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.)

Abel, Andrew

PD June 1987. **TI** An Analysis of Fiscal Policy Under Operative and Inoperative Bequest Motives. **AA** The Wharton School, University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2298; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 321, 023, 915. **KW** Bequest Motive. Fiscal Policy. Social Security.

AB This paper presents a general equilibrium model with logarithmic preferences and technology. If the non-negativity constraint on bequests is strictly binding, then the bequest motive is characterized as inoperative. After determining the conditions for operative and inoperative bequest motives, the paper examines the effect of pay-as-you-go social security on the stochastic evolution of the capital stock. If the non-negativity constraint on bequests is strictly binding, then an increase in social security reduces the unconditional long-run expected capital stock. If the social security taxes and benefits are large enough, then the non-negativity constraint ceases to bind, and further increases in social security have no effect. This paper extends previous analyses by examining bequest behavior outside of the steady state and by allowing a non-degenerate cross-sectional distribution in the holding of capital.

PD August 1987. **TI** Operative Gift and Bequest Motives. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2331; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 322, 921. **KW** Ricardian Equivalence. Bequests. Gifts. Lump-Sum Taxes. Altruistic Motives. Consumption. Capital Accumulation. Intergenerational Transfers.

AB The Ricardian Equivalence Theorem, which is the proposition that changes in the timing of lump-sum taxes have no effect on consumption or capital accumulation, depends on the existence of operative altruistic motives for intergenerational transfers. These transfers can be bequests from parents to children or gifts from children to parents. In order for the Ricardian Equivalence Theorem to hold, one of these transfer motives must be operative in the sense that the level of the transfer is not determined by a corner solution resulting from a binding non-negativity constraint. This paper derives conditions that determine whether the bequest motive will be operative, the gift motive will be operative, or neither motive will be operative in a model in which consumers are altruistic toward their parents and their children.

Abreu, Dilip

PD February 1987. **TI** The Structure of Nash Equilibrium in Repeated Games with Finite Automata. **AU** Abreu, Dilip; Rubinstein, Ariel. **AA** Abreu: Harvard University. Rubinstein: The Hebrew University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: TR505; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 40. **PR** $4.00. **JE** 026. **KW** Strategic Complexity. Repeated Games. Moore Machines. Nash Equilibrium. Automata. Machine Game.

AB We study two player infinitely repeated games in which players seek to minimize the complexity of their strategies. Players' preferences are assumed to depend both on repeated game payoffs and the complexity of the strategies they use. The model considered is that of Rubinstein 'JET, 1986. Players simultaneously choose finite automata (Moore-machines) to implement their strategies. The complexity of a strategy is measured by the number of states in the automation used to play the stretegy. We analyze Nash equilibrium in the "machine game." Strong necessary conditions on the structure of equilibrium machine pairs are derived, under very general assumptions about how players trade off repeated game payoffs against implementation costs. These structural results in turn place significant restrictions on equilibrium payoffs. We provide a complete characterization for symmetric 2 X 2 stage games, when repeated game payoffs are evaluated according to the limit of means, and complexity costs enter preferences lexicographically. We find that all Nash equilibrium payoffs must lie on one of the two "diagonals" of the payoff matrix. Furthermore, "auxiliary" diagonal payoffs are attainable if and only if a certain condition is satisfied. Taken together our results suggest that the introduction of implementation costs results in a striking discontinuity in the Nash equilibrium set in terms of strategies, plays and payoffs.

Aizenman, Joshua

PD April 1987. **TI** Successful Adjustment in a Multi-Sectoral Economy. **AA** Graduate School of Business, University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2202; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 824, 823, 321, 522. **KW** Fiscal Reform. Wage Policy. Unemployment Policy. Labor Mobility. Credibility. Investment.

AB This study analyzes the adjustment to a fiscal reform

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in a dependent economy. It evaluates the economic factors that are relevant for making the choice between a cut in employment versus a cut in wages as a means of reducing the fiscal wage bill. We demonstrate that in the presence of costly short-run mobility of labor there is a natural advantage to a wage policy over employment policy. Fiscal deficits can be dealt with successfully by a wage policy and with the corresponding adjustment in government demand. These policies may have only marginal consequences on production of traded goods in the short run in the presence of costs of adjustment. Over time the gain in the production of traded goods is determined by the credibility of the fiscal reform. It is shown that the absence of credibility may have major consequences on the adjustment, because it will depress the magnitude of the private investment associated with the fiscal reform.

PD May 1987. **TI** Country Risk and Contingencies. **AA** University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2236; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 443, 433, 441, 421, 431, 432. **KW** Credit Market Policies. Default Penalties. Debtor Nations. International Lending. Interest Rates.

AB The purpose of this paper is to study the role of credit market policies in the presence of country risk from the nationalistic and the global point of view, to address the role of endogenous default penalties that are contingent upon the intensity of default on the part of the borrowing nation, and to evaluate the effects of contingency plans that make the interest rate dependent upon variables that are correlated with the default penalty. This is done by considering an economy where a default will trigger a penalty, in the form of either a trade embargo or effective exclusion of the defaulting nation from future borrowing. Assuming costly enforcement of the penalty we show that the optimal borrowing tax from the global point of view exceed the optimal borrowing tax from the nationalistic point of view. The economic principle guiding the borrowing tax is that in the presence of country risk an activity that changes the probability of default generates thereby an externality. This principle applies also for investment: if a given investment reduces (increases) the probability of default it generates positive (negative) externality. Consequently, the social interest rate associated with this activity is lower (higher) than the private one, calling for a subsidy (tax) on borrowing used to finance that investment. Next, we evaluate the role of endogenous penalties. We design alternative incentive schemes by varying the responsiveness of the penalty to the intensity of default, without changing the total cost applied in case of a complete default. We turn then to an assessment of the welfare effect of plans that make the interest rate contingent upon realization of shocks. We conclude by deriving the optimal borrowing plan for an example where the source of uncertainty is a stochastic terms of trade. It is shown that allowing for contingent payment has the effect of raising the credit ceiling, raising the expected income, and stabilizing income across states.

PD July 1987. **TI** Costly Adjustment and Limited Borrowing: A Welfare Analysis of Policies to Achieve External Balance. **AU** Aizenman, Joshua; Selowsky, Marcelo. **AA** Aizenman: University of Chicago. Selowsky: The World Bank. **SR** National Bureau of Economic Research Working Paper: 2315; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 441, 443, 433. **KW** International Credit Market. Capital Market. Credit Rationing. Depreciation. Devaluation. Exchange Rates. Capital Flows.

AB This paper develops an analytical framework for the analysis of adjustment to adverse shocks in the presence of limited access to the international credit market. We consider an economy producing traded and non-traded goods and experiencing a permanent, unanticipated drop in the availability of external resources. A direct effect of the shock is that previous consumption and production patterns are not feasible any more, and the economy consequently must undergo an adjustment that will allow it to regain its external balance. We introduce several frictions in the form of time-dependent reallocation costs and nominal labor contracts. We assess the welfare consequences of restricted access to the capital market by comparing the welfare loss induced by the drop in income between the cases of credit rationing and perfect access to international credit. Our analysis demonstrates that the effect of limited access to international credit is to increase the welfare loss due to nominal contracts, consequently necessitating a larger devaluation. We conclude that capital flows and credit assistance can have substantial benefits in reducing the welfare cost of adjustment to adverse real shocks.

Alesina, Alberto

PD July 1987. **TI** A Positive Theory of Fiscal Deficits and Government Debt in a Democracy. **AU** Alesina, Alberto; Tabellini, Guido. **AA** Alesina: Carnegie-Mellon and National Bureau of Economic Research. Tabellini: University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2308; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 322, 321, 025. **KW** Budget Deficit. National Debt. Fiscal Policy. Policymakers. Deficits Bias. Democratic Government.

AB This paper considers an economy in which policymakers with different preferences concerning fiscal policy alternate in office as a result of democratic elections. It is shown that in this situation government debt becomes a strategic variable used by each policymaker to influence the choices of his successors. In particular, if different policymakers disagree about the desired composition of government spending between two public goods, the economy exhibits a deficits bias. Namely, in this economy debt accumulation is higher than it would be with a social planner. According to the results of our model, the equilibrium level of government debt is larger: the larger is the degree of polarization between alternating governments; and the more likely it is that the current government will not be reelected. The paper has empirical implications which may contribute to explain the current fiscal policies in the United States and in several other countries.

Aliprantis, Charalambos D.

PD April 1987. **TI** Equilibria in Exchange Economies with a Countable Number of Agents. **AU** Aliprantis, Charalambos D.; Brown, Donald J.; Burkinshaw, Owen. **AA** Brown: Department of Economics, Yale University. Aliprantis and Burkinshaw: Department of Mathematics, IUPUI, Indianapolis, IN. **SR** Yale Cowles Foundation Discussion Paper: 834; Cowles Foundation for Research in Economics, 30 Hilhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. **PG** 39. **PR** No Charge. **JE** 021, 023, 213. **KW** Overlapping Generations. Existence of Equilibria. Riesz Spaces. General Equilibrium.

AB The existence of equilibria is established in an overlapping generations exchange economy, where each generation lives for two periods and the commodity space is the positive cone of an infinite dimensional Riesz space. In particular, we establish the existence of equilibria in the stochastic overlapping generations model, i.e., we establish the existence of equilibria when the commodity space in each period is L infinity equipped with the Mackey topology T(L infinity, L1).

PD June 1987. **TI** Valuation and Optimality in Exchange Economies with a Countable Number of Agents. **AU** Aliprantis, Charalambos D.; Brown, Donald J.; Burkinshaw, Owen. **AA** Aliprantis and Burkinshaw: IUPUI. Brown: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 838; Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 17. **PR** No Charge. **JE** 021, 024. **KW** Welfare Theorem. Overlapping Generations Model. Pareto Optimality. Competitive Equilibrium.

AB We present versions of the two fundamental welfare theorems of economics for exchange economies with a countable number of agents and an infinite dimensional commodity space. These results are then specialized to the overlapping generations model.

Allen, Benjamin

TI A Comparative Study of the Trucking Industries of the United States of America and Poland. Part A. An Overview of the Trucking Industry in Poland: 1975-84. **AU** Liberadzki, Boguslaw; Allen, Benjamin.

PD May 1987. **TI** A Comparative Study of the Trucking Industries of the United States of America and Poland. Part B. An Overview of the Trucking Industry in the United States of America. **AU** Allen, Benjamin; Liberadzki, Boguslaw. **AA** University of Illinois. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1361; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 40. **PR** No Charge. **JE** 615, 053. **KW** Trucking. Transportation System. Poland. United States. Freight.

AB This paper along with a companion working resulted from collaborative work of an economist from Poland and an economist from the United States of America (USA) that compares the trucking industries of Poland and the United States of America. The companion working paper is Part A entitled, "An Overview of the Trucking Industry in Poland: 1975-1984." This paper almost exclusively focuses on the trucking industry in the United States of America. The paper attempts to provide a picture of the role and nature of the trucking industry in the United States of America for transportation economists not familiar with the transportation industries in the United States of America. The interrelationships between firms in the private sector, which own and operate the trucking equipment, and the government sector, which provides the infrastructure and regulates the industry, are analyzed. The cost and operational characteristics of the various types of trucking firms are discussed. Selected important policy and managerial issues such as the high costs and lack of availability of insurance are also presented and briefly discussed.

Allen, Franklin

PD 1985. **TI** Capital Structure and Imperfect Competition in Product Markets. **AA** Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 189; University of Pennsylvania, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 37. **PR** No Charge. **JE** 611, 521, 522. **KW** Bankruptcy. Capital Structure. Imperfect Competition. Duopoly. Investment. Finance.

AB A linear duopoly model is used to consider investment and financing decisions. Bankruptcy is assumed to cause a delay in investment which is not costly in itself. However, the imperfect competition in the product market means this delay puts the bankrupt firm at a strategic disadvantage which forces it to either partially or completely liquidate. Since this is costly, firms use only a limited amount of debt despite the corporate tax advantage it enjoys. Equilibrium can be symmetric or asymmetric. In the latter case similar firms have different capital structures.

Allen, Robert C.

PD April 1987. **TI** The "Capital Intensive Farmer" and the English Agricultural Revolution: A Reassessment. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-11; Department of Economics, University of British Columbia #997 - 1873 East Mall, Vancouver, B.C. V6T 1W5. **PG** 39 pgs. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 044, 716, 717, 621. **KW** Agriculture. Economic History. England.

AB The Quesnay-Young theory of the capital intensive farmer has not done well in the tests to which we have subjected it. Large scale farmers did not use more capital per acre than small farmers. Young's data show that capital per acre did not vary with size among arable farms, and the probate inventories show large farmers used less livestock per cropped acre than small farmers. The latter result is easier to account for than Young's hypothesis if rural capital markets were as rudimentary as he presumed. Large farmers were no more likely to adopt modern crops than were small farmers. Young's survey established this truth for clover and turnips in the eighteenth century, while the inventories established it for peas and beans in the sixteenth and seventeenth centuries. Finally, there is no evidence that large farmers reaped higher yields than small farmers. That is the reasonable conclusion to be

drawn from Young's own data, although, as we saw, they do not provide good information on this point. The probate inventories, however, were definitive in showing no correlation between size and yield.

PD April 1987. **TI** Entrepreneurship, Total Factor Productivity, and Economic Efficiency: Landes, Solow, and Farrell Thirty Years Later. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-10; Department of Economics, University of British Columbia #997 - 1873 East Mall, Vancouver, B.C. V6T 1W5. **PG** 29. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 226, 041, 051, 621. **KW** Productivity Measurement. Technical Progress. Efficiency. Growth Accounting.

AB We have been able to integrate Farrell's distinction between price and technical efficiency into the standard theory of productivity measurement that derives from Solow. This allows us to measure inefficiency more thoroughly than the conventional approach. Indeed, in the case of the pre-World War I British steel industry, we found evidence of price inefficiency. This kind of inefficiency was not detected in earlier investigations due to their assumptions. Landes' intuition that total factor productivity indices were biased against the hypothesis of entrepreneurial failure is, therefore, correct.

Allen, Stephen G.

PD April 1987. **TI** Relative Wage Variability in the United States, 1860-1983. **AA** North Carolina State University. **SR** National Bureau of Economic Research Working Paper: 2221; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 042, 023. **KW** Wages. United States. Wage Rigidity. Firms. Macroeconomic Model.

AB This paper examines the magnitude of changes in relative wages across industries between 1860 and 1983 and analyzes the macroeconomic determinants of such changes at different intervals during this period. The variance across industries in wage growth was at least four times larger before 1948 than afterward. Except for smaller year-to-year variability in output growth across industries after 1948, the macroeconomic factors examined cannot account for this increased rigidity of relative wages. Increases in average establishment size and improved communication of wage trends are probably partially responsible for the observed increase in relative wage rigidity. No single macroeconomic model was consistent with the year-to-year fluctuations in relative wage rigidity in every historical period examined.

PD July 1987. **TI** Declining Unionization in Construction: The Facts and The Reasons. **AA** North Carolina State University. **SR** National Bureau of Economic Research Working Paper: 2320; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 634, 831, 824, 825. **KW** Unions. Contractors. Construction Industry. Wages. Earnings. Productivity.

AB This paper documents and examines the forces behind the decline of unionization in the construction industry. The proportion of construction workers belonging to unions has dropped from slightly less than one-half in 1966 to less than one-third in 1984. The employment share of union contractors has declined even further because of the fraction of union members working in the open shop rose from 29 to 46 percent between 1973 and 1981. Initially, an important factor in the initial decline in percentage unionized was the growth in the union-nonunion wage gap between 1967 and 1973. However, the gap did not widen any further after 1973 and actually has narrowed substantially since 1978. A key subsequent factor has been the erosion of the productivity advantage of union contractors, which dropped substantially between 1972 and 1977 and vanished by 1982. The decline of unionization is unrelated to changes in worker characteristics or changes in the mix and location of construction activity.

Alogoskoufis, George

PD June 1987. **TI** Competitiveness, Oil Prices and Government Expenditure in the United Kingdom Business Cycle. **AA** Department of Economics, Birkbeck College. **SR** Centre for Economic Policy Research Discussion Paper: 184; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 28. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 131, 431, 322, 421. **KW** Competitiveness. Oil Prices. Business Cycles. Fluctuations. U.K.

AB In this paper I estimate and test a model of the effects of competitiveness, oil prices and government expenditure on output fluctuations in the United Kingdom. The model is based on the distinction between traded and non-traded goods, the latter being produced in both the private and public sectors. The model can account for the properties of the data, insofar as it cannot be rejected by either mis-specification or specification tests. On the basis of the estimates it appears that competitiveness and government expenditure have been equally important independent sources of output fluctuations, both before and after 1973. As one would have expected, however, real oil prices were the most important contributor in the post-1973 period.

PD June 1987. **TI** Monetary Policy and the Informational Implications of the Phillips Curve in an Open Economy. **AA** Department of Economics, Birkbeck College. **SR** Centre for Economic Policy Research Discussion Paper: 183; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 30. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 311, 134, 211, 431, 023. **KW** Monetary Policy. Phillips Curve. Open Economy. Wages. Exchange Rates.

AB In this paper I examine optimal monetary policy and the informational implications of the Phillips curve in a stochastic model of a small open economy. It is assumed that the economy produces both traded and non-traded goods, that capital mobility is perfect and that the economy faces a variety of unanticipated transitory disturbances to demand, supply and the foreign sector. It is also assumed that wages are not only indexed to the price level, but also respond to the state of the labour market. If the authorities have only imperfect information

about current disturbances, this gives independent informational content to wages, over and above the information conveyed by other aggregate prices. The optimal policy in this model involves not only intervention in the foreign exchange market but also accommodation of wage growth, as the exchange rate and wages are only partially correlated signals about the unobserved disturbances.

Altshuler, Rosanne

PD June 1987. **TI** The Significance of Tax Law Asymmetries: An Empirical Investigation. **AU** Altshuler, Rosanne; Auerbach, Alan J. **AA** Altshuler: Columbia University. Auerbach: University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2279; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 522, 521, 541. **KW** Taxes. Tax Credits. Tax Rates. Investment Incentive. Corporate Tax.

AB This study uses tax return data for United States nonfinancial corporations for the period 1971-82 to estimate the importance of restrictions on the ability of firms to use tax credits and to obtain refunds for tax losses. Our results suggest that the incidence of such unused tax benefits increased substantially during the early 1980s, though we do not find these increases attributable to increased investment incentives during that period. Using estimates of a three-state (taxable, not taxable, partially taxable) transition probability model, we calculate the effective tax rates on various types of investments undertaken by firms differing with respect to tax status. We confirm previous findings about the marginal tax rate on interest payments, and that it is important to distinguish current tax payments from marginal tax rates in estimating the incentive to invest.

Altug, Sumru

PD July 1987. **TI** Household Choices in Equilibrium. **AU** Altug, Sumru; Miller, Robert A. **AA** Altug: Federal Reserve Bank of Minneapolis and University of Minnesota. Miller: Carnegie-Mellon University and NORC. **SR** Federal Reserve Bank of Minneapolis Research Department Working Paper: 341; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Avenue, Minneapolis, MN 55480. **PG** 63. **PR** No Charge. **JE** 023, 921, 821, 824, 212. **KW** Consumption. Labor Supply. Wages. Unemployment. Life Cycle.

AB This paper investigates the role of aggregate shocks on household consumption and labor supply. It posits, estimates and tests a model where the equilibrium behavior of agents sometimes leads them to locate on the boundary of their respective choices sets. The framework is rich enough to nest much previous empirical work on life cycle labor supply and consumption based asset pricing. It also yields a structural interpretation of wage regressions on unemployment. An important feature of our model is that markets are complete. Consequently, aggregate shocks only enter through two price sequences, namely real wages, and a sequence comprising weighted prices for future contingent consumption claims which are ultimately realized. We examine the properties of this latter sequence, whose elements may be represented as mappings from real wages and aggregate dividends. Our empirical findings may be grouped into three. First, aggregate shocks play a significant role in determining the choices people make. Second, we reject for males some of the restrictions implicit in structural interpretations of wage unemployment regressions. Moreover when these restrictions are imposed, we find wages are countercyclical, but cannot reject the null hypothesis of no effect. Third, the null hypothesis that markets are complete is not invariably rejected. However, the orthogonality conditions associated with the asset pricing equation are rejected, even though our specification of preferences incorporates types of heterogeneity which violate the necessary conditions for aggregating to a representative agent formulation. Finally, we reject the cross equation restrictions between the labor supply of spouses implied by equilibrium behavior.

Anant, T. C. A.

TI A Schumpeterian Model of the Product Life Cycle. **AU** Segerstrom, Paul S.; Anant, T. C. A.; Dinopoulos, Elias.

Anderson, Simon P.

PD February 1987. **TI** Demand for Differentiated Products, Discrete Choice Models, and the Address Approach. **AU** Anderson, Simon P.; de Palma, Andre; Thisse, Jacques Francois. **AA** Anderson: CEME, Universite Libre de Bruxelles. de Palma: Northwestern University. Thisse: Centre for Operations Research and Econometrics, Universite Catholique de Louvain. **SR** Universite Catholique de Louvain Core Discussion Paper: 8702; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 22. **PR** No Charge. **JE** 611, 211, 022. **KW** Product Differentiation. Demand Systems. Substitutes. Logit. Probit. Linear Probability Model. CES Representative Consumer.

AB We propose a specific address framework in order to construct linkages between alternative conceptual approaches to modelling product differentiation. First, it is shown that a demand system which satisfies the gross substitutes property imposes specific requirements on the addresses of products. In particular, the dimension of the characteristics space must be larger than or equal to the number of products minus one. We then identify a method for casting a given demand system (subject to certain restrictions) into our address framework. This is illustrated for the logit, probit and linear probability models of discrete choice theory. Finally, we find an address representation of the CES representative consumer.

Ando, Albert

PD June 1987. **TI** The Cost of Capital in the U.S. and Japan: A Comparison. **AU** Ando, Albert; Auerbach, Alan J. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2286; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 441, 313, 442. **KW** Return to Capital. Cost of Capital. Capital Flows. Corporate Taxation. Japan. United States.

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AB This paper uses financial statement data for large samples of United States and Japanese nonfinancial corporations to estimate the return to capital in each country for the period 1967-83. Interpreting these as measures of the cost of capital, we find that the before-tax cost of corporate capital was higher for United States firms than for their Japanese counterparts, with the average gap potentially as high as 5.8 percentage points. The use of alternative measurement techniques alters the gap slightly but does not alter the basic finding. However, market returns in the two countries were much closer during the same period. Certain potential explanations for the gap in returns are rejected by empirical evidence, including differences in corporate taxation, differences in borrowing and differences in asset mix. This leaves three potential explanations: differences in risk, differences in the tax treatment of individual capital income and imperfections in the international flow of capital.

Angrist, Joshua D.

PD July 1987. **TI** The Effect of Military Service on Civilian Labor Market Experience: Econometric Analysis of the Draft Lottery. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 223; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 38. **PR** $2.00. **JE** 821, 824, 114, 212. **KW** Selective Service. Wages. Selection Bias. Lottery.

AB In this paper, the random assignment of the risk of induction generated by the draft lottery is used to estimate the effect of military service on civilian wages, earnings and weeks worked. Data from the National Longitudinal Survey of Young Men in 1981 offer no conclusive evidence of an effect on earnings or weeks worked. However, consistently negative and marginally significant wage effects are found for white veterans, while consistently positive wage effects are found for black veterans. Conventional ordinary least squares estimates which do not exploit the randomization of the draft lottery fail to identify these effects, suggesting the presence of selection bias in conventional estimates. Finally, an attempt is made to gauge whether instrumental variables estimates which do not exploit the lottery generate similar inferences regarding the effects of military service. Two sets of conventionally available instruments result in estimates which are highly inconsistent with those constructed using lottery based instruments. However, both the least variance ratio test and the generalized method of moments tests of over-identifying restrictions provide some help in isolating the most misleading specifications.

Anton, James J.

PD December 1985. **TI** Second-Sourcing and the Experience Curve: Price Competition in Defense Procurement. **AU** Anton, James J.; Yao, Dennis A. **AA** Anton: SUNY Stony-Brook. Yao: University of Pennsylvania. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 193; 3718 Locust Walk, Philadelphia, PA 19104-6297 University of Pennsylvania, McNeil Building. **PG** 40. **PR** No Charge. **JE** 026, 022, 114. **KW** Procurement. Asymmetric Information. Auction. Contracts. Learning Curve. Government Acquisition.

AB We examine a dynamic model of price competition in defense procurement which incorporates the experience curve, asymmetric cost information, and the availability of a higher cost alternative system. Acquisition is modeled as a two-stage process. Initial production is governed by a contract between the government and the developer. Competition is then introduced via an auction in which a second-source bids against the developer for remaining production. We characterize the class of production contracts that are cost-minimizing for the government and induce the developer to reveal private cost information. When high costs are revealed, these contracts result in a credible cut-off of new system production in favor of the still higher cost alternative system.

Aoki, Masanao

PD August 1987. **TI** The Stock-Flow Analysis of Investment. **AU** Aoki, Masanao; Leijonhufvud, Axel. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 445; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 41. **PR** $2.50; checks payable to University of California Regents. **JE** 023, 522. **KW** Stock-Flow. Investment Function. Capital Accumulation.

AB The paper considers the microfoundations of the investment function at the level of the firm and industry. The present value of a unit of capital (a "machine") will decrease with the rate of accumulation of machines. A firm's demand price for machines will decrease, therefore, with what it believes the industry accumulation rate to be. This demand-price relationship, however, cannot simply be inverted to give us investment demand as a function of price. In the model presented here, the individual firms must form their estimates of the present value of machines without being able to observe the aggregate rate of investment directly. The elasticity of the number of machines demanded by a firm with respect to the difference between its own best estimate of the present value and the market price of a machine is assumed to be finite. Aggregation over firms of these relationships gives the market demand schedule at a point in time. Firms revise the expectations underlying their estimates of the value of machines by comparing expected and realized (imputed) rental values. Under certain "nice" assumptions, the result is a fairly well-coordinated aggregate expansion process even though the individual firm lacks information on how fast its competitors are expanding.

Arnott, Richard

PD July 1987. **TI** Implicit Contracts, Labor Mobility and Unemployment. **AU** Arnott, Richard; Hosios, Arthur; Stiglitz, Joseph. **AA** Arnott: Queen's University. Hosios: University of Toronto. Stiglitz: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2316; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 821, 823, 824. **KW** Search. Employment Insurance. Incentives. Jobs. Unemployment. Quits. Layoffs. Worksharing.

AB Firms' inability to monitor their employees' search

effort forces a tradeoff between risk-bearing and incentive considerations when designing employment-related insurance. Since the provision of insurance against firm-specific shocks adversely affects workers' incentives to find better jobs, the optimal contract provides only partial insurance: it prescribes low (high) wages and under (over) employment to encourage workers to leave (stay) at low (high) productivity firms; and it employs quits and layoffs as alternative means of inducing separations at low productivity firms, with the mix depending upon the relative efficiency of the on- and off-the-job search technologies. Our analysis of implicit contracts with asymmetric search information establishes that any consistent explanation for worksharing, layoffs, severance pay, quits and unemployment must focus on questions of labor mobility.

Auerbach, Alan J.

TI The Cost of Capital in the U.S. and Japan: A Comparison. **AU** Ando, Albert; Auerbach, Alan J.

TI The Significance of Tax Law Asymmetries: An Empirical Investigation. **AU** Altshuler, Rosanne; Auerbach, Alan J.

Azabou, Mongi

PD June 1987. **TI** Tax Farming: Anachronism or Optimal Contract? (An Illustration with Respect to Tunisia's Weekly Markets). **AU** Azabou, Mongi; Nugent, Jeffrey B. **AA** Azabou: University of Tunis. Nugent: University of Southern California. **SR** University of Southern California Modelling-Research Group Working Paper: #M8722; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 32. **PR** No Charge. **JE** 324, 121, 041. **KW** Tax Farming. Contractual Choice. Tunisia. Periodic Markets. Taxes. Taxation. Tax Collection.

AB This paper analyzes the choice of contractual forms in tax collection activities. It draws on historical data from the world as a whole to illustrate the factors involved in the choice among wage, share and fixed rent (tax farming) techniques. This is followed by a detailed analysis of tax farming as applied to Tunisia's periodic markets so as to explain the continued reliance on this otherwise generally abandoned form of tax collection in this particular sector. Finally, some implications for policy in both developed and developing countries are derived.

Backus, David K.

PD April 1987. **TI** Trade and Exchange-Rate Dynamics in a Dynamic Competitive Economy. **AU** Backus, David K.; Kehoe, Patrick J. **AA** Backus: Queen's University. Kehoe: University of Minnesota. **SR** Queen's Institute for Economic Research Discussion Paper: 684; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 42. **PR** $2.50 Canada; $3.00 United States; $3.50 foreign. **JE** 431, 023, 131. **KW** Risk-Sharing. Government Finance. Cash-in-Advance. Monetary Policy. Exchange Rates.

AB We apply recent advances in dynamic competitive analysis to open economy macroeconomics and draw out implications for comovements among consumption, output, trade balances, government deficits, and exchange rates. The real economy is a stochastic exchange model with complete markets. With time-separable preferences, cross-country risk-sharing implies perfect correlation between consumption in different countries, even when preferences and endowments differ. With mild restrictions on the endowment process, we show that this also implies a positive correlation between net exports and output in every country. We introduce money using cash-in-advance constraints and show that any correlation between the exchange rate and the balance of payments can be made consistent with the theory.

Baillie, Richard T.

PD July 1987. **TI** The Message in Daily Exchange Rates: A Conditional Variance Tale. **AU** Baillie, Richard T.; Bollerslev, Tim. **AA** Baillie: Department of Economics, Michigan State University. Bollerslev: Department of Economics, Northwestern University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8702; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 26. **PR** No Charge. **JE** 211, 212, 431. **KW** Unit Roots. Exchange Rates. Leptokurtosis. GARCH Models.

AB The implementation of recent unit root tests by Phillips and Perron confirms the presence of a unit root in the autoregressive moving average representation of daily exchange rate data. A GARCH model with daily dummy variables and conditionally distributed errors is found to provide a good representation to the leptokurtosis and time dependent conditional heteroskedasticity encountered in the first differences of daily exchange rates. The parameter estimates and characteristics of the models are found to be very similar for six different currencies. These apparent stylized facts carry over to weekly, fortnightly and monthly data where the effects of kurtosis and time dependent heteroskedasticity are reduced as the length of the sampling interval increases.

PD July 1987. **TI** On Unit Roots and the Cointegrability of Daily Spot and Forward Exchange Rates. **AU** Baillie, Richard T.; Bollerslev, Tim. **AA** Baillie: Department of Economics, Michigan State University. Bollerslev: Department of Economics, Northwestern University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8701; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 15. **PR** No Charge. **JE** 211, 212, 431. **KW** Unit Roots. Cointegration. Exchange Rates.

AB The application of new tests by Phillips and Perron are seen to provide strong evidence for the presence of a unit root in the univariate time series representation of daily spot and forward exchange rates for seven different currencies. The methods are also used to test for cointegration between spot and forward exchange rates. For all currencies the null hypothesis of no cointegration can be rejected and the results imply that the forward premium is stationary.

Baldwin, Robert E.

PD April 1987. **TI** U.S. and Foreign Competition in the Developing Countries of the Asian Pacific Rim.

AA University of Wisconsin. **SR** National Bureau of Economic Research Working Paper: 2208; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 421, 431, 411, 422, 441. **KW** Pacific Rim. Asia. International Competition. Japan. Korea. China. Taiwan. Philippines. United States. Comparative Advantage. Direct Foreign Investment.

AB This paper examines changes since the early 1960s in the export shares of the United States and its major competitors in the markets of the developing countries of the Asian Pacific Rim (APR), defined to include Hong Kong, Korea, Taiwan, Singapore, the Philippines, Malaysia, Thailand, Indonesia, and China. A technique for revealing a country's factor-price advantages or disadvantages in its trade with another country is also used to analyse the United States comparative cost position relative to the countries of the region. Among the findings are that the United States export share in the APR market has remained roughly constant over the period and that the United States has a relative factor-price advantage with all the developing countries of the region in physical capital and skilled labor and a disadvantage in unskilled labor. For land and natural resources, the picture is mixed. The competitive performance of these developing countries in the markets of the United States, Canada, Japan, the European Community, Australia and New Zealand, and in the region itself is also studied, revealing the familiar result that the developing countries of the region and Japan have increased their market shares significantly since the 1960s. In addition, the volume and distribution of United States and Japanese direct investment in the Asian Pacific Rim is examined.

Ball, Laurence

PD April 1987. **TI** Imperfect Information and Staggered Price Setting. **AU** Ball, Laurence; Cecchetti, Stephen G. **AA** Graduate School of Business, New York University. **SR** National Bureau of Economic Research Working Paper: 2201; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 131, 611. **KW** Pricing Decisions. Fluctuation. Imperfect Knowledge.

AB Many Keynesian macroeconomic models are based on the assumption that firms change prices at different times. This paper presents an explanation for this "staggered" price setting. We develop a model in which firms have imperfect knowledge of the current state of the economy and gain information by observing the prices set by others. This gives each firm an incentive to set its price shortly after as many firms as possible. Staggering can be the equilibrium outcome. In addition, the information gains can make staggering socially optimal even though it increases aggregate fluctuations.

PD July 1987. **TI** Sticky Prices As Coordination Failure. **AU** Ball, Laurence; Romer, David. **AA** Ball: New York University. Romer: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2327; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 611, 023, 022. **KW** Price Rigidity. Strategic Complementarity. Price Adjustment. Multiple Equilibria.

AB This paper shows that nominal price rigidity can arise from a failure to coordinate price changes. If a firm's desired price is increasing in others' prices, then the gains to the firm from adjusting its price after a nominal shock are greater if others adjust. This "strategic complementarity" in price adjustment can lead to multiple equilibria in the degree of nominal rigidity. Welfare may be much higher in the equilibria with less rigidity. In addition, with multiple equilibrium degrees of rigidity, the economy may have several short-run equilibria but a unique long-run equilibrium.

Ballard, Charles L.

PD August 1987. **TI** The Marginal Efficiency Cost of Redistribution. **AA** Department of Economics, Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8703; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 50. **PR** No Charge. **JE** 023, 322, 323, 911, 914. **KW** Transfer Payments. Wage Subsidies. Welfare Costs. General Equilibrium Model. Computational General Equilibrium Model.

AB A computational general equilibrium model is developed, for the purpose of analyzing the marginal efficiency effects of redistributive policies. The factor proportions, tax rates, and size of government are chosen to be representative of the United States economy, and the elasticity values are chosen from the econometric literature.

Bar, Ilan Avner

PD June 1987. **TI** A General Framework for Analyzing Optimal Rules for Durables Purchases. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 11-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 32. **PR** No Charge. **JE** 921, 022, 026. **KW** Trigger Target Rules. Fixed Cost. K-Convexity. Inventories. Search Costs. Durable Goods. Procurement. Asymmetric Information.

AB Although the optimality of trigger-target rules was established in the inventories literature, the circumstances in which similar rules are optimal for the demand for durable goods have never been rigorously studied. The purpose of this paper is to construct a general framework for analyzing the optimal rule for durables consumption. This framework is based on unspecified time-additive utility function and on general stochastic processes for income, prices and interest rates. Using this framework sufficient conditions for the optimality of one-target-two-triggers rule are derived. These conditions are then used to prove the optimality of this rule in some special cases.

Barany, Imre

PD May 1987. **TI** Fair Distribution Protocols or How the Players Replace Fortune. **AA** University College London. **SR** Universite Catholique de Louvain Core Discussion Paper: 8718; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 22. **PR** No Charge. **JE** 026.

KW Non-Cooperative Games. Correlated Equilibrium. Nash Equilibrium. Information. Protocol.
AB There are n=2 players P1, P2,., Pn each of them having an alphabet A1,., An and there is a probability distribution p on A1x. xAn. What the players want to do is to choose an a from A according to p in such a way that P(i) knows the ith component, a(i), of a only. This can be done by the help of an impartial person or "fortune" who chooses a element of A according to p and informs P(i) on a(i) only. But what happens if no such person is available? Can the players find a procedure that replaces fortune? As an application it is shown that any correlated equilibrium of a non-cooperative n-person game (n = 4) coincides with a Nash-equilibrium of an extended game involving plain conversations only.

