment, Investment and the Current Account: An Intertemporal Disequilibrium Analysis. **AA** World Bank, Washington D.C. **SR** Centre for Economic Policy Research Discussion Paper: 65; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, England. **PG** 40. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 023, 431, 131. **KW** Stabilization Policy. Factor Price Changes. Disequilibrium. Keynesian Unemployment. Classical Unemployment.
AB We use an intertemporal model incorporating short-run labour and goods markets disequilibrium to analyse the consequences of oil price shocks for unemployment, investment and the current account. A dominant transfer element leads to Keynesian unemployment now and deterioration tomorrow in the final-goods terms of trade. A dominant supply-shock element leads to classical unemployment now and an improvement tomorrow in the final-goods terms of trade. Investment falls if there is classical unemployment but increases in the K-region under Putty-Clay technology. Current account deficits are larger in the K-region than in the C-region. If world interest rates fall, investment accelerates in the K-region but not in the C-region. We use these results to explain observed differences in response to oil shocks.

Vardal, Erling

TI Optimal Currency Basket in a World of Generalized Floating: An Application to the Nordic Countries. **AU** Edison, Hali J.; Vardal, Erling.

Villamil, Anne P.

PD October 1985. **TI** Price Discrimination Analysis of Monetary Policy: An Extension. **AA** Department of

Economics, University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 222; Economics Research Library, 525 Science Classroom Building, University of Minnesota, Minneapolis, MN 55455. **PG** 12. **PR** No Charge. **JE** 322, 313, 611. **KW** Nonuniform Pricing. Price Discrimination. Deficit Finance. Monetary Policy.

AB Similar assets with significantly different rates-of-return are observed in many financial markets. This is known as the rate of return paradox in monetary theory, and is explained in this paper as an optimal response by the government to an informational restriction. A general equilibrium model is constructed with heterogeneous agents and a government that must finance an exogenously determined, stationary deficit by issuing bonds or fiat currency. In addition to explaining the paradox, the analysis accomplishes the following: (i) the informational restriction helps justify the ruling out of lump sum taxation, and (ii) the government's financing problem is shown to be formally equivalent to a nonuniform pricing problem.

von zur Muehlen, Peter

TI The Foundations of Econometrics - Are There Any?. **AU** Swamy, P. A. V. B.; Conway, Roger K.; von zur Muehlen, Peter.

Vuong, Quang H.

TI A Note on the Independence of Irrelevant Alternatives in Probabilistic Choice Models. **AU** Bjorn, Paul A.; Vuong, Quang H.

TI Econometric Modeling of A Stackelberg Game with an Application to Labor Force Participation. **AU** Bjorn, Paul A.; Vuong, Quang H.

TI Parameterization and Two-stage Conditional Maximum Likelihood Estimation. **AU** Lien, Da Hsiang Donald; Vuong, Quang H.

Wall, Kent D.

TI Two Estimators for the APT Model when Factors are Measured. **AU** McElroy, Marjorie B.; Burmeister, Edwin; Wall, Kent D.

Wallace, Neil

TI Identification and estimation of a model of hyperinflation with a continuum of "sunspot" equilibria. **AU** Sargent, Thomas J.; Wallace, Neil.

Wallace, T. Dudley

TI Preliminary -- Test Estimation of the Error Variance in Linear Regression. **AU** Mikolajczyk, Judith A.; Giles, David E. A.; Wallace, T. Dudley.

Wan, H. Y. Jr

TI Common-Property Exploitations Under Risks of Resource Extinctions. **AU** Clemhout, S.; Wan, H. Y. Jr.

Warga, Arthur D.

PD October 1985. **TI** Cross Sectional Tests of Linear Factor Models: Some Diagnostic Checks on the Experimental Design. **AA** Graduate School of Business, Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Papers: FB-85-36; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 46. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 211, 313. **KW** Asset Pricing Models. APT. Arbitrage Pricing Theory. Market Factor. Factor Loadings.

AB It is argued in this paper that cross-sectional tests of linear factor models need to be assessed for potentially harmful collinearity among factor loadings. Relationships between factor loadings are largely determined by the choice of assets tested in the model (the experimental design) and there is a good deal of flexibility in how one goes about choosing these assets. A diagnostic procedure developed by David Belsley is discussed, and several illustrations of the procedure on existing tests of linear factor models are used to illustrate the value of these diagnostics to the researcher. A troubling conclusion is that there is not enough dispersion in market factor loadings in NYSE stocks to test for the pricing of a market factor.