Bardhan, Pranab

PD January 1987. **TI** Multinational Rivalry and National Advantage: Some Theoretical Considerations. **AU** Bardhan, Pranab; Singh, Nirvikar. **AA** Economics Department, University of California. **SR** University of California at Berkeley Working Paper in Economics: 8723; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 46. **PR** $3.50. **JE** 611, 612, 411, 421, 422, 442. **KW** Indigenization. Strategic Substitutes. Potential Entry. Multinational Firms. Oligopolistic Competition.
AB In this paper we try to model the consequences of oligopolistic competition (actual or potential) among multinational firms and their strategic interaction with host government policies, from the point of view of host country objectives. We focus on how such rivalry affects the terms of contracts such as the extent of indigenization in a joint venture, the level of transfer prices, the wage rate for domestic labor and the incentive payments by the host government to encourage the entry of a rival firm.

PD March 1987. **TI** Alternative Approaches to Development Economics: An Evaluation. **AA** Department of Economics, University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8735; IBER, 156 Barrows Hall, University of California, Berkeley CA 94720. **PG** 61. **PR** $3.50. **JE** 112, 111, 121, 036. **KW** Methodological Individualism. Institutional Change. Theory of State. Income Distribution. Development Theory. Neoclassical Economics. Marxism. Structuralism. Institutionalism.
AB We discuss three alternative approaches to development economics, neoclassical, Marxist, and structural-institutionalist. Focusing on five selective areas of enquiry, (a) theory of the household, (b) institutions and resource allocation, (c) income distribution and growth, (d) trade and development and (e) economic policy and the state, we try to show that the differences between sophisticated versions of alternative approaches are narrower than are generally perceived.

Bartlett, Will

PD December 1986. **TI** Instability and Indexation in a Labour-Managed Economy. **AU** Bartlett, Will; Weinrich, Gerd. **AA** Bartlett: University of Bath. Weinrich: Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-09-02; Department of Economics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. **PG** 30. **PR** Free by request. **JE** 052, 134, 021, 023. **KW** Labor-Management. General Equilibrium. Price Dynamics. Indexing. Instability. Decentralization Inflation. Unemployment.
AB The paper presents a dynamic general equilibrium analysis of a labour-managed economy. It is shown that such an economy in which firms seek to maximize value added per working hour, and households seek to maximize utility in consumption and leisure leads to highly perverse and unstable price dynamics, as endogenous features of the system, and in contrast to competitive profit maximizing economies. However, an easily implemented indexation scheme is presented which would reverse the direction of the dynamics and guide the labour-managed economy to an efficient level of activity.

Bauwelinckx, T.

TI Some Elementary Stop-Loss Inequalities. **AU** Kaas, R.; Goovaerts, M. J.; Bauwelinckx, T.

Bean, Charles R.

PD July 1987. **TI** Sterling Misalignment and British Trade Performance. **AA** Centre for Labour Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 288; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 49. **PR** No Charge. **JE** 431, 132, 311, 421, 122. **KW** Exports. Hysteresis. Exchange Rates. Monetary Policy. Unemployment. United Kingdom.
AB In the first part of this paper I examine the causes of appreciation of Sterling during 1979-81 with the aid of a small macroeconometric model. Oil takes about half of the blame. Contractionary monetary policies alone do not seem sufficient to explain the rest. However, adverse supply-side developments coupled with a restrictive monetary policy seem capable of explaining both the appreciation and associated increase in unemployment. In the second part of the paper I examine the possibility that temporary fluctuations in the real exchange rate may have a permanent effect on British export performance. Using data from 1900 to the present I find evidence that is consistent with "hysteresis" effects on both the demand and supply side of the export market.

Behrman, Jere R.

PD November 1985. **TI** The Reward for Choosing Well the Timing: Cohort Effects and Earnings Functions for Brazilian Males. **AU** Behrman, Jere R.; Birdsall, Nancy. **AA** Behrman: Department of Economics, University of Pennsylvania. Birdsall: The World Bank. **SR** University of Pennsylvania Econometrics Discussion Paper: 85-36; Department of Economics, McNeil Building, 3718 Locust Walk, CR, University of Pennsylvania, Philadelphia, PA 19104. **PG** 11. **PR** $1.00. **JE** 841, 824, 813, 121. **KW** Wages. Population Growth. Labor Force. Distribution of Income. Brazil.
AB In the literature on population growth and economic development, a principal argument for reducing rapid population growth is that a rapidly growing labor force,

and thus ever-larger cohorts, reduces wages compared to rents, and worsens the distribution of income (e.g., King, 1974, p. 36). Cross-country analysis (Wheeler, 1983) suggests that the wage of unskilled labor falls relative to the wage of skilled labor with higher population growth -- not surprisingly since skilled labor in many poor economies is a very scarce resource. In this paper we estimate the impact of cohort size and other cohort effects on Brazilian male earnings functions. We first discuss our data and the cohort effects that we are able to represent, then indicate how the incorporation of cohort effects might alter the standard semilog earnings function, and finally present and discuss our estimates of the earnings functions modified to include cohort effects.

PD September 1986. **TI** Will Developing Country Nutrition Improve with Income? A Case Study for Rural South India. **AU** Behrman, Jere R.; Deolalikar, Anil B. **AA** Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 85-15; Department of Economics, McNeil Building, 3718 Locust Walk, CR, University of Pennsylvania, Philadelphia, PA 19104. **PG** 16. **PR** $1.00. **JE** 913, 921, 121. **KW** Food. Nutrient. India. Income Elasticities.
AB The World Bank and others maintain that the major mechanism for improving nutrition in poor communities is income increases. Aggregate food expenditure estimates are consistent with such a possibility, implying income/expenditure elasticities close to one. However the high degree of aggregation at which such estimates are made means that the considerable increase in price per nutrient as income increases is ignored, and the nutrient elasticities therefore overstated. Estimates for a rural south Indian sample indicate that this bias is considerable and that the true nutrient elasticities with respect to income may be close to zero.

TI Schooling and Earnings Distribution with Endogenous Labor Force Participation, Marital Status and Family Size. **AU** Blau, David M.; Behrman, Jere R.; Wolfe, Barbara L.

PD May 1987. **TI** How Do Food Prices Affect Individual Nutritional and Health Status? A Latent Variable Fixed-Effect Analysis. **AU** Behrman, Jere R.; Deolalikar, Anil B. **AA** Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 85-38; Department of Economics, McNeil Building, 3718 Locust Walk, CR, University of Pennsylvania, Philadelphia, PA 19104. **PG** 31. **PR** $1.00. **JE** 913, 921, 712, 212. **KW** Nutrition. Health. Consumption. India. Latent Variables.
AB The conventional wisdom is that the nutrient and health responses to major food prices are inverse. We demonstrate that a priori the effect may be positive. Demand relations for nutrient consumption and health status in rural south India are estimated which allow for different price and income responses by different family members (viz., adult males, adult females, male children, and female children) and which control for fixed effects. Since nutrient consumption and health status are imperfectly observed, they are treated as latent variables within a LISREL framework. The estimates suggest that nutrient consumption and, to a lesser extent, health status respond strongly to price changes, with compositional changes among nutrients and anthropometric measures and among different household members (the latter only in the case of nutrient consumption). While the nutrient response to the basic staple price change is inverse, that to a number of other food prices is positive. Therefore, a wide range of policies and other events that affect relative prices may alter nutrient consumption substantially and differentially for various types of individuals, but not always in the direction suggested by conventional wisdom.

Ben, Zvi Shmuel

PD July 1987. **TI** The Effects of Uncertain Inflationary Process on the Activity of Gathering and Processing Information and on Relative Price Variability. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research: 17-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 36. **PR** No Charge. **JE** 134, 131, 026, 311. **KW** Information. Price Variability. Inflation. Competition Prices. Monopolistic Competition. Uncertainty.
AB A monopolistic competition model is developed. A key element of the model is that rapid gathering and processing of information is costly. The existence of multiple equilibria does not allow us to conclude from comparative statics considerations that a rise in aggregate uncertainty causes more resources to be allocated to information updating. However, we could come to such conclusions from the firms' optimization considerations. The last discussion led us to hypothesize that uncertainty which prevailed in the past also affects the present information structure. Another question which is analyzed is the influence of aggregate uncertainty on relative price variability.

Bernanke, Ben S.

PD July 1987. **TI** Financial Fragility and Economic Performance. **AU** Bernanke, Ben S.; Gertler, Mark. **AA** Bernanke: Princeton University. Gertler: University of Wisconsin. **SR** National Bureau of Economic Research Working Paper: 2318; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 511, 512. **KW** Investment Finance. Asymmetric Information. Bailouts. Underinvestment. Financial Variables.
AB Applied macroeconomists (e.g., Eckstein and Sinai (1986)) have stressed the role of financial variables, such as firm balance sheet positions, in the determination of investment spending and output. Our paper presents a formal analysis of this link. We develop a model of the process of investment finance in which there is asymmetric information between borrowers and lenders about the quality of investment projects and about the borrower's effort. In this model, the cost of external investment finance under the optimal contract is higher, the worse the borrower's balance sheet position (i.e., the lower his net worth). In general equilibrium, the lower is borrower net worth, the further the number of projects initiated and the average quality of undertaken projects will be from the unconstrained first-best. We characterize a "financially

fragile" situation as one in which balance sheets are so weak that the economy experiences substantial underinvestment, misallocation of investment resources, and possibly even a complete investment collapse. Our policy analysis suggests that, under some circumstances, government "bailouts" of insolvent debtors may be a reasonable alternative in periods of extreme financial fragility.

Bernheim, B. Douglas

PD June 1987. **TI** The Timing of Retirement: A Comparison of Expectations and Realizations. **AA** Stanford University. **SR** National Bureau of Economic Research Working Paper: 2291; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 915. **KW** Retirement. Social Security.

AB In this paper, I employ data drawn from the Social Security Administration's Retirement History Survey (RHS) to study the accuracy of expectations concerning the timing of retirement. The RHS is ideally suited for this purpose, in that it collects information on retirement plans, and follows respondents through time so that one can identify actual dates of retirement. The data are consistent with the view that, when asked to report an expected date of retirement, individuals name the most likely date (i.e. a mode, rather than a mean). Furthermore, these forecasts are highly accurate. There is very little evidence that individuals' expectations were systematically biased during periods in which Congress legislated large real increases in social security benefits. This suggests either that the benefit increases were anticipated, or that unanticipated changes in benefits have little effect on retirement. The paper also describes differences in the accuracy of expectations by population subgroup.

PD June 1987. **TI** Intergenerational Altruism and Social Welfare: A Critique of the Dynastic Model. **AA** Stanford University. **SR** National Bureau of Economic Research Working Paper: 2288; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 024, 113. **KW** Dynastic Equilibria. Social Welfare Function. Welfare Optimization. Altruism.

AB In this paper, I show that, under relatively weak conditions, dynastic equilibria are never welfare optima. If a social planner sets policy to maximize a social welfare function, then, except in extreme cases where the planner cares only about a single generation, successive generations will never be linked through altruistically motivated transfers. This suggests that the dynastic model is unsuitable for normative analysis, and, to the extent governments actually behave in this manner, the model is also inappropriate for positive analysis. In addition, I show that, except in a few special cases, the planner's preferences are dynamically inconsistent. If the planner can successfully resolve this inconsistency, then the central result is somewhat modified.

PD July 1987. **TI** Ricardian Equivalence: An Evaluation of Theory and Evidence. **AA** Stanford University. **SR** National Bureau of Economic Research Working Paper: 2330; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 322, 023. **KW** Ricardian Equivalence. Government Borrowing. Neutrality. Budget Deficits. Consumption. Interest Rates. Capital Accumulation.

AB In evaluating the existing theory and evidence on Ricardian equivalence, it is essential to distinguish between the short run effects of government borrowing (primarily the potential for stimulating aggregate demand) and the long run effects (primarily the potential for depressing capital accumulation). I argue that the theoretical case for long run neutrality is extremely weak, in that it depends upon improbable assumptions that are either directly or indirectly falsified through empirical observation. In contrast, the approximate validity of short run neutrality depends primarily upon assumptions that have at least an aura of plausibility. Nevertheless, even in this case behavioral evidence weighs heavily against the Ricardian view. Efforts to measure the economic effects of deficits directly through aggregate data confront a number of problems which, taken together, may well be insuperable. It is therefore not at all surprising that this evidence has, by itself, proven inconclusive. Overall, the existing body of theory and evidence establishes a significant likelihood that deficits have large effects on current consumption, and there is good reason to believe that this would drive up interest rates. In addition, I find a complete lack of either evidence or coherent theoretical argument to dispute the view that sustained deficits significantly depress capital accumulation in the long run.

Bewley, Truman F.

PD May 1987. **TI** Knightian Decision Theory, Part II: Intertemporal Problems. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 835; Cowles Foundation for Research in Economics, 30 Hillhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 36. **PR** No Charge. **JE** 022, 511, 213. **KW** Satisficing. Decision Theory. Dynamic Programming. Maxmin Programming.

AB The theory of choice proposed in "Knightian Decision Theory, Part I" is here applied to intertemporal problems. An analogue of dynamic programming called maxmin programming is developed. Also, it is shown that detailed contingent planning may not be needed in order to achieve maximality, a program being maximal if no other program is preferred to it. In certain circumstances, a maximal program can be achieved by making a finite calculation in each period. This calculation ignores distant future states and could also ignore unlikely contingencies. A decision maker making such calculations would behave much like a satisficer.

Bils, Mark J.

PD May 1987. **TI** Cyclical Pricing of Durable Luxuries. **AA** University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 83; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 46. **PR** No Charge. **JE** 131, 023, 134. **KW** Cyclical. Pricing. Durable Goods. Markups. Price Fluctuations. Productivity.

AB I examine price markups in monopolisticly-

competitive markets that experience cyclical fluctuations in demand because the economy experiences fluctuations in productivity. Markups depend positively on the average income of purchasers in the market. For a nondurable good average income of purchasers is procyclical; so the markup is procyclical. For a durable good, however, the average income of purchasers is likely to decrease in booms because low income consumers of the good concentrate their purchases in boom periods; so the markup is likely countercyclical. This is particularly true for growing markets. I find markups make the aggregate economy fluctuate more in response to productivity if goods are sufficiently durable.

Birdsall, Nancy

TI The Reward for Choosing Well the Timing: Cohort Effects and Earnings Functions for Brazilian Males. **AU** Behrman, Jere R.; Birdsall, Nancy.

Blackburn, McKinley L.

PD August 1987. **TI** The Effects of Technological Change on Earnings and Income Inequality in the United States. **AU** Blackburn, McKinley L.; Bloom, David E. **AA** Blackburn: University of South Carolina. Bloom: Columbia University. **SR** National Bureau of Economic Research Working Paper: 2337; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 621, 921, 824, 812, 841. **KW** Technical Change. Earnings. Income Distribution. Family Income. Labor Supply. Household Income.

AB This paper explores the relationship between technological change and inequality in the United States since the late 1960's. The analysis focuses primarily on studying patterns and trends in the dispersion of various distributions of earnings and income during this recent period of rapid technological progress. We review relevant literature and perform several empirical analyses using microdata from the March Current Population Surveys from 1968 to 1986. Our main findings are that there is little empirical evidence that earnings inequality, measured across individual workers, has increased since the late 1960's, and even less evidence to support the hypothesis that any changes that have occurred have resulted from the effect of technological change on the demand for labor. However, we do find evidence of an increase since the late 1960's in the inequality of total family income, measured across families. Moreover, much of the increase appears to be due to changes in family composition and labor supply behavior, suggesting that the main effects of recent technological change on inequality have been supply-side in nature.

Blanchard, Olivier J.

PD June 1987. **TI** Why Does Money Affect Output? A Survey. **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2285; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 311, 611. **KW** Money. Monetary Policy. Wages. Prices. Imperfect Competition. Microfoundations.

AB Why movements in nominal money appear to have strong and lasting effects on real activity is one of the most difficult questions in macroeconomics. The paper surveys the state of knowledge on the issue, with a focus on recent developments. The paper starts by reviewing the evolution of thought from Keynes' emphasis on wages to the "wage price mechanism" of the early 1970's, as well as the facts on the relation between money, prices and output. From this review, it concludes that the intellectual crisis of the 1970's came not from the inability of the prevailing theory to explain the facts -which it had mostly right-, but from the weakness of its theoretical foundations. The paper then examines the reconstruction effort. Two alternative strategies have been followed. The first has been to break with previous research and explore how far models based on perfect competition and imperfect information could go in explaining the effects of money on activity. This strategy has largely fizzled and its proponents moved away from the money-output issue. The second has been instead to explore whether the many insights of previous research could be made more rigorous and has focused on the potential role of imperfect competition in labor and goods markets; substantial progress has been made, but no grand synthesis has emerged, nor is likely to in the foreseeable future.

Blank, Rebecca M.

PD July 1987. **TI** Why Are Wages Cyclical in the 1970's? **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 224; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 34. **PR** $2.00. **JE** 131, 824, 212. **KW** Business Cycles. Wages. Labor Market. Cyclicality.

AB This paper investigates cyclicality in real wages between 1969 and 1982, using 14 years of data from the Panel Survey of Income Dynamics. First, it investigates the extent to which movements in and out of the labor market created apparent wage cyclicality. Second, it investigates whether cyclical movements of workers between heterogeneous wage sectors within the labor market created cyclicality. Little evidence of the first effect is found. The second effect is much more important, and cyclicality clearly occurs in the movement of workers between different labor market sectors. However, sector selection is not correlated with wage determination. Thus, individual wage change estimates of cyclicality need to control for sector location, but need not account for sector selection. The third conclusion of the paper is that cyclicality is present in real wages even within sectors over this time period, and is the result of both cyclicality in overall wage levels (cyclicality in the constant term in wage equations), as well as in the coefficients associated with particular worker characteristics.

Blau, David M.

PD December 1986. **TI** Schooling and Earnings Distribution with Endogenous Labor Force Participation, Marital Status and Family Size. **AU** Blau, David M.; Behrman, Jere R.; Wolfe, Barbara L. **AA** Blau: University of North Carolina at Chapel Hill. Behrman: Department of Economics, University of Pennsylvania. Wolfe: University of Wisconsin-Madison. **SR** University of Pennsylvania Econometrics Discussion Paper: 85-34;

Department of Economics, McNeil Building, 3718 Locust Walk, CR, University of Pennsylvania, Philadelphia, PA 19104. **PG** 18. **PR** $1.00. **JE** 841, 824, 813, 851, 121. **KW** Wages. Education. Family Size. Income Distribution. Nicaragua.

AB This paper investigates the impact of various schooling investment strategies on family and per capita earnings within a framework that integrates effects on earnings, family size, marital status, and labor force participation. Empirical estimates for pre-revolutionary Nicaragua suggest that: (1) the choice of schooling investment strategies may have important effects on distribution, (2) the apparent extent of such effects depends somewhat on which earnings distribution and which summary of the distribution are used, (3) whether uniform schooling increments are equalizing is sensitive to the impact of the increased schooling on the rate of return to schooling, (4) reductions of variations in women's schooling have substantial simulated equalizing effects, and (5) indirect effects of schooling (i.e., beyond those directly through the earnings functions) in many cases have a significant and sometimes dominant role.

Blomstrom, Magnus

PD July 1987. **TI** U.S. Firms in Latin American Service Industries. **AU** Blomstrom, Magnus; Lipsey, Robert E. **AA** NBER. **SR** National Bureau of Economic Research Working Paper: 2307; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 441, 442, 635, 121. **KW** Service Industries. Direct Investment. Latin America. Multinational Firms. Skill Intensity. Finance Industries.

AB The participation of United States service industry firms in Latin American markets for services consists mainly of the activities of United States-owned affiliates operating in Latin America and very little of direct exports of services from the United States. The important policy issues thus involve barriers to the establishment and operation of affiliates in host countries rather than trade barriers. Since direct investment rather than trade is at issue, the comparative advantages that are important are those of United States multinational firms rather than those of the United States as a country. The characteristics we observe in United States multinationals in these industries, particularly their low R & D intensity, are not those usually associated with the comparative advantages of United States multinationals. However, their skill intensity is relatively high. A more detailed breakdown of the sector does show at least some industries, particularly in finance, in which skill levels are very high, and these are the most likely candidates for major gains for United States multinationals. Nevertheless, United States shares in the Latin American service sector are very small overall and not likely to reach the levels in manufacturing or petroleum in the foreseeable future.

Bloom, David E.

PD April 1987. **TI** Negotiator Behavior Under Arbitration. **AU** Bloom, David E.; Cavanagh, Christopher L. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2211; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 026, 832. **KW** Negotiation. Arbitration. Arbitrators. Disputes. Bargaining.

AB The emerging empirical literature on the economics of arbitration has focused primarily on the behavior of arbitrators under alternative forms of arbitration. This article suggests that it is natural for empirical economists to now expand their focus to include issues related to the behavior of negotiators. In this connection, three key aspects of negotiator behavior are discussed: (1) the decision to settle a dispute voluntarily or to proceed to arbitration; (2) the strategy for selecting an arbitrator; and (3) the final bargaining position to advance before an arbitrator.

TI The Effects of Technological Change on Earnings and Income Inequality in the United States. **AU** Blackburn, McKinley L.; Bloom, David E.

Boadway, Robin

PD 1987. **TI** Tax-Transfer Policies and the Voluntary Provision of Public Goods. **AU** Boadway, Robin; Pestieau, Pierre; Wildasin, David E. **AA** Boadway: Queen's University. Pestieau: University of Leige. Wildasin: Indiana University. **SR** Universite Catholique de Louvain Core Discussion Paper: 8719; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 25. **PR** No Charge. **JE** 323, 324, 025, 321. **KW** Tax Transfers. Public Good Provision. Tax Distortion. Subsidies. Fiscal Federalism. Redistributive Transfers. Neutrality.

AB The purpose of this paper is twofold. First, it extends previous models of non-cooperative private funding of pure public goods by allowing both for distortionary taxation of private goods and for subsidies based on contributions to the public goods. Second, it clarifies the type of behavioral and informational assumptions which are needed to result in neutrality of both lump-sum and distortionary policies. The analysis is developed in the context of fiscal federalism.

PD 1987. **TI** A Median Voter Model of Social Security. **AU** Boadway, Robin W.; Wildasin, David E. **AA** Boadway: Queen's University. Wildasin: Indiana University. **SR** Universite Catholique de Louvain Core Discussion Paper: 8714; Centre for Operations Research Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PR** No Charge. **JE** 025, 915, 023, 921. **KW** Social Security. Voting. Overlapping Generations Model. Majority Voting Equilibrium. Consumption.

AB This paper presents a theoretical median voter analysis of the determination of the level of social security. The framework for the analysis is a continuous-time overlapping-generations model with non-altruistic households. Households are assumed to be unable to borrow against future social security benefits to finance current consumption or against future wages or both. In this model, a majority voting equilibrium can be shown to exist, in which the median voter is liquidity constrained. In steady states, and also, under some conditions, outside of steady states, the median voter is of median age. The desired level of social security for each voter is a declining

function of the pre-existing level of social security. A consequence is that a sequence of votes on social security, beginning with a zero level, will result in initial overshooting in which the level of the program exceeds its steady state value. It is also shown that the steady state equilibrium level of social security is lower, the shorter is the time between successive votes.

Bollerslev, Tim

TI The Message in Daily Exchange Rates: A Conditional Variance Tale. **AU** Baillie, Richard T.; Bollerslev, Tim.

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

Bonnisseau, Jean Marc

PD February 1987. **TI** General Pricing Rules, Bounded Losses and Existence of Equilibrium in Economies with Increasing Returns. **AA** Centre for Operations Research and Econometrics, Universite Catholique de Louvain and Universite Paris I Pantheon-Sorbonne. **SR** Universite Catholique de Louvain Core Discussion Paper: 8711; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 25. **PR** No Charge. **JE** 021, 022. **KW** Increasing Returns to Scale. General Equilibrium. Pricing Rules. Nonconvexity.

AB The purpose of this paper is to show that we can deduce the existence theorems of equilibria in economies with increasing return of Kamiya (1984) and of Dierker-Guesnerie-Neuefeind (1985) from the result of Bonnisseau-Cornet (1986). Consequently this last result which mainly rest upon the assumption that the firms have bounded losses when they follow their pricing rules, synthesizes all the existence results with general pricing rules.

PD May 1987. **TI** Existence of Marginal Cost Pricing Equilibrium in an Economy with Several Nonconvex Firms. **AU** Bonnisseau, Jean Marc; Cornet, Bernard. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain Centre Core Discussion Paper: 8723; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 28. **PR** No Charge. **JE** 021, 022. **KW** Marginal Cost Pricing. General Equilibrium. Nonconvexity.

AB This paper considers a general equilibrium model of an economy where some firms may exhibit increasing returns to scale or more general types of non-convexities. The firms are instructed to follow the standard marginal cost pricing rule or to fulfill the first-order necessary conditions for profit maximization. A general existence theorem of equilibria is proved in the case of an arbitrary number of firms. No assumption is made to imply the aggregate productive efficiency of equilibria, a condition that has to be excluded in the nonconvex case.

Borsch, Supan Axel

PD July 1987. **TI** The Role of Education: Mobility Increasing or Mobility Impeding? **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2329; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 912, 841, 851, 823. **KW** Education. Labor Mobility. Job Duration. Job Mobility.

AB This paper studies the influence of education on labor and geographic mobility. Mobility is an important equilibrating factor in a changing economy. Therefore, any factor that induces mobility also alleviates the symptoms of disequilibrium, and any factor that inhibits mobility also impedes economic adjustments. Does the high level of education in modern industrial societies help or hurt economic transitions? Economic theory provides conflicting arguments. On the one side, the theory of firm-specific capital predicts that education increases job duration and therefore inhibits job mobility (Jovanovic, 1979). On the other side, education should increase mobility in markets with imperfect information because better educated persons should be better able to collect and process information, reducing search and transactions costs. In a PSID subsample consisting of 736 individuals, we observed labor and geographic mobility from 1968 to 1982 and related it to the level of education at 1968. It appears that labor and geographic mobility are governed by quite different behavioral mechanism. Education strongly affects future labor and geographic mobility, but in opposite ways. A high level of education inhibits labor mobility, but increases geographic mobility.

Bos, Dieter

PD 1986. **TI** Die neue Finanztheorie: Revolution oder geschicktes Wissenschaftsmanagement? **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-88; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 6. **PR** No Charge. **JE** 320, 026, 025. **KW** Fiscal Theory. Information. Incentive Problems.

AB No abstract available. (in German).

PD 1986. **TI** On Supporting the Maximization Postulate. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-90; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 6. **PR** No Charge. **JE** 022. **KW** Maximization Postulate. Nonoptimal Choices. Neoclassical Economics.

AB This paper presents some thoughts in defense of the maximization principle as a basis of microeconomic theory. First it is argued that switching from one objective function to another is not a trick of neoclassical economists to explain some given behavior as the result of a maximization approach, but is the attempt to find the correct objective and to avoid the wrong one. Replacing one objective function by another one does not remove the possibility of suboptimal solutions under each objective. Second it is argued that the adequate choice of constraints often allows to apply the maximization postulate whereas the economic agent would be considered as acting suboptimally when the constraints were ignored. Third, we show some difficulties which arise in the mathematical treatment of movements in suboptimal spaces.

PD December 1986. **TI** Privatization of Public

Enterprises. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-89; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 5. **PR** No Charge. **JE** 614. **KW** Welfare Maximization. Efficiency. Public Enterprises, Privatization.

AB Consider an economy with many consumers, many private firms, not necessarily competitive, and one public firm which is going to be privatized. Privatization is performed by the government selling shares to the consumers. Each consumer who buys a share, has to pay a certain price for it, and gets some dividend payments. The dividends depend on the profit of the firm. Thus the consumer gets some net return from his acquired shares in the privatized firm. Ideally this net return is equated to zero. Then the price of the shares equals the expected dividends. However, this is not necessarily the case. The net return may well be positive for reasons of welfare maximization or for political reasons. By the latter, I indicate cases where the shares of privatized firms were sold at too low a price. A recent example is the case of British Telecom. If the net return is positive, the consumers actually get a present from government and hence the demand for shares must be rationed, as is often the practice of privatization.

Boskin, Michael J.

PD April 1987. **TI** The Financial Impact of Social Security by Cohort Under Alternative Financing Assumptions. **AU** Boskin, Michael J.; Puffert, Douglas J. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2225; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 915, 323. **KW** Social Security. Taxes. Benefits. OASDI. Retirement. Baby Boom. Redistribution Effects.

AB This paper analyses the financial impact of Social Security by age cohort under alternative assumptions concerning future financing of Social Security. It examines the Social Security Administration's intermediate IIB and various combinations of optimistic and pessimistic assumptions concerning fertility, mortality, and wage growth. Importantly, it examines the implications of alternative potential resolutions of the long-term financing deficit and scenarios concerning the planned systematic deviation from pay-as-you-go finance in the retirement and disability funds. The results suggest that the Social Security retirement program offers vastly different returns to households in different circumstances, and especially to different cohorts. Most important, if Social Security does not maintain the large retirement trust fund surplus currently projected for the next 30 years, alternative scenarios for return to pay-as-you-go finance differ dramatically in the taxes, benefits, transfers, and real rates of return that can be offered to different birth cohorts. The implications of cutting taxes, raising benefits or diverting the surplus to other purposes have dramatic impact on the overall financial status of the system, the time pattern of taxes, benefits and surpluses or deficits, and therefore, the treatment of different age cohorts. Under the intermediate assumptions, the OASDI surplus is projected to grow almost as large as a fraction of GNP as the current ratio of privately held national debt to GNP. For example, if the OASDI surplus is used to raise benefits, and they remained at higher levels thereafter during the height of the baby-boom generation's retirement, the long-run actuarial deficit will zoom from $500 billion to over $3 trillion. Correspondingly, if benefits increase, financed by the OASDI surplus over the next 30 years, the expected rate of return on lifetime contributions increases for those currently about 40 years old from 1.9 per cent to 2.7 per cent, about a 40 per cent increase. Correspondingly, if the surplus is dissipated and the subsequent long-run deficit is made up with a tax increase on a pay-as-you-go basis at the time of the projected deficit, the rate of return relative to the intermediate assumptions for those persons now being born will fall by about 15 per cent, and in this case, the overall system finances would move from a long-run actuarial deficit of slightly under one-half percent of taxable payroll to actuarial balance. Thus, as Social Security is projected to deviate systematically from pay-as-you-go finance, the potential alternative scenarios with respect to accruing the surplus and/or dissipating it in various ways have potentially large intergenerational redistribution effects.

PD August 1987. **TI** Concepts and Measures of Federal Deficits and Debt and Their Impact on Economic Activity. **AA** NBER. **SR** National Bureau of Economic Research Working Paper: 2332; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 50. **PR** $2.00. **JE** 221, 322, 023, 131, 321. **KW** Budget Deficit. National Debt. National Income Accounting. Ricardian Equivalence. Consumption. Government Expenditures.

AB This paper introduces extensions of the National Income Accounts to include a consistent treatment of consumer durables and government capital in the measurement of consumption and income, and explicitly tests alternative propositions concerning the effects of government financial policy on real economic activity. The paper discusses adjustments to various measures of the budget deficit, national debt, or government "net worth". These include separating government tangible investment from consumption, accounting for government financial assets, inflation adjustments, etc. The most important results estimate consumption functions in which government consumption is subtracted from income. I take this to be more in the spirit of the Ricardian equivalence hypothesis, asking: Given the level of government consumption, would a shift from tax to debt finance alter consumption? The various measures of the deficit produce virtually identical results in their impact on consumption: a tax cut holding government consumption constant, unambiguously increases consumption substantially, about 40 cents on the dollar.

Bossons, John

TI Adjusting the Consumer Price Index for Changes in Taxes. **AU** Diewert, W. E.; Bossons, John.

Braid, Ralph M.

PD April 1987. **TI** The Optimal Locations of Multiple Bridges. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics

Working Paper: 346; Department of Economics, Columbia University, New York, NY 10027. **PG** 8. **PR** $5.00. **JE** 022, 611. **KW** Optimal Location. Bridges. Spatial Competition. Location Theory.

AB This paper considers the optimal locations of two or more bridges across a river, with uniformly dispersed residential and employment locations, and random matching between residences and jobs. The results are compared to the optimal location results of the standard model of spatial competition.

PD April 1987. **TI** Heterogeneous Preferences and Noncentral Agglomeration of Firms. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 345; Department of Economics, Columbia University, New York, NY 10027. **PG** 22. **PR** $5.00. **JE** 611, 022, 931. **KW** Location Theory. Agglomeration. Firm Location.

AB This paper examines the location of firms (such as restaurants), when consumers live in five towns that are equally spaced along a roadway. If heterogeneity in consumer preferences is large relative to the distance between towns, all firms agglomerate at the center. If heterogeneity in consumer preferences is moderate relative to the distance between towns, most firms agglomerate in the second and fourth towns.

Branson, William H.

PD April 1987. **TI** Smuggler's Blues at the Central Bank: Lessons from Sudan. **AU** Branson, William H.; de Macedo, Jorge Braga. **AA** Branson: Princeton University. de Macedo: New University of Lisbon. **SR** National Bureau of Economic Research Working Paper: 2220; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 311, 420, 134, 121. **KW** Exchange Rates. Stabilization Policy. Inflation. Trade Balance. Trade Barriers. Black Market. Smuggling. Africa. Sudan.

AB The ineffectiveness of real devaluation as stabilization policy does not imply that the nominal exchange rate should be held constant in the face of a domestic inflation. In this circumstance, import duties and export subsidies would have to be escalated to counter the potential erosion of the trade balance. This escalation of trade barriers generates a rising black market premium and offers increasing incentives to smuggling, already a pervasive problem in the African countries. As a consequence, the central bank would find it more and more difficult to hold the nominal exchange rate constant. This leads us to consider a passive exchange rate policy of stabilizing the real exchange rate by moving the nominal rate in line with domestic inflation. If such passive policy is not accompanied by the elimination of trade barriers, however, the black market premium will not disappear. Unless exchange rate policy and trade policy are consistent with each other, the smuggler's blues will reach the central bank. Indeed, this is not just a theoretical possibility, it is the major lesson from the recent experience of Sudan.

Brianza, Tiziano

PD 1987. **TI** Futures Markets, Inventories and Monopoly. **AU** Brianza, Tiziano; Phlips, Louis; Richard, Jean Francois. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain Core Discussion Paper: 8725; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 14. **PR** No Charge. **JE** 611, 313. **KW** Futures Market. Cash Market. Monopoly. Expectations. Speculation. Fertilizer.

AB The possibility for a futures market to exist when the underlying commodity (called the cash market) is monopolized has been studied only recently after a long period of neglect, possibly due to the implicit assumption that, since futures markets are typically competitive, the corresponding cash markets are also competitive. In the present paper we study a monopoly model of a storable good in a dynamic framework. The influence of the monopolist's futures position on his intertemporal pricing and production policy and the reciprocal influence of the latter on the equilibrium of the futures market are analyzed. The possibility of taking a short position increases the monopolist's output and reduces the variability of the cash price. Our analysis highlights the essential role played by expectations for the existence of a futures market. Contract curves for futures positions are derived under the condition that the monopolist and the speculators have different expectations.

Broecker, Thorsten

PD April 1987. **TI** A Monopolistic Market for Melons. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-115; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 28. **PR** No Charge. **JE** 611, 022, 026, 021. **KW** Monopolistic Market. Adverse Selection. Stable Equilibrium. Signalling.

AB The paper analyzes a monopolistic market which exhibits an adverse selection problem. The consumer is able to imperfectly monitor the two types of producers. It is demonstrated that the latter feature of the model induces the possibility that a monopolist can signal his type by the choice of the price which is his strategic variable. Equilibria which take this form of endogenous signalling into account are determined. They are related to stable equilibria.

Brown, Bryan W.

PD March 1987. **TI** Interval and Quantile Prediction in Nonlinear Simultaneous Systems. **AU** Brown, Bryan W.; Mariano, Roberto S. **AA** Brown: Rice University. Mariano: Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 86-14; Department of Economics, McNeil Building, 3718 Locust Walk, CR, University of Pennsylvania, Philadelphia, PA 19104. **PG** 25. **PR** $1.00. **JE** 211, 212. **KW** Quantiles. Empirical Distributions. Nonlinear Models. Stochastic Simulations. Econometric Forecasting. Prediction Regions. Order Statistics.

AB In this paper, we examine the application of stochastic simulation techniques to the estimation of prediction intervals and quantiles in nonlinear simultaneous systems. Most previous work on the prediction problem in nonlinear systems, including our

own, has concentrated on point prediction of first moments of the endogenous variables. In a recent contribution (Brown and Mariano '1984) we discussed the properties of stochastic simulation-based estimates of higher-order moments and points of the marginal distribution functions of the endogenous variables. These higher-order moment estimates may be used to form conservative prediction ellipsoids using Tchebychev-type inequalities. A closer approximation to the probability content of these ellipsoids may be obtained through the further use of stochastic simulation. The asymptotic properties of this procedure are established and follow directly from Brown and Mariano '1984. Of course this approach and most previous work relies on the existence of moments which may or may not exist given the nonlinearity of the system. In this case, a promising approach is to base our point and interval predictions on order statistics obtained from stochastic simulation. The asymptotic behavior of such estimated quantiles of the endogenous variables is studied and found to closely parallel the behavior of the stochastic simulation-based point predictors.

Brown, Charles

PD June 1987. **TI** The Impact of Firm Acquisitions on Labor. **AU** Brown, Charles; Medoff, James L. **AA** Brown: University of Michigan. Medoff: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2273; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 611, 521, 511. **KW** Wages. Employment. Merger. Takeover.

AB In this paper, we investigate the changes in wages and employment following a firm's involvement in an acquisition, compared with firms not involved in acquisitions. Contrary to the tenor of popular press coverage of acquisitions, which focuses on hostile takeovers of large firms, we find small (and sometimes positive) changes in wages and employment following an acquisition.

Brown, Donald J.

TI Equilibria in Exchange Economies with a Countable Number of Agents. **AU** Aliprantis, Charalambos D.; Brown, Donald J.; Burkinshaw, Owen.

TI Valuation and Optimality in Exchange Economies with a Countable Number of Agents. **AU** Aliprantis, Charalambos D.; Brown, Donald J.; Burkinshaw, Owen.

Buiter, Willem H.

PD August 1987. **TI** The Right Combination of Demand and Supply Policies: The Case for a Two-Handed Approach. **AA** Yale University. **SR** National Bureau of Economic Research Working Paper: 2333; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 821, 824. **KW** Efficiency Wages. Unemployment. Imperfect Competition. Demand Management. Supply Management. Hysteresis.

AB The paper considers the analytical underpinnings of the scope for and limits of demand and supply management. After restating a general policy effectiveness result for New-Classical macroeconomic models, several non-Walrasan equilibrium models are considered. These use the efficiency wage hypothesis to generate equilibrium unemployment in the labor market and imperfect competition in the goods market to generate scope for demand management. Hysteresis models of the natural rate are also reviewed briefly. Tentative implications are drawn for the contributions of demand and supply management to the resolution of the European unemployment problem.

Bunker, John P.

TI The Social Security Cost of Smoking. **AU** Shoven, John B.; Sundberg, Jeffrey O.; Bunker, John P.

Burkinshaw, Owen

TI Equilibria in Exchange Economies with a Countable Number of Agents. **AU** Aliprantis, Charalambos D.; Brown, Donald J.; Burkinshaw, Owen.

TI Valuation and Optimality in Exchange Economies with a Countable Number of Agents. **AU** Aliprantis, Charalambos D.; Brown, Donald J.; Burkinshaw, Owen.

Calomiris, Charles W.

PD April 1987. **TI** International Adjustment Under the Classical Gold Standard: Evidence for the U.S. and Britain, 1879-1914. **AU** Calomiris, Charles W.; Hubbard, R. Glenn. **AA** Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2206; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 432, 040, 313, 441, 431. **KW** Financial Markets. Gold Standard. VAR. International Transmission. Gold Flows. Interest Rates. International Linkages. Price-Specie Flow.

AB Links between disturbances in financial markets and those in real activity have long been the focus of studies of economic fluctuations during the period prior to World War I. We emphasize that domestic autonomy was substantially limited by internationally integrated markets for goods and capital. Such findings are important for studying business cycles during the period; for example, when prices are flexible, observed cyclical movements can be related to a credit-market transmission of deflationary shocks. Recent studies of the classical gold standard have revived interest in the process by which macroeconomic shocks were transmitted internationally during this period. The principal competing approaches -- the "price-specie-flow," mechanism and the more modern "internationalist" view -- differ according to the means by which international equilibrium is reestablished after a disturbance occurs in capital, money, or commodity markets. We present and interpret separate pieces of evidence on gold flows, interest rates, and selected commodity prices, all of which shed light on the alternative assumptions employed in the price-specie-flow and modern approaches. We employ a monthly data set for the United States and Britain for the pre-World War I frameworks. Using the "structural VAR" approach of Bernanke and Sims, we compare the actual historical importance of shocks and the observed patterns of short-run adjustment to shocks with the prediction of each of the two models. The evidence supports the "internationalist" view of close international linkages over the "specie-flow" view of circuitous linkages and domestic autonomy in

money and capital markets.

Cameron, Trudy Ann

PD June 1986. **TI** On Designing a One-Stage "Behavioral Model" to Explain City Sizes. **AA** University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 409; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 16. **PR** $2.50; checks payable to University of California Regents. **JE** 931, 212. **KW** Cities. Urban Centers. Nonlinear Optimization.

AB A large number of papers have estimated the parameters of Pareto distributions for city sizes in different countries, but only one has attempted to explain the differing magnitudes of these parameters with a set of country-specific explanatory variables. It is reassuring that there has now been some research which advances beyond simple "curve-fitting" to explore systematically the "behavioral" determinants of city size. However, this newer research uses two-stage OLS methods which yield invalid second-stage standard errors (and consequently, questionable hypothesis tests). In this paper, we propose an alternative, one-stage behavioral model which has the potential to generate more-useful results by being better able to uncover the uncontaminated systematic relationships between city size and its determinants. In general, these new models are non-linear in parameters, so that they require more-sophisticated econometric techniques. However, nonlinear optimization methods are steadily becoming more accessible to researchers; work need no longer be limited by OLS techniques.

PD July 1987. **TI** Non-Market Resource Valuation: Assessment of Value Elicitation by "Payment Card" versus "Referendum" Methods. **AU** Cameron, Trudy Ann; Huppert, Daniel D. **AA** Cameron: University of California at Los Angeles. Huppert: National Marine Fisheries Service, Southwest Fisheries Center. **SR** University of California at Los Angeles Department of Economics Working Paper: 448; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 48. **PR** $2.50; checks payable to U.C. Regents. **JE** 721, 722, 211, 212. **KW** Contingent Valuation. Non-Market Resources. Interval Data. Censored. Normal Regression. Fisheries Demand. Recreational Fishing.

AB Contingent valuation methods have been shown to be extremely useful for eliciting information about demands for non-market goods. This paper examines the implications of a survey which collects valuation information with a "payment card" vehicle and compares these to the range of results which would have been generated if (i.) coarser intervals had been specified on the payment card, or (ii.) a "referendum" format had been used instead. The true payment card data are used in both a.) a naive ordinary least squares procedure employing interval midpoints as proxies for the true dependent variable, and b.) a maximum likelihood (ML) procedure which explicitly accommodates the intervals. The ML procedure is also used to compare different degrees of interval coarseness. The artificial referendum data are simulated by Monte Carlo experiments. Our empirical example is the valuation of a recreational fisheries enhancement program. We examine the different implications to be drawn from these data, depending upon the estimation method used and upon the quality of the valuation data. In addition to the purely econometric issues which are the focus of this paper, we are also able to offer some insights on the social value of this enhancement program.

PD September 1987. **TI** Evaluating Information Programs When Outcomes are Discrete: Energy Audit Programs and Household Energy Retrofit Activity. **AU** Cameron, Trudy Ann; Wright, Matthew. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 451; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 27. **PR** $2.50; checks payable to U.C. Regents. **JE** 722, 723, 921, 212, 613. **KW** Program Evaluation. Discrete Choice Models. Energy Audits. Energy Conservation.

AB Sometimes policy makers seek to influence economic activity by providing information, rather than by manipulating relative prices. We formulate a utility-theoretic model for households' decisions to install attic insulation with and without participation in an energy audit program. A joint discrete dependent variable model (with FIML estimation) is employed to correct for selectivity bias in assessing program effects. We find that (i.) self-selection bias gives the audit program roughly twice the credit it deserves, and (ii.) policy measures designed to influence retrofit costs or energy prices appear to have more-discernible direct effects on retrofit activity than do audit programs.

Campbell, John Y.

PD April 1987. **TI** Household Saving and Permanent Income in Canada and the United Kingdom. **AU** Campbell, John Y.; Clarida, Richard H. **AA** Campbell: National Bureau of Economic Research. Clarida: Council of Economic Advisors. **SR** National Bureau of Economic Research Working Paper: 2223; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 431, 132. **KW** Savings. Investment. VAR. Current Account. Permanent Income Hypothesis. Canada. United Kingdom.

AB Recent theoretical research in open-economy macroeconomics has emphasized the connection between a country's current account and the intertemporal savings and investment choices of its households, firms, and governments. In this paper, we assess the empirical relevance of the permanent income theory of household saving, a key building block of recent theoretical models of the current account. Using the econometric approach of Campbell (1987), we are able to reject the theory on quarterly aggregate data in Canada and the United Kingdom. However, we also assess the economic significance of these statistical rejections by comparing the behavior of saving with that of an unrestricted vector autoregressive (VAR) forecast of future changes in disposable labor income. If the theory is true, saving should be the best available predictor of future changes in disposable labor income. We find the correlation between

saving and the unrestricted VAR forecast to be extremely high in both countries. The results suggest that the theory provides a useful description of the dynamic behavior of household saving in Canada and Britain.

PD May 1987. **TI** The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors. **AU** Campbell, John Y.; Shiller, Robert J. **AA** Campbell: Princeton University and National Bureau of Economic Research. Shiller: Yale University and National Bureau of Economic Research. **SR** Princeton Financial Research Center Memorandum: 78; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 60. **PR** $3.00. **JE** 211, 313, 212, 311. **KW** Dividend-Price Ratio. Vector Autoregression. Cointegration. VAR.

AB A 'dynamic Gordon equation' is introduced here that allows, for the first time, time series analysis of the Gordon '1962 relation D/P = r - g where D/P is the dividend-price ratio, r the discount rate and g the growth rate of dividends. The dynamic Gordon equation, based on a linearization of a rational expectations present value model for corporate stock prices, is a simple relation between the log dividend-price ratio and mathematical expectations of future discount rates and future dividend growth rates. If ex post discount rates are observable, this relation can be tested using vector autoregressive methods. Four versions of the linearized model, differing in the measure of discount rates, are tested for United States time series 1871-1986 and 1926-1986: a version which imposes constant real discount rates, and versions which measure discount rates from real interest rate data, aggregate real consumption data, and return variance data. The results yield a metric to judge the relative importance of real dividend growth, measured real discount rates and unexplained factors in determining the dividend-price ratio.

Caplin, Andrew S.

PD July 1987. **TI** Menu Costs and the Neutrality of Money. **AU** Caplin, Andrew S.; Spulber, Daniel F. **AA** Caplin: Princeton University. Spulber: University of Southern California. **SR** National Bureau of Economic Research Working Paper: 2311; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 134, 611, 023. **KW** Price Adjustment. Pricing Policies. Monetary Growth. Price Stickiness.

AB A model of endogenous price adjustment under money growth is presented. Firms follow (delta, S) pricing policies and price revisions are imperfectly synchronized. In the aggregate, price stickiness disappears and money is neutral. The connection between firm price adjustment and relative price variability in the presence of monetary growth is also investigated. The results contrast with those obtained in models with exogenous fixed timing of price adjustment.

Carroll, Chris

PD July 1987. **TI** Why Have Private Saving Rates in the United States and Canada Diverged? **AU** Carroll, Chris; Summers, Lawrence H. **AA** Carroll: no affiliation given. Summers: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2319; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 323, 921, 122. **KW** Saving. Canada. United States. Tax Policies. Government Deficits. Private Savings.

AB One of the central questions in macroeconomics for many years has been whether government policy can affect private saving rates, and if so to what extent and through what channels. The question has remained controversial because, as with other macroeconomic questions, experiments to check divergent hypotheses cannot be deliberately performed, so economists must rely upon the often dubious evidence from the limited experiments with which nature and history have endowed us. This paper discusses the results of an exceptionally good natural experiment that has been provided by Canada and the United States over the past thirty-five years. After moving in tandem for almost 25 years, American and Canadian private saving rates have diverged dramatically over the last decade. The primary conclusion emerging from our analysis of this phenomenon is that tax policies can have a potent impact on private savings behavior. Differences in tax structures and in the interactions of taxation and inflation appear to be important factors explaining the divergent behavior of the American and Canadian private savings rates. Recognizing the importance of asset revaluations, caused partially but not entirely by tax effects, also helps to explain the different behavior of United States and Canadian savings. There may also be a relationship between government deficits and the private savings differential.

Cavanagh, Christopher L.

TI Negotiator Behavior Under Arbitration. **AU** Bloom, David E.; Cavanagh, Christopher L.

Cecchetti, Stephen G.

TI Imperfect Information and Staggered Price Setting. **AU** Ball, Laurence; Cecchetti, Stephen G.

Chaloupka, Frank

TI Breath Testing and the Demand for Drunk Driving. **AU** Saffer, Henry; Chaloupka, Frank.

Chan, M. W. Luke

TI An Integrated Monthly and Hourly Regional Electricity Model for Ontario, Canada. **AU** Hsiao, Cheng; Chan, M. W. Luke; Mountain, Dean C.; Tsui, Kai Y.

Chander, Parkash

PD June 1987. **TI** Cost-Sharing Local Games in Dynamic Processes for Public Goods. **AA** Indian Statistical Institute. **SR** Universite Catholique de Louvain Core Discussion Paper: 8727; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 26. **PR** No Charge. **JE** 026, 025, 024. **KW** Cooperative Games. Public Goods. Bargaining. Shapley Value. Cost-Sharing. Core.

AB The paper considers a general class of nontatonnement planning processes for an economy involving one public and one private good. It is argued

that from a decentralization point of view the reallocations at each step of a nontatonnement process should be justifiable as the outcome of some kind of a bargaining discussion or social interaction among the agents at that step rather than as the ones imposed by the planning authority. This leads us to a cost-sharing problem and to certain n-person cooperative games in characteristic function form which are defined at each step of the process. It is shown that if a certain cost-sharing rule is adopted then these games are convex and the imputation induced by the process is the Shapley value of the corresponding game. A new MDP type of process is obtained as a byproduct. In a second part of the paper a cost-sharing problem is defined as a division problem without reference to a dynamic process and an axiomatic characterization of the proposed cost-sharing rule is given. Another class of n-person cooperative games in characteristic function form is defined which are shown to be convex. It is shown that the proposed cost-sharing rule leads to a core imputation.

PD June 1987. **TI** Surplus - Sharing Rules and Incentives in Planning Procedures for Public Goods. **AA** Indian Statistical Institute. **SR** Universite Catholique de Louvain Core Discussion Paper: 8726; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 21. **PR** No Charge. **JE** 025, 024, 113. **KW** Public Goods. Myopia. Information. Nash Equilibria. Free Rider Problem. Revealed Information. Planning Procedure.

AB The paper analyzes strategic behavior under the assumption of myopia in a new MDP type of procedure in which surplus is distributed according to a time dependent distribution profile which is determined on the basis of the information revealed in the procedure. In particular, the distribution parameters are proportional to the revealed marginal rates of substitution of the consumers. It is shown that unique Nash equilibria exist with the property that PIi(t) >= PIj(t) <=> TSIi(t) >= TSIj(t), where PIi(t) is the true marginal rate of substitution and TSIi(t) is the Nash strategy of consumer i at point t. In a second part of the paper the "free rider" problem is examined in relationship with the new procedure. It is shown that the Fujigaki and Sato (1981) procedure leads to downright free riding whereas the new procedure does not. This is shown to be true irrespective of whether the agents behave truthfully or adopt Nash behavior.

Cheng, Harrison H. C.

PD April 1987. **TI** Equilibrium Theory Without Consumption Constraints. **AA** University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8715; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 15. **PR** No Charge. **JE** 021, 024, 022. **KW** Existence of Equilibria. Unconstrained Consumption. Marginal Rates of Substitution. Optimal Allocations. Preferences.

AB We prove a general existence result for models without consumption constraints. Existence of equilibria for models with constraints can be obtained by treating all bundles not in the consumption set as the least desirable bundles. A key assumption used is related to the reversal of marginal rates of substitution. We take the Arrow-Negishi approach of obtaining an equilibrium. Only upper semicontinuity of preferences are assumed.

PD June 1987. **TI** General Constraint Problems in Equilibrium Analysis. **AA** University of Southern California. **SR** University of Southern California Modelling-Research Group Working Paper: #M8724; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 12. **PR** No Charge. **JE** 021, 024, 026, 313. **KW** Competitive Equilibrium. Optimal Allocation. Arbitrage-Free-Condition. Securities Trading Models.

AB We give four mutually equivalent necessary and sufficient conditions for the existence of competitive equilibrium for a dense set of economies including the class of economies in which preferences are strictly convex and representable by concave utility functions. The consumption sets may be unbounded below and may be the whole space.

Cheung, Yin Wong

PD December 1986. **TI** The Spot Exchange Rates: Random Walks or Bubbles. **AA** Department of Economics University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 86-11; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR) Philadelphia, PA 19104-6297. **PG** 32. **PR** $1.00; Checks payable to Department of Economics, University of Pennsylvania. **JE** 431, 212. **KW** Exchange Rates. Random Walk. Bubble. Unit Root Test. Speculative Bubbles.

AB The reported evidence of the existence of exchange rate bubbles seems to be inconsistent with the recorded random walk behavior of the exchange rates since the usual notion of rational bubbles implies an explosive path. It is suggested to explain this apparent inconsistency with the sporadic nature of self-ending rational bubbles and the fact that their aggregate impacts sometimes cancel each other out. A scheme for testing the sporadic exchange rate bubbles (which includes a test for random walk against the non-stationary and rho >1 alternatives) is proposed. The empirical findings indicate that though the random walk hypothesis is a good approximation for the entire exchange rate time series and for the sub-sample period with more stable market conditions, self-ending bubbles are likely to occur in the turbulent sub-sample periods.

Choe, Yoonjae

PD May 1987. **TI** Indeterminacy of Short-Run Exchange Rates in a Managed Float Regime. **AA** Department of Economics, Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 128; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 39. **PR** No Charge. **JE** 023, 431. **KW** Exchange rates. Rational Expectations. Indeterminacy. Dynamics. Market Fundamentals. Open Economy.

AB This paper explains why the short-run movements of exchange rates may not be well-predicted by theory. The main conclusion is that exchange rates are indeterminate, as long as the monetary authority does, and is expected to, intervene endogenously to hold exchange rates within finite limits. The existence of such limits virtually guarantees

the absence of the long-run explosion. Therefore, the distinction between market fundamentals and bubbles in a perfect-foresight model disappears, and the short-run exchange rates become indeterminate. This result explains why extraneous variables ('sunspots') are as important as 'market fundamentals' to speculators. The indeterminacy is a potential problem in the rational expectations literature in general. The rational expectations literature that relies on the saddle-path solution is much more Classical than has been thought, in that the private sector is left in a complete laissez-faire even in the case of an infinite explosion. On the other hand, the results of this paper reflect Keynes' skepticism of the private sector's ability to reach its own solution.

Christiano, Lawrence J.

PD April 1987. **TI** The Permanent Income Hypothesis Revisited. **AU** Christiano, Lawrence J.; Eichenbaum, Martin; Marshall, David. **AA** Christiano: Federal Reserve Bank of Minneapolis. Eichenbaum and Marshall: Carnegie-Mellon University. **SR** National Bureau of Economic Research Working Paper: 2209; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023. **KW** Consumption. Random Walk. Permanent Income Hypothesis.

AB This paper investigates whether there are simple versions of the permanent income hypothesis which are consistent with the aggregate United States consumption and output data. Our analysis is conducted within the confines of a simple dynamic general equilibrium model of aggregate real output, investment, hours of work and consumption. We study the quantitative importance of two perturbations to the version of our model which predicts that observed consumption follows a random walk: (i) changing the production technology specification which rationalises the random walk result, and (ii) replacing the assumption that agents' decision intervals coincide with the data sampling interval with the assumption that agents make decisions on a continuous time basis. We find substantially less evidence against the continuous time models than against their discrete time counterparts. In fact neither of the two continuous time models can be rejected at conventional significance levels. The continuous time models outperform their discrete time counterparts primarily because they explicitly account for the fact that the data used to test the models are time averaged measures of the underlying unobserved point-in-time variables. The net result is that they are better able to accommodate the degree of serial correlation present in the first difference of observed per capita United States consumption.

Clarida, Richard H.

TI Household Saving and Permanent Income in Canada and the United Kingdom. **AU** Campbell, John Y.; Clarida, Richard H.

Cohen, Wesley M.

PD April 1987. **TI** Firm Size and R&D Intensity: A Re-Examination. **AU** Cohen, Wesley M.; Levin, Richard C.; Mowery, David C. **AA** Cohen and Mowery: Carnegie-Mellon University. Levin: Yale University. **SR** National Bureau of Economic Research Working Paper: 2205; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 621, 611, 522. **KW** Research and Development. Technological Progress. Industry Development.

AB Using data from the Federal Trade Commission's Line of Business Program and survey measures of technological opportunity and appropriability conditions, this paper finds that overall firm size has a very small, statistically insignificant effect on business unit R & D intensity when either fixed industry effects or measured industry characteristics are taken into account. Business unit size has no effect on the R & D intensity of business units that perform R & D, but it affects the probability of conducting R & D. Business unit and firm size jointly explain less than one per cent of the variance in R & D intensity; industry effects explain nearly half the variance.

Cooley, Thomas F.

PD May 1987. **TI** Equilibrium in Cooperative Games of Policy Formulation. **AU** Cooley, Thomas F.; Smith, Bruce D. **AA** Cooley: University of Rochester and the University of California at Santa Barbara. Smith: Carnegie-Mellon University and the University of California at Santa Barbara. **SR** University of Rochester Center for Economic Research Working Paper: 84; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 32. **PR** No Charge. **JE** 026, 311, 023. **KW** Dynamic Coalitions. Cooperative Games. Optimal Taxation. Policy Games. Time Consistency.

AB A major theme of the literature on policy games has been to examine when non-cooperative play of such a game can result in "optimal", or "cooperative", outcomes. However, this literature does not examine what explicitly cooperative play of such a game would involve. We propose a formulation of cooperative play based on the "dynamic coalitions" notion of Boyd and Prescott (1986a, 1986b). We show that cooperative equilibria of certain kinds of policy games exist and are unique. However, the equilibrium outcomes of cooperative policy games are not the "optimal" outcomes, but rather, the time consistent ones. Also, a version of the cooperative framework is shown to produce some sharp implications about optimal tax problems: specifically, that various kinds of non-lump-sum taxes are not distorting. Some empirical implications of this result are discussed.

Corcoran, Mary

TI The Effect of Family Background on Economic Status: A Longitudinal Analysis of Sibling Correlations. **AU** Solon, Gary; Corcoran, Mary; Gordon, Roger; Laren, Deborah.

TI Sibling and Intergenerational Correlations in Welfare Program Participation. **AU** Solon, Gary; Corcoran, Mary; Gordon, Roger; Laren, Deborah.

Cornet, Bernard

TI Existence of Marginal Cost Pricing Equilibrium in an Economy with Several Nonconvex Firms. **AU** Bonnisseau, Jean Marc; Cornet, Bernard.

Cremer, Helmuth

PD 1987. **TI** The Public Firm as an Instrument for Regulating an Oligopolistic Market. **AU** Cremer, Helmuth; Marchand, Maurice; Thisse, Jacques Francois. **AA** Cremer: Universite de Liege. Marchand, Thisse: Universite Catholique de Louvain, Centre for Operations Research and Econometrics. **SR** Universite Catholique de Louvain Core Discussion Paper: 8710; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 24. **PR** No Charge. **JE** 611, 614, 612, 613. **KW** Oligopoly. Public Enterprise. Regulation. Increasing returns to Scale. Nationalization. Imperfectly Competitive Market.

AB The purpose of this paper is to analyze the extent to which public enterprises can be used as a policy instrument to improve resource allocation in an imperfectly competitive market. More specifically, we want to deal with the following questions. Given n private firms selling a homogeneous product and competing at the Cournot-Nash equilibrium, would it be socially optimal for the government to nationalize some of these firms and to instruct them to maximize social welfare? If yes, how many of them should be made public? Alternatively, would it be socially desirable to create public enterprises, and which of these two policies is better? On the contrary, if some public firms are already established in the industry, would it be socially advantageous to privatize some or all of them? We examine these issues under a set of assumptions which differ from those found in the existing literature. In particular, it is assumed that there are increasing returns to scale at the firms's level and that each public firm faces a budget constraint that forces it to make nonnegative profits. In our framework, it is shown that nationalizing a single firm in an industry with only private firms is the optimal policy for most parameter combinations. In the remaining cases, welfare is maximized through the nationalization of the whole industry. It is also shown that nationalizing an existing firm is always superior to creating a new one.

Crew, Michael A.

PD April 1986. **TI** Productivity Incentives and Rate-of-Return Regulation. **AU** Crew, Michael A.; Kleindorfer, Paul R. **AA** Crew: Department of Economics, Rutgers University. Kleindorfer: University of Pennsylvania Decision Sciences Department. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: #195; 3718 Locust Walk, Philadelphia, PA 19104-6297 University of Pennsylvania, McNeil Building. **PG** 23. **PR** No Charge. **JE** 612, 613, 024, 022. **KW** Efficiency Incentives. Rate-of-Return Regulation.

AB The purpose of this paper is to examine in more detail some proposals for adding efficiency incentives to traditional Rate-of-Return regulation. We shall not consider in this paper the role which deregulation could play as an incentive for efficiency, although this has been much discussed in recent literature. We will rather confine ourselves to a discussion of efficiency incentives within the administered contract context of traditional Rate-of-Return regulation. Our reasons for doing this are that complete deregulation of the utility sector seems unlikely, so that some significant part of the utility sector will doubtless remain regulated over the long run. Within this context, therefore, an investigation of efficiency incentives under administered regulation seems an important continuing problem.

Cumby, Robert E.

PD June 1987. **TI** On the Definition and Magnitude of Recent Capital Flight. **AU** Cumby, Robert E.; Levich, Richard M. **AA** New York University. **SR** National Bureau of Economic Research Working Paper: 2275; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 441, 313, 229. **KW** Capital Flight. Data.

AB This paper presents a survey of alternative definitions of capital flight and empirical estimates of capital flight utilizing a common database. At the conceptual level, we argue that the definition of capital flight requires a somewhat arbitrary distinction between normal capital flows and those representing capital flight. At the empirical level, our results illustrate the range of estimates of capital flight that are possible and how alternative definitions or databases contribute to the dispersion of estimates. Our results show that for some countries, differences in definitions or databases may have substantial effects, causing some estimates of capital flight to be positive and others negative. We argue that an appropriate definition of capital flight is one that is consistent with the kinds of economic questions under consideration. In theory, capital flight should be viewed within the context of a general equilibrium model. When this is done, capital flight will appear to be a symptom of underlying economic forces rather than a cause of national welfare losses.

Dann, Larry Y.

PD April 1987. **TI** Corporate Financial Policy and Corporate Control: A Study of Defensive Adjustments in Asset and Ownership Structure. **AU** Dann, Larry Y.; DeAngelo, Harry. **AA** Dann: Graduate School of Business, University of Oregon. DeAngelo: William E. Simon Graduate School of Business Administration, University of Rochester. **SR** University of Rochester Managerial Economics Research Center Working Paper: MERC86-11; William E. Simon Graduate School of Business Administration, University of Rochester, Rochester, NY 14627. **PG** 66. **PR** NC single copies; 50 cents each paper beyond 5 in each order. **JE** 520, 521, 510. **KW** Corporate Finance. Corporate Control. Corporate Governance. Takeover Defense. Ownership Structure. Management.

AB This paper presents evidence that stockholder wealth declines on average when managers respond to attempted hostile takeovers with defensive changes in asset and ownership structure. The data also indicate that these corporate structure changes are typically quite large and that many share the common elements of attempts by managers to exploit vulnerabilities specific to the hostile bidder and/or to consolidate a block of voting securities in the hands of management allies. The evidence is consistent with a theory of the firm in which managerial self-interest influences corporate asset and ownership

structure.

Dasgupta, Sudipto

PD August 1987. **TI** Procurement Auctions. **AU** Dasgupta, Sudipto; Spulber, Daniel F. **AA** University of Southern California. **SR** University of Southern California Modelling-Research Group Working Paper: #M8729; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 37. **PR** No Charge. **JE** 025, 026, 022, 114. **KW** Government Procurement. Sealed Bids. Auctions. Asymmetric Information.

AB This paper examines the procurement problem of a buyer who wishes to procure an object from a given number of firms under conditions of asymmetric information about firms' cost. Optimal fixed and variable quantity procurements are analyzed and implementation issues discussed. It is shown that the optimal mechanism can be implemented by auction in which a payment schedule is announced by the buyer, and the firm bidding the largest output wins the contract.

de Macedo, Jorge Braga

TI Smuggler's Blues at the Central Bank: Lessons from Sudan. **AU** Branson, William H.; de Macedo, Jorge Braga.

de Palma, Andre

PD February 1987. **TI** Commuters' Paths with Penalties for Early or Late Arrival Time. **AU** de Palma, Andre; Hansen, Pierre; Labbe, Martine. **AA** de Palma: Northwestern University. Hansen: Rutgers University. Labbe: Universite Louis Pasteur. **SR** Universite Catholique de Louvain Core Discussion paper: 8712; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 24. **PR** No Charge. **JE** 213, 022. **KW** Best Path Analysis. Travel Time. Congestion. Scheduling. Pseudo Polynomial Algorithm.

AB We formulate the choice of a best path for a commuter as a generalized shortest path problem. It integrates constant costs for use of arcs, cost functions of travel times depending on (exogenous) congestion and schedule delay. The problem is shown to be NP-hard, polynomial subcases are determined and a pseudo-polynomial algorithm is provided for the general case.

TI Demand for Differentiated Products, Discrete Choice Models, and the Address Approach. **AU** Anderson, Simon P.; de Palma, Andre; Thisse, Jacques Francois.

de Pay, Diana

PD May 1987. **TI** Zur Organisation von Innovationen: Die Anwendung des Dekompositionsprinzips von Williamson. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: D-15; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 36. **PR** No Charge. **JE** 511. **KW** Organization Theory. Decomposition Principle. Innovations.

DeAngelo, Harry

TI Corporate Financial Policy and Corporate Control: A Study of Defensive Adjustments in Asset and Ownership Structure. **AU** Dann, Larry Y.; DeAngelo, Harry.

DeAngelo, Linda Elizabeth

PD April 1987. **TI** Managerial Competition, Information Costs, and Corporate Governance: The Use of Accounting Performance Measures in Proxy Contests. **AA** William E. Simon Graduate School of Business Administration. **SR** University of Rochester Managerial Economics Research center Working Paper: MERC86-07; William E. Simon Graduate School of Business Administration, University of Rochester, Rochester, NY 14627. **PG** 55. **PR** NC single copies; 50 cents each paper beyond 5 in each order. **JE** 541, 510, 521, 313. **KW** Proxy Contests. Corporate Governance. Information Costs. Proxy Fight. Corporate Control. Stockholders. Earnings.

AB This paper reports evidence that dissident stockholders who wage a proxy contest for board seats typically cite poor earnings rather than poor stock price performance as necessitating the proposed hostile management change. Consistent with this finding, sample firms' pre-contest accounting returns were systematically below the market average, whereas their pre-contest stock returns were not. During an election campaign, incumbent managers apparently exercise their accounting discretion to paint a favorable picture of their own performance to voting stockholders. If elected, dissidents tend to take an immediate earnings "bath" which they typically blame on the poor decisions of prior management.

DeGraba, Patrick

PD October 1985. **TI** The Effects of Price Restrictions on Competition Between Local and National Firms. **AA** Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania Center for the Study Of Organizational Innovation Working Paper: 190; University of Pennsylvania, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 24. **PR** No Charge. **JE** 611, 616, 026. **KW** Most Favored Customer Clause. Sales Contract. Nash Equilibrium. Product Differentiation.

AB A Most Favored Customer Clause (MFC) in a sales contract stipulates that the seller must charge the buyer a price that is less than or equal to the lowest price quoted to any other customer. How do MFC's affect the equilibrium of an industry that has one national firm that faces a local competitor in each of two different markets? The model in this paper suggests that when the national firm offers MFC's to its customers, all firms in the industry charge lower prices than they would had these clauses not been in effect. Each firm in the model produces a differentiated product. The firms play a two-stage game in which each chooses a product specification in the first stage, and a price in the second, taking the first stage decisions as given. The equilibrium concept is that of perfect Nash equilibrium. The equilibrium prices in the game when the national firm is constrained by MFC's are shown to be lower than the prices in the game when the national firm is allowed to price discriminate. The intuition behind the result is that MFC's impose a

constraint on the national firm in the second stage of the game. The local firms react to the constraint by being more aggressive (i.e., choosing a specification which is a closer substitute for that chosen by the national firm) in the first stage, causing the market to be more competitive, and thereby lowering equilibrium prices.

Deolalikar, Anil B.

TI Will Developing Country Nutrition Improve with Income? A Case Study for Rural South India. **AU** Behrman, Jere R.; Deolalikar, Anil B.

TI How Do Food Prices Affect Individual Nutritional and Health Status? A Latent Variable Fixed-Effect Analysis. **AU** Behrman, Jere R.; Deolalikar, Anil B.

Detemple, Jerome

PD March 1987. **TI** A General Equilibrium Analysis of Option And Stock Market Interactions. **AU** Detemple, Jerome; Selden, Larry. **AA** Columbia Business School. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-87-16; 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** 313, 021, 521. **KW** Stock Option Pricing. General Equilibrium. Securities. Financial Markets.

AB Traditional options models in finance are characterised by options being redundant, hence not traded in equilibrium, and stock prices being independent of the options market. By assuming that investors are sufficiently diverse, it is possible to derive an equilibrium in which options are traded and the equilibrium stock price depends on the exercise price of the corresponding option. The form of heterogeneity assumed here has the property of producing closed form expressions for both asset demands and equilibrium prices. The resulting expressions are tractable enough to permit comparative statics analyses. In particular, we show that, under weak conditions, the stock price is a decreasing function of the option exercise price.

Dhrymes, Phoebus J.

PD March 1987. **TI** Specification Tests in Simultaneous Equations Systems. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 343; Department of Economics, Columbia University, New York, NY 10027. **PG** 34. **PR** $5.00. **JE** 211. **KW** Specification Test. 2SLS. 3SLS. Identification Tests. Prior Information.

AB In this paper, we have introduced a novel formulation of the 2SLS and 3SLS estimators, representing them as simply restricted least squares and generalized least squares, respectively. The restrictions in question are the "identifying" or "a priori" restrictions usually associated with the Maximum Likelihood procedures in simultaneous equations systems. Two major benefits flow from this approach: first, it unifies the theory of the classical (linear) estimators, such as least squares, generalized least squares, 2SLS and 3SLS. Second, it provides a convenient "identification test", which is lacking in the contest of 2SLS and 3SLS; moreover, it makes routinely possible specification tests, i.e., tests of the "overidentifying" restrictions, both individually and in (small) groups. This latter feature is not routinely possible, i.e., it cannot emerge as a by product of estimation, even in a Maximum Likelihood context.

Dickens, William T.

PD June 1987. **TI** Inter-Industry Wage Differences and Theories of Wage Determination. **AU** Dickens, William T.; Katz, Lawrence. **AA** Dickens: University of California, Berkeley. Katz: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2271; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 821, 824, 831. **KW** Wages. Labor Market. Unions. Efficiency Wages. Quit Rates.

AB Numerous studies have shown large differences in wages for apparently similar workers across industries. These findings pose a challenge to standard models of labor market behavior. A problem with past studies of industry wage differences is that they have failed to distinguish between union and nonunion workers. Many economists may expect union workers wages to be set in a noncompetitive fashion but would be surprised if nonunion wages were. On the basis of all the evidence we conclude that standard labor market clearing models can not easily explain all the facts. Several alternative models are discussed including efficiency wage and collective action threat models. These are found to be more consistent with the facts though some troubling problems remain.

Diebold, Francis X.

PD November 1986. **TI** The Dynamics of Exchange Rate Volatility: A Multivariate Latent Factor ARCH Model. **AU** Diebold, Francis X.; Nerlove, Marc. **AA** Diebold: Board of Governors of the Federal Reserve System. Nerlove: University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 86-10; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR) Philadelphia, PA 19104-6297. **PG** 49. **PR** $1.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 431, 212. **KW** Exchange Rates. ARCH. Volatility. Random Walk.