TI The Pricing of Interest Rate Risk: Evidence from the Stock Market. **AU** Sweeney, Richard H.; Warga, Arthur D.

Watson, Mark W.

PD March 1985. **TI** Recursive Solution Methods for Dynamic Linear Rational Expectations Models. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1142; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 31. **PR** $2.50. **JE** 211. **KW** Dynamic Linear Rational Expectations Models. State Space Model.

AB This paper presents methods for recursively solving dynamic linear rational expectations models. The recursive solution method does not require that unobserved expectational variables are "solved out" of the model. Rather the recursive solution is formed from a state space representation of the model in which the unobserved expectations are components in the state vector. By considering this representation of the model, issues of non-uniqueness can be addressed by considering the set of nuisance parameters present in the state space representation and absent from the structural form of the model. This set of nuisance parameters completely characterizes the set of solutions. Side conditions, such as a transversality condition, which restrict the set of solutions impose constraints on the values of these parameters. We show how the likelihood function of the observed can be formed directly form the recursive solution. The unknown parameters can then be estimated by maximum likelihood methods without the closed-form solution of the model.

PD June 1985. **TI** Univariate Detrending Method With Stochastic Trends. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1158; Department of

Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 24. **PR** $2.00. **JE** 211, 023, 221. **KW** Detrending. Unobserved Components Model. Signal Extraction. Life Cycle Model.

AB This paper investigates issues involved in detrending economic time series, when the trend is modelled as a stochastic process. In particular, it considers univariate unobserved component models in which an observed series is additively decomposed into its trend, a random walk with drift, and a residual which follows a stationary stochastic process. Starting from the Wold decomposition for the observed series, three observationally equivalent decompositions are discussed. Optimal detrending methods are derived for the three models. It is shown that the optimal one-sided estimate of the trend is identical for all of the three observationally equivalent models. The paper also discusses the properties of the detrended series, with special attention paid to the use of these series in regression models. The methods are applied to three macroeconomic time series: GNP, Disposable Income, and Consumption Expenditures for Non-Durables. We find that by parameterising the stochastic processes generating these series in terms of the unobserved components model, sensible estimates of the trend are produced, and long run forecasts superior to those obtained by ARIMA models can be constructed. The detrended disposable income data together with the consumption data are used to test one variant of the life cycle hypothesis of consumption.

TI Applications of Kalman Filtering in Econometrics. **AU** Engle, Robert F.; Watson, Mark W.

Werlang, Sergio Ribeiro da Costa

PD November 20, 1985. **TI** The Consistency of Welfare Judgements with A Representative Consumer. **AU** Werlang, Sergio Ribeiro da Costa; Dow, James. **AA** Princeton University. **SR** Princeton Econometric Research Program Memoranda: 318; Princeton University, Econometric Research Program, 207 Dickinson Hall, Princeton, NJ 08544. **PG** 21. **PR** $1.50. **JE** 022, 024. **KW** Welfare. Representative Consumer.

AB This paper is about economies with a representative consumer. In general a representative consumer need not exist, although there are several well known sets of sufficient conditions under which one will. It is common practice, however, to use the representative consumer hypothesis without specifically assuming any of these. We show, firstly, that it is possible for the utility of the representative consumer to increase when every actual consumer is made worse off. This shows a serious shortcoming of welfare judgements based on the representative consumer. Secondly, in economies where this does not occur, there exists a social welfare function, which we construct, which is consistent with welfare judgements based on the utility of the representative consumer. Finally we provide a converse to Samuelson's 1956 representative consumer result, which relates it to Scitovsky's community indifference curves.

Wilde, Louis L.

PD October 1985. **TI** Equilibrium Search Models as Simultaneous Move Games. **AA** Division of the Humanities and Social Sciences, California Institute of Technology. **SR** Caltech Social Science Working Paper: 584; Division of the Humanities and Social Sciences, 228-77, Caltech, Pasadena, CA 91125. **PG** 48. **PR** No Charge. **JE** 022, 026, 611. **KW** Search Theory. Imperfect Information. Price Dispersion.