AB Time-series econometric methods are used to characterize the stochastic structure of seven major dollar spot exchange rates during the floating-rate regime 1973-1985. Formal unit root tests are used to establish the presence of one (and only one) unit root in the auto-regressive lag-operator polynomial of each exchange rate, and it is shown that the conditional mean behavior of each rate is close to a random walk. The conditional variances, however, display strong auto-regressive conditional heteroskedasticity (ARCH). Separate univariate models, as well as a full "latent variable" multivariate model, are developed and estimated. The ARCH effects are used to provide meaningful measures of exchange rate volatility, explain the observed leptokurtosis of the unconditional distributions (as well as the convergence to unconditional normality under temporal aggregation), and to provide superior interval predictors.

PD April 1987. **TI** The Use of Prior Information in Forecast Combination. **AU** Diebold, Francis X.; Pauly,

Peter. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 218; Federal Reserve Board, C/O Frank Diebold, Washington, DC 20551. **PG** 30. **PR** No Charge. **JE** 211, 132, 212. **KW** Forecasting. Prediction. Bayesian. Shrinkage. Pooling.
AB We develop simple Bayesian approaches which facilitate the incorporation of prior information in combined forecasts. We use the regression-based framework of Granger and Ramanathan (1984), and we consider univariate as well as multivariate "shrunken" composites. An application to ex ante forecasts from four major macroeconometric models illustrates the substantial MSPE reductions achievable.

Diewert, W. E.

PD April 1987. **TI** Adjusting the Consumer Price Index for Changes in Taxes. **AU** Diewert, W. E.; Bossons, John. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-09; Department of Economics, University of British Columbia #997 - 1873 East Mall, Vancouver, B.C. V6T 1W5 CANADA. **PG** 30. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 227, 323. **KW** CPI. Indices. Tax Reform. Prices.
AB The immediate motivation for this paper is the proposed tax reform in Canada which will probably significantly increase indirect taxes (i.e., taxes on purchases of commodities) and decrease direct taxes (i.e., taxes on sources of income). This increase in indirect taxation will cause an increase in the consumer price index (CPI), and for a variety of indexation purposes, it would be desirable to be able to measure the magnitude of this tax reform induced increase in the CPI.

PD April 1987. **TI** Flexible Functional Forms for Profit Functions and Global Curvature Conditions. **AU** Diewert, W. Erwin; Ostensoe, Lawrence. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-06; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1W5. **PG** 19. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 022. **KW** Flexible Functional Forms. Profit Functions. Constant Returns to Scale.
AB The paper proposes a family of functional forms for a restricted profit function. These functional forms generalize a functional form due to Fuss and they have the very desirable property that the theoretically appropriate curvature conditions can be imposed globally without destroying the flexibility of the functional form.

Dinopoulos, Elias

TI A Schumpeterian Model of the Product Life Cycle. **AU** Segerstrom, Paul S.; Anant, T. C. A.; Dinopoulos, Elias.

Doghri, Lamine

TI The Size Distribution and Ownership Type of Firms in Tunisian Manufacturing. **AU** Nabli, Mustapha K.; Nugent, Jeffrey B.; Doghri, Lamine.

Dominguez, Kathryn M.

TI Effects of the Changing U.S. Age Distribution on Macroeconomic Equations. **AU** Fair, Ray C.; Dominguez, Kathryn M.

TI Effects of the Changing U.S. Age Distribution on Macroeconomic Equations. **AU** Fair, Ray C.; Dominguez, Kathryn M.

Dornbusch, Rudiger

PD August 1987. **TI** Open Economy Macroeconomics: New Directions. **AA** MIT. **SR** National Bureau of Economic Research Working Paper: 2372; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 431, 611, 422. **KW** Open Economy. Macroeconomic Policy. Pricing. Waiting. Expectations. Exchange Rates. Commercial Policy. Monetary Policy. Capital Flight.
AB The paper reviews the directions of research that offer important insights into open economy macroeconomic policy: pricing, waiting and expectations. The pricing discussion centers on the recognition that firms are price setters. This implies that industry shocks such as exchange rate movements or changes in commercial policy have effects on output and prices different from the standard model of a small country under perfect competition. Industrial organization considerations including market structure and product differentiation determine the impact of shocks on output and prices. Extensions of work on irreversible investment, drawing on the option literature, shows the value of waiting. In open economy macroeconomics this theory can be applied not only to questions of employment but also to such topics as the return of capital flight. The expectations literature is being extended to more ambitious stochastic models of policy. If agents extrapolate current disturbances, say in money, and expect a cumulative deviation of money from an initial path there will be large immediate effects of money innovations on exchange rates. These new models extend the Mundell-Fleming models by showing that even small changes in the growth rate of money can bring about large changes, and volatility, in exchange rates.

Dowrick, Steve

PD May 1987. **TI** Union-Oligopoly Bargaining: Micro- and Macro-Economic Implications. **AA** Australian National University. **SR** Australian National University Working Paper in Economics and Econometrics: 145; Department of Economics, Australian National University, P.O. Box 4, Canberra A.C.T. 2601, AUSTRALIA. **PG** 36. **PR** No Charge. **JE** 832, 026, 022, 611. **KW** Union. Oligopoly. Bargaining. Income Distribution. Wages. Unemployment.
AB A model is developed highlighting interactions between firm-level union-employer bargaining and industry-level oligopolistic price-setting (combining models of parametric conjectural variation oligopoly and asymmetric Nash-bargaining). There is a prediction that individual employers will generally prefer not to include jobs in bargaining, in which case aggregate real wages and functional income distribution are largely determined by employers' ability to set price-cost margins. Wages can only be bargained up if product market behaviour is non-competitive or if unions act on an industry-wide basis.

Price stability requires a trade-off between unemployment, oligopoly power and union bargaining strength unless bargaining covers employment.

Due, John F.

PD November 1986. **TI** Major Determinants of Tax Structures in Market Economy Countries. **AU** Due, John F.; Meyer, Carrie. **AA** University of Illinois, Department of Economics. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1309; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 60. **PR** No Charge. **JE** 323, 053, 123. **KW** Tax Structures. Per Capita GNP. Market Economies. Taxes. Sales Tax. Excise Tax. Import Duties. Income Taxes. Indirect Taxes.

AB The purpose of the paper is to reexamine the major influences on the tax structures of market economies, with particular emphasis on the significance of the level of GNP on the relative reliance on major forms of taxes. Previous work, primarily developed under International Monetary Fund auspices, is reviewed. The econometric study summarized in this paper includes 120 countries, both developing and industrialized, with data for the most recent year available. The results confirm the principal findings of the earlier studies but provide more detail by area. The most firmly established result is that the relative reliance on customs duties, total indirect taxes, and export duties falls as per capita GNP rises. Sales and excise taxes, as such, show no correlation with GNP. In Africa, consisting almost entirely of low income countries, no inverse correlation of import duties or total indirect taxes with GNP is found. If openness is included as a variable and oil exporting countries are segregated, the results are improved but not basically changed. Countries with a high degree of openness rely more heavily on import duties, the oil exporting countries more heavily on income taxes than other countries with similar GNPs per capita.

Duin, C. W.

TI Bias Correction in Lagged-Dependent Variable Models. Reduction Tests for the Steiner Problem in Graphs. **AU** Kiviet, Jan F.; Phillips, G. D. A.; Duin, C. W.; Volgenant, A.

Easterlin, Richard A.

TI Application of Granger-Sims Causality Tests to Monthly Fertility Data 1958-1984. **AU** Macunovich, Diane J.; Easterlin, Richard A.

Eaton, Jonathan

PD April 1987. **TI** Country Risk and the Organization of International Capital Transfer. **AU** Eaton, Jonathan; Gersovitz, Mark. **AA** Eaton: University of Virginia. Gersovitz: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2204; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 441, 026, 433, 442, 443. **KW** Foreign Portfolio Investment. Default Risk. Capital Flight. Expropriation. Direct Foreign Investment.

AB Foreign portfolio investment is threatened by the risk of default and repudiation, while direct foreign investment is threatened by the risk of expropriation. These two contractual forms of investment can differ substantially in: (1) the amount of capital they can transfer from abroad to capital-importing countries; (2) the shadow cost of capital and (3) their implications for the tax policy of the host. The interaction of public borrowing from abroad with investments abroad by private citizens of the borrowing country can imply multiple equilibria with very different welfare consequences. One equilibrium involves private inflows and repayment of public debt. Another is characterized by capital flight and default.

Ebert, Udo

PD March 1987. **TI** Das Trittbrettfahrerproblem bei der Allokation offentlicher Guter. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-110; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 22. **PR** No Charge. **JE** 025, 024, 321. **KW** Public Goods. Allocation. Free-Rider Problem. External Effects.

PD March 1987. **TI** Global Tax Progressivity. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-109; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** No Charge. **JE** 323, 324. **KW** Tax Progressivity. Global Index. Distributional Weights. Progressivity Measure. Income Distribution. Equity.

AB The paper is concerned with the question how to choose an appropriate summary measure of tax progressivity. Knowing the relevant properties of a global index is important since the answer one gets is in general dependent on the choice of an index. Some properties of summary measures are proposed and their consequences are investigated. The starting point of the analysis is a local measure, namely the residual income progression. For a given distribution of before-tax income the global indices which are suggested assess the average progressivity, i.e. the average degree of progression. The characterization of two families of progressivity indices are presented. Furthermore one index, the geometric mean of the local measures of progressivity, is proposed and characterized. It possesses attractive properties. Finally distributional considerations (i.e. distributional weights) are taken into account.

Economides, Nicholas

PD May 1987. **TI** Differentiated Public Goods: Privatization and Optimality. **AU** Economides, Nicholas; Rose, Ackerman Susan. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 348; Department of Economics, Columbia University, New York, NY 10027. **PG** 26. **PR** $5.00. **JE** 024, 025, 022, 611. **KW** Monopolistic Competition. Variety. Public Good. Privatization.

AB Building on previous work on monopolistic competition in variety space, this paper demonstrates that the privatization of public good production will not produce optimal results even when citizens have widely varying tastes for public services. While the use of multiple providers may indeed be optimal, equilibrium in

an unregulated competitive market may be inferior to the public production of a single variety. The full benefits of having multiple providers can only be obtained by regulating both entry and production levels. A free market financed by tax-deductible contributions will generally have too many producers supplying too much output.

PD June 1987. **TI** Desirability of Compatibility in the Absence of Network Externalities. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 351; Department of Economics, Columbia University, New York, NY 10027. **PG** 24. **PR** $5.00. **JE** 611, 631, 621. **KW** Standards. Compatibility. Specifications. Product Specification. Electronics Industry. Component Systems.

AB We discuss and compare the incentives firms have to produce individual components compatible with components of other manufacturers instead of "systems" composed of components that are incompatible with components of competing manufacturers. This analysis is done under the assumption of absence of positive consumption externalities ("network" externalities).

PD July 1987. **TI** The Economics of Trademarks. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 353; Department of Economics, Columbia University, New York, NY 10027. **PG** 30. **PR** $5.00. **JE** 611, 612, 531. **KW** Trademarks. Advertising. Barriers to Entry. Consumer Perception.

AB Trademarks facilitate consumers' choice among experience goods and transmit quality signals for infrequently consumed goods. Trademarks are indispensable for the efficient provision of products with the wide range of variety and quality combinations demanded in a modern economy. Nevertheless, they can also sometimes have anticompetitive effects. Trademarks allow firms to tie-in desired mental images with the advertised goods and to compete in perception advertising. The resulting possible distortions of competition fall into three categories. First, competition in perception advertising may result in a larger number of brands at equilibrium than is optimal. Second, the tie-in produces an allocative distortion. Third, resources may be wasted in the effort to link desired mental images with advertised goods. The effects of trademarks on barriers to entry are ambiguous. The intertemporal effects of perception advertising may create barriers to entry for newcomers. Such barriers will be beneficial to society when they tend to decrease the number of brands towards optimality. With sequential entry, however, perception advertising may tend to increase the number of brands.

Edwards, Sebastian

PD April 1987. **TI** The United States and Foreign Competition in Latin America. **AA** University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2218; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 421, 133, 121, 123, 431, 441. **KW** Trade Relations. Latin America. Exports. Direct Foreign Investment. Debt Crisis.

AB This paper analyzes the evolution of the United States trade relations with Latin America, investigating the possible path that these relations will take in the future. The data analyzed show that during the last 15 years or so there has been no significant loss in the United States aggregate competitive position in Latin America. However, there has been a significant change in the composition of United States exports to the Latin American nations. The paper also deals with issues related to direct foreign investment in Latin America, comparing the importance of the United States and other nations. Finally, the role of international trade in the solution of the current Latin American debt crisis, and in the reassumption of sustained growth in the region is discussed.

PD April 1987. **TI** Anticipitated Protectionist Policies, Real Exchange Rates and the Current Account. **AA** University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2214; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 421, 422, 023. **KW** Intertemporal Model. Protectionism. Exchange Rates. Balance of Trade. Tariffs. Imports. Overshooting.

AB In this paper a general equilibrium intertemporal model, with optimizing consumers and producers, is developed to analyze how the anticipation of future import tariffs affects real exchange rates and the current account. The model is completely real, and considers a small open economy that produces and consumes three goods each period. It is shown that, without imposing rigidities or adjustment costs, interesting paths for the equilibrium real exchange rate can be generated. In particular "equilibrium overshooting" can be observed. Precise conditions under which an anticipated future import tariff will worsen the current account in period 1 are derived. Several ways in which the model can be extended are also discussed in detail. The results obtained from this model have important implications for the analysis of real exchange rate misalignment and overvaluation.

Eichenbaum, Martin

PD January 1987. **TI** Estimating Models with Intertemporal Substitution Using Aggregate Time Series Data. **AU** Eichenbaum, Martin S.; Hansen, Lars Peter. **AA** Eichenbaum: Carnegie-Mellon University and National Bureau of Economic Research. Hansen: University of Chicago. **SR** Economics Research Center/NORC Program in Quantitative Economic Analysis Discussion Paper: 87-7; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 50. **PR** $2.00; send requests to Librarian, Economics Research Center/NORC. **JE** 212, 211, 023. **KW** Permanent Income Hypothesis. Asset Pricing Model. Consumption. Preferences. Unit Roots. Durables.

AB In conducting empirical investigations of the permanent income model of consumption and the consumption-based intertemporal asset pricing model, various authors have imposed restrictions on the nature of the substitutability of consumption across goods and over time. In this paper we suggest a method for testing some of these restrictions and present empirical results using this approach. Our empirical analyses focuses on three questions: (i) Can the services from durable and

nondurable goods be treated as perfect substitutes? (ii) Are preferences completely separable between durable and nondurable goods? (iii) What is the nature of intertemporal substitutability of nondurable consumption? When consumers' preferences are assumed to be quadratic, there is very little evidence against the hypothesis that the services from durable goods and nondurable goods are perfect substitutes. These results call into question the practice of testing quadratic models of aggregate consumption using data on nondurables and services only. When we consider S branch specifications, we find more evidence against perfect substitutability between service flows, but less evidence against strict separability across durable and nondurable consumption goods. Among other things, these findings suggest that the empirical shortcomings of the intertemporal asset pricing model cannot be attributed to the neglect of durable goods.

TI The Permanent Income Hypothesis Revisited. **AU** Christiano, Lawrence J.; Eichenbaum, Martin; Marshall, David.

Eldor, Rafael

PD August 1987. **TI** Trade Liberalization and Imperfect Competition: A Welfare Analysis. **AU** Eldor, Rafael; Levin, Dan. **AA** Eldor: Boston University and Tel-Aviv University. Levin: University of Houston, Texas. **SR** Tel Aviv Foerder Institute for Economic Research Working Papers: 18-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 26. **PR** No Charge. **JE** 411, 421, 422. **KW** Trade Liberalization. Imperfect Competition. Voluntary Export Restraints. Trade Restrictions. Quotas. Tariffs.

AB This paper identifies sufficient conditions for an increase/decrease in a country's welfare due to partial trade liberalization where the domestic industry is characterized by a monopoly or Cournot oligopoly. Different trade restrictions are considered. Those are quotas imposed by the foreign country (VERs), quotas imposed by domestic country and tariffs. In the case of VERs, welfare unambiguously decreases when the first unit of trade is introduced into the economy. It is shown that the decrease in welfare due to additional import under VERs may take place for a substantial range. On the other hand, as we leave free trade position to restrict the last unit of trade, under VER, welfare unambiguously decreases even in the large country case. In the case of quotas, if the domestic marginal cost is greater or equal than the foreign price cum transportation cost, then importing country's welfare rises due to additional import. When the marginal cost is lower than the foreign price cum transportation cost, and export is not possible, then welfare may decrease with additional import. Thus, in general, there is no monotonic relationship between the reduction in the degree of quota (both export and import quota) and importing country's welfare. In the case of tariffs, as the tariff is reduced from the prohibitive rate, welfare rises.

Escribano, Alvaro

PD March 1987. **TI** Co-Integration, Time Co-Trends and Error-Correction Systems: An Alternative Approach. **AA** Universite de Catholique de Louvain. **SR** Universite Catholique de Louvain Core Discussion Paper: 8715; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 31. **PR** No Charge. **JE** 211. **KW** Cointegration. Error Correction Models. Time Trends. Unit Roots. Integrated Processes.

AB In this paper we propose a concept of time trend and a concept of integrated stochastic process that is not model dependent. We show how these concepts allow us to distinguish among stochastic processes that are dominated by the long run components, thus permitting us to consider different types of long run economic relationships and to derive the corresponding error-correction representations. We restrict the class of stochastic processes to second order processes. In so doing, we show that integrated processes in variance form a subclass of the models with time trends in variance and that the error-correction representations are based only on that source of growing stochastic behaviour. The proposed concepts are illustrated by some examples and are related to the types of stochastic processes used in the literature on unit roots, on co-integration and on common trends.

PD April 1987. **TI** Error-Correction Systems: Nonlinear Adjustments to Linear Long-Run Relationships. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain Core Discussion Paper: 8730; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 29. **PR** No Charge. **JE** 211, 132. **KW** Nonlinear Time Series. Error Correction Models. Integrated Stochastic Processes. Exogeneity. Stationarity. Trends. Vector Autoregression. VAR. Cointegration.

AB In this paper a unifying approach, based on conditional expectations, is used to generate nonlinear time series models. In particular, we show how to derive nonlinear error-correction models that postulate as targets linear long-run relationships and allow for nonlinear short-run adjustments. This framework incorporates both a variety of integrated stochastic processes and departures from long-run relationships with broad time series properties. The analysis is done for system of equations in reduced and structural form. Furthermore, since most of the empirical applications available are based on single equation models, we derive also the corresponding single equation models and discuss the appropriateness of the concept of weak exogeneity in error-correction models.

Fair, Ray C.

PD April 1987. **TI** The Effect of Economic Events on Votes for President: 1984 Update. **AA** Cowles Foundation, Yale University. **SR** National Bureau of Economic Research Working Paper: 2222; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 132, 023. **KW** Elections. Political Business Cycle. Voting. Presidential Elections.

AB In previous work I have developed an equation explaining votes for president in the United States that seems to have a remarkable predictive ability. In this paper the equation is updated through the 1984 election and then used to predict the 1988 election.

PD April 1987. **TI** Econometric Modeling as Information Aggregation. **AU** Fair, Ray C.; Shiller, Robert J. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 833; Cowles Foundation for Research in Economics, 30 Hilhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 31. **PR** No Charge. **JE** 132, 212, 211. **KW** Information Aggregation. Hypothesis Testing. VAR. Autoregressive Components Model.

AB A forecast produced by an econometric model is a weighted aggregate of predetermined variables in the model. In many models the number of predetermined variables used is very large, often exceeding the number of observations. A method is proposed in this paper for testing an econometric model as an aggregator of the information in these predetermined variables relative to a specified subset of them. The test, called the "information aggregation" (IA) test, tests whether the model makes effective use of the information in the predetermined variables or whether a smaller information set carries as much information. The method can also be used to test one model against another. The method is used to test the Fair model as an information aggregator. The Fair model is also tested against two relatively non theoretical models: a VAR model and an "autoregressive components" (AC) model. The AC model, which is new in this paper, estimates an autoregressive equation for each component of real GNP, with real GNP being identically determined as the sum of the components. The results show that the AC model dominates the VAR model, although both models are dominated by the Fair model. The results also show that the Fair model seems to be a good information aggregator.

PD June 1987. **TI** Effects of the Changing U.S. Age Distribution on Macroeconomic Equations. **AU** Fair, Ray C.; Domingues, Kathryn M. **AA** Fair: Yale University. Domingues: Harvard University. **SR** Yale Cowles Foundation Discussion Paper: 839; Cowles Foundation, Yale University, Box 2125, Yale Station, New Haven, CT 06520. **PG** 22. **PR** No Charge. **JE** 132, 212, 841, 824. **KW** Econometric Model. Demographics. Housing Investment. Labor Force Participation. Consumption. Money Demand.

AB The effects of the changing United States age distribution on various macroeconomic equations are examined in this paper. The equations include consumption, money demand, housing investment, and labor force participation equations. Seven age groups are analysed: 16-19, 20-24, 25-29, 30-39, 40-54, 55-64, and 65+. There seems to be enough variance in the age distribution data to allow reasonably precise estimates of the effects of a number of age categories on the macro variables. The results show that, other things being equal, age groups 30-39 and 40-54 consume less than average, invest less in housing than average, and demand more money than average. Age group 55-64 consumes more and demands more money. If these estimates are right, they imply, other things being equal, that consumption and housing investment will be negatively affected in the future as more and more baby boomers enter the 30-54 age group. The demand for money will be positively affected. If, as Easterlin argues, the average wage that an age group faces is negatively affected by the percent of the population in that group, then the labor force participation rate of a group should depend on the relative size of the group. If the substitution effect dominates, people in a large group should work less than average, and if the income effect dominates, they should work more than average. The results indicate that the substitution effect dominates for women 25-54 and that the income effect dominates for men 25-54.

PD June 1987. **TI** Effects of the Changing U.S. Age Distribution on Macroeconomic Equations. **AU** Fair, Ray C.; Dominguez, Kathryn M. **AA** Fair: Cowles Foundation, Yale University. Dominguez: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2280; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 841, 132, 212, 921, 932. **KW** Age Distribution. Consumption. Housing Investment. Labor Force Participation. Wages.

AB The effects of the changing U.S. age distribution on various macroeconomic equations are examined in this paper. The equations include consumption, money demand, housing investment, and labor force participation equations. Seven age groups are analyzed: 16-19, 20-24, 25-29, 30-39, 40-54, 55-64, and 65+. There seems to be enough variance in the age distribution data to allow reasonably precise estimates of the effects of a number of age categories on the macro variables. The results show that, other things being equal, age groups 30-39 and 40-54 consume less than average, invest less in housing than average, and demand more money than average. Age group 55-64 consumes more and demands more money. If these estimates are right, they imply, other things being equal, that consumption and housing investment will be negatively affected in the future as more and more baby boomers enter the 30-54 age group. The demand for money will be positively affected. If, as Easterlin argues, the average wage that an age group faces is negatively affected by the percent of the population in that group, then the labor force participation rate of a group should depend on the relative size of the group. If the substitution effect dominates, people in a large group should work less than average, and if the income effect dominates, they should work more than average. The results indicate that the substitution effect dominates for women 25-54 and that the income effect dominates for men 25-54.

Farrell, Joseph

PD January 1987. **TI** Dynamic Competition with Lock-Up. **AU** Farrell, Joseph; Shapiro, Carl. **SR** University of California at Berkeley Working Paper in Economics: 8727; IBER, 156 Barrows Hall, University of California, Berkeley CA 94720. **PG** 36. **PR** $3.50. **JE** 611. **KW** Switching Costs. Dynamic Competition. Lock-In. Long-Term Relationships. Duopoly. Economies of Scale. Network Externalities.

AB We analyze a duopoly model of multiperiod rivalry in the presence of consumer switching costs. Competition for locked-in buyers is continually intermingled with competition for new, uncommitted buyers. A typical equilibrium pattern is for the incumbent -- the firm with locked-in customers -- to exploit those customers and concede the new buyers to its rival. This pattern persists

even in the presence of economies of scale, network externalities, or cost differences. Switching costs thus can lead to inefficiency in a surprising way: rather than serve as an entry barrier, they encourage entry to serve unattached customers even in circumstances where the entrant is less efficient than the incumbent.

Feldstein, Martin

PD March 1987. **TI** Should Social Security Benefits Increase with Age? **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2200; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 915, 918. **KW** Retirement. Old Age. Saving. Benefits.

AB This paper shows that the optimal relation between social security benefits and retiree age depends on balancing the advantage of providing an otherwise unavailable actuarially fair annuity against the lower rate of return earned in a pay-as-you-go social security system. The ability of compulsory social security programs to provide an actuarially fair annuity implies that benefits should increase with age while the lower return on social security contributions than on private saving implies that a larger fraction of total benefits should be paid during the early years of retirement. In an economy that contains a mixture of national life cycle savers and completely myopic individuals who do no saving, it is optimal for benefits to decline during the earlier part of the retirement period and then to begin rising. Numerical calculations based on actual macroeconomic parameters and representative survival probabilities suggest that the optimal age for minimum benefits occurs before age 75.

Fershtman, Chaim

PD August 1987. **TI** Cooperation Through Delegation. **AU** Fershtman, Chaim; Judd, Kenneth; Kalai, Ehud. **AA** Fershtman: The Hebrew University. Judd: Northwestern University and National Fellow, Hoover Institution. Kalai: Northwestern University. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-35; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 22. **PR** No Charge. **JE** 026. **KW** Bargaining. Principal-Agent. Folk Theorem.

AB When players in a one shot strategic game delegate strategy choices to their agents every Pareto optimal outcome of the game becomes a Nash equilibrium of the delegation game. A folk theorem in delegation game is presented.

Findlay, Ronald

TI Income Appropriation and Rent-Seeking. **AU** Welliss, Stanislaw; Findlay, Ronald.

Fischel, William A.

TI A Constitutional Choice Model of Takings. **AU** Shapiro, Perry; Fischel, William A.

TI Takings, Insurance and Michelman: Comments on Economic Interpretations of 'Just Compensation' Law. **AU** Shapiro, Perry; Fischel, William A.

Fisher, Eric ON

PD March 1987. **TI** International Duopoly with Tariffs. **AU** Fisher, Eric ON; Wilson, Charles A. **AA** Fisher: Division of International Finance, Board of Governors of the Federal Reserve System. Wilson: Department of Economics, New York University. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 308; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 44. **PR** No Charge. **JE** 411, 422, 026, 421, 611. **KW** Tariffs. Bertrand Equilibria. Dumping. Game Theory. Duopolists.

AB This paper analyzes the effects of a tariff on price-setting duopolists who cannot segment geographically distinct markets; hence, commercial policy has effects in domestic and foreign markets. Although each firm's payoff function is discontinuous, there is a unique equilibrium for an arbitrary tariff. We find that a tariff serves to increase the profits of both the domestic and foreign producer. Moreover, the profits of both firms rise monotonically with the tariff.

Fishlow, Albert

PD January 1987. **TI** Lessons of the 1890's for the 1980's. **AA** Department of Economics, University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8724; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 56. **PR** $3.50. **JE** 047, 121, 112, 431, 432, 443. **KW** Debt. Argentina. Brazil. Debt Crisis. Monetary Policy. Devaluation. Capital Flows.

AB This paper analyzes the debt crises of Argentina and Brazil in the 1890s. It discusses the importance of domestic monetary policy versus external factors in provoking devaluation and establishes the differential role of reduced capital inflows in Argentina relative to Brazil. The paper emphasizes the different acceptance of Argentine and Brazilian securities on the London market and the consequences of market valuation for debt relief. It also contrasts the domestic adjustments required in the 1890s to achieve balance of payments equilibrium. The paper concludes by drawing parallels between the cyclical pattern of peripheral, externally financed development in the 1890s and developing country reliance on debt in the 1970s and 1980s.

Follain, James A.

PD June 1987. **TI** Understanding the Real Estate Provisions of Tax Reform: Motivation and Impact. **AU** Follain, James A.; Hendershott, Patric H.; Ling, David C. **AA** Follain: University of Illinois. Hendershott: The Ohio State University. Ling: Southern Methodist University. **SR** National Bureau of Economic Research Working Paper: 2289; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 541, 931. **KW** Capital Investment Tax Provision. Depreciation. Capital Gains Taxation. Inflation. Real Estate.

AB Capital investment tax provisions have been changed numerous times in the last decade, with depreciation tax lives shortened in 1981 and lengthened ever since and

capital gains taxation reduced in 1978 and 1981 and now increased. The first part of this paper analyzes these changes and attributes a large part of them, including the 1986 Tax Act, to changes in inflation: tax depreciation schedules and capital gains taxation that look reasonable when the tax depreciation base is being eroded at ten percent a year and an overwhelming share of capital gains is pure inflation take on a different appearance when inflation is only four percent. The remainder of the paper critiques the typical project model used to compute impacts of tax changes on real estate and report simulation results using a modified model.

Frank, Richard G.

PD April 1987. **TI** Economic Rents Derived from Hospital Privileges in the Market for Podiatric Services. **AU** Frank, Richard G.; Weiner, Jonathan P.; Steinwachs, Donald M.; Salkever, David S. **AA** Health Services Research and Development Center, Johns Hopkins University. **SR** National Bureau of Economic Research Working Paper: 2207; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 913, 851. **KW** Human Capital. Podiatry. Health Services. Hospitals.

AB This study examines the relative impacts of human capital and market conditions on the economic rents associated with hospital privileges in the market for footcare. An empirical model of hospital privileges for podiatrists is formulated based on the Pauly-Redisch model of hospital behavior. The privilege model is then incorporated into a model of podiatrists' earnings via a selection adjustment as proposed by Heckman and Lee. The results indicate the persistance of economic rents even after controlling for unobserved "quality" factors.

Franke, Bernd

PD May 1987. **TI** Zur Optimalen Unternehmensgrosse hierarchischer Organisationen. **AU** Franke, Bernd; Ristau, Ralph. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: D-12; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 18. **PR** No Charge. **JE** 511. **KW** Optimal Size of Firms.

Frankel, Jeffrey A.

PD January 1987. **TI** Regression vs. Volatility Tests of the Efficiency of Foreign Exchange Markets. **AU** Frankel, Jeffrey A.; Stock, James A. **AA** Department of Economics, University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8726; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 21. **PR** $3.50. **JE** 431, 212. **KW** Variance-Bounds. Volatility Test. Exchange Rates. Market Efficiency. Risk Neutrality. Forward Markets.

AB Volatility tests are an alternative to regression for evaluating the joint null hypothesis of market efficiency and risk neutrality. A comparison of the power of the two kinds of tests depends on what the alternative hypothesis is taken to be. By considering tests based on conditional volatility bounds, we show that if the alternative is that one could "beat the market" using a linear combination of observable variables, then the regression tests are at least as powerful as the conditional volatility tests. If the application is to spot and forward markets for foreign exchange, then the most powerful conditional volatility test turns out to be equivalent to the analogous regression test in terms of asymptotic power.

PD January 1987. **TI** The Sources of Disagreement Among International Macro Models, and Implications for Policy Coordination. **AA** Department of Economics, University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8725; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 71. **PR** $3.50. **JE** 431, 212, 132, 026, 023, 311, 321. **KW** Policy Coordination. Fiscal Policy. Monetary Policy. Econometric Models. World Model. Nash Bargaining Solution. Bargaining.

AB This study makes use of the simulation results of 12 leading large international econometric models, as to the effects of commonly specified changes in monetary and fiscal policy, conducted under the Brookings exercise "Empirical Macroeconomics for Interdependent Economies." The first half of the paper examines disagreement among the models on the signs of policy multipliers, and how such disagreement compares to the ambiguities appearing in the theoretical literature. There turns out to be relatively little disagreement as to the effects on output, prices and the exchange rate. The greatest disagreement is rather over the question whether a monetary expansion worsens or improves the current account. The second half of the study examines the implications for international macroeconomic policy coordination. The existing literature makes the unrealistic assumption that policy-makers all know the true model, from which it follows that the Nash bargaining solution is in general superior to the Nash competitive solution. But everything changes once we recognise that policy-makers' models, as the models in the Brookings simulations, differ from each other and therefore from the "true" model. When the central bank and fiscal authorities subscribe to conflicting models, it is still true that (1) the competitive equilibrium is sub-optimal, and that (2) the two authorities will in general be able to agree on a cooperative policy package that each believes will improve the objective function; however, (3) the bargaining solution is as likely to move the target variables in the wrong direction as in the right direction, in the light of a third true model. Out of 1,210 possible combinations of different models subscribed to by the two policy authorities and models representing reality, bargaining raises welfare in only 819 cases. The conclusion is that disagreement as to the true model may be a more serious obstacle to successful policy coordination than is institutional failure to enforce Pareto-improving solutions.

PD February 1987. **TI** The Impact of U.S. Economic Policies on a Commodity-Exporting Debtor: The Case of Thailand. **AA** Economics Department, University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8729; IBER, 156 Barrows Hall, University of California, Berkeley CA 94720. **PG** 48. **PR** $3.50. **JE** 121, 421, 431, 422, 311, 321. **KW** Thailand. International Debt. Macroeconomic Transmission. Rice. Agricultural Trade. Debtor Nations.

Monetary Policy. Fiscal Policy. Trade Liberalization.
AB This paper explores the effect of United States economic policies in the 1980s on developing countries like Thailand, that is, countries that have external debt and that export primary commodities. Thailand did not borrow enough in the 1970s to be one of the worst victims of the 1982 debt crisis. But increased debt-servicing requirements and the 1981-1986 depression in world commodity prices have hurt it, in particular, making reduction of the current account deficit difficult. The paper first discusses the effects of United States macroeconomic policies: how monetary and fiscal policies operate via three key macroeconomic variables among the industrialized countries -- growth rates, real interest rates and exchange rates -- to determine the environment surrounding the commodity-exporting debtor country. Then the effects of United States trade policies are discussed, including United States import protection, strategic stockpiles, and agricultural export subsidies for rice and sugar. The conclusion is that the United States could do much to help countries like Thailand as well as itself, by shifting to a mix of tighter fiscal and easier monetary policy and by liberalizing trade.

PD April 1987. **TI** Short-Term and Long-Term Expectations of the Yen/Dollar Exchange Rate: Evidence from Survey Data. **AU** Frankel, Jeffrey A.; Froot, Kenneth A. **AA** Frankel: University of California, Berkeley. Froot: Sloan School of Management, MIT. **SR** National Bureau of Economic Research Working Paper: 2216; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 313, 441, 026. **KW** Exchange Rates. Expectations. Surveys. Forward Premium. Random Walk.
AB Three surveys of exchange rate expectations allow us to measure directly the expected rates of return on yen versus dollars. Expectations of yen appreciation against the dollar have been (1) consistently large, (2) variable, and (3) greater than the forward premium, implying that investors were willing to accept a lower expected return on dollar assets. At short-term horizons expectations exhibit bandwagon effects, while at longer-term horizons they show the reverse. A 10 percent yen appreciation generates the expectation of a further appreciation of 2.4 percent over the following week, for example, but a depreciation of 3.4 percent over the following year. At any horizon, investors would do better to reduce the absolute magnitude of expected depreciation. The true spot rate process behaves more like a random walk.

PD April 1987. **TI** International Capital Flows and Domestic Economic Policies. **AA** University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2210; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 430, 440, 321, 322. **KW** Capital Account. Balance of Payments. Capital Inflow. Foreign Investment. Budget Deficit. Interest Rates.
AB This paper, written for the National Bureau of Economic Research Conference on the Changing Role of the United States in the World Economy, covers the capital account in the United States balance of payments. It first traces the history from 1946 to 1980, a period throughout which Americans were steadily building up a positive net foreign investment position. It subsequently describes the historic swing of the capital account in the 1980s toward massive borrowing from abroad. There are various factors, in addition to expected rates of return, that encourage or discourage international capital flows: transactions costs, government controls, taxes, default and other political risk and exchange risk. But the paper argues that the increase in real interest rates and other expected rates of return in the United States, relative to other countries, in the early 1980s was the major factor that began to attract large net capital inflows. It concludes that a large increase in the United States federal budget deficit, which was not offset by increased private saving, was the major factor behind the increase in real interest rates, and therefore behind the switch to borrowing from abroad.

PD July 1987. **TI** Political vs. Currency Premia in International Real Interest Differentials: A Study of Forward Rates for 24 Countries. **AU** Frankel, Jeffrey A.; MacArthur, Alan T. **AA** University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2309; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 441, 313, 311. **KW** Capital Mobility. Interest Rate Parity. Exchange Rates. Risk Premium. Interest Rates.
AB Different approaches to quantifying the degree of capital mobility for a cross-section of currencies -- particularly saving-investment correlations and tests of real interest parity -- have appeared to show a surprisingly low degree of financial market integration. We use a new data set, forward rate data for 24 countries, including many small industrialized countries and seven LDCs, to decompose the real interest differential into two parts: the covered interest differential, or political premium, and the real forward discount, or currency premium. The latter in turn can be decomposed into the exchange risk premium and expected real depreciation. We find a high degree of capital mobility across political boundaries for most of the G-11 countries, plus Hong Kong and Singapore, for our sample period of 1982 to 1987. Even for most of the other LDCs and smaller industrialized countries, for which covered interest parity clearly fails, the political premium is not as big a component of the real interest differential as the currency premium. France would appear to have higher capital mobility than most by the criterion of real interest differentials, but is seen in fact to have low capital mobility by the criterion of covered interest differentials, a clear example of the superiority of the latter criterion.

Freeman, Richard B.

PD June 1987. **TI** The Effect of Public Sector Labor Laws on Collective Bargaining, Wages and Unemployment. **AU** Freeman, Richard B.; Valletta, Robert G. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2284; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 822, 832, 824. **KW** Unions. Public Employees. Arbitration. Strikes.
AB This paper examines the effect of the different legal environments for bargaining faced by public employees across the states on wage and employment outcomes for

union and nonunion employees, and also on the extent of bargaining, using cross-section, within-city, and longitudinal analyses based on a newly-derived data set on public sector labor laws. We find that: (1) the legal environment is a significant determinant of the probability of collective bargaining coverage; (2) collective bargaining coverage raises wages and employment for covered employees; (3) a more favorable legal environment increases wages for all employees, but substantially reduces employment for employees not covered by a contract, while slightly reducing employment for employees who are covered by a contract. We also find evidence of significant spillovers of union wage effects to non-covered departments. We conclude by focusing on the effects of two specific legal provisions - arbitration and strike permitted clauses on wages and employment.

Fremling, Gertrud M.

PD July 1987. **TI** Do Deficits Affect the Level of Insurance? **AU** Fremling, Gertrud M.; Lott, Jr John R. **AA** Fremling: University of Houston. Lott, Jr.: Rice University, National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-33; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 21. **PR** No Charge. **JE** 321, 023, 322. **KW** Ricardian Equivalence. Deficits. Risk-Sharing. Budget Deficit.

AB Our note shows that there is nothing inherent in a deficit, as compared to a surplus or a balanced budget, that causes more insurance. If society wishes to obtain a certain level of risk-sharing, it can as easily do so under a balanced budget or under a surplus, and the creation of a deficit does not provide a superior means, and probably an inferior one, of accomplishing a risk reducing goal. Hence, the level of risk-sharing is not likely to increase when a deficit is created.

Frenkel, Jacob A.

PD July 1987. **TI** The Mundell-Fleming Model: A Quarter Century Later. **AU** Frenkel, Jacob A.; Razin, Assaf. **AA** Frenkel: International Monetary Fund. Razin: Tel-Aviv University. **SR** National Bureau of Economic Research Working Paper: 2321; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 023, 441, 311. **KW** Capital Mobility. Exchange Rates. Balance of Payments. Open Economy Macroeconomics. Intertemporal Budget Constraints. Expectations.

AB This paper develops an exposition that integrates the various facets of the Mundell-Fleming model and incorporates its extensions into a unified analytical framework. Attention is given to the distinction between short-run and long-run effects of policies, the implication of debt and tax financing of government expenditures, the role of the exchange rate regime in this regard, and debt revaluation and trade-balance revaluation effects associated with exchange rate changes. The resulting integration clarifies the key economic mechanisms operating in the Mundell-Fleming model and helps to identify its limitations. Among these is the neglect of intertemporal budget constraints and of the consequences of forward-looking behavior consistent with this constraint. The formulation in the paper casts the model in a manner that facilitates comparisons with more modern approaches. In so doing, the exposition provides a bridge between the traditional and the more modern approaches to international macroeconomics.

Froot, Kenneth A.

TI Short-Term and Long-Term Expectations of the Yen/Dollar Exchange Rate: Evidence from Survey Data. **AU** Frankel, Jeffrey A.; Froot, Kenneth A.

PD August 1987. **TI** Consistent Covariance Matrix Estimation with Cross-Sectional Dependence and Heteroskedasticity in Cross-Sectional Financial Data. **AA** MIT. **SR** National Bureau of Economic Research Technical Paper: 62; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 211, 313, 223. **KW** Heteroskedasticity. Cross-Sectional Dependence. Panel Data. Finance. Accounting.

AB This paper provides a simple method to account for heteroskedasticity and cross-sectional dependence in samples with large cross sections and relatively few time series observations. The estimators we derive are motivated by cross-sectional regression studies in finance and accounting. Simulation evidence suggests that these estimators are dependable in small samples and may be useful when generalized least squares is infeasible, unreliable, or computationally too burdensome. The approach allows a relatively small number of time series observations to yield a rich characterization of cross-sectional correlations. We also consider efficiency issues and show that in principle asymptotic efficiency can be improved using a technique due to Cragg (1983).

Garber, Alan M.

PD July 1987. **TI** Long-Term Care, Wealth, and Health of the Disabled Elderly Living in the Community. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2328; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 914, 913, 841, 212. **KW** Aged. Elderly. Health Care. Medicare. Tobit Analysis. Hospital Services. Disability. Home Equity.

AB Providing and financing long-term care of the elderly are among the most challenging policy issues facing the aging American population. This study examines characteristics and selected measures of utilization in the population most likely to use long-term care. It investigates characteristics of a cohort of noninstitutionalized elderly Medicare recipients who were impaired in the performance of at least one basic activity. It describes their wealth, living arrangements, and health characteristics. Tobit regressions are presented that relate utilization of hospital services, paid home-health care, and unreimbursed home care to these factors. I find that the number of activity limitations increases with age, but that in this population, household income and value of home equity do not decrease with either the level of disability or with age. The determinants of home-health care utilization in this population are distinct from the factors that have been significant predictors of medical care utilization in other studies.

Gersovitz, Mark

TI Country Risk and the Organization of International Capital Transfer. **AU** Eaton, Jonathan; Gersovitz, Mark.

Gertler, Mark

TI Financial Fragility and Economic Performance. **AU** Bernanke, Ben S.; Gertler, Mark.

Gertler, Paul

PD June 1987. **TI** Are User Fees Regressive? The Welfare Implications of Health Care Financing Proposals in Peru. **AU** Gertler, Paul; Locay, Luis; Sanderson, Warren. **AA** Gertler: Harvard School of Public Health. Locay, Sanderson: State University of New York at Stony Brook. **SR** National Bureau of Economic Research Working Paper: 2299; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 913, 121, 212, 921, 914. **KW** Peru. User Fees. Regressive Taxation. Health Care. Discrete Choice Model. Medical Care. Poverty.

AB In this paper, we derive a discrete choice model of the demand for medical care from a theoretical model that implies a natural interrelation between price and income. We show that, in the context of a discrete choice model, if health is a normal good, then the price elasticity of the demand for health care must decline as income rises. This implies that the models in previous discrete choice studies which restrict the price effect to be independent of income are misspecified. The model is estimated using data from a 1984 Peruvian survey, and a parsimonious flexible functional form. Unlike previous studies, we find that price plays a significant role in the demand for health care, and that demand becomes more elastic as income falls, implying that user fees would reduce the access to care for the poor proportionally more than for the rich. Our simulations show that user fees can generate substantial revenues, but are accompanied by substantial reductions in aggregate consumer welfare, with the burden of the loss on the poor. These results demonstrate that undiscriminating user fees would be regressive both in terms of access and welfare.

Gilbert, Richard J.

PD February 1987. **TI** Investment and Coordination in Oligopolistic Industries. **AU** Gilbert, Richard J.; Lieberman, Marvin. **AA** Gilbert: Economics Department, University of California, Berkeley. Lieberman: Stanford University. **SR** University of California at Berkeley Working Paper in Economics: 8730; IBER, 156 Barrows Hall, University of California, Berkeley CA 94720. **PG** 42. **PR** $3.50. **JE** 611, 616, 631, 522, 621. **KW** Investment. Oligopoly. Game Theory. Chemical Industry. Market Share. Preemption.

AB Investment by firms in 24 chemical product industries is examined to determine whether firms invest preemptively to achieve persistent increases in market share or whether there is evidence of maintain-market-share behavior. The data indicate that investment reduces the probability of capacity expansion by rival firms, but the effect is temporary. Large firms tend to display maintain-market-share behavior, while smaller firms tend to invest simultaneously with rivals. The role of preemptive investment is limited to that of permitting a firm to invest with a lower probability of redundant investment by rivals. Preemption does not allow a persistent increase in market share, but instead acts as a means by which firms may coordinate capacity investment to help avoid episodes of industry over-capacity.

Gilboa, Itzhak

PD June 1987. **TI** Expectation and Variation in Long Run Decisions. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 10-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 28. **PR** No Charge. **JE** 511, 026, 022. **KW** Expected Utility. Decision Theory. Future Payoffs. Variation Aversion. Long-Run Problems. Repeated Games. Uncertainty.

AB Long-run decisions are decisions which determine the individual's payoffs in several periods in the future. This paper examines the theoretical foundations of the prevalent "weighted average" assumption, and suggests a larger class of decision rules, which take into account the effects of the payoffs variation. The "weighted average" assumption is a special case of the generalized model, a case in which the decision maker is variation neutral. Similarly, we define and characterize variation aversion and variation-liking, and show an example of the economic implications of these properties.

PD July 1987. **TI** Bounded Versus Unbounded Rationality: The Strength of Weakness. **AU** Gilboa, Itzhak; Samet, Dov. **AA** Gilboa: Tel-Aviv University. Samet: Department of Economics, Bar-Ilan University and Kellogg School of Business, Northwestern University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 16-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 25. **PR** No Charge. **JE** 026. **KW** Repeated Games. Finite Automata. Bounded Rationality. Game Theory.

AB We examine the case of a two-person repeated game played by a boundedly rational player versus an unboundedly rational opponent. The former is restricted to strategies which are implementable by connected finite automata, i.e. automata the states' graph of which is strongly connected. It is shown that the "rational" player has a dominant strategy, and that in some cases the "weaker" (boundedly rational) player may exploit this fact to "blackmail" him. It is also shown that for a zero-sum (one-shot) game, the rational player has a strategy which drives the automaton player's limit payoff down to his security (maxmin) level, even if he may choose any finite automation (not necessarily connected).

Giovannini, Alberto

PD June 1987. **TI** Uncertainty and Liquidity. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 2296; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 311, 026. **KW** Liquidity Services. Money. Portfolios. Dividend Risk. Interest Rates. Asset Markets.

AB This paper studies a model where money is valued for the liquidity services it provides in the future. These

liquidity services cannot be provided by any other asset. Changes in expectations of the value of future liquidity services affect the desired proportions of money and other assets in agents' portfolios, and, as a result, they change nominal interest rates and real stock prices. The paper concentrates on the effects of stochastic fluctuations in the distribution of exogenous shocks. I find that changes in dividend risk have effects opposite to those in standard dynamic portfolio models without money. Furthermore, shifts between money and other assets that are driven by precautionary liquidity demand make nominal interest rates capture information about the uncertainty in the economy more accurately than any other prices in the asset markets.

Gollier, Christian

PD April 1987. **TI** The Role of Wage Setting in Entry-Deterrence. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain Core Discussion Paper: 8717; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 24. **PR** No Charge. **JE** 611, 824, 831, 832. **KW** Wages. Entry Deterrence. Labor Unions. Negotiation. Wage Stickiness. Unemployment.

AB In a competitive market model, I show how established firms can negotiate with labour unions to regulate both entry and prices. If industrywide wage agreements can be implemented, incumbents could prefer to maintain high wages for marginal workers in view to control the total output of the industry. Consequently, hiring wage stickiness and unemployment emerge in some circumstances. This is also an explanation of the limited phenomenon of wage discrimination by hiring dates.

Goovaerts, M. J.

TI Extremal Values of Stop-Loss Premiums Under Moment Constraints. **AU** Kaas, R.; Goovaerts, M. J.

PD March 1986. **TI** Modelbouw bij Verzekeringem Onder Onvolledige Informatie. **AA** University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 6/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 29. **PR** No Charge. **JE** 213. **KW** Insurance.

AB De schade-actuaris wordt over het algemeen, bij het oplossen van verzekeringstechnische problemen geconfronteerd met het schatten van verwachtingswaarden betreffende leden van heterogene collectiviteiten in het geval dat de gegevens beschikbaar voor de individuele leden te beperkt zijn of te wisselvallig, maar dat er genoeg gegevens beschikbaar zijn voor een totale collectiviteit. Om dit probleem het hoofd te bieden werd in de laatste decennia de zogenaamde credibiliteitstheorie ontworpen die aangeeft hoe bij onvolledige informatie men optimale schatters kan krijgen aan de hand van enkele steekproefkarakteristieken.

TI Some Elementary Stop-Loss Inequalities. **AU** Kaas, R.; Goovaerts, M. J.; Bauwelinckx, T.

TI A New Method for Deriving Bounds for Integrals With Respect to Measures Allowed to Vary Under Conical and Integral Constraints. **AU** Kaas, R.; Goovaerts, M. J.

TI On the Use of QUADPACK for the Calculation of Risk Theoretical Quantities. **AU** Kaas, R.; Goovaerts, M. J.

Gordon, Roger

TI The Effect of Family Background on Economic Status: A Longitudinal Analysis of Sibling Correlations. **AU** Solon, Gary; Corcoran, Mary; Gordon, Roger; Laren, Deborah.

TI Sibling and Intergenerational Correlations in Welfare Program Participation. **AU** Solon, Gary; Corcoran, Mary; Gordon, Roger; Laren, Deborah.

Gourieroux, C.

PD May 1987. **TI** Consistent M-Estimators in a Semi-Parametric Model. **AU** Gourieroux, C.; Monfort, A.; Renault, E. **AA** Gourieroux: CEPREMAP. Monfort: INSEE. Renault: Universite Paris IX et ENS Ulm. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 8706; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. **PG** 59. **PR** No Charge. **JE** 211. **KW** M-Estimator. Consistency. Semi-Parametric Model. Maximum Likelihood Estimation. MLE.

AB It is well known that in a fully parametric model maximum likelihood estimation provides asymptotically efficient estimators. However it is in general difficult to assume that the p.d.f. of the observations belongs to a given parametric family. In this paper we consider semi-parametric models with weak distributional assumptions and we consider M-estimators of the parameter of interest. We determine the form of the criteria to be optimised in order to obtain consistent M-estimators. These results are then applied to M-estimation of parameters appearing in conditional mean, conditional variance, conditional quantiles.

PD August 1987. **TI** Regression and Non Stationarity. **AU** Gourieroux, Christian; Maurel, Francoise; Monfort, Alain. **AA** Gourieroux: Universite de Lille and CEPREMAP. Maurel and Monfort: INSEE. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 8708; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. **PG** 52. **PR** No Charge. **JE** 211. **KW** Fractional Process. Asymptotic Properties. OLS Estimators. Non Stationary Linear Models. Brownian Motion.

AB In this paper we study the asymptotic properties of the O.L.S., Partial O.L.S. and Conditional O.L.S. estimator, in various non stationary linear models. It is shown that the P.O.L.S. method has satisfactory consistency properties, even if the convergence rate may be small in some cases; however, it is also shown that the P.O.L.S. estimator is always dominated by the O.L.S. estimator and that the standard asymptotic inference is not valid for the P.O.L.S. estimator, whereas it is valid for the O.L.S. estimator. Finally it is shown that the C.O.L.S. estimator is often inconsistent and that, when it is consistent, it is often dominated by the O.L.S.

Govaerts, Bernadette

PD February 1987. **TI** A Note on a Method to

Compute the Asymptotic Distribution of the Sample Second Order Moments of Dynamic Linear Normal Variables. **AA** Centre for Operations Research and Econometrics, Universite Catholique de Louvain. **SR** Universite Catholique de Louvain Core Discussion Paper: 8709; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PR** No Charge. **JE** 211. **KW** Asymptotic Distribution. Second Moments. Jordan Canonical Form.

AB This paper describes a method for the computation of the asymptotic distribution of any statistic or estimator which is a continuous function of sample second order moments of random variables having a dynamic linear normal distribution of the form: Z(t) = PI Z(t-1) + e(t) where e(t) is distributed iN(0, SIGMA) The method uses a general theorem due to Hannan '1970 and simplifies it in decomposing PI in Jordan canonical form.

Gradstein, Mark

PD March 1987. **TI** Voluntary Participation and the Provision of Public and Private Goods. **AU** Gradstein, Mark; Nitzan, Shmuel. **AA** Gradstein: Technion-Israel Institute of Technology. Nitzan: Bar Ilan University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-104; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 48. **PR** No Charge. **JE** 024, 025, 026, 321. **KW** Voluntary Participation. Collective Actions. Noncooperative Game. Pareto efficiency. Optimal Allocation. Public Good. Labor Managed Firms.

AB In this study an attempt is made to present and apply a formal theory of voluntary participation in collective actions. Two major applications are considered: the provision of a pure public good and labor effort determination in a labor managed firm that produces and distributes among its members a private good. The analysis focuses on the following issues: (i) The investigation of the basic properties of the Nash equilibria of the proposed noncooperative game of voluntary participation in collective actions. (ii) The characterization of the Pareto-efficient rate of participation. (iii) The comparison between the rates of participation in pure strategy equilibria, mixed strategy equilibria, Pareto-efficient allocations, and the socially optimal allocations according to the utilitarian criterion. (iv) The implementation of the socially optimal rate of participation.

Grechanovsky, Eugene

TI Comparing Some Estimators for MSPE in AR Time Series. **AU** Kipnis, Victor; Pinsker, I. Sh; Grechanovsky, Eugene.

Grodal, Birgit

PD April 1987. **TI** Income Distributions and the Axiom of Revealed Preference. **AU** Grodal, Birgit; Hildenbrand, Werner. **AA** Grodal: University of Copenhagen. Hildenbrand: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-106; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** No Charge. **JE** 021, 022. **KW** Equilibrium. Uniqueness. Regular Economy. Wald's Axiom. Private Ownership. Income Distribution.

AB It was observed by H. Scarf (e.g. Kehoe (1985) or Mas-Colell (1985)) that the weak axiom of revealed preference for the market demand function is the most general condition on the consumption sector of a private ownership economy that alone guarantees uniqueness of equilibria for a regular economy if no restriction on the production sector of the economy is imposed. Hence, as long as one does not restrict the form of the total production set, the crucial question for uniqueness of equilibria is whether one can expect the axiom to hold for a reasonable general class of consumption sectors. It is well-known that the axiom for the market demand function does not follow from the hypothesis of individual utility maximization, even if one places strong assumptions on individual preferences. For example, the axiom is not implied if all individuals have Cobb-Douglas utility functions that are not identical or, if all individuals have identical preferences that are not homothetic. In this note we want to show why in an economy with private ownership in endowments and production with constant returns to scale the axiom of revealed preference for market demand, typically, does not hold. The main reason for this, as we shall show, is that the income distribution in such a private ownership economy depends too sensitively on the price system.

Gronau, Reuben

PD May 1986. **TI** The Intrafamily Allocation of Goods- How to Separate the Men from the Boys? **AA** Hebrew University of Jerusalem and Economics Research Center/NORC. **SR** Economics Research Center/NORC Discussion Paper: 87-3; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 57. **PR** $2.00; send requests to Librarian, NORC. **JE** 921, 841, 225. **KW** Consumption Theory. Parents. Children. Family. Household. Survey Data.

AB The paper integrates the basic principles of consumption theory and the economics of human resources to generate a powerful method for estimating the distribution of consumption between parents and children. Invoking the assumption of separability between parents' and children's consumption and the corresponding assumption of two-stage budgeting, it is shown that one can estimate the parents' share in total consumption by analyzing the effect of demographic changes on the consumption of adult goods (i.e., goods consumed exclusively by parents). Using the United States 1972/73 Consumption Expenditure Survey it is found that white married families tend to allocate about three-quarters of their consumption to parents and one quarter to children. The children's share of consumption in black families does not fall short of those in white families, and the share in white families where the father is absent is even higher. The share increases with the number of children, but the absolute level of consumption per child declines. These findings are quite robust to changes in functional form and data-base.

Grossman, Sanford

PD June 1987. **TI** Asset Pricing and Optimal Portfolio Choice in the Presence of Illiquid Durable Consumption Goods. **AU** Grossman, Sanford J.; Laroque, Guy. **AA** Grossman: Economics Department, Princeton University. Laroque: INSEE, (GL). **SR** Princeton Financial Research Center Memorandum: 83; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 66. **PR** $3.00. **JE** 520, 313, 311, 026, 023. **KW** Transactions Cost. Durable Goods. Controlled Diffusion. Asset Pricing. Portfolio Selection. Consumption.

AB We analyse a model of optimal consumption and portfolio selection in which consumption services are generated by holding a durable good. The durable good is illiquid in that a transaction cost must be paid when the good is sold. It is shown that optimal consumption is not a smooth function of wealth; it is optimal for the consumer to wait until a large change in wealth occurs before adjusting his consumption. As a consequence, the consumption based capital asset pricing model fails to hold. Nevertheless, it is shown that the standard, one factor, market portfolio based capital asset pricing model does hold in this environment. It is shown that the optimal durable level is characterized by three numbers (not random variables), say x, y, and z (where $x < y < z$). The consumer views the ratio of consumption to wealth (c/W) as his state variable. If this ratio is between x and z, then he does not sell the durable. If c/W is less than x or greater than z, then he sells his durable and buys a new durable of size S so that $S/W = y$. Thus y is his "target" level of c/W. If the stock market moves up enough so that c/W falls below x, then he sells his small durable to buy a larger durable. However, there will be many changes in the value of his wealth for which c/W stays between x and z, and thus consumption does not change. Numerical simulations show that small transactions costs can make consumption changes occur very infrequently. Further, the effect of transactions costs on the demand for risky assets is substantial.

PD June 1987. **TI** An Analysis of the Implications for Stock and Futures Price Volatility of Program Trading and Dynamic Hedging Strategies. **AA** Economics Department, Princeton University. **SR** Princeton Financial Research Center Memorandum: 82; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 46. **PR** $3.00. **JE** 313, 311, 520, 026. **KW** Program Trading. Dynamic Hedging. Information. Stock Prices. Securities. Risk. Uncertainty.

AB Recent advances in financial theory have created an understanding of the environments in which a real security can be synthesized by a dynamic trading strategy in a risk free asset and other securities. We contend that there is a crucial distinction between a synthetic security and a real security. In particular the notion that a real security is redundant when it can be synthesized by a dynamic trading strategy ignores the informational role of real securities markets. The replacement of a real security by synthetic strategies may in itself cause enough uncertainty about the price volatility of the underlying security that the real security is no longer redundant. Portfolio insurance provides a good example of the difference between a synthetic security and a real security. One form of portfolio insurance uses a trading strategy in risk free securities ("cash") and index futures to synthesize a European put on the underlying portfolio. In the absence of a real traded put option (of the appropriate striking price and maturity), there will be less information about the future price volatility associated with current dynamic hedging strategies. There will thus be less information transmitted to those people who could make capital available to liquidity providers. It will therefore be more difficult for the market to absorb the trades implied by the dynamic hedging strategies. In effect, the stocks' future price volatility can rise because of a current lack of information about the extent to which dynamic hedging strategies are in place.

Guth, Werner

PD August 1986. **TI** Competition Versus Monopoly in the Supply of Public Goods. **AU** Guth, Werner; Hellwig, Martin. **AA** Guth: University of Cologne. Hellwig: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-68; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 52. **PR** No Charge. **JE** 026, 611, 612. **KW** Public Goods. Sequential Game. Bertrand Model. Monopoly. Incomplete Information. Competition.

AB In an earlier paper (Guth and Hellwig (1986)), we studied the supply of a public good by a profit-maximizing monopolistic producer. A major finding of our analysis was that the private monopoly supply of a public good is inefficient because, as in the case of a private good, the monopolist makes his supply artificially scarce. In this paper we study the question whether the inefficiency would disappear if there was a sufficient amount of competition among actual or potential providers of the public good. Relations between potential suppliers and users of the public good are characterized by the usual information and incentive problems. On the one hand, a profit-maximizing seller wants to know the public's willingness to pay for the public good so that he can extract as large a share of the surplus as possible. On the other hand, depending on how the payment for the public good is shared among the beneficiaries, each beneficiary may have an incentive to underreport his willingness to pay in order to reduce his payment to the supplier, or he may have an incentive to over-report his willingness to pay in order to increase the chances of having the public good supplied at the other beneficiaries' expense. Following the approach taken in our earlier paper, we study these issues by means of a sequential game with incomplete information.

Hahm, Sangmoon

PD April 1987. **TI** Information Lag and the Persistence of Aggregate Output. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-09-01; Department of Economics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. **PG** 26. **PR** Free by Request. **JE** 023, 311, 131. **KW** Information Lag. Persistence. Monetary Policy. Business Cycles. Money Supply.

AB Lucas and Sargent (1979) describe three propagation

mechanisms which could produce serially correlated aggregate outputs in equilibrium business cycle models; this paper adds one more. It shows that if the information lag on aggregate variables is longer than the time interval between money supply changes, a monetary shock has a persistent effect on aggregate output; yet, no such effect exists on idiosyncratic output. It also studies the consequences of allowing a household to get additional information from his local output demand and the effects of changing his information lag on an equilibrium price and on the Phillips curve. Finally, under the Sargent and Wallace criterion, it shows that both a k-percent rule and a totally random monetary policy are optimal: in fact, they are equivalent.

Hall, A. D.

PD March 1987. **TI** A Monte Carlo Study of Some Tests of Model Adequacy in Time Series Analysis. **AU** Hall, A. D.; McAleer, Michael. **AA** Australian National University. **SR** Australian National University Working Paper in Economics and Econometrics: 148; Department of Economics, Australian National University, P.O. Box 4, Canberra A.C.T. 2601, AUSTRALIA. **PG** 24. **PR** No Charge. **JE** 211. **KW** Autoregressive Moving Average Models. Lagrange Multiplier Tests. Small Sample Properties. Portmanteau Tests. Separate Tests. Variance Ratio Tests. ARIMA.

AB In this paper we conduct a Monte Carlo experiment of some computationally attractive tests of model adequacy in time series analysis. The experiment is designed to examine the small sample properties of tests of fitted autoregressive and moving average models, to compare the performances of asymptotically equivalent procedures, to consider the effects on estimated type one errors and powers of testing against both appropriate and inappropriate alternatives, to evaluate the effects on power of progressively (and incorrectly) overfitting a model, and to examine the robustness of the tests to departures from normality.

Haller, Hans

PD July 1987. **TI** Corporate Production Under Uncertainty. **AA** Virginia Polytechnic Institute and State University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-124; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 22. **PR** No Charge. **JE** 021, 022, 026. **KW** Corporate Production. Uncertainty. Core Theory. Incomplete Markets.

AB A two-period model of an economy with production and with uncertain future outputs and resources is investigated. Intertemporal trade is only possible via the stock market. Spanning equilibrium allocations lie always in the "smallest core" of each replica of the economy. If a feasible allocation is not a price-taking equilibrium allocation and satisfies an interior and a liquidity condition, then in some replica of the economy the replicated allocation does not belong to the "largest core".

Haltmaier, Jane

PD February 1986. **TI** Induced Innovation and Productivity Growth: An Empirical Analysis. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Paper: 220; C/O Frank Diebold, Federal Reserve Board, Washington, DC 20551. **PG** 40. **PR** No Charge. **JE** 621, 824, 851. **KW** Technological Change. Capital Formation. Labor Productivity.

AB Drawing on theoretical work on induced innovation and biased technical change, this paper develops an empirically testable model of endogenous productivity growth. The model is then used to try to explain recent changes in factor productivity. The empirical results are contrasted with those obtained using a more traditional translog model. Both sets of results indicate that an observed slowdown in labor productivity growth in recent years can be linked to economic factors.

Hammond, Peter J.

PD April 1987. **TI** Consequentialist Foundations for Expected Utility. **AA** Stanford University. **SR** Universite Catholique de Louvain Core Discussion Paper: 8716; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 53. **PR** No Charge. **JE** 022, 026, 511. **KW** Expected Utility. Decision Trees. Revealed Preference. Independence Axiom. Behavior Norms.

AB Behavior norms are considered for decision trees which allow both objective probabilities and uncertain states of the world with unknown probabilities. Terminal nodes have consequences in a given domain. Behavior is required to be consistent in subtrees. Consequentialist behavior, by definition, reveals a consequence choice function independent of the structure of the decision tree. It implies that behavior reveals a revealed preference ordering satisfying both the independence axiom and a novel form of sure-thing principle. Continuous consequentialist behavior must be expected utility maximizing. Other familiar assumptions then imply additive utilities, subjective probabilities, and Bayes' rule.

Hansen, Lars Peter

TI Estimating Models with Intertemporal Substitution Using Aggregate Time Series Data. **AU** Eichenbaum, Martin S.; Hansen, Lars Peter.

Hansen, Pierre

TI Commuters' Paths with Penalties for Early or Late Arrival Time. **AU** de Palma, Andre; Hansen, Pierre; Labbe, Martine.

Hardle, Wolfgang

PD March 1987. **TI** XploRe, a Computing Environment for eXploratory Regression. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-113; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 13. **PR** No Charge. **JE** 211, 214. **KW** Computing Environment. Computer Software. Exploratory Regression Econometrics Package. ACE. Smoothing.

AB XploRe is an interactive system for analysing various kinds of regression relations. More precisely, XploRe is a graphically oriented computing environment for

explorating regression with sophisticated data management tools: Data can be rotated, brushed, masked, labeled and smoothed. A simple personal computer, like an IBM PC/AT or compatibles, provides the hardware background of XploRe. A personal computer provides the need of a nonparametric statistical analysis to improvize alternative ways of interpretation on the spot. A typical scenario in regression smoothing is the determination of the best fitting polynomial to a given two -- dimensional data set. The system XploRe is about two months old. It is written in PASCAL and runs on every IBM PC/AT or compatible personal computer. XploRe is basically a framework awaiting more "soft work" that enhances the capabilities.

PD May 1987. **TI** Sequential Kernel Smoothing for Estimation of Zeros and Location of Extrema of Regression Functions. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-112; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 10. **PR** No Charge. **JE** 211. **KW** Regression Function. Nonparametric Estimation. Sequential Kernel Smoothing. Stochastic Approximation. Nonparametric Method.

AB Let (X,Y), (X1,Y1), (X2,Y2),. be independent identically distributed pairs of random variables and let m(x)=E(Y *given* X=x) be the regressi on function of Y and X. The estimation of zeros and of location of extrema of this regression curve is considered by combining the nonparametric kernel method with stochastic approximation techniques. Consistency and asymptotic normality of the proposed procedures is shown, providing fixed width confidence intervals. The proposed algorithms are investigated by simulations.

Hardwick, Philip

PD June 1987. **TI** Economies of Scale in Building Societies. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8712; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 40. **PR** No Charge. **JE** 315, 312, 314, 635. **KW** Scale Economies. Building Society. United Kingdom. Financial Intermediaries. Financial Institutions.

AB This paper presents new measurements of economies of scale in building societies by estimating a translog total cost function jointly with the derived input cost share equations. It differs from previous building society studies by defining total cost to include the interest cost of borrowed funds as well as the operating costs of employing labour and capital services. In addition to the usual elasticity, three further scale economy measures are developed and estimated: 'augmented economies of scale', 'input-specific economies of scale' and 'augmented input-specific economies of scale'.

Harris, Jeffrey E.

PD June 1987. **TI** Delay in Reporting Acquired Immune Deficiency Syndrome (AIDS). **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2278; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 913. **KW** Acquired Immune Deficiency Syndrome. Disease Control. Health Care. Epidemic. Public Health.

AB As of March 31, 1987, the United States Centers for Disease Control had reported 33,350 cases of acquired immune deficiency syndrome. Yet by that date, physicians had actually diagnosed 42,670 cases. The difference arises from significant delays in the reporting of Acquired Immune Deficiency Syndrome cases to public health authorities. An estimated 70 per cent of cases are reported two or more months after diagnosis; about 23 per cent are reported seven or more months later; and about 5 per cent take more than three years to come in. Moreover, the probability distribution of delays has been shifting to the right, with the median delay increasing by 0.6 months since mid-1986. From the data on reported cases and the estimated probability distribution of reporting delays, I reconstruct the actual incidence of Acquired Immune Deficiency Syndrome from January 1982 through March 1987. The doubling time of the epidemic fell from about 6 months in 1982 to 15-16 months in 1986.

Harvey, A. C.

PD July 1987. **TI** Estimating Integrated Higher Order Continuous Time Autoregressions with an Application to Money-Income Causality. **AU** Harvey, A. C.; Stock, James H. **AA** Harvey: London School of Economics. Stock: Harvard University, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-28; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 38. **PR** No Charge. **JE** 211, 212, 311. **KW** Continuous Time Estimation. Kalman Filter. Integrated Processes. Granger Causality. Integration. Spurious Regression. Cointegration.

AB An algorithm is presented for computing the Gaussian maximum likelihood estimator of the parameters of a multivariate continuous time autoregressive process with multiple roots that equal zero. Some of the variables might be observed at a point in time ("stocks") and some might be observed as an integral over a unit interval ("flows"). This algorithm, based on the Kalman-Bucy filter, is used to investigate the possibility that previous findings that money Granger-causes industrial production spuriously arose because time-averaged variables were analyzed using discrete time methods.

Haurin, Donald R.

PD July 1987. **TI** Home Ownership Rates of Married Couples: An Econometric Investigation. **AU** Haurin, Donald R.; Hendershott, Patric H.; Ling, David C. **AA** Haurin, Hendershott: The Ohio State University. Ling: Southern Methodist University. **SR** National Bureau of Economic Research Working Paper: 2305; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 932, 921, 212, 841. **KW** Home Ownership. Housing Tenure. Married Couples. Taxes.

AB Ownership patterns for young (under 45) married couples are striking in two respects. First, ownership rates rise dramatically with age: couples 35-44 consistently have ownership rates nearly 50 percentage points higher than couples under 25. Second, half of the sharp ownership

gains of young married couples in the 1970s were reversed in the first half of the 1980s. These patterns do not hold either for single or other households or for married couples over 44. To increase understanding of this variability by age and over time, we analyze the tenure behavior of young married couples using aggregate income/age-class data from the 1973-83 Annual (American) Housing Surveys (AHS). The income of a household affects its tenure choice both directly (the taste for ownership rises with income) and indirectly (the cost of owning declines as income rises owing to the greater value of investment in a nontaxed asset for investors in higher tax brackets). Age affects tenure choice because older households have higher incomes, are less mobile (annual-equivalent transactions costs are lower), have more wealth (portfolio diversification for owner-occupiers is easier), and have more certain income (and are thus more willing to commit to ownership). Price and income elasticities for tenure choice are computed, the rise in ownership rates between 1973 and 1979 and the subsequent decline are interpreted, and an impact of the Tax Reform Act of 1986 is predicted.

Hayashi, Fumio

PD June 1987. **TI** Housing Finance Imperfections and Private Saving: A Comparative Simulation Analysis of the U.S. and Japan. **AU** Hayashi, Fumio; Ito, Takatoshi; Slemrod, Joel. **AA** Hayashi: London School of Economics. Ito: Harvard University. Slemrod: University of Michigan. **SR** National Bureau of Economic Research Working Paper: 2272; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 932, 921, 122, 323. **KW** Life Cycle Model. Savings Decisions. Japan. Housing Purchase Decisions. Consumption. Bequest. Tax Deductibility.

AB This paper presents a life-cycle simulation analysis of the interaction among savings decisions, housing purchase decisions, and the tax system in the United States and Japan. To investigate this issue, we first document the stylized fact that the typical Japanese household purchases a house later in the life-cycle with a higher downpayment ratio than its United States counterpart. Second, a life-cycle simulation model that includes the housing purchase decision is constructed and used to compare the behavior of typical United States and Japanese households. The Japanese household is induced to save more early in the life cycle in order to meet the higher downpayment requirement. The saving-consumption pattern resulting from a higher growth rate is shown to contribute to a higher aggregate saving rate in Japan compared to the United States. However, the contribution of the induced early saving due to the downpayment requirement seems to be too small to explain a large differential in the saving rates of the two countries. Only if we introduce a bequest motive can the model generate the observed saving rate in Japan. Finally, tax reform concerning the tax deductibility of mortgage interest payments or the tax exempt status of interest income is shown to have a small impact on the aggregate saving rate in either country.

Hellwig, Martin

TI Competition Versus Monopoly in the Supply of Public Goods. **AU** Guth, Werner; Hellwig, Martin.