AB In many of the existing equilibrium search models, sellers as a group are leaders and buyers as a group are followers to the extent that the latter are assumed to know the distribution of prices but not the price-seller correspondence before they make their information acquisition decisions. A natural way to weaken this strong version of "rational expectations" is to treat the problem as a simultaneous move game in which buyers must make their information acquisition decisions before they see the actual distribution of prices. This paper explores the implications of this modification of the existing literature in the context of Salop and Stiglitz's well-known model of monopolistically competitive price dispersion (1977) and the model of equilibrium comparison shopping due to Wilde and Schwartz (1979). It considers both finitely many consumers and arbitrarily large numbers of consumers in both cases, and characterizes necessary and sufficient conditions for the existence of various mixed and pure strategy equilibria in each case. This yields a coherent integration of many of the known results as well as the derivation of a number of new results.

TI The Tax Compliance Game: Toward an Interactive Theory of Law Enforcement. **AU** Graetz, Michael J.; Reinganum, Jennifer F.; Wilde, Louis L.

Williamson, Jeffrey G.

TI Modeling Indian Migration and City Growth 1960-2000. **AU** Becker, Charles; Mills, Edwin; Williamson, Jeffrey G.

PD April 1985. **TI** The Urban Transition During the First Industrial Revolution: England, 1776-1871. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1146; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 87. **PR** $4.50. **JE** 044, 931, 121. **KW** British Industrial Revolution. Migration. Urbanization.

AB This paper reconstructs the urban transition in England during the First Industrial Revolution. Migration experience is the main focus: the magnitudes of the net flows are offered for the century 1776-1871, and these are broken down into age and sex categories. The experience is then compared with the contemporary Third World. While the traditional historical literature has typically characterized British labor markets during the industrial revolution as "failing", and while individuals have been described as "reluctant to move", the evidence instead suggests the contrary. English experience appears to look very much like that of the typical developing country, and the underlying economic explanations also appear to be the same.

PD July 1985. **TI** City Immigration, Selectivity Bias and Human Capital Transfers During The British Industrial Revolution. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic

Research Discussion Paper: 1171; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 46. **PR** $3.00. **JE** 044, 851, 823. **KW** Rural-to-Urban Migration. Capital Transfers. Industrial Revolution.

AB Industrialization is city based. Technological events and other forces tend to augment the demand for labor and capital in the city far more rapidly than in the countryside. Labor and capital supplies, on the other hand, tend to be abundant in rural areas, a result of centuries of gradual agrarian-based pre-industrial development. One of the fundamental problems of development during industrial revolutions is, therefore, to reconcile excess factor demands in the cities with excess factor supplies in the countryside. How do labor and capital markets cope with the disequilibrium? How large are the resource transfers which actually take place? Do labor and capital markets fail, forcing cities to rely too heavily on local factor supplies, raising their cost and thus choking off city employment growth and accumulation? These questions are as old as the British industrial revolution itself, yet we have no adequate accounting of the magnitudes of the capital and labor transfers which took place between countryside and city from the 1780s to well into the mid-Victorian era. This paper makes an effort to fill that gap.

PD August 1985. **TI** Did Rising Emigration Cause Fertility to Decline in 19th Century Rural England? Child Costs, Old-Age Pensions and Child Default. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1172; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 46. **PR** $3.00. **JE** 044, 851, 823. **KW** Child-Asset Effect. Children as Investments. Fertility. Rural Fertility Decline. Britain. Default Rates.

AB This paper will offer some evidence on the likely rise in rural children's "default rates" as emigration surged during the 19th century. Section II surveys some views of rural fertility in which rising child default rates might play a significant quantitative role. Section III documents British historical experience with rural emigration up to the 1870s and uses that evidence to infer trends in the default rate. Section IV constructs estimates of the economic value of rural children. With those estimates in hand, Section V explores the impact of changes in the default rate on rural children's asset value. My hope is that such evidence may serve to stimulate some new thinking about the causes of rural fertility decline and the potential quantitative importance of the pension effect on fertility behavior during the demographic transition.

PD September 1985. **TI** Migrant Earnings in Britain's Cities in 1851: Testing Competing Views of Urban Labor Market Absorption. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1176; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 48. **PR** $3.00. **JE** 823, 044, 941. **KW** Migration. Britain. Rural-to-Urban Migration.