Helpman, Elhanan

PD June 1987. **TI** Wages, Prices, and Inflationary Inertia. **AU** Helpman, Elhanan; Leiderman, Leonardo. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 13-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 25. **PR** No Charge. **JE** 134, 023, 131. **KW** Wages. Inflation. Inflationary Inertia.

AB We develop a model that explains the positive association between real wages and inflation that has been observed in some countries. The model does not exhibit inflationary inertia. It is argued that some recent tests of inflationary inertia are invalid, because the data produced by the model will be interpreted as showing the assistance of inertia while no inertia exists in the model.

PD June 1987. **TI** Stabilization in High Inflation Countries: Analytical Foundations and Recent Experience. **AU** Helpman, Elhanan; Leiderman, Leonardo. **AA** Department of Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 12-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 110. **PR** No Charge. **JE** 134, 431, 133, 311, 321. **KW** Inflation. Stabilization. Israel. Argentina. Brazil. Bolivia.

AB We describe the stabilization programs of Argentina, Bolivia, Brazil and Israel, and discuss their success. The discussion is carried out on the basis of a number of analytical frameworks that shed light on these episodes. The major conclusions are that reduction of budget deficits proves to be essential, that a fixed exchange rate is useful in some circumstances, and that price controls are probably more disruptive than useful.

Hendershott, Patric H.

PD June 1987. **TI** Private Saving in the United States: 1950-85. **AU** Hendershott, Patric H.; Peek, Joe. **AA** Hendershott: The Ohio State University. Peek: Boston College. **SR** National Bureau of Economic Research Working Paper: 2294; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 042, 921, 221, 322. **KW** Saving Statistics. NIPA Statistics. Measurement Errors. Inflation. Government Deficit.

AB The official personal and private saving statistics contain a number of conceptual measurement errors. In this paper we develop and analyze personal and private saving measures adjusted for the difference between income tax payments and actual liabilities, saving via net purchases of government pension assets (including social security) and consumer durables, and that part of after-tax interest income attributable to inflation. We find that the adjusted personal and private saving rates in recent years are only slightly below their post-1950 averages, not at all time lows as reported in the official NIPA statistics. Furthermore, over the past 35 years, personal saving has been more volatile and corporate saving less volatile than the official measures. Also, the inflation premium corrections remove the negative correlation between personal and corporate saving. That is, the often observed negative correlation between the official measures of personal and corporate saving is due solely to measurement

errors in the two series. Finally, the decrease in federal government saving in the 1980s is the continuation of a 30-year trend, not a one-time aberration.

PD June 1987. **TI** Pricing Mortgages: An Interpretation of the Models and Results. **AU** Hendershott, Patric H.; Van, Order Robert. **AA** Hendershott: The Ohio State University. Van Order: University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2290; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 931, 932, 313. **KW** Mortgages. Call Option. Put Option. Option Pricing.

AB Mortgages, like all debt securities, can be viewed as risk-free assets plus or minus contingent claims that can be usefully viewed as options. The most important options are: prepayment, which is a call option giving the borrower the right to buy back the mortgage at par, and default, which is a put option giving the borrower the right to sell the house in exchange for the mortgage. This paper reviews and interprets the large and growing body of literature that applies recent results of option pricing models to mortgages. We also provide a critique of the models and suggest directions for future research.

TI Understanding the Real Estate Provisions of Tax Reform: Motivation and Impact. **AU** Follain, James A.; Hendershott, Patric H.; Ling, David C.

TI Home Ownership Rates of Married Couples: An Econometric Investigation. **AU** Haurin, Donald R.; Hendershott, Patric H.; Ling, David C.

Hendry, D. F.

PD May 1987. **TI** Recent Developments in the Theory of Encompassing. **AU** Hendry, D. F.; Richard, J. F. **AA** Hendry: Nuffield College, Oxford. Richard: Universite Catholique de Louvain. **SR** Universite Catholique de Louvain Core Discussion Paper: 8722; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 49. **PR** No Charge. **JE** 211, 212. **KW** Encompassing Tests. Linear Dynamic Models. Information Matrix. Rival Models. Wald Tests. Specification Tests. Non-nested Hypothesis Testing. Misspecification.

AB The paper surveys and discusses recent contributions on the notion of (parametric) encompassing, whereby a model is required to account for salient features of rival models. Both asymptotic and finite sample versions of encompassing are examined. A class of Wald encompassing tests is applied to various examples among which the choice of regressors problem. Linear dynamic models are formally analysed and the treatment of exogenous variables in the construction of encompassing tests is discussed. A notion of parsimonious-encompassing is examined and its properties are discussed within the information matrix framework. Finally Bayesian notions of encompassing and specificity are analysed.

Hercowitz, Zvi

PD July 1987. **TI** Output Growth and Employment Fluctuations. **AU** Hercowitz, Zvi; Sampson, Michael. **AA** Hercowitz: Department of Economics, Tel-Aviv University.

Sampson: University of Western Ontario. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 19-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 37. **PR** No Charge. **JE** 131, 023, 132, 212. **KW** Growth. Business Cycles. Employment.

AB This paper develops and estimates with United States data a real business cycle model with endogenous long-term growth. The analysis is focused on the joint determination of output and hours of employment. The paper is an attempt to contribute to the integration of business cycle analysis with long-term growth considerations. A practical aspect of this integration pursued in the paper is the decomposition of the output series into permanent and transitory, or cyclical, components. This decomposition is performed in a bivariate (output growth, hours of employment), theory-constrained setup.

Higuchi, Yoshio

TI Wage Structures and Labor Turnover in the U.S. and in Japan. **AU** Mincer, Jacob; Higuchi, Yoshio.

Hildenbrand, Werner

TI Income Distributions and the Axiom of Revealed Preference. **AU** Grodal, Birgit; Hildenbrand, Werner.

Hillier, Grant

PD June 1987. **TI** Joint Distribution Theory for Some Statistics Based on LIML and TSLS. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 840; Cowles Foundation, Yale University, Box 2125, Yale Station, New Haven, CT 06520. **PG** 31. **PR** No Charge. **JE** 211. **KW** LIML. Two Stage Least Squares. Density Function.

AB In the context of a single linear structural equation under classical assumptions, we derive the joint conditional density of the LIML endogenous coefficient estimator, and the usual characteristic root arising from the LIML procedure, given the OLS estimates of the reduced form coefficients for the excluded exogenous variables. This provides the joint distributions for various combinations of the statistics commonly used for inference in this model, and is hence an important stepping stone in the analysis of these procedures. The main result also leads to a new derivation of the density of the LIML estimator itself, and provides a result which is directly comparable to earlier results for IV estimators, including OLS and TSLS. We also consider briefly the density of the LIML structural variance estimator, and the joint density of the LIML and TSLS estimators for the endogenous coefficients.

Holderness, Clifford G.

PD March 1986. **TI** The Economics of Corporate Indemnification and Liability Insurance. **AA** William E. Simon Graduate School of Businss Administration, University of Rochester. **SR** University of Rochester Managerial Economics Research Center Working Paper: MERC86-05; William E. Simon Graduate School of Business Administration, University of Rochester, Rochester, NY 14627. **PG** 51. **PR** No Charge. **JE** 011, 511, 512, 513, 916. **KW** Indemnification.

Insurance. Law. Litigation. Liability. Corporate Directors.
AB In response to the surge in litigation brought against directors and officers personally, most firms have purchased directors' and officers' liability insurance and enacted indemnification provisions in their by-laws or charters. The analysis in this paper shows that liability insurance and indemnification typically yield net benefits for stockholders, thereby increasing the value of the firm. When a firm purchases liability insurance, it receives independent monitoring and specialized litigation services from the insurance company. In addition, both liability insurance and indemnification shift the risk of litigation to superior risk bearers and thereby reduce the cost to the firm of compensating risk averse directors and officers, encourage individuals with characteristics that increase the value of the firm to become directors and officers, and facilitate management decisions in accordance with the market value rule. When possible proposed theories are empirically tested.

PD February 1987. **TI** The Role of Large Block Shareholders: An Analysis of Public Corporations with Majority Shareholders. **AU** Holderness, Clifford G.; Sheehan, Dennis P. **AA** Holderness: William E. Simon Graduate School of Business Administration - University of Rochester. Sheehan: Krannert School of Management, Purdue University. **SR** University of Rochester Managerial Economics Research Center Working Paper: MERC86-13; William E. Simon Graduate School of Business Administration, University of Rochester, Rochester, NY 14627. **PG** 36. **PR** NC single copies; 50 cents each paper beyond 5 in each order. **JE** 510, 520. **KW** Shareholders. Majority Shareholders. Public Corporations. Stock Prices. Stock Market. Corporate Control.
AB This paper empirically analyzes the role of majority shareholders who own more than half (but less than all) of the common stock in 114 firms on the New York or American Stock Exchanges. We examine stock price reactions associated with trades of the control block and stock price reactions associated with re-organizations of majority shareholder firms. We also compare the management structure, compensation of executives, investment decisions, financing choices, and distributions to shareholders of these majority shareholder firms with a paired sample of firms having relatively dispersed ownership. Taken in its entirety, the evidence appears inconsistent with the hypotheses that on average majority shareholders expropriate corporate resources or that they are passive investors. Instead, the evidence suggests that majority shareholders are possible sources of managerial efficiency.

Holtz, Eakin Douglas

PD April 1987. **TI** Tax Deductibility and Municipal Budget Structure. **AU** Holtz, Eakin Douglas; Rosen, Harvey S. **AA** Holtz-Eakin: Columbia University. Rosen: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2224; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 324, 325. **KW** Tax Deductions. Income Taxes. Tax Revenues. Local Government.
AB This paper investigates the effects of deductibility of local taxes on communities' budgetary decisions. Our focus is on how changes in the tax price of local spending induced by deductibility affect the mix between deductible and nondeductible revenue sources, and on expenditures. The econometric analysis is based on a rich data set that tracks the fiscal behavior of 172 local governments from 1978 to 1980. We find that the elasticity of deductible taxes with respect to the tax price is in the range -1.2 to -1.6; the tax price has no statistically significant effect on the use of nondeductible revenue sources; and the elasticity of local expenditures with respect to the tax price is about -1.8. Hence, if deductibility were eliminated, we would expect to see a substantial decline in local government spending.

PD May 1987. **TI** Federal Deductability and Local Property Tax Rates. **AU** Holtz, Eakin Douglas; Rosen, Harvey. **AA** Rosen: Princeton University. Holtz-Eakin: Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 350; Department of Economics, Columbia University, New York, NY 10027. **PG** 32. **PR** $5.00. **JE** 323, 324, 541. **KW** Taxation. Tax Deductions. Property Tax. Local Taxes. State Taxes.
AB Recent econometric work has suggested that federal deductibility of state and local taxes has raised the proportion of these taxes -- especially property taxes -- in local budgets. This paper lends additional support to these earlier findings by showing that one channel through which deductibility leads to higher local property tax revenues is by increasing the rate of local property taxation. Specifically, we find that if deductibility were eliminated, the mean property tax rate in our sample would fall by 0.00715 ($7.15 per thousand dollars of assessed property), or 21.1 percent of the mean tax rate.

PD May 1987. **TI** Estimating Vector Autoregressions. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey. **AA** Newey, Rosen: Princeton University. Holtz-Eakin: Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 349; Department of Economics, Columbia University, New York, NY 10027. **PG** 45. **PR** $5.00. **JE** 211, 212, 824. **KW** VAR. Vector Autoregression. Causality. Panel Data. Wages. Labor Supply.
AB We have presented a simple method of estimating vector autoregression equations using panel data. The key to its simplicity is the fact that estimation and testing have straightforward GLS interpretations--no non-linear optimization is required. We applied our estimation procedure to the study of dynamic relationships between wages and hours. Our empirical results are consistent with the absence of lagged hours in the wage forecasting equation, and thus with the absence of certain human capital or dynamic incentive effects. Our results also show that lagged hours is important in the hours equation, which is consistent with alternatives to the simple labor supply model that allow for costly hours adjustment or preferences that are not time separable. As usual, of course, these results might be due to a functional form misspecification. However, we find it encouraging that broadly similar results are obtained from two different data sets.

PD May 1987. **TI** Wages and Hours: Estimating

Vector Autoregressions with Panel Data. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey S. **AA** Holtz-Eakin: Columbia University. Newey and Rosen: Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 222; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 24. **PR** $1.00 plus postage. **JE** 824, 212, 211, 821. **KW** Labor Supply. Vector Autoregression. Panel Data. VAR. Wages. Instrumental Variables. Working Hours.

AB This paper considers estimation and testing of vector autoregression coefficients in panel data, and uses the techniques to analyze the dynamic properties of wages and hours among American males. The model allows for non-stationary individual effects, and is estimated by applying instrumental variables to the quasi-differenced autoregressive equations. Particular attention is paid to specifying lag lengths and forming convenient test statistics. The empirical results suggest that the wage equation contains at most a single lag of hours and wages, and that one cannot reject the hypothesis that lagged hours may be excluded from the wage equation. Our results also show that lagged hours is important in the hours equation, which is consistent with alternatives to the simple labor supply model that allow for costly hours adjustment or preferences that are not time separable.

Horn, Henrik

PD May 1987. **TI** Bilateral Monopolies and Incentives for Merger. **AU** Horn, Henrik; Wolinsky, Asher. **AA** Horn: Institute for International Economic Studies, University of Stockholm, Wolinsky: The Hebrew University of Jerusalem and University of Pennsylvania. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 129; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 28. **PR** No Charge. **JE** 611. **KW** Bilateral Monopolies. Merger. Duopoly. Bargaining.

AB This paper presents a model of duopoly whose member firms acquire their inputs through bilateral monopoly relations with their suppliers. It combines a bargaining model with a duopoly model to examine how input prices and profits are affected by the structures of the upstream and the downstream industries, by the demand relations among the final products and by special features of the process of bargaining between the supplier and buyers of the inputs. The immediate implications for the incentives for merger in the involved industries are pointed out.

Hosios, Arthur

TI Implicit Contracts, Labor Mobility and Unemployment. **AU** Arnott, Richard; Hosios, Arthur; Stiglitz, Joseph.

Hsiao, Cheng

PD July 1987. **TI** An Integrated Monthly and Hourly Regional Electricity Model for Ontario, Canada. **AU** Hsiao, Cheng; Chan, M. W. Luke; Mountain, Dean C.; Tsui, Kai Y. **AA** Hsiao: University of Southern California. Chan: McMaster University. Mountain: Ontario Hydro and York University. Tsui: University of Windsor. **SR** University of Southern California Modelling-Research Group Working Paper: #M8728; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 37. **PR** No Charge. **JE** 723, 613, 612, 212. **KW** Electricity Demand. Mixed Effects Model. Canada. Load Patterns. Energy Prices.

AB For constructing an integrated electricity demand model, we propose using a mixed fixed and random coefficient approach. This allows us to control for the regional differences in order that common responses to changes in climate and socio-economic factors can be consistently estimated. The model is estimated in three stages for municipal utilities in the Province of Ontario, Canada. Monthly kilowatt-hour and kilowatt demands are examined in the first stage. In the second stage, municipal load profiles are estimated holding economic and regional specific variables constant. In the third stage, differences in load patterns over time and across municipalities are explained as functions of economic activity, customer mix and relative energy prices.

Hubbard, R. Glenn

TI International Adjustment Under the Classical Gold Standard: Evidence for the U.S. and Britain, 1879-1914. **AU** Calomiris, Charles W.; Hubbard, R. Glenn.

Huberman, Gur

PD July 1987. **TI** Strategic Renegotiation and Contractual Simplicity. **AU** Huberman, Gur; Kahn, Charles M. **AA** University of Chicago. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-31; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 33. **PR** No Charge. **JE** 026, 916. **KW** Contracts. Renegotiation. Negotiation. Commitment.

AB This article presents a simple framework in which legal regimes which lack precommitment can have advantages over regimes in which precommitment is mandated. The advantage stems from the reduction in the complexity of contracts necessary to attain the efficient outcomes in such cases, due to the ability of single clauses in a renegotiable contract to stand for multiple clauses in precommitted contract. We show that the advantage does not depend on the existence of objective uncertainty, but can be a purely strategic phenomenon.

Huisman, J. Th

TI Rate of Return Endowment Insurance. **AU** Wolthuis, H.; Huisman, J. Th.

Hulten, Charles R.

PD July 1987. **TI** Income Originating in the State and Local Sector. **AU** Hulten, Charles R.; Schwab, Robert M. **AA** University of Maryland. **SR** National Bureau of Economic Research Working Paper: 2314; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 324, 325, 541, 221. **KW** Public Sector. State Government. Capital Stock. Local Government. Taxes. Tax Reform.

AB In this paper we develop an accounting framework for the state and local sector which is consistent with the accounting framework for the private sector of the

economy. We show that the public sector capital stock generates an imputed return which takes the form of a reduction in local taxes and that failure to recognize this income distorts the measurement of the output of this sector, confuses the debate over federal tax reform, and hides the distinction between general subsidies for capital formation. Our implementation of those accounts for the 1959-1985 period indicates that current national income accounting procedures misstate the amount of income originating in the state and local sector; in recent years this misstatement has been on the order of $100 billion. We also show that the state and local sector is one of the more capital intensive sectors of the economy.

Huppert, Daniel D.

TI Non-Market Resource Valuation: Assessment of Value Elicitation by "Payment Card" versus "Referendum" Methods. **AU** Cameron, Trudy Ann; Huppert, Daniel D.

Hurd, Michael D.

PD July 1987. **TI** The Poverty of Widows: Future Prospects. **AA** SUNY Stony Brook. **SR** National Bureau of Economic Research Working Paper: 2326; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 914, 915, 921. **KW** Widows. Poverty. Elderly. Medicare. Medicaid. Consumption.

AB I estimate the fraction of widows that will be in poverty by projecting the economic status, as measured in 1979, of a cohort of the elderly. The projections are based on an economic model of consumption behavior. I define and estimate a consumption-based measure of poverty status that, I believe, is more appropriate for the elderly than the usual income-based measure. According to the projections, the fraction of widows in poverty should not increase substantially as the 1979 cohort ages. However, the fraction in poverty depends critically on the definition: the differences between the consumption-and income-based measures are large. But even more important is the valuation put on Medicare/Medicaid: for two reasonable valuations, the fractions in poverty are very different.

PD July 1987. **TI** The Wealth and Poverty of Widows: Assets Before and After the Husband's Death. **AU** Hurd, Michael D.; Wise, David A. **AA** Hurd: SUNY Stony Brook. Wise: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2325; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 914, 915, 921. **KW** Widows. Poor. Elderly. Poverty. Retirement. Saving. Wealth. Life Insurance. Survivorship Benefits.

AB We verify that widows are much more likely than couples to be poor and that they make up a large proportion of the poor elderly; 80 percent are widows or other single individuals. Then we seek to explain why the single elderly are poor, with emphasis on widows. We do this by tracing back over time their financial status, using the Longitudinal Retirement History Survey. The death of the husband very often induces the poverty of the surviving spouse, even though the married couple was not poor. While only about 9 percent of prior couples are poor, approximately 35 percent of the subsequent widows are. A large proportion of the wealth of the couple is lost when the husband dies. In addition we find that: (1) the prior households of poor widows earned and saved less than the prior households of non-poor widows, (2) more of the smaller accumulated wealth was lost at the death of the husband, (3) the absence of survivorship benefits or life insurance insured that the loss in wealth would leave the widow poor thereafter.

Inman, Robert P.

PD June 1987. **TI** Federal Assistance and Local Services in the United States: The Evolution of a New Federalist Fiscal Order. **AA** The Wharton School, University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2283; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 322, 323, 324, 325. **KW** Federal Government. Government Financing. Public Goods. Revenue Sharing. Political Interests. Congress.

AB The federalist fiscal structure of the United States has been evolving steadily towards the centralization of the financing of government services and transfers. Revenues are raised centrally and then transferred, via grants-in-aid, to state and local governments. This paper seeks to explain this movement towards centralized financing. Two alternative hypotheses are examined. The first -- that aid is allocated to correct market or political failures in the local public economy or to equalize the provision of meritorious local public goods -- generally fails to account for the distribution of federal aid over the past thirty years. The second hypothesis -- that aid is allocated to ease the fiscal pressure in the state-local sector when, and only when, it is in the political interests of Congressional representatives to do so -- is supported by the recent data. Our current system of federal grants to state and local governments is a logical outcome of a Congressional budget process that rewards the centralised financing and the localized provision of public good and services.

Ioannides, Yannis M.

PD April 1987. **TI** Trading Uncertainty and Market Form. **AA** Virginia Polytechnic Institute and State University, NBER and Athens School of Economics and Business. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-04-01; Department of Economics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. **PG** 47. **PR** Free by Request. **JE** 022, 611, 213, 026, 411. **KW** Uncertainty. Trading Groups. Random Graphs. Search. Trade. Communication. Information.

AB This paper examines purely random matching in a model with a large number of informationally isolated individuals who desire to trade with one another but must communicate in order to arrange trades. The structure of links among traders is characterised by a parameter that is chosen by prospective traders who behave with rational expectations with respect to both, the size and nature of different trading groups that are likely to form, and the mechanism which allocates trades within each group. The resulting sizes of trading groups span the entire spectrum, but it is possible that a certain proportion of the entire economy is interlinked and forms a giant trading group,

within which trading uncertainty is entirely eliminated.

PD May 1987. **TI** On the Architecture of Complex Organizations. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-09-05; Department of Economics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. **PG** 10. **PR** free by request. **JE** 511, 026. **KW** Organization. Hierarchies. Information. Screening. Bureaucracy. Fallibility. Decision Making.
AB We use results from information theory to show that the screening effectiveness of organizations which consist of many fallible agents can be arbitrarily improved, but only if organisational architecture is non-hierarchical. We also examine how any desired outcome may be implemented as a symmetric equilibrium, when agents are selfish.

Ito, Takatoshi

TI Housing Finance Imperfections and Private Saving: A Comparative Simulation Analysis of the U.S. and Japan. **AU** Hayashi, Fumio; Ito, Takatoshi; Slemrod, Joel.

Jensen, Michael C.

PD December 1986. **TI** Are Executive Compensation Contracts Structured Properly? **AU** Jensen, Michael C.; Murphy, Kevin J. **AA** William E. Simon Graduate School of Business Administration, University of Rochester. **SR** University of Rochester Managerial Economics Research Center Working Paper: MERC86-14; William E. Simon Graduate School of Business Administration, University of Rochester, Rochester, NY 14627. **PG** 43. **PR** NC single copies; 50 cents each paper beyond 5 in each order. **JE** 824, 822, 510, 821. **KW** Compensation. Executive Compensation. Labor Contracts. Salaries. Earnings. Managers. Corporate Executives.
AB Competition in the managerial labor market should lead to managerial contracts that maximize shareholder value while paying executives their reservation utility, and yet actual executive compensation contracts look very different from those predicted by economic theory. The relation between pay and performance, while positive, is too low to provide optimal incentives for managers. Levels of compensation for superior executives are small relative to their best outside opportunities, and recent trends suggest that the inadaquacies in compensation have been increasing. One force leading to improperly structured compensation contracts is the political process which indirectly imposes constraints that reduce the sensitivity of pay to performance by truncating the upper tail of the earnings distribution.

Jonker, Roy

TI Better Assignment Lower Bounds for the Euclidean Traveling Salesman Problem. **AU** Volgenant, A.; van, der Sluis H. J.; Jonker, R.

PD June 1986. **TI** An Improved Transformation of the Symmetric Multiple Traveling Salesman Problem. **AU** Jonker, Roy; Volgenant, Ton. **AA** University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 1/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 7. **PR** No Charge. **JE** 213. **KW** Traveling Salesman Problem. Routing. Problem Transformation. Transportation Problem.
AB We improve the standard transformation of the symmetric single depot multiple traveling salesman problem (MTSP) to one on a sparser edge configuration. This tends to suppress the degeneracy of the resulting symmetric traveling salesman problem (STSP) to a large extent. As a result a 1-tree based STSP algorithm easily solves large MTSPs of the type considered. We present computational results that are the best available.

TI On Some Generalizations of the Traveling Salesman Problem. **AU** Volgenant, Ton; Jonker, Roy.

Jovanovic, Boyan

TI Demand-Driven Innovation and Spatial Competition Over Time. **AU** Rob, Rafael; Jovanovic, Boyan.

Judd, Kenneth

TI Cooperation Through Delegation. **AU** Fershtman, Chaim; Judd, Kenneth; Kalai, Ehud.

Jurriens, P.

PD April 1986. **TI** The Solution of Nonlinear Forward Looking Rational Expectations Models. **AU** Jurriens, P.; Jurriens, Y. **AA** P. Jurriens: Pierson Heldring and Pierson. Y. Jurriens: University of Amsterdam. **SR** University of Amsterdam Acturial Science and Econometrics Report: AE 12/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 12. **PR** No Charge. **JE** 213. **KW** Rational Expectations. Multiple-Shooting. Algorithm.
AB In this paper a solution technique is developed for non-linear rational expectation models. In models with current expectations of future variables we show that shooting can only be applied if the model is solved simultaneously over these future periods. Our algorithm provides a solution path for this problem.

Jurriens, Y.

TI The Solution of Nonlinear Forward Looking Rational Expectations Models. **AU** Jurriens, P.; Jurriens, Y.

Kaas, R.

PD February 1986. **TI** Extremal Values of Stop-Loss Premiums Under Moment Constraints. **AU** Kaas, R.; Goovaerts, M. J. **AA** University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 2/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 7. **PR** No Charge. **JE** 213. **KW** Stop-Loss Premiums. Fixed Moments. Insurance.
AB A method is described to compute best upper and lower bounds for stop-loss premiums with a fixed retention for bounded random variables having moments u(o), u(1),., u(n). Similar methods can be used when specific additional information is available.

PD March 1986. **TI** Some Elementary Stop-Loss Inequalities. **AU** Kaas, R.; Goovaerts, M. J.; Bauwelinckx, T. **AA** Kaas and Goovaerts: University of Amsterdam. Bauwelinckx: K. U. Lauven. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 9/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 5. **PR** No Charge. **JE** 213. **KW** Stop-Loss Premiums. Inequalities. Insurance.
AB Using the monotonicity of stop-loss premiums (see Gerber and Schuerger (1985)) and techniques introduced in Runnenburg and Goovaerts (1985) surprisingly simple upper and lower bounds for stop-loss premiums of compound distributions are deduced.

PD August 1986. **TI** A New Method for Deriving Bounds for Integrals With Respect to Measures Allowed to Vary Under Conical and Integral Constraints. **AU** Kaas, R.; Goovaerts, M. J. **AA** University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 13/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 12. **PR** No Charge. **JE** 213. **KW** Fixed Moments. Stop-loss Premiums. Insurance. Claim Distribution.
AB In insurance literature on applied mathematics in actuarial sciences the theory of convex analysis is applied to so called stop-loss premiums in case only some moments of the claim distribution are known, possibly combined with other conical characteristics of the distribution. In the present contribution a much simpler method is proposed, based on results from the theory of the problem of moments. The resulting algorithm can handle an arbitrary number of moment constraints, thus considerably generalizing results obtained previously.

PD September 1986. **TI** On the Use of QUADPACK for the Calculation of Risk Theoretical Quantities. **AU** Kaas, R.; Goovaerts, M. J. **AA** University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 15/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 13. **PR** No Charge. **JE** 213, 026, 214. **KW** Numerical Integration. Risk Theory. Stop-loss Premiums. Ruin Probabilities. Insurance. Computer Software.
AB In this contribution it is shown how the subroutine package QUADPACK (Piessens et al. (1983)) for automatic integration can be used successfully for calculating some important risk theoretical quantities: tails of compound distributions, ruin probabilities and stop-loss premiums.

Kahn, Charles M.

TI Strategic Renegotiation and Contractual Simplicity. **AU** Huberman, Gur; Kahn, Charles M.

PD July 1987. **TI** On the Correlation Between Quits and Output. **AA** University of Chicago. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-30; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 25. **PR** No Charge. **JE** 821, 824. **KW** Quits. Labor. Markets. Wages. Search Models. Job Mobility. Employment.
AB To the extent that a voluntary quit indicates that a worker has found a better opportunity, it would seem likely that quitters have higher wages afterwards than do those who remain with their initial jobs. Landau and Weiss have shown that even in the simplest of job matching models the question of whether quitters receive higher wages is sensitive to the distribution of offers. This paper derives sufficient conditions on distributions and mobility costs for quitters to have higher wages. We relate these conditions to search models and to optimal insurance contracting models.

PD July 1987. **TI** Separating and Pooling Equilibrium in Optimal Employment Contracts. **AA** University of Chicago. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-29; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 48. **PR** No Charge. **JE** 026, 821. **KW** Contracts. Imperfect Information.
AB This paper examines some examples of optimal contracts when there is differential information about a continuous underlying state space. It demonstrates that it is possible for the optimal contract to be "kinked" or "pooling," so that an interval of agents all choose the same outcome. This phenomenon has been observed in optimal contract models with discrete outcomes, but not in cases with continua of outcomes. We show that the outcome need not depend on any kink or other pathology of the density functions. Nonetheless, we demonstrate that the contracts will still be continuous so that outcomes are continuous functions of state, and there will be in general a continuum of outcomes chosen. We give examples of such contracts for some easily calculable cases, and also sufficient conditions for an optimal contract not to have such pooling. In particular we give proof for a particular example, showing that separating contracts will result when the range of distributions of outcomes is sufficiently small.

Kalai, Ehud

TI Cooperation Through Delegation. **AU** Fershtman, Chaim; Judd, Kenneth; Kalai, Ehud.

Kambhu, John

PD April 1987. **TI** Unilateral Disclosure, Deception, and Trust in Signalling Games. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 344; Department of Economics, Columbia University, New York, NY 10027. **PG** 28. **PR** $5.00. **JE** 026. **KW** Game Theory. Information. Signals. Beliefs.
AB In this paper, we explore incentives for unilateral disclosure of private information when lying is possible. We shall study a single period two player game with incomplete information, where a parameter, x, that affects both players' payoffs is known to only one of the players. The game has multiple equilibria which arise through differences in the uninformed player's beliefs, but we shall exploit the fact that the informed player moves first to argue that some of these beliefs are unreasonable -- leaving

us with a smaller set of outcomes. (For example, any signalling equilibrium is not a credible outcome]) We shall consider only pure strategy equilibria of this game. Because the game is a single period game, reputations, and strategies that rely on reputations have no role here. The game has three types of equilibrium outcomes. One in which no information is revealed, one in which a truthful report is made, and one in which the informed player lies and the uninformed player is deceived. The range of these equilibrium outcomes means that the trust in the relationship between the informed player and uninformed player is not a trivial affair. Even though there are compelling reasons for trust, betrayal and deception are possible occurrences.

PD June 1987. **TI** Contestable Regulation and Negotiated Compliance. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 352; Department of Economics, Columbia University, New York, NY 10027. **PG** 21. **PR** $5.00. **JE** 613, 612, 611, 722, 916. **KW** Regulatory Enforcement. Pollution. Effluent Charges. Standards. Prosecution.

AB This paper is an analysis of negotiated compliance. We shall analyze conditions under which granting discretionary prosecutorial powers to regulatory agencies can strengthen regulatory enforcement. In such cases statutes that impose mandatory prosecution will foreclose opportunities for negotiation that leads to higher compliance. Our results point to the existence and desirability of informal standards of compliance, where some degree of non-compliance is tolerated. There do, however, exist circumstances when a regime of mandatory prosecution and strict enforcement of penalties will attain higher compliance than can be attained through negotiated compliance. Nevertheless, in such circumstances there are alternatives to mandatory prosecution. In our model, one alternative is to increase the number of regulatory standards against which compliance is measured. In fact, our results suggest that in the control of pollution, effluent charges alone may be an inadequate regulatory instrument. The use of effluent charges or pollution taxes may need to be supplemented by regulatory standards on pollution control equipment. Specifically, it may not be sufficient to regulate the outcome, the means to that outcome may also have to be regulated.

PD June 1987. **TI** Direct Controls and Penalty Systems of Regulation. **AA** Columbia University Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 342; Department of Economics, Columbia University, New York, NY 10027. **PG** 16. **PR** $5.00. **JE** 613, 612. **KW** Regulatory Enforcement. Compliance.

AB The focus of this paper is regulatory enforcement when regulators do not have absolute power -- as is the case when procedures of due process and the right of appeal allow regulated enterprises to challenge decisions of regulatory agencies. Instead of assuming that the regulated enterprise passively submits to regulatory enforcement, I shall suppose that the regulated enterprise can contest the regulator's decisions. Given this contestable view of regulatory enforcement, I shall compare two regulatory models: regulation with direct controls where the regulator issues directives and commands to directly regulate behavior, and the use of fines or corrective taxes to regulate behavior through a price system. In both types of regulation the regulated enterprise can contest the regulator's decisions. In the first the firm may challenge the regulator's dictates or injunctions, while in the second system the firm can contest fines levied by the regulator. The question is, which regulatory regime can obtain higher compliance? The results suggest that when the regulator's enforcement powers are limited, regulation with direct controls can obtain higher levels of compliance than a price system oriented system of regulation with fines and corrective taxes.

Kamiya, Kazuya

PD 1987. **TI** The Decomposition Method for Systems of Nonlinear Equations. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain Centre for Operations Research and Econometrics Discussion Paper: 8724; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 35. **PR** No Charge. **JE** 213, 021. **KW** Nonlinear Equation Systems. Decomposition. Nonconvex Technology. Jet Transversality Theorem.

AB The main purpose of this paper is to present an efficient algorithm for computing solutions to a class of systems of nonlinear equations; the special structure of the systems allows us to use the decomposition of the problem. We apply the algorithm to economies with nonconvex technologies; the algorithm is not only an efficient method of computing equilibria but also "generically" a price adjustment mechanism.

Kandori, Michihiro

PD April 1987. **TI** Equivalent Equilibria. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: TR511; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 31. **PR** $4.00. **JE** 021, 213. **KW** Complete Market. Incomplete Market. Second Theorem of Welfare Economics. Hahn-Panach Theorem. General Equilibrium. Asset Prices. Rational Expectations.

AB The paper provides a way to formulate a general equilibrium model with infinite time horizon and continuous uncertainty by L (infinity) commodity space, and provides a simple proof of the equivalence of equilibria in complete markets, incomplete markets with sequential trading, and incomplete markets with one-shot trades in single consumer economies. The proof is general in the sense that it does not rely on time-homogeneous structure nor smoothness of preferences. The result guarantees that we can avoid complicated calculation to get rational expectation asset prices in a broad class of single consumer models. Also presented is an example of many consumer model where there exists an efficient incomplete market equilibrium, but none of complete markets equilibrium has the same price or allocation.

Kane, Edward J.

PD July 1987. **TI** No Room for Weak Links in the Chain of Deposit Insurance Reform. **AA** Ohio State

University. **SR** National Bureau of Economic Research Working Paper: 2317; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 312, 314. **KW** FDIC. FSLIC. Deposit Insurance. Banks. Saving Institutions.
AB Unrecognized and deferred losses at insured deposit institutions currently impair the capacity of the nation's principal deposit insurers (the FDIC and FSLIC) both to discipline failing institutions and to discipline or take over insolvent ones. These agencies' accrued but unreported losses far exceed their explicit financial resources. Moreover, their backlog of unresolved problem cases far exceeds the workload that their existing staffs can handle. This paper addresses three tasks: (1) to clarify the defects in the information, monitoring, regulatory-response, and incentive sub-systems of federal deposit insurance that, by subsidising institutional risk-taking, led so many deposit institutions and their insurers into economic insolvency; (2) to identify a generic mix of reforms that could in principle put the system right again; and (3) to explain how far proposals for reform that hold a place on the active legislative and regulatory agenda fall short of this ideal.

Karni, Edi

PD July 1987. **TI** Ascending Bid Auction Games: A Non Expected Utility Analysis. **AU** Karni, Edi; Safra, Zvi. **AA** Karni: Johns Hopkins University. Safra: Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 20-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 31. **PR** No Charge. **JE** 026, 022. **KW** Ascending Bid Auctions. Nonexpected Utility. Behavioral Consistency. Consequential Equilibrium. Lotteries. Bidding. Sequential Equilibria.
AB When his preferences over the space of lotteries are nonlinear in the probabilities, a bidder in ascending bid auctions employs dynamically inconsistent bidding plans involving self-deception. In this paper we propose that when facing the possibility of dynamically consistent course of action players restrict their choice to strategies that are dynamically consistent. We show how to implement this idea in ascending bid auction games. We prove the existence of sequential equilibrium for such games when the preferences are quasi-concave and characterise the equilibrium for special cases of nonlinear preferences.

Katz, Lawrence

TI Inter-Industry Wage Differences and Theories of Wage Determination. **AU** Dickens, William T.; Katz, Lawrence.

Kehoe, Patrick J.

TI Trade and Exchange-Rate Dynamics in a Dynamic Competitive Economy. **AU** Backus, David K.; Kehoe, Patrick J.

Khan, M. Ali

PD January 1985. **TI** Pareto Optimal Allocations of Non Convex Economies in Locally Convex Spaces. **AU** Khan, M. Ali; Vohra, Rajiv. **AA** Khan: Department of Economics, University of Illinois. Vohra: Brown University. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1373; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 15. **PR** No Charge. **JE** 022, 021, 213, 024. **KW** Pareto Optimal Allocations. Non Convex Economies. Epi-Lipschitzian Sets. Clarke Normal Cone. Convex Spaces. Public Goods. Welfare Theorem.
AB We extend the second fundamental theorem of welfare economics to economies with non-convex production sets, public goods and with an ordered locally convex space of commodities. Our work applies the hypertangent cone to this problem and makes essential use of Rockafellar's extension of the Clarke tangent cone to locally convex spaces.

PD January 1987. **TI** On Symmetric Cournot - Nash Equilibrium Distributions in a Finite Action Atomless Game. **AU** Khan, M. Ali; Sun, Ye Neng. **AA** Department of Economics, University of Illinois. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1327; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 9. **PR** No Charge. **JE** 026, 213. **KW** Equilibrium Distributions. Cournot-Nash. Atomless. Finite Action. Lyapunov's Theorem.
AB We show that in a finite-action, atomless game, every Cournot-Nash equilibrium distribution can be "symmetrized." This yields an elementary proof of a result of Mas-Colell.

PD February 1987. **TI** On a Graph Topology on C(X,Y) with X Compact Hausdorff and Y Tychonoff. **AU** Khan, M. Ali; Sun, Ye Neng. **AA** Department of Economics, University of Illinois. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1330; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 8. **PR** No Charge. **JE** 021, 213. **KW** Graph Topology. Compact-Open Topology. Space of Agents. Hausdorff Space. Tychonoff Space.
AB We present a characterization of the compact-open topology as a graph topology on the space of continuous functions on a compact Hausdorff space with values in a Tychonoff space.

PD February 1987. **TI** On Complete Regularity of Spaces of Economic Agents Endowed with the Order Topology. **AU** Khan, M. Ali; Sun, Ye Neng. **AA** Department of Economics, University of Illinois. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1329; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 14. **PR** No Charge. **JE** 021, 213. **KW** Order Topology. Spaces of Economic Agents. Complete Regularity.
AB We show that the order topology of Chichilnisky on closed subsets of a compact Hausdorff space is completely regular and finer than the topology of set convergence of Choquet and Kuratowski.

PD February 1987. **TI** On a Reformulation of

Cournot-Nash Equilibria. **AU** Khan, M. Ali; Sun, Ye Neng. **AA** Department of Economics, University of Illinois. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1328; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 28. **PR** No Charge. **JE** 022, 026, 213. **KW** Cournot Nash Equilibria. Space of Economic Agents. Measures. Topology.

AB We present variations on a theme of Mas-Colell and report results on the existence of Cournot-Nash equilibrium distributions in which individual action sets depend on the distribution of actions and the payoffs are represented by relations that are not necessarily complete, or transitive.

PD May 1987. **TI** On the Interiors of Production Sets in Infinite Dimensional Spaces. **AU** Khan, M. Ali; Peck, N. T. **AA** Department of Economics, University of Illinois at Urbana-Champaign. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1374; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 18. **PR** No Charge. **JE** 022, 021, 213. **KW** Production Sets. Bounded Marginal Rates of Substitution. Infinite Dimensional Spaces. Convexity. Banach Spaces.

AB We show that "bounded marginal rates of substitution" as formalized by Khan-Vohra imply that a closed, convex production set with "free disposal" has a nonempty interior. This result is true for Banach spaces but false for more general locally convex spaces.

King, Robert

PD April 1987. **TI** Stochastic Trends and Economic Fluctuations. **AU** King, Robert; Plosser, Charles; Stock, James; Watson, Mark. **AA** King and Plosser: University of Rochester. Stock: Hoover Institution, Stanford University. Watson: Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2229; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 132, 023, 212. **KW** Macroeconomic Theory. Technological Progress. VAR. Time Series Model. GNP. Consumption. Investment.

AB Recent developments in macroeconomic theory emphasize that transient economic fluctuations can arise as responses to changes in long run factors -- in particular, technological improvements -- rather than short run factors. This contrasts with the view that short run fluctuations and shifts in long run trends are largely unrelated. We examine empirically the effect of shifts in stochastic trends that are common to several macroeconomic series. Using a linear time series model related to a VAR, we consider first a system with GNP, consumption and investment with a single common stochastic trend; we then examine this system augmented by money and prices and an additional stochastic trend. Our results suggest that movements in the "real" stochastic trend account for one-half to two-thirds of the variation in postwar United States GNP.

Kipnis, Victor

PD April 1987. **TI** Comparing Some Estimators for MSPE in AR Time Series. **AU** Kipnis, Victor; Pinsker, I. Sh; Grechanovsky, Eugene. **AA** Kipnis: Visiting at University of Southern California. Pinsker and Grechanovsky: Refusenik, USSR. **SR** University of Southern California Modelling Research Group Working Paper: M8714; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 9. **PR** No Charge. **JE** 210, 211. **KW** AR Time Series. Least Squares Prediction. MSPE Estimation. Pseudosamples. Monte Carlo. Mean Square Prediction Errors. Bootstrap.

AB The problem of estimating mean square prediction errors for AR models while using the least squares regression method for parameter estimation is considered. A new bootstrap-like estimator based on the pseudo-sampling technique is compared to the traditional estimator and that of Bhansali. Simulation results comparing the sample bias and the sample MSE for the three estimators are described.

Kiviet, Jan F.

PD October 1986. October 1986. **TI** Bias Correction in Lagged-Dependent Variable Models. Reduction Tests for the Steiner Problem in Graphs. **AU** Kiviet, Jan F.; Phillips, G. D. A.; Duin, C. W.; Volgenant, A. **AA** Kiviet: University of Amsterdam. Phillips: School of Economic Studies, Leeds University. University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 17/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. University of Amsterdam Actuarial Science and Econometrics Report: AE 16/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 37. 20. **PR** No Charge. No Charge. **JE** 211. 213. **KW** Lagged Dependent Variables. Regression. Bias Correction. Asymptotic Theory. Corrected Least Squares Estimator. Steiner Tree. Graph Reduction. Bottleneck Length. Reduction Tests.

AB Employing small Least sigma asymptotics we approximate the small sample bias of the ordinary least squares (OLS) estimator of the full coefficient vector in a linear regression model which includes a one period lagged dependent variable and an arbitrary number of fixed regressors. This bias term is used to construct a corrected least squares estimator (CLS) which is unbiased to 0 (sigma squared). Approximations are obtained for the mean squared error and the variance of the OLS and the CLS estimators in small samples but the complexity of the expressions makes direct comparison difficult. Empirical and artificial data are used to illustrate the theoretical findings and from a small scale simulation study it is shown that the CLS estimator can be virtually unbiased. Its variance, which is of the same order as OLS, can be estimated by the standard expression for the variance of the OLS coefficient vector. The CLS estimator is easy to calculate and provides a simple method of eliminating bias and at the same time it may reduce the mean squared error of estimation. It is shown that the technique can also be used for bias reduction when estimating reduced form

equations in a dynamic simultaneous equation system. Before actually solving the Steiner Problem in Graphs, reduction tests may reduce the problem size, e.g. by eliminating vertices from the graph. We improve existing reduction tests and develop new tests based on a bottleneck approach. We give computational results for many problems up to 200 vertices both scarce and full dense, as well as Euclidean and randomly drawn. The new and improved tests reduce substantially better than the known tests as is illustrated by the fact that much more problems are solved by reduction only.

Kleindorfer, Paul R.

PD August 1985. **TI** Intergenerational Equity and Fund Balance for Statutory Health Insurance. **AU** Kleindorfer, Paul R.; Schulenburg, Graf V. D. J. M. **AA** Kleindorfer: Wharton School, University of Pennsylvania. Schulenberg: International Institute of Management. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 187; University of Pennsylvania, 3718 Locust Walk Philadelphia, PA 19104-6297. **PG** 25. **PR** No Charge. **JE** 913, 841. **KW** Health Insurance. Health Care. Age Structure. Intergenerational Transfers.

AB In this paper we have shown the impact of the age structure and its change on health care expenditure and health care cost trends. In particular, we have drawn attention to the so-called intergenerational contract element of social health insurance programs financed by a PAYGO system. An empirical analysis of cross-sectional age-dependent health care cost data of eight consecutive years demonstrates the extent of intergenerational transfers by social health insurance. In addition, it shows how current changes in age structure influence the distribution of the expected costs and benefits among different generations. To analyze the consequences of demographic changes on intergenerational transfers via social health insurance, we developed a dynamic multi-generational model. This model takes into consideration both aspects, the age dependency of costs and benefits in the life-cycle of every generation, and the intergenerational transfer element. The model shows that under a PAYGO system demographic changes in a population's age structure cause intergenerational inequity. Furthermore, the model allows us to compute financing modes maximizing intergenerational equity with respect to a given equity value judgement.

TI Productivity Incentives and Rate-of-Return Regulation. **AU** Crew, Michael A.; Kleindorfer, Paul R.

Koenker, Roger

TI Adaptive L-Estimation of Linear Models. **AU** Portnoy, Steven; Koenker, Roger.

Kopecky, Kenneth J.

PD January 1987. **TI** The Behavior of Short-Term Interest Rates in a Rational Banking Model. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 219; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 40. **PR** No Charge. **JE** 311, 312. **KW** Bank Behavior. Excess Reserve Demand. Rational Expectations. Interest Rates. Monetary Policy.

AB This paper analyzes optimal bank behavior in the presence of deposit and reserve flow shocks that occur during the nonsettling and settling weeks of the bank's reserve maintenance period. Assuming that interest rate expectations are formed rationally, the model generates endogenous short-run asset demand and excess reserve demand functions which are aggregated to solve for the equilibrium time path of short-term interest rates. The interest rate solutions are then used to examine various monetary policy issues. For example, it is shown that under certain conditions an attempt to smooth interest rates over the entire reserve maintenance period may induce an increase in rate volatility during the nonsettling period.

Kotlikoff, Laurence J.

PD July 1987. **TI** Employee Retirement and a Firm's Pension Plan. **AU** Kotlikoff, Laurence J.; Wise, David A. **AA** Kotlikoff: National Bureau of Economic Research. Wise: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2323; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 824, 921, 514, 915. **KW** Retirement. Pensions. Social Security. Wages. Worker Compensation.

AB The provisions of the pension plan in a large corporation are described in detail. The implications of the provisions are indicated by pension accrual profiles. These profiles are set forth, together with standard age-earnings and Social Security accrual profiles, in the form of life-time budget constraints. The plan provided very strong incentives to retire beginning at age 55. After age 65, negative pension and negative Social Security accruals effectively impose almost a 100 percent tax rate on wage earnings for many employees of the firm. Departure rates from the firm are compared with economic incentives inherent in the plan provisions. The inducements in the plan provisions to retire early have had a very substantial effect on departure rates from the firm. Over 50 percent of those employed by the firm at age 50 leave before 60 and 90 percent before age 65. The jumps in departure rates at specific ages coincide precisely with the discontinuities and kink points in the worker compensation profiles that result from the pension plan provisions together with wage earnings profiles and Social Security accrual.

Kravis, Irving B.

TI Is the U.S. a Spendthrift Nation? **AU** Lipsey, Robert E.; Kravis, Irving B.

Krelle, Wilhelm

PD March 1986. **TI** Keynes and the Long Run After 50 Years: We are Still Alive. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-42; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 46. **PR** No Charge. **JE** 030, 031, 111, 023. **KW** Keynes. Fiscal Policy. Monetary Policy. Growth. Keynesian Model. Neoclassical Model.

Model.

AB In the first 18 chapters of the "General Theory" Keynes keeps wages and prices constant which makes it a short term theory. In chapters 19 and 21 he considers wage and price movements and declares his own theory of chapters 1 to 18 as a preliminary one. But he did not really incorporate this extension into his theory. This may be the reason why most people stop reading at the 18th chapter and identify a fixed price and fixed wage system with Keynesianism. Clower (1965), Leijonhufvud (1968) and others corrected this by interpreting the Keynesian system as one where quantities adjust faster than prices and as a neoclassical one where prices adjust faster than quantities. The limiting cases would be the Walrasian system (where prices adjust infinitely fast) and the fixed price system (where quantities adjust infinitely fast). There is a wide literature on these two cases: Arrow and Debreu (1954), Debreu (1959), Hildenbrand (1974) and others on the one side, Barro and Grossman (1971), Dreze (1975), Malinvaud (1977) and others on the other side. Recently Sondermann (1985) ventured into the range between the two by using recent developments in the field of "qualitative dynamics" which differentiates between "fast" and "slow" variables. But his model has no bond market and works with a fixed capital stock. Thus the dynamics is limited. Here we shall also move into this (really relevant) range in between the extremes, but from another starting point. We conceive the economy as part of a self-organizing and self-regulating system similar to those which nature has produced in physics, chemistry and biology. They can be described and understood by systems of differential or difference equations. A general analysis of systems of this kind may be found in Haken (1977) and elsewhere. In economics, growth theory and business cycle theory provide the appropriate approach. Growth theory of the neoclassical kind, as started by Solow (1956), Phelps (1961), v. Weizsacker (1962) or as developed (with the assumption of fixed coefficients) by v. Neumann (1937) and Leontief (1953) and others is much more appropriate for understanding the dynamic interdependence of an economic system. The actual state of growth theory is given in Krelle (1985).

Kroch, Eugene A.

PD August 1986. **TI** Education as a Signal: Some Evidence. **AU** Kroch, Eugene A.; Sjoblom, Kriss. **AA** Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 197; 3718 Locust Walk, Philadelphia, PA 19104-6297 University of Pennsylvania, McNeil Building. **PG** 38. **PR** No Charge. **JE** 912, 026, 851, 212. **KW** Signaling. Human Capital. Earnings. Value of Education. Schooling.

AB In this paper we have suggested a way of testing between the human capital and signaling theories of the value of education. If education is a signal then the essence of the signal should be distilled in the position of an individual in the cumulative distribution of education for his cohort. Estimating earnings equations including both absolute and relative measures of education in principle should allow one to distinguish between the two theories. As a practical matter the two measures of schooling are highly correlated. This correlation makes it critical that the earnings equation be correctly specified. The equations we estimate are basically log linear. We have allowed some flexibility in the way the schooling variables enter the equation; however, the functions remain restrictive and any more flexibility would give near perfect multicollinearity. We find in all specification that the years measure of schooling has a highly significant positive effect on earnings. On the other hand, the rank measure rarely has a significant positive effect, and frequently its effect is significantly negative. This suggests that human capital rather than signaling is the predominant explanation of schooling's value.

PD November 1986. **TI** Computing Bounds on Specification Error Arising from Data Proxies. **AA** University of Pennsylvania, Department of Economics. **SR** University of Pennsylvania Econometrics Discussion Paper: 86-9; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR) Philadelphia, PA 19104-6297. **PG** 50. **PR** $1.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211. **KW** Specification. Unobserved Variables. Errors-in-Variables. Proxies.

AB Uncertainty about the specification of a linear regression model often arises from the difficulty in finding observed variables that correspond closely to theoretical ideals. Researchers are forced to work with data "proxies" that are presumed to be closely related to the unobserved variables that are the constituents of the theory. Specification error can be thought of as the failure of the econometric model to properly take into account the imprecision of these proxy variables. Hence, in this paper specification error is treated as a general error in the underlying variable. Various forms of information may be available concerning the characteristics of this error. The discussion explores the relation between the ambiguity of possible estimates and the size and form of the specification error. The trade-off between the strength of assumptions about misspecification and the resulting inferential uncertainty can be developed formally. In some cases what appear to be innocuous errors in proxies create very substantial inferential ambiguity. But in other cases fairly weak assumptions about specification error can reduce inferential uncertainty enormously.

Kurz, Mordecai

PD March 1987. **TI** Coalitional Value. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: TR508; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 33. **PR** $4.00. **JE** 026, 021. **KW** Coalitions. Core. Stability. Blocking. Game Theory. Central Assignment Games.

AB An exposition on coalitional value and coalitional structure.

Labbe, Martine

TI Commuters' Paths with Penalties for Early or Late Arrival Time. **AU** de Palma, Andre; Hansen, Pierre; Labbe, Martine.

PD June 1987. TI Location of an Obnoxious Facility on a Network: A Voting Approach. AA Universite Louis Pasteur. SR Universite Catholique de Louvain Core Discussion Paper: 8729; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. PG 15. PR No Charge. JE 025, 931, 941, 722. KW Network. Location Theory. Voting. Anti-Condorcet Point. Anticenter.
AB We consider the location problem of an obnoxious facility with respect to a finite number of inhabitants, where the inhabitants have specified locations at vertices of a network N. A voting solution, called anti-Condorcet point, is defined as a point of N such that no other point is farther from a strict majority of inhabitants. On a general network with an odd number of inhabitants, it is shown that there exists a finite set of points which contains all such solutions. An example shows that this result does not directly extend to an even number of inhabitants on a general network. In the special case of a tree network, one of the extreme vertices of a diameter is an anti-Condorcet point and a linear algorithm for finding it is presented. Finally, a bound on the maximum decrease of the total distance to the inhabitants is provided when an anti-Condorcet point is preferred to a "maximum" location.

Laren, Deborah

TI The Effect of Family Background on Economic Status: A Longitudinal Analysis of Sibling Correlations. AU Solon, Gary; Corcoran, Mary; Gordon, Roger; Laren, Deborah.

TI Sibling and Intergenerational Correlations in Welfare Program Participation. AU Solon, Gary; Corcoran, Mary; Gordon, Roger; Laren, Deborah.

Laroque, Guy

PD March 1987. TI On Inventories and the Business Cycle. AA INSEE. SR Unite de Recherche Document de Travail ENSAE/INSEE: 8703; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. PG 37. PR No Charge. JE 131, 133, 134, 023. KW Cycles. Inventories. Stabilization Policies. Fiscal Policy. Monetary Policy.
AB This paper presents a model in which rational inventory-holders with perfect foresight are responsible for the business cycle. At the same time, the model provides an explanation of why arbitrage may not force the price system to its competitive value in the long run. Inventories prevent the tatonnement process to converge to the competitive equilibrium. Finally, the model gives a rationale for the use of Keynesian fiscal and monetary policies.

TI Asset Pricing and Optimal Portfolio Choice in the Presence of Illiquid Durable Consumption Goods. AU Grossman, Sanford J.; Laroque, Guy.

Leamer, Edward E.

PD July 1987. TI Measures of Openness. AA University of California at Los Angeles Department of Economics. SR University of California at Los Angeles Department of Economics Working Paper: 447; Department of Economics - University of California at Los Angeles, Los Angeles, CA 90024. PR $2.50. JE 421, 422, 123. KW Trade Barriers. Trade Dependence. Tariffs.
AB The ratio of trade to Gross National Profit is suggestive of the degree of openness of an economy since, other things held constant, barriers to trade can be expected to deter trade. This paper attempts to hold other things constant by adjusting the trade intensity ratio for factor supplies that partially explain why some countries have intense trade and others have little. The first method for controlling for these other determinants of trade is factor analysis applied to a linear system of net export equations, one for each of 182 commodities. Though the factor analysis is useful in identifying unusual trade items, it is quite suspicious as a method of adjusting the trade intensity ratio. The second method is more promising since it uses actual measurements of resources and it attributes to trade barriers only that which is unexplained by a reasonably complete list of resource variables. The conclusion, however, is that much of that which is unexplained by these measured resources is probably not attributable to trade barriers.

Lee, Daesik

PD September 1987. TI Coalitions Forging Evidence. AA Virginia Polytechnic Institute and State University. SR Virginia Polytechnic Institute and State University Working Paper in Economics: E87-09-04; Department of Economics, virginia Polytechnic Institute and State University, Blacksburg, VA 24061. PG 68. PR Free by request. JE 511, 025, 026, 022, 512. KW Informational Asymmetry. Coalitions. Hierarchy. Principal-Supervisor-Agent. Collusion. Contracts. Incentive Compatible. Rationality. Principal-Agent Model.
AB Following Tirole's recent work, we study the problem of designing some optimal collusion free contract in simple three-tier Principal/supervisor/agent hierarchical structures. We figured out the coalitional incentive compatibility conditions by explicitly presenting the coalitional mechanism when the coalition formation suffers informational asymmetry. We show that the principal can design an optimal collusion free contract with some additional cost by putting proper incentive compatibility conditions and individual rationality conditions. Also, we compare our result with Tirole '1986's.

Lehmann, Bruce N.

PD March 1987. TI Orthogonal Frontiers and Alternative Mean-Variance Efficiency Tests. AA Columbia University and National Bureau of Economic Research Department of Economics, Columbia University. SR Columbia Department of Economics Working Paper: 341; Department of Economics, Columbia University, New York, NY 10027. PG 25. PR $5.00. JE 313, 211, 026. KW Mean Variance Efficiency. Risk. Risk Premia. Securities. Portfolios.
AB This paper provides some analytical tools which are useful for the development of alternative mean-variance efficiency tests and procedures for estimating risk premia which do not require grouping the available universe of securities into a much smaller number of portfolios. It is well-known that the mean variance efficient frontier and the locus of minimum variance portfolios with returns uncorrelated with those of an inefficient portfolio are both

parabolas in mean-variance space. It is not as widely appreciated that the solution of arbitrary quadratic programming portfolio problems typically yield solutions that are parabolas in mean-variance space as well. The tools developed below involve the characterization of different parabolas in mean-variance space. In addition, inference procedures are provided for sample versions of some of these parabolas.

Leiderman, Leonardo

TI Wages, Prices, and Inflationary Inertia. **AU** Helpman, Elhanan; Leiderman, Leonardo.

TI Stabilization in High Inflation Countries: Analytical Foundations and Recent Experience. **AU** Helpman, Elhanan; Leiderman, Leonardo.

Leijonhufvud, Axel

TI The Stock-Flow Analysis of Investment. **AU** Aoki, Masanao; Leijonhufvud, Axel.

Levich, Richard M.

PD June 1987. **TI** Financial Innovations in International Financial Markets. **AA** New York University. **SR** National Bureau of Economic Research Working Paper: 2277; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 441, 313, 311. **KW** Innovation. Securitization. Liberalization. Capital Markets. Asset Markets.

AB The central theme of this paper is that financial innovation has become a major force effecting the United States and other developed economies. The common features of the process include product innovation, securitization, liberalization of domestic financial market practices, globalization of markets, and increased competition among financial institutions. The paper offers a review of the product and process changes that have occurred in international financial markets, an analysis of the factors leading to these changes, and an examination of the implications for both financial market participants and macroeconomic policy makers.

PD June 1987. **TI** Developing the ECU Markets: Perspectives on Financial Innovation. **AA** New York University. **SR** National Bureau of Economic Research Working Paper: 2276; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 432, 313, 311, 026. **KW** European Currency Unit. Financial Innovations. Communication. Information Technology. Regulatory Climate.

AB The European Currency Unit (ECU) was officially introduced in March 1979 and has joined the ranks of innovative financial products that are rapidly appearing. The purpose of the paper is to explore the properties of the ECU and analyze those characteristics of the ECU, and products denominated in ECU, that offer value-added. Changes in communications and information technology, changes in the regulatory climate, and changes in the macroeconomic environment have generally encouraged recent financial innovations. We argue that the ECU has gained an edge on its component currencies because of its portfolio properties, its role in reducing transaction costs, the role of the European Monetary System, and trading factors peculiar to the ECU. Private participants should continue to gravitate toward the ECU as a useful vehicle to fulfill the services of money.

TI On the Definition and Magnitude of Recent Capital Flight. **AU** Cumby, Robert E.; Levich, Richard M.

Levin, Dan

TI Trade Liberalization and Imperfect Competition: A Welfare Analysis. **AU** Eldor, Rafael; Levin, Dan.

Levin, Richard C.

TI Firm Size and R&D Intensity: A Re-Examination. **AU** Cohen, Wesley M.; Levin, Richard C.; Mowery, David C.

Levine, Ross

PD September 1987. **TI** The Pricing of Forward Exchange Rates. **AA** Division of International Finance, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 312; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 32. **PR** No Charge. **JE** 431, 212, 441. **KW** Forward Rate. Risk Premium. Uncovered Interest Rate Parity. Exchange Rates. Expectations.

AB This paper addresses the question: do risk premia account for the observed time-varying discrepancies between forward and corresponding future spot exchange rates? A simple theoretical framework is used to derive testable restrictions on the parameters of a multivariate regression model. Using various econometric procedures and different estimation periods, the data reject the restrictions. In contrast to past investigations, the empirical results are inconsistent with a world in which time-varying risk premia are the sole determinants of observed deviations from the unbiased expectations hypothesis. Anticipated real exchange rate movements may explain the rejection.

Lewis, Alain A.

PD March 1987. **TI** An Alternate Approach to Axiomatizations of the von Neumann/Morgenstern Characteristic Function. **AU** Lewis, Alain A.; Sundaram, Raghu. **AA** Cornell University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: TR509; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 23. **PR** $4.00. **JE** 026. **KW** Axiomatic Utility. Rational Probabilities. Measurable Utility. Coalitions. Cooperative Games.

AB In this paper, we examine the relationship between the axiomatic structure of a measurable utility function and the von Neumann-Morgenstern characteristic function of an N-person game. We pose a version of the classical representation result of Luce and Adams '1956 in the case where a measurable utility is assumed to exist on a mixture of space of alternatives generated by only a recursively enumerable subset of the set of real probabilities.

Lewis, Tracy R.

PD August 1987. **TI** Countervailing Incentives in Agency Problems. **AU** Lewis, Tracy R.; Sappington, David E. M. **AA** Lewis: University of California, Davis. Sappington: Bell Communications Research. **SR** University of California at Davis Economics Department Working Paper: 296; Department of Economics, University of California, Davis, Davis, CA 95616. **PG** 23. **PR** No Charge. **JE** 022, 026, 612. **KW** Regulation. Asymmetric Information. Principal-Agent. Regulatory Policy. Incentive Mechanism.

AB We examine the implications of countervailing incentives in agency problems. Such incentives exist when the agent has an incentive to understate his private information for some of its realizations, and to overstate it for others. Countervailing incentives alter the qualitative properties of the equilibrium contract. In particular, pooling generally arises, and efficient performance is induced at an intermediate as well as both extreme realizations of the underlying private information. Also, the agent's rents will generally increase with the realization of his private information over some ranges, and decrease over other ranges. Performance will also be distorted both above and below efficient levels.

Liberadzki, Boguslaw

PD May 1987. **TI** A Comparative Study of the Trucking Industries of the United States of America and Poland. Part A. An Overview of the Trucking Industry in Poland: 1975-84. **AU** Liberadzki, Boguslaw; Allen, Benjamin. **AA** University of Illinois. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1360; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 34. **PR** No Charge. **JE** 615, 053. **KW** Trucking. Transportation System. Poland. United States. Freight.

AB This paper along with a companion working resulted from collaborative work of an economist from Poland and an economist from the United States of America (USA) that compares the trucking industries of Poland and the United States of America (USA). Although occasional references are made to the trucking industry in the United States of America in this paper, a second working paper generated by this study (Part B entitled, "an Overview of the Trucking Industry in the United States of America," contains a more thorough examination of the trucking industry in the United States of America. This working paper focuses on the Polish trucking industry. The state-owned and cooperative firms dominate the for-hire trucking industry. Since 1975 the state-owned not-for-hire trucking firms have increased their share of trucking fleet capacity significantly and their share of trucking tonnage and ton-kilometers despite being less efficient that the for-hire carriers. Because the Minister of Transport regulates only the state-owned public motor carriers, he is limited in trying to allocate traffic through regulation. There are some basic differences and striking similarities, between the trucking industries of Poland and the United States of America. The basic differences, however, reflect some of the fundamental differences between the two countries outside the area of transportation.

TI A Comparative Study of the Trucking Industries of the United States of America and Poland. Part B. An Overview of the Trucking Industry in the United States of America. **AU** Allen, Benjamin; Liberadzki, Boguslaw.

Lieberman, Marvin

TI Investment and Coordination in Oligopolistic Industries. **AU** Gilbert, Richard J.; Lieberman, Marvin.

Lindert, Peter H.

PD August 1987. **TI** Appendices to 'How Sovereign Debt Has Worked?'. **AU** Lindert, Peter H.; Morton, Peter J. **AA** Lindert: Department of Economics, University of California at Davis. Morton: Department of Economics, Hofstra University. **SR** University of California at Davis Research Program in Applied Macro Policy and Macro Policy: 46; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 190. **PR** No Charge. **JE** 041, 440, 443, 433. **KW** International Debt. Debt Crisis. Sovereign Debt. Debtor Nations. Default. International Monetary Fund.

AB Our understanding of the history of international lending to sovereign debtors can be advanced on two fronts. First, the workings of the process in the absence of international agencies like the International Monetary Fund can be illuminated with historical measures of ex ante and ex post returns. Defaults notwithstanding, investors earned sizeable premia on the overall portfolio of loans to the ten top borrowing governments. Chile, Mexico, Russia and Turkey provide outstanding exceptions. While no systematic investor irrationality can be proved, certain lending patterns probably held down the overall ex post return. Countries that had defaulted in the past were significantly more likely to become problem debtors in a new crisis. Defaulting governments have seldom been punished, either with direct sanctions or with discriminatory denial of later credit. Second, policy options for debt-crisis management can be appraised by contrasting the recent debt negotiations under IMF-IBRD tutelage with the more direct bargaining approach of the bond era. The assistance of the international agencies has raised several problems avoided by the older bilateral mechanism. Partial default, imposed by the borrowers with creditor acquiescence, may well dominate all other policy options.

PD August 1987. **TI** How Sovereign Debt Has Worked. **AU** Lindert, Peter H.; Morton, Peter J. **AA** Lindert: Department of Economics, University of California at Davis. Morton: Department of Economics, Hofstra University. **SR** University of California at Davis Research Program in Applied Macro Policy and Macro Policy: 45; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 116. **PR** No Charge. **JE** 041, 440, 443, 433. **KW** International Debt. Debt Crisis. Sovereign Debt. Debtor Nations. Default. International Monetary Fund.

AB Our understanding of the history of international lending to sovereign debtors can be advanced on two fronts. First, the workings of the process in the absence of international agencies like the International Monetary Fund can be illuminated with historical measures of ex ante and ex post returns. Defaults notwithstanding, investors earned sizeable premia on the overall portfolio of loans to the ten top borrowing governments. Chile,

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Mexico, Russia and Turkey provide outstanding exceptions. While no systematic investor irrationality can be proved, certain lending patterns probably held down the overall ex post return. Countries that had defaulted in the past were significantly more likely to become problem debtors in a new crisis. Defaulting governments have seldom been punished, either with direct sanctions or with discriminatory denial of later credit. Second, policy options for debt-crisis management can be appraised by contrasting the recent debt negotiations under IMF-IBRD tutelage with the more direct bargaining approach of the bond era. The assistance of the international agencies has raised several problems avoided by the older bilateral mechanism. Partial default, imposed by the borrowers with creditor acquiescence, may well dominate all other policy options.

Lindsey, David E.

TI Econometric Modeling of the Demands for the United States Monetary Aggregates: Conventional and Experimental Approaches. **AU** Porter, Richard D.; Spindt, Paul A.; Lindsey, David E.

Lindsey, Lawrence

PD April 1987. **TI** Capital Gains Taxes Under the Tax Reform Act of 1986: Revenue Estimates Under Various Assumptions. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2215; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 212, 132. **KW** Tax Reform Act. Tax Revenues. Capital Gains Tax.

AB This paper examines the effect of the Tax Reform Act of 1986 on the level of capital gains realizations and tax revenue under a variety of behavioral assumptions. Independent investigations by Feldstein, Slemrod, and Yitzhaki, the Department of Treasury, Lindsey, Auten and Clotfelter, and Minarik, all point to a large, though highly variable, amount of response by taxpayers to changes in capital gains tax rates. The econometric results of each of these papers are reparameterized for use in the National Bureau of Economic Research TAXSIM model. A total of 13 sets of behavioral assumptions are modelled. The results show that the capital gains tax rate increase in the new tax bill is unlikely to produce an increase in capital gains tax revenue. Of the 13 simulations run, 12 produce lower tax revenue over the period of 5 fiscal years being simulated. The final simulation suggests a virtually unchanged level of revenue. Two of the models predict extremely large levels of capital gains realizations in late 1986 in anticipation of the tax rate increases in the coming years. In none of the simulations is any significant increase in the permanent level of capital gains tax revenues predicted.

PD June 1987. **TI** Federal Deductibility of State and Local Taxes: A Test of Public Choice by Representative Governments. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2292; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 324, 025. **KW** Taxation. Local Taxes. State Taxes. Deductions. Tax Reform. Voter Behavior. Congress.

AB This paper considers the impact of federal deductibility on the level and composition of state and local taxes. It also considers the importance of deductibility in determining the vote of state Congressional delegations on the Tax Reform Act of 1986. Particular emphasis is placed on the mechanism by which voter preferences are translated into public choices. Alternative measures of tax price are considered; each represents a different model of voter behavior. The paper concludes that tax levels are determined by an equal weighting of voters, not by a planning mechanism which minimizes the cost of revenue state wide. It also concludes that the issue of state and local deductibility played a negligible role in determining Congressional votes on the recent tax reform bill.

Ling, David C.

TI Understanding the Real Estate Provisions of Tax Reform: Motivation and Impact. **AU** Follain, James A.; Hendershott, Patric H.; Ling, David C.

TI Home Ownership Rates of Married Couples: An Econometric Investigation. **AU** Haurin, Donald R.; Hendershott, Patric H.; Ling, David C.

Lipsey, Robert E.

PD June 1987. **TI** Is the U.S. a Spendthrift Nation? **AU** Lipsey, Robert E.; Kravis, Irving B. **AA** Lipsey: Queen's College and National Bureau of Economic Research. Kravis: University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2274; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 122, 522. **KW** Saving. Capital Formation. Investment.

AB The belief that the United States is a nation of spendthrifts, unwilling to provide for the future, rests on observations of particular narrow definitions of capital formation, on the use of nominal values that ignore international differences in the relative prices of capital goods, and on concentration on the ratio of capital formation to total output rather than on the amount of capital formation per capita. By a broad definition of capital formation, the United States has been investing a proportion of its gross output in the last decade and a half that is not far below that of other developed countries, even in nominal terms. In world prices, or real terms, United States capital formation was a higher proportion of output than in nominal terms. Real gross capital formation per capita in the United States, even by a narrow definition of capital formation, was above the average for developed countries. By a broad measure of capital formation, few countries surpassed the United States in per capita real capital formation.

TI U.S. Firms in Latin American Service Industries. **AU** Blomstrom, Magnus; Lipsey, Robert E.

Lo, Andrew

PD March 1987. **TI** Stock Market Prices Do Not Follow Random Walks: Evidence from a Simple Specification Test. **AU** Lo, Andrew; MacKinlay, A. Craig. **AA** Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania

Econometrics Discussion Paper: 86-13; Department of Economics, McNeil Building, 3718 Locust Walk, CR, University of Pennsylvania, Philadelphia, PA 19104. **PG** 47. **PR** $1.00. **JE** 313, 311, 521, 212, 132. **KW** Random Walk. Unit Root Tests. Stock Prices. Asset-Pricing. Stock Returns.

AB In this paper, we test the random walk hypothesis for weekly stock market returns by comparing variance estimators derived from data sampled at different frequencies. The random walk model is strongly rejected for the entire sample period (1962-1985) and for all subperiods for a variety of aggregate returns indexes and size-sorted portfolios. Although the rejections are largely due to the behavior of small stocks, they cannot be ascribed to either the effects of infrequent trading or time-varying volatilities. Moreover, the rejection of the random walk cannot be interpreted as supporting a mean-reverting model of asset prices, but is more consistent with a specific nonstationary alternative hypothesis.

PD April 1987. **TI** A Simple Specification Test of the Random Walk Hypothesis. **AU** Lo, Andrew W.; MacKinlay, A. Craig. **AA** University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 86-12; c/o Betty Hutt, Department of Economics, University of Pennsylvania, 3718 Locust Walk (CR) Philadelphia, PA 19104-6297. **PG** 66. **PR** $1.00; checks payable to Department of Economics, University of Pennsylvania. **JE** 211, 313. **KW** Random Walk. Unit Root Tests. Time Series. Stock Prices. Dickey-Fuller Test. Hypothesis Testing.