AB The evidence presented here seems to support the view that Britain's cities absorbed the flood of migrants with apparent ease. With the exception of the Irish, male immigrants into Britain's cities did not exhibit lower earnings than non-immigrants. Nor did they exhibit higher unemployment rates. They also exhibited the same age-earnings experience. The evidence seems, therefore, to be inconsistent with the view that migrants entered the city in response to expected future high earnings, suffering unemployment or underemployment in the traditional low-wage service sectors while they waited for the better jobs. Rather, they appear to have been motivated by current job prospects, and those prospects appear to have been confirmed. This is not to say that migrants were never unemployed or that they could not be found in the low-wage service sectors in large numbers. Rather, they simply had the same experience as non-migrants.

Woo, Wing T.

PD December 17, 1985. **TI** Some Evidence of Speculative Bubbles in the Foreign Exchange Markets. **AA** Department of Economics, UC Davis. **SR** UC Davis Economics Department Working Paper: 270; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 20. **PR** No Charge. **JE** 431, 441, 212. **KW** Speculation. Destabilising Speculation. Foreign Exchange Markets. Exchange Rates. Floating Exchange Rates.

AB We suspect that the primary reason for the usual poor performance of bilateral portfolio models is the use of specifications that ignore the existence of speculative bubbles. The maintained assumption of rational expectations allows us to differentiate between two types of deviations from the value dictated by the fundamentals: speculative bubbles and error terms. A rational speculative bubble specifies that its trend term is an exact function of the structural parameters of the asset demand equation. For the three bilateral exchange rates we examined, the bubble-augmented portfolio model passes the usual statistical tests, and performs better than its unconstrained vector autoregression equivalent in out-of-sample dynamic simulation. When the model was re-estimated with (i) the bubbles removed, and (ii) with ordinary dummies in place of the constrained trend, the parameter estimates were invariably insignificant. As only two bubbles were found in each bilateral rate, we conclude that destabilizing speculation is not the behavioral norm in foreign exchange markets.

PD December 17, 1985. **TI** Some Evidence of Speculative Bubbles in the Foreign Exchange Markets. **AA** Department of Economics, UC Davis. **SR** UC Davis Research Program in Applied Macroeconomics and Macro Policy: 34; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 20. **PR** No Charge. **JE** 431, 441, 212. **KW** Speculation. Destabilising Speculation. Foreign Exchange Markets. Exchange Rates. Floating Exchange Rates.

AB We suspect that the primary reason for the usual poor performance of bilateral portfolio models is the use of specifications that ignore the existence of speculative bubbles. The maintained assumption of rational expectations allows us to differentiate between two types of deviations from the value dictated by the fundamentals: speculative bubbles and error terms. A rational

speculative bubble specifies that its trend term is an exact function of the structural parameters of the asset demand equation. For the three bilateral exchange rates we examined, the bubble-augmented portfolio model passes the usual statistical tests, and performs better than its unconstrained vector autoregression equivalent in out-of-sample dynamic simulation. When the model was re-estimated with (i) the bubbles removed, and (ii) with ordinary dummies in place of the constrained trend, the parameter estimates were invariably insignificant. As only two bubbles were found in each bilateral rate, we conclude that destabilizing speculation is not the behavioral norm in foreign exchange markets.

Woroch, Glenn A.

PD September 1985. **TI** Credible Pricing and the Possibility of Harmful Regulation. **AA** Department of Economics, University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 20; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 27. **PR** No Charge. **JE** 022, 611. **KW** Second-Best Pricing Rules. Strategic Investment. Credible Pricing.

AB This paper examines second-best pricing rules that issue "credible" responses to a firm's strategic investment. Provided that capital is a normal input, the firm is able to raise price by reducing investment. As a result, the private cost of capital exceeds the social cost, inducing the firm not only to install insufficient capacity, but to under-capitalize as well. An algebraic example demonstrates that credible pricing may reduce welfare below the monopoly level. Also, "deregulation" of income transfers (in the form of fixed fees) may entail a Pareto improvement. Regrettably, detailed demand and cost information is required to diagnose harmful regulation. The alternative of investment regulation causes over-capitalization but always dominates monopoly. It coincides with optimal rate-of-return regulation, comparing this practice favorably with marginal-cost pricing.