AB We propose a simple test for the random walk hypothesis using variance estimators derived from data sampled at different frequencies. This Hausman-type specification test exploits the linearity of the variance of random walk increments in the observation interval by comparing the (per unit time) variance estimates obtained from distinct sampling intervals. Test statistics are derived for both the i.i.d. Gaussian random walk and the more general uncorrelated but possibly heteroskedastic random walk. Monte Carlo experiments indicate that although the finite-sample behavior of our specification test is comparable to that of the Dickey-Fuller t-test and the Box-Pierce Q-statistic under the i.i.d. null, our test is more reliable than either of these tests under a heteroskedastic null. We also perform simulation experiments to compare the power of all three tests against two interesting alternative hypotheses: a stationary mean-reverting Markov process which has been interpreted as a 'fads' model of asset prices, and an explosive non-Markovian process which exhibits essentially the opposite time series properties. By choosing the sampling frequencies appropriately, the variance ratio test is shown to be as powerful as the Dickey-Fuller and Box-Pierce tests against both alternatives. As an empirical illustration, we perform our test on weekly stock market data from 1962 to 1985 and strongly reject the random walk hypothesis for several stock indexes.

Locay, Luis

TI Are User Fees Regressive? The Welfare Implications of Health Care Financing Proposals in Peru. **AU** Gertler, Paul; Locay, Luis; Sanderson, Warren.

Lott, Jr John R.

PD July 1987. **TI** Shirking and Sorting in a Political Market with Finite-Lived Politicians. **AU** Lott, Jr John R.; Reed, Robert W. **AA** Lott, Jr.: Rice University; National Fellow, Hoover Institution. Reed: Texas A&M University. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-34; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 49. **PR** No Charge. **JE** 025, 511. **KW** Electoral Control. Shirking. Ideology. Principal-Agent Model. Voters.

AB This paper analyzes principal-agent slack in the context of a political market composed of voters, challengers, and incumbents. The introduction of a last period (via finite-livedness) in combination with voters' imperfect information about politicians' preferences causes time-varying shirking behavior on the part of politicians. Political markets eventually sort out those politicians with significantly deviant policy preferences, potentially providing a solution to the last period problem. In the extreme, sorting can insure that it is not worthwhile for potential shirkers to run for office. A systematic relationship between political shirking and number of terms in office may exist, and depends on how quickly sorting takes place. If sorting is a significant feature of political markets, then cross-sectional studies will tend to oversample little- and non-shirking politicians compared to longitudinal studies.

TI Do Deficits Affect the Level of Insurance? **AU** Fremling, Gertrud M.; Lott, Jr John R.

PD July 1987. **TI** Why is Education Publicly Provided?: A Critical Survey. **AA** Rice University, National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-32; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 53. **PR** No Charge. **JE** 912, 614. **KW** Education. Public Provision. Public Choice. Schools.

AB This paper critically reviews eight alternative explanations for why education is publicly provided and finds them inadequate in either not providing systematic explanations for the universal phenomenon of public provision, explaining why public provision is essential to their arguments, or historical grounds. Instead, an alternative explanation that public provision lowers the cost of governmental wealth transfers is suggested.

MacArthur, Alan T.

TI Political vs. Currency Premia in International Real Interest Differentials: A Study of Forward Rates for 24 Countries. **AU** Frankel, Jeffrey A.; MacArthur, Alan T.

MacDonald, Glenn M.

PD 1987. **TI** The Economics of Rising Stars. **AA** University of Western Ontario, Economics Research Center/NORC, and Rochester Center for Economic Research. **SR** Economics Research Center/NORC Discussion Paper: 87-6; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 20. **PR** $2.00; send requests to Librarian, NORC. **JE** 022, 611, 635, 851, 213. **KW** Hedonics. Superstars. Talent. Information Accumulation Model. Entertainment

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Industry.
AB This article explores what might be called "dynamic stochastic hedonics." The vehicle utilized is a simple Superstars (Rosen, 1981) model embedded in an environment in which information on talent emerges over time. Why integrate dynamic information accumulation models with hedonics? The basic message of hedonics is that if efficiency units-type assumptions are relaxed in a structured manner, and nonconvexities in consumption rule out "arbitrage" activities, then prices are related to the underlying characteristics of agents nonlinearly. The theory's main deficiency, however, is that it treats the underlying heterogeneity as given and is not able to address dynamic issues associated with production of heterogeneity via various kinds of capital accumulation, earnings growth, job mobility, occupational choice, and so on. In contrast, information accumulation models generate heterogeneity over time and offer a fairly rich menu of dynamic implications, but, being (effectively) efficiency models, do not succeed in producing a nonlinear relation between heterogeneity and net returns. This article seeks to integrate dynamic information accumulation models with hedonics by using the Superstars model. The first section lays out the model and discusses its implications. A brief second section sketches some relevant extensions.

PD April 1987. **TI** The Economics of Rising Stars. **AA** University of Western Ontario, Economics Research Center/NOR and Rochester Center for Economic Research. **SR** University of Rochester Center for Economic Research Working Paper: 78; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 20. **PR** No Charge. **JE** 635, 022, 851. **KW** Superstars. Information. Human Capital. Hedonics. Entertainment Industry. Performers.
AB This paper considers a simple integration of hedonics with information accumulation. The vehicle is a dynamic stochastic version of Rosen's (1982) 'Superstars' framework. In the model's steady state, performers enter the industry when young, and stay on only if they get good reviews. Young performers play to small audiences, charge low ticket prices, and earn incomes below the value of their immediate alternatives. They also put on poor shows relatively often. Older, better established performers serve large audiences and charge high ticket prices. Their incomes are very large relative to those earned by young performers -- indeed, more than equalizing for the difference in talent -- and they give few bad performances. The intertemporal linkages on the supply side generate some unusual responses of steady state variables to changes in the underlying environment. For example, an increase in the marginal cost of serving customers (the audience) may cause the crowd seeing each younger performer to grow.

MacKinlay, A. Craig

TI Stock Market Prices Do Not Follow Random Walks: Evidence from a Simple Specification Test. **AU** Lo, Andrew; MacKinlay, A. Craig.

TI A Simple Specification Test of the Random Walk Hypothesis. **AU** Lo, Andrew W.; MacKinlay, A. Craig.

Macunovich, Diane J.

PD April 1987. **TI** Application of Granger-Sims Causality Tests to Monthly Fertility Data 1958-1984. **AU** Macunovich, Diane J.; Easterlin, Richard A. **AA** University of Southern California. **SR** University of Southern California Modelling Research Group Working Paper: M8713; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 36. **PR** No Charge. **JE** 841, 212, 131, 132. **KW** Fertility. Birth Rates. Unemployment. Business cycles. Granger Causality.
AB When applied to monthly age specific data, Granger-Sims causality tests provide a useful technique for identifying the effective lag between business cycles and fertility in the United States. Male and female monthly age specific unemployment rates are used as a proxy for the business cycle, and test results are presented for first and higher order birth rates, as well as total age-specific monthly fertility rates. The period is subdivided (January 1958 - May 1973 and June 1973 - December 1984) in order to identify possible trends.

Marchand, Maurice

TI The Public Firm as an Instrument for Regulating an Oligopolistic Market. **AU** Cremer, Helmuth; Marchand, Maurice; Thisse, Jacques Francois.

Mariano, Roberto S.

TI Interval and Quantile Prediction in Nonlinear Simultaneous Systems. **AU** Brown, Bryan W.; Mariano, Roberto S.

Marini, Giancarlo

PD March 1987. **TI** Monetary and Fiscal Policy in an Optimizing Model with Capital Accumulation and Finite Lives. **AU** Marini, Giancarlo; van, der Ploeg Frederick. **AA** London School of Economics. **SR** Centre for Economic Policy Research Discussion Paper: 167; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 26. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 023, 311, 321. **KW** Fiscal Policy. Capital Accumulation. Interest Rates. Neutrality of Money. Monetary Policy.
AB This paper considers the effects of monetary and fiscal policies in an optimizing model with capital accumulation and finite lives. An increase in monetary growth is no longer superneutral in a money-capital economy, but leads to a reduction in the real interest rate and increases in the capital stock, seignorage revenues, human wealth and total consumption. The effect on real money balances and social welfare is ambiguous. When open-market operations are used to increase monetary growth, there are no real effects unless preferences are non-separable in consumption of goods and real money balances. A tax-financed fiscal expansion increases the rate of interest, reduces the capital stock, real money balances and human and non-human wealth, and therefore crowds out consumption by more than 100 per cent. A bond-financed fiscal expansion increases capital by less and crowds out consumption by more than a money-financed fiscal expansion. None of the above policies affect the real interest rate, capital, total wealth and consumption when

households are immortal.

Marjit, Sugata

PD April 1987. **TI** The Product Cycle Hypothesis and the Heckscher-Ohlin-Samuelson Theory of International Trade. **AA** Jadavpur University, Calcutta, India. **SR** University of Rochester Center for Economic Research Working Paper: 75; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 25. **PR** No Charge. **JE** 411. **KW** Product Cycle. Skill Intensity. North-South Trade. Trade Model.

AB This paper builds up a neo-classical trade model to explain the 'product-cycle' hypothesis originally proposed by Raymond Vernon. As the skill intensity of a product falls over time, the more capital-abundant North tends to export 'new' goods and the less developed South exports 'old' goods. The trade pattern remains invariant over time although the product mix changes as the 'new' goods become old, and this exhibits the product-cycle type phenomenon. Thus, it is shown that, with reasonable assumptions, the traditional factor-abundance model is sufficient to generate a product cycle type trade pattern.

Marshall, David

TI The Permanent Income Hypothesis Revisited. **AU** Christiano, Lawrence J.; Eichenbaum, Martin; Marshall, David.

Marston, Richard C.

PD July 1987. **TI** Exchange Rate Policy Reconsidered. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2310; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 041, 432. **KW** Exchange Rates. Volatility. Target Zone System. Floating. Bretton Woods. International Cooperation.

AB The Bretton Woods Conference of 1944 which fixed exchange rates for over twenty-five years is often cited as a model of economic cooperation among countries. Yet over fifteen years have elapsed since the breakdown of the Bretton Woods System without any serious efforts to restore fixed exchange rates among the currencies of the major industrial countries. This paper considers why governments may have refrained from "reforming" the exchange rate system. The first section of the paper examines the principal problem which exchange rate policy is designed to address, exchange rate variability. The paper distinguishes between the short run volatility of exchange rates, which firms can hedge against in the financial markets, and longer term swings in real exchange rates, which can lead to costly resource reallocation. The paper reviews evidence concerning the effectiveness of exchange market intervention, evidence which suggests that intervention may not be effective unless it is monetized. The paper goes on to analyze arguments concerning fixed exchange rates, and to assess the experience of two fixed rate systems, Bretton Woods and the European Monetary System. Finally, the paper examines the target zone system which has been proposed as an alternative to freely floating and fixed exchange rates.

Martin, Stephen

PD May 1987. **TI** Market Power and/or Efficiency? **AA** Department of Economics, Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8607; Department of Economics, Michigan State University, East Lansing, Michigan 48824. **PG** 20. **PR** No Charge. **JE** 610, 611, 612, 212. **KW** Market Performance. Concentration. Market Power. Scale Economics. Product Differentiation. Oligopoly.

AB Empirical tests of the "concentration" and "efficiency" explanations of industry and strategic group market power are reported. Support is found for both hypotheses, suggesting that they are complementary rather than alternative explanations for observed empirical relationships.

Matoussi, Mohamed Salah

PD June 1987. **TI** The Switch to Sharecropping in Medjez-el-Bab. **AU** Matoussi, Mohamed Salah; Nugent, Jeffrey B. **AA** Matoussi: University of Tunis. Nugent: University of Southern California. **SR** University of Southern California Modelling-Research Group Working Paper: M8721; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 26. **PR** No Charge. **JE** 711, 717, 121, 046, 710. **KW** Sharecropping. Contractual Choice. Land Tenure. Tunisia. Agriculture.

AB Much of the empirical literature on contractual choice in agriculture is limited to pure cross-sectional analysis. Since cross-sectional results may not necessarily apply to a time series context, existing studies may not be reliable in indicating the extent to which and why contractual choices would change when subjected to environmental and policy changes over time. The present study applies the theory of transaction costs to predict changes in contractual form in the face of the substantial environmental changes taking place in contemporary Tunisian agriculture. It then tests the theory with data on contractual choices and the relevant explanatory variables in Medjez-el-bab, a region of Tunisia which has experienced a strong shift from both wage and rent contracts to share contracts.

Matzkin, Rosa L.

PD July 1987. **TI** Testing Strictly Concave Rationality. **AU** Matzkin, Rosa L.; Richter, Marcel K. **AA** Richter: Department of Economics, University of Minnesota. Matzkin: Cowles Foundation, Yale University. **SR** University of Minnesota Center for Economic Research: 239; Department of Economics, 1035 Management and Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 20. **PR** Free. **JE** 022, 025. **KW** Rational Choice. Revealed Preference. Utility.

AB We prove that the Strong Axiom of Revealed Preference tests the existence of a strictly quasiconcave (in fact, continuous, generically C(infinity), strictly concave, and strictly monotone) utility function generating finitely many demand observations. This sharpens earlier results of Afriat, Diewert, and Varian that tested ("nonparametrically") the existence of a piecewise linear utility function that could only weakly generate those demand observations. When observed demand is also

invertible, we show that the rationalizing can be done in a C(infinity) way, thus extending a result of Chiappori and Rochet from compact sets to all of Rn. For finite data sets, one implication of our result is that even some weak types of rational behavior -- maximization of pseudotransitive or semitransitive preferences -- are observationally equivalent to maximization of continuous, strictly concave, and strictly monotone utility functions.

Maurel, Francoise

TI Regression and Non Stationarity. **AU** Gourieroux, Christian; Maurel, Francoise; Monfort, Alain.

Mayer, Colin

PD May 1987. **TI** New Issues in Corporate Finance. **AA** City University Business School. **SR** Centre for Economic Policy Research Discussion Paper: 181; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 521, 522, 541, 512. **KW** Corporate Finance. Investment. Taxation.

AB Flow of funds data are used to compare methods of financing the corporate sector in five countries over the period 1970-85. Many of the problems associated with previous studies of corporate finance are avoided by defining financing proportions in net terms. The degree of consolidation of accounts, reciprocal arrangements between borrowers and lenders, and compensating deposit requirements on borrowers no longer distort financing patterns when net financing is the focus. Corrections for inflation are provided by employing flow rather than stock figures and using own aggregation procedures to derive stock measures. Significant variations in financing emerge. These are not readily explained by traditional explanations of corporate financing decisions, in particular those which emphasize tax considerations. The paper suggests an alternative approach, which emphasizes that relationships between borrowers and lenders establish forms of commitment that are conducive to the provision of long-term finance. This approach suggests that the separation between the analysis of investment and that of finance, which has been the starting point of corporate finance theory, is untenable in a multi-period context in which terms of finance define future allocation of control.

PD June 1987. **TI** Public Ownership: Concepts and Applications. **AA** City University Business School. **SR** Centre for Economic Policy Research Discussion Paper: 182; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 614, 611, 521, 514. **KW** Privatization. Public Ownership. Public Utilities. Property Rights. Investment.

AB Public ownership is viewed as a restriction on the portfolio of equities held by investors. Three conditions are required to justify such restrictions. First, monitoring and coordination create concentration in supply or demand. Second, complete contracts must be infeasible or undesirable. Third, the creation of property rights may give rise to undesirable outcomes if demand in subsequent periods is uncertain. Using a multiperiod analysis, public ownership may be justified in circumstances in which considerations of flexibility outweigh those of commitment. The paper applies these ideas to an international analysis of ownership in several industries and finds that they are informative about both observed patterns and factors that are prompting change.

Mayer, Thomas

PD July 1987. **TI** Alternative Policies to Counter Political Business Cycles. **AA** University of California at Davis. **SR** University of California at Davis Research Program in Applied Macro Policy: and Macro 44; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 13. **PR** No Charge. **JE** 311. **KW** Political Business Cycle. Monetary Policy. Federal Reserve. Bank Regulation. Presidential Power.

AB There are several methods of preventing the use of monetary policy to generate political business cycles. The most promising are to reduce the president's appointment power and moral suasion over the Fed, and perhaps stripping the Fed of its bank-regulatory functions. Improved public awareness is unlikely to be effective.

PD September 1987. **TI** U.S. Monetary Policy, 1973-1987. **AA** University of California at Davis. **SR** University of California at Davis Research Program in Applied Macro and Macro Policy: 47; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 36. **PR** No Charge. **JE** 311, 042. **KW** Monetary Policy. Monetarist Experiment. Federal Reserve.

AB This is a paper for a Federal Reserve Bank of San Francisco conference, "Challenges to Monetary Policy in the Pacific Basin Countries". It surveys United States monetary policy since 1973, focusing on the following questions: (1) Why did the Fed pursue an inflationary policy prior to October 1979? (2) to what extent was it monetarist after that date? (3) Why, and to what extent did the Fed change policy in 1982? (4) how did it respond to business fluctuations and to shocks?

McAleer, Michael

TI A Monte Carlo Study of Some Tests of Model Adequacy in Time Series Analysis. **AU** Hall, A. D.; McAleer, Michael.

McCallum, Bennett T.

PD July 1987. **TI** Inflation: Theory and Evidence. **AA** Carnegie-Mellon University. **SR** National Bureau of Economic Research Working Paper: 2312; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 134, 311, 023. **KW** Inflation. Monetary Policy. Money Growth. Superneutrality. Prices. Monetary Authority. Inflationary Bias.

AB This survey attempts to cover an extremely broad topic by organizing around three sets of issues: ongoing (steady state) inflation; cyclical interaction of inflation with real variables; and positive analysis of monetary policy behavior. With regard to ongoing inflation, the paper demonstrates that the principal conclusions of theoretical analysis are not highly sensitive to details of model specification, provided that the latter posits rational agents free of money illusion. Whether one assumes

finite-lived or infinite-lived agents, such models suggest that steady-state inflation rates will conform fairly closely to money stock growth rates, that superneutrality is not strictly implied but departures should be minor, and that socially optimal inflation rates correspond to the Chicago Rule. With regard to the cyclical interaction of inflation with aggregate output and employment, there is much less professional agreement: four classes of aggregate-supply (or Phillips curve) theories are currently in use by researchers and at least two have been able thus far to withstand attempts at refutation. With regard to policy, a leading question is why the authorities have behaved, over the postwar era, in a manner that has resulted in a many-fold increase in the price level in most industrialized nations.

McCubbins, Mathew D.

PD August 1987. **TI** Administrative Procedures as Instruments of Political Control. **AU** McCubbins, Mathew D.; Noll, Roger G.; Weingast, Barry R. **AA** McCubbins: University of California, San Diego. Noll: Stanford University. Weingast: Washington University, Visiting Scholar -- Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-36; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 75. **PR** No Charge. **JE** 610, 513, 026. **KW** Administrative Law. Regulation. Political Economy. Democracy. Government.

AB An enduring problem of representative democracies is how -- or, indeed, whether -- citizens can assure that government policies are responsive to their preferences. Three categories of institutional mechanisms have been extensively studied as part of the process of assuring democratic responsiveness: the structural features of government and elections, as embodied in the United States Constitution; the "oversight" activities of elected officials, including hearings, investigations, and "watchdog" agencies such as the General Accounting Office or the Office of Management and Budget; and administrative law, which establishes the procedures for decisionmaking in agencies and the basis for judicial review of agency decisions. The purpose of this paper is to examine the relationship between administrative processes and the positive theory of the politics of public policy. Specifically, we argue that administrative procedures constitute an important element of assuring the control of the bureaucracy by elected officials. Administrative procedures can be interpreted as devices to.

McCulloch, J. Houston

TI The Term Structure of Interest Rates: U.S. Government Term Structure Data. **AU** Shiller, Robert J.; McCulloch, J. Houston.

McGahran, Kathleen T.

PD March 1987. **TI** S.E.C. Disclosure Regulation and Management Perquisites. **AA** Columbia University Graduate School of Business. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-87-15; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 39. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 824, 510, 541, 612, 323. **KW** Regulation. Management Compensation. Taxation. SEC. Executives. Salaries.

AB This study examines the joint effect of perquisite disclosure regulations and enforcement policies on changes in cash salary and bonus compensation paid to Chief Executive Officers (CEOs). It is hypothesized that the combined effect of an SEC perquisite disclosure requirement and the IRS policy of taxing perquisites as income causes a shift from perquisites to monetary compensation. A regression model is used to assess the changes in real compensation. The findings support the hypothesis that a change in the CEOs' compensation occurred as a result of the disclosure requirement and tax policies.

McKibbin, Warwick

PD April 1987. **TI** Dynamic Optimization in Two-Party Models. **AU** McKibbin, Warwick; Roubini, Nouriel; Sachs, Jeffery. **AA** McKibbin: Reserve Bank of Australia. Roubini and Sachs: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2213; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 025, 213. **KW** Policy Formulation. Political Parties. Elections. Dynamic Programming. Intertemporal Optimization.

AB The goal of this paper is to study the problem of optimal dynamic policy formulation with competing political parties. We study a general class of problems, in which the two competing political parties have quadratic intertemporal objective functions, and in which the economy has a linear structure and a multidimensional state space. For the general linear quadratic problem we develop a numerical dynamic programming algorithm to solve for optimal policies of each party taking into account the party's objectives; the structure of the economy; the probability of future election results; and the objectives of the other political party.

McNichols, Maureen

PD June 1987. **TI** A Comparison of the Skewness of Stock Return Distributions in Earnings Announcement and Non-announcement Periods. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 953; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 49. **PR** No Charge. **JE** 313, 311, 132. **KW** Stock Returns. Announcements. Prediction Errors.

AB This paper presents evidence that stock return prediction errors are less positively skewed in the time period surrounding accounting earnings report announcements than in a subsequent non-announcement period. Assuming that information available about firms in non-announcement periods depends on discretionary disclosure practices of firms and discretionary search for information by investors, the results suggest that earnings reports cause more extreme "bad news" to be reflected in stock prices relative to discretionary sources of information.

Medoff, James L.

TI The Impact of Firm Acquisitions on Labor.

AU Brown, Charles; Medoff, James L.

Melnik, Arie

TI Loan Commitments and Monetary Policy. **AU** Wachtel, Paul; Sofianos, George; Melnik, Arie.

Mendelson, Haim

PD November 1986. **TI** Consolidation, Fragmentation and Market Performance. **AA** William E. Simon Graduate School of Business Administration, University of Rochester. **SR** University of Rochester Managerial Economics Research Center Working Paper: MERC86-12; William E. Simon Graduate School of Business Administration, University of Rochester, Rochester, NY 14627. **PG** 29. **PR** NC single copies; 50 cents each paper beyond 5 in each order. **JE** 313, 441. **KW** Consolidation. Fragmentation. Market Mechanisms. Dealership Market. Market Performance. Clearing House.

AB This paper studies the impact of market consolidation or fragmentation on its performance, examining four alternative models of exchange: a consolidated clearing house, fragmented clearing houses, a monopoly dealer market and an inter-dealer market. The effects of the market mechanism on the expected quantity traded, the price variance faced by individual traders, the quality of market price signals, the expected gains from trade and the exchange implementation costs are studied.

TI Trading Mechanisms and Stock Returns: An Empirical Investigation. **AU** Yakov, Amihud; Mendelson, Haim.

Mertens, Jean Francois

PD June 1987. **TI** Ordinality in Non Cooperative Games. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain Core Discussion Paper: 8728; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 60. **PR** No Charge. **JE** 026. **KW** Ordinality. Game Theory. Uncertainty.

AB We first analyse what a conceptual definition of ordinality for non cooperative games should be. The resulting concept is highly abstract and apparently unmanageable. Nevertheless we obtain in a second part a very simple and fully operational characterization. In the last part, this is used to check the ordinality of a number of concepts that have been proposed in the literature.

Meyer, Carrie

TI Major Determinants of Tax Structures in Market Economy Countries. **AU** Due, John F.; Meyer, Carrie.

Milgrom, Paul

PD February 1987. **TI** An Essay on Price Discrimination. **AA** Visiting Professor, Economics Department University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8732; IBER, 156 Barrows Hall, University of California, Berkeley CA 94720. **PG** 46. **PR** $3.50. **JE** 611, 026. **KW** Monopoly. Price Discrimination. Bargaining Costs. Free-Rider. Incentive Compatibility. Self-Selection.

AB This essay makes two contributions to the theory of price discrimination. First, considering a monopolist that produces at constant unit costs, we observe that without some connection such as resale possibilities, laws prohibiting price discrimination, or reputational phenomena, the problem naturally decomposes into a set of bilateral monopoly problems with individual prices determined by bargaining. This view is inconsistent with the usual presumption that price discrimination is profitable for the seller. Indeed, when consortiums of buyers may form to negotiate prices, laws that prohibit price discrimination create a free rider problem that may result in higher prices for all. The second contribution is a new graphical analysis of the problem of third-degree price discrimination.

PD February 1987. **TI** Bargaining and Influence Costs and the Organization of Economic Activity. **AU** Milgrom, Paul; Roberts, John. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8731; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley 94720. **PG** 58. **PR** $3.50. **JE** 511, 026, 053, 025. **KW** Transaction Costs. Contracting. Bargaining Theory. Economic Systems. Organization Theory. Rent Seeking. Contracts. Influence Costs.

AB A series of efficient short-term contracts can support an efficient long-term relationship, even when the parties to the contracts behave opportunistically and specialized investments are needed. However, specialized assets, private information, and costs of measuring quality can all raise short-term bargaining costs, resulting in losses from the decentralized, market approach. Centralized governance involves assigning discretionary rights to intervene or to resolve disputes to a central office executive. Increasing centralization raises costs in several ways, most notably by raising the returns to politicking and other influence activities. If one defines a firm to be the smallest business unit largely free of outside discretionary intervention, then mergers of firms increase influence costs. Influence costs are also incurred in some market transactions as well as in the public and non-profit sectors.

Miller, Robert A.

TI Household Choices in Equilibrium. **AU** Altug, Sumru; Miller, Robert A.

Mincer, Jacob

PD July 1987. **TI** Wage Structures and Labor Turnover in the U.S. and in Japan. **AU** Mincer, Jacob; Higuchi, Yoshio. **AA** Mincer: Columbia University. Higuchi: Keio University. **SR** National Bureau of Economic Research Working Paper: 2306; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 123, 122, 851, 229, 621. **KW** Wages. United States. Japan. Human Capital. Training. Productivity. Technical Change.

AB The starting point of this study is the proposition that intensive formation of human capital on the job is the basic proximate reason for the strong degree of worker attachment to the firm in Japan. The greater emphasis on training and retraining, much of it specific to the firm,

results also in steeper wage trajectories, due to growth of skills in the firm. We explore this insight more thoroughly by a detailed use of micro-data for the two countries: We measure wage profiles and turnover in age groups, and we test the inverse relation between the two on industry sectors within each of the countries. Using productivity growth indexes for industries in the United States and in Japan we test the hypothesis that rapid technical change which induces greater and continuous training, is responsible for steeper profiles, hence indirectly for lesser turnover. The hypothesis is confirmed on the sectoral level in countries. Finally, we try to standardize for the cultural background of workers, by observing a sample of Japanese plants in the United States which employ American workers, and use Japanese labor policies in recruitment and training. We find that the steeper tenure-wage slopes and lower turnover place this sample closer to Japan than to the United States.

Mirrles, James A.

PD February 1987. **TI** Economic Policy and Nonrational Behavior. **AA** Visiting Ford Research Professor, Economics Department University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8728; IBER, 156 Barrows Hall, University of California, Berkeley CA 94720. **PG** 27. **PR** $3.50. **JE** 025, 024, 026, 321. **KW** Nonrational Policy. Rationality. Choice. Social Choice. Government.

AB The question of how much choice a benevolent government should provide for its people is examined. In the model used, people choose according to the Luce direct utility model from whatever set of options is made available to them. Under reasonable assumptions, but for a special case, it is shown that when the degree of nonrationality is sufficiently great, it is optimal to allow no choice, even though the government is unable to discriminate among individuals. Even when rationality is very high, it is desirable to increase the probability of choosing options that would suit the average person, for example by the way options are presented. The general case of the model is discussed, and a condition for no choice to be optimal obtained.

Mitchell, Janet

PD June 1987. **TI** Financial Constraints and the Tradeoff Between Salaries and Savings in Yugoslav Firms. **AA** University of Southern California. **SR** University of Southern California Modelling-Research Group Working Paper: #M8723; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 38. **PR** No Charge. **JE** 022, 052, 124, 614. **KW** Labor Management. Soft Budget Constraints. Salaries. Investment. Yugoslavia. State Owned Enterprises.

AB This paper examines the sensitivity of salaries and retained earnings to enterprise income and long-term financial obligations in Yugoslav firms operating in five industries in the republic of Slovenia during the period 1979-1981. The majority of enterprises appears to retain sufficient earnings, as a result of upper limits on salaries, to cover long-term debt repayments. Yet, there is evidence that debt obligations impose downward pressure on the salaries of some enterprises in three of the industries. There also appear to exist several enterprises in two of the industries with "soft budget constraints".

Monfort, A.

TI Consistent M-Estimators in a Semi-Parametric Model. **AU** Gourieroux, C.; Monfort, A.; Renault, E.

PD August 1987. **TI** From a V.A.R. Model to a Structural Model, with an Application to the Wage Price Spiral. **AU** Monfort, A.; Rabemananjara, R. **AA** INSEE. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 8707; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex, 14, FRANCE. **PG** 43. **PR** No Charge. **JE** 211, 824. **KW** VAR. Causality. Exogeneity. Wages. Prices.

AB In this paper a V.A.R. model is considered as a general framework in which a structural model can be tested. We carefully described the hypotheses defining a structural model; this lead us to discuss various notions such as: predeterminedness, non-causality, exogeneity, contemporaneous identification, overall identification, weak and strong structuralness. Then we propose a test procedure, based on the asymptotic least squares method, which allows us to successively test each aspect of a structural model. This procedure is applied to the wage price spiral.

TI Regression and Non Stationarity. **AU** Gourieroux, Christian; Maurel, Francoise; Monfort, Alain.

Montrucchio, Luigi

PD March 1987. **TI** Lipschitz Continuous Policy Functions for Strongly Concave Optimization Problems. **AA** Politecnico di Torino. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: TR507; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 22. **PR** $4.00. **JE** 111, 213. **KW** Optimal Growth Theory. Dynamic Programming. Dynamic Systems. Stability. Policy Function. Discounting.

AB We prove that the policy functions, obtained by optimizing a discounted infinite sum of stationary return functions, are Lipschitz continuous when the instantaneous return function is strongly concave. Moreover, by using the notion of alpha-concavity, we provide an estimate of the Lipschitz constant which turns out to be a decreasing function of the discount factor.

Morck, Randall

PD June 1987. **TI** Characteristics of Hostile and Friendly Takeover Targets. **AU** Morck, Randall; Shleifer, Andrei; Vishny, Robert W. **AA** Morck: University of Alberta. Shleifer: Princeton University and National Bureau of Economic Research. Vishny: University of Chicago and National Bureau of Economic Research. **SR** Princeton Financial Research Center Memorandum: 80; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 52. **PR** $3.00. **JE** 521, 611, 313. **KW** Takeovers. Tobin's Q. Corporate Raiders. Acquisitions.

AB Compared to an average Fortune 500 firm, a target of a hostile takeover is smaller, older, has a lower Tobin's

Q, invests less of its income, and is growing more slowly. The low Q seems to be an industry-specific rather than a firm-specific effect. In addition, a hostile target is less likely to be run by a member of the founding family, and has lower officer ownership, than the average firm. In contrast, a target of a friendly acquisition is smaller and younger than an average Fortune 500 firm, and has comparable Tobin's Q and most other financial characteristics. Friendly targets are more likely to be run by a member of the founding family, and have higher officer ownership, than the average firm. The decision of a CEO with a large stake and/or with a relationship to a founder to retire often precipitates a friendly acquisition. These results suggest that the motive for a takeover often determines its mood. Thus disciplinary takeovers are more often hostile, and synergistic ones are more often friendly.

PD June 1987. **TI** Characteristics of Hostile and Friendly Takeover Targets. **AU** Morck, Randall; Shleifer, Andrei; Vishny, Robert W. **AA** Morck: University of Alberta. Shleifer: Princeton University. Vishny: University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2295; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 521, 522, 313, 611, 514. **KW** Takeovers. Mergers. Acquisitions. Investment. Corporations.

AB Compared to an average Fortune 500 firm, a target of a hostile takeover is smaller, older, has a lower Tobin's Q, invests less of its income, and is growing more slowly. The low Q seems to be an industry-specific rather than a firm-specific effect. In addition, a hostile target is less likely to be run by a member of the founding family, and has lower officer ownership, than the average firm. In contrast, a target of a friendly acquisition is smaller and younger than an average Fortune 500 firm, and has comparable Tobin's Qs and most other financial characteristics. Friendly targets are more likely to be run by a member of the founding family, and have higher officer ownership, than the average firm. The decision of a CEO with a large stake and/or with a relationship to a founder to retire often precipitates a friendly acquisition. These results suggest that the motive for a takeover often determines its mood. Thus disciplinary takeovers are more often hostile, and synergistic ones are more often friendly.

Morton, Peter J.

TI Appendices to 'How Sovereign Debt Has Worked?'. **AU** Lindert, Peter H.; Morton, Peter J.

TI How Sovereign Debt Has Worked. **AU** Lindert, Peter H.; Morton, Peter J.

Mountain, Dean C.

TI An Integrated Monthly and Hourly Regional Electricity Model for Ontario, Canada. **AU** Hsiao, Cheng; Chan, M. W. Luke; Mountain, Dean C.; Tsui, Kai Y.

Mowery, David C.

TI Firm Size and R&D Intensity: A Re-Examination. **AU** Cohen, Wesley M.; Levin, Richard C.; Mowery, David C.

Murphy, Kevin J.

TI Are Executive Compensation Contracts Structured Properly? **AU** Jensen, Michael C.; Murphy, Kevin J.

Myers, Stewart C.

PD April 1987. **TI** Discounting Rules for Risky Assets. **AU** Myers, Stewart C.; Ruback, Richard S. **AA** Sloan School of Management, MIT. **SR** National Bureau of Economic Research Working Paper: 2219; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 313. **KW** Discount Rates. Asset Risk. Risky Projects. Asset Pricing Model. Market Portfolio. Beta.

AB This paper develops a rule for calculating a discount rate to value risky projects. The rule assumes that asset risk can be measured by a single index (e.g., beta), but makes no other assumptions about specific forms of the asset pricing model. It treats all projects as combinations of two assets: Treasury bills and the market portfolio. We know how to value each of these assets under any theory of debt and taxes and under any assumption about the slope and intercept of the market line for equity securities. Our discount rate is a weighted average of the after-tax return on riskless debt and the expected return on the portfolio, where the weight on the market portfolio is beta.

Nabli, Mustapha K.

PD June 1987. **TI** The Size Distribution and Ownership Type of Firms in Tunisian Manufacturing. **AU** Nabli, Mustapha K.; Nugent, Jeffrey B.; Doghri, Lamine. **AA** Nabli, Doghri: University of Tunis; Nugent: University of Southern California. **SR** University of Southern California Modelling-Research Group Working Paper: #M8725; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 22. **PR** No Charge. **JE** 611, 121, 631, 616, 212. **KW** Theory of Firm. Firm Size Distribution. Ownership Type. Firms. Manufacturing Firms. Tunisia. Transaction Costs.

AB The purpose of this paper is to explain the size and ownership form choices among private firms in Tunisian manufacturing. A simple model wherein size and ownership form choices are simultaneously determined and in which transaction cost considerations are emphasized is developed and tested with cross-section data on 42 manufacturing activities in Tunisia for the year 1981. The results not only support the relative importance of transaction costs considerations but also suggest that a somewhat broader perspective on these costs should be used, at least in applications to developing countries.

Nerlove, Marc

TI The Dynamics of Exchange Rate Volatility: A Multivariate Latent Factor ARCH Model. **AU** Diebold, Francis X.; Nerlove, Marc.

Newey, Whitney

TI Estimating Vector Autoregressions. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey.

TI Wages and Hours: Estimating Vector Autoregressions with Panel Data. **AU** Holtz, Eakin

Douglas; Newey, Whitney; Rosen, Harvey S.

Nickell, S.

PD September 1987. **TI