Wright, Randall

PD October 1984. **TI** Job Search and Cyclical Unemployment. **AA** Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 337; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 37. **PR** No Charge. **JE** 821, 822. **KW** Job Search. Signal Extraction.

AB A model economy is described which integrates job search and signal extraction analysis. Equilibrium differs from search models without signal extraction in that, even with a fixed real sector, unemployment fluctuates stochastically. It differs from standard signal extraction models because search introduces persistence. In fact, unemployment follows a second order difference equation with coefficients that are functions of current and lagged values of the stochastic shocks. Thus, the model has the potential to mimic actual business cycle data, despite the fact that the underlying shocks are i.i.d. Policy implications are discussed.

PD July 1985. **TI** Search, Layoffs and Reservation Wages. **AA** Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 338; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 13. **PR** No Charge. **JE** 821. **KW** Reservation Wage. Layoff Rates. Job Search.

AB We show that as long as quitters and those who are laid off are treated symmetrically, the Burdett-Mortensen-Hey-Mavromaras result survives: The reservation wage is independent of the layoff rate drawn from a given distribution (although a change in the distribution of layoff rates changes the reservation wage). When quitters must sit out while those who are laid off can sample immediately, as in the Sargent-Wright models, reservation wages are a decreasing function of the layoff rate. In the opposite case, reservation wages are an increasing function of layoff rates. Also, while it is always the case, as Burdett and Mortensen argue, that at the reservation wage an agent is indifferent between working and continuing to search, this need not imply that the probability of a future layoff is irrelevant.

PD August 1985. **TI** Unemployment Insurance and the Dynamics of Voting. **AA** Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 340; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 34. **PR** No Charge. **JE** 821, 822. **KW** Unemployment Insurance. Incomplete Insurance. Voter Heterogeneity. Voting Dynamics.

AB We demonstrate that even in an economy which is not plagued by aggregate uncertainty, incentive problems, or equity considerations based on intrinsic heterogeneity, in spite of strict risk aversion we should expect a steady state outcome of less than complete unemployment insurance. This is due to the fact that employed workers always prefer incomplete insurance, and the premise that at any point in time a voting majority in the economy is employed. There is a (rational) inconsistency about voter choices, in the sense that as individuals change states over time they change their preferences and ballots. It is a feature of steady state that in the aggregate, voter preferences are constant, so that a scheme once established can always have (dynamic) majority backing. When the policy choice involves compensation functions, where benefits depend on the number of periods that an agent has been out of work, it is shown that this function is decreasing in duration.

PD August 1985. **TI** Expectation Dependence of Random Variables, with an Application in Portfolio Theory. **AA** Department of Economics, Cornell University. **SR** Cornell Department of Economics Working Paper: 339; Department of Economics, Uris Hall, Cornell University, Ithaca, NY 14853. **PG** 27. **PR** No Charge. **JE** 313, 211. **KW** Portfolio Diversification. Dependence.

AB The simplest notion of dependence between two random variables X and Y is their covariance. There are many other concepts of stochastic dependence, and they are typically defined through the joint distribution or density function of the variables. Here we discuss some concepts of dependence defined through the conditional expectation operator, examine their properties, and show how they fit into the heirarchy of existing conditions. One condition, called negative expectation dependence, is shown to hold if and only if cov'X,f(Y) <= 0 for every increasing function f. It turns out that a form of expectation dependence is exactly the right restriction for a classic problem in portfolio theory. The problem is to decide under what conditions the maxim "it pays to diversify" is in fact generally valid. Precisely, under what restrictions on the joint distribution of asset returns should all risk averse investors wish to hold a positive amount of every asset in their expected utility maximizing portfolios. The theorem which establishes the equivalence of negative expectation dependence and the sign of cov'X,f(Y) provides a simple, elegant answer to this question, and the conditions themselves have a reasonable, intuitive economic interpretation.

Yannelis, Nicholas C.

TI Equilibria in Abstract Economics with a Measure Space of Agents and with an Infinite Dimensional Strategy Space. **AU** Kim, Taesung; Prikry, Karel; Yannelis, Nicholas C.

TI On a Carathodory-type selection theorem. **AU** Kim, Taesung; Prikry, Karel; Yannelis, Nicholas C.

PD October 15, 1985. **TI** On Cores of Weakly Balanced Games Without Ordered Preferences. **AA** Department of Economics, University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 224; Economics Research Library, 525 Science Classroom Building, University of Minnesota, Minneapolis, MN 55455. **PG** 34. **PR** No Charge. **JE** 026. **KW** Weakly Balanced Games. Selfish Core. Strong Equilibria. Exchange Economies. Alpha-Core. Coalitional Production Economies.

AB A new concept of balancedness for games in normal form is introduced, called weak balancedness. It is shown that the alpha-core of a weakly balanced game with an infinite dimensional strategy space and without ordered preferences is nonempty. Using this result we prove core existence theorems for economies (either exchange economies or coalitional production economies) with infinitely many commodities and without ordered preferences, by converting the economy to a game and showing that the derived game is weakly balanced. Surprisingly, no convexity assumption on preferences is needed to demonstrate that the game derived from the economy is weakly balanced.

You, Victor L.

PD October 1985. **TI** Mergers and Bidders' Wealth: Managerial and Strategic Factors. **AU** You, Victor L.; Caves, Richard E.; Henry, James S.; Smith, Michael M. **AA** Department of Economics, Harvard University. **SR** Harvard Institute for Economic Research Discussion Paper: 1189; Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138. **PG** 32. **PR** $2.50. **JE** 611, 512. **KW** Mergers. Motives of Managers.

AB The power of event studies of mergers has not previously been turned to explaining one of the most striking facts about these transactions: that the bidding firms' shareholders on average obtain little benefit and in many cases suffer losses of wealth. We find substantial statistical evidence that such losses are most likely to be inflicted when managers have the motive and opportunity to pursue their own utility at the expense of the wealth of their shareholders. These conditions are indicated by low proportions of the bidding firm's shares held by its managers and large proportions of inside directors on the board. We do not, however, find significant influence of the absolute importance of shares of the bidding firm in the wealth of its managers. We also establish that managers inflict losses on their shareholders by picking mergers with little potential for creating value rather than overpaying for what would otherwise be good mergers. And we obtain the incidental result that low-value mergers are more likely to be undertaken by firms with slow-growing earnings, perhaps because of efforts to maintain opportunities and challenges for the managerial cadre. We also found some confirmation that the value created by a merger for the bidder's shareholders is increased by its synergistic potential, and is reduced by the prospect of large reorganization costs associated with a peer merger.

Zabalza, Antonio

TI The Effect of Sex Anti-Discriminatory Legislation on the Variability of Female Employment in Britain. **AU** Tzannatos, Zafiris; Zabalza, Antonio.

Zabel, Edward

PD June 1985. **TI** The Anatomy of a Monopolistic Market. **AA** Department of Economics, University of Florida. **SR** University of Florida Center for Econometrics and Decision Sciences Discussion Papers: 120; Center for Econometrics and Decision Sciences, College of Business Administration, University of Florida, Gainesville, FL 32611. **PG** 26. **PR** No Charge. **JE** 022. **KW** Monopolistic Market. Backlogged Demands.

AB This paper considers trading in a monopolist market when unsatisfied demands are backlogged and provides a complete description of market activities. In a stochastic, discrete time, infinite horizon model the outcomes describe properties of optimal behavior, distinguish transitory and permanent states of the system, provide properties of the system equilibrium and examine adjustments in the system variables. These general properties are derived under reasonably general assumptions. More detailed properties are obtained in a linear-quadratic structure which, in particular, facilitates the characterization of stationary probability distributions of the system variables. Some comments are also made about the question of price rigidity in concentrated industries.

Zilcha, Itzhak

PD August 1985. **TI** Characterizing the Efficient Set when Preferences are State Dependent. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Papers: 28-85; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 10. **PR** No Charge. **JE** 024, 026, 022. **KW** Efficient Set. State-Dependent Preferences.

AB This note characterizes by prices the set of all risk aversely efficient random variables when decision-makers are maximizing expected utility but preferences are state-dependent.

TI Discriminating Monopoly, Forward Markets and International Trade. **AU** Eldor, Rafael; Zilcha, Itzhak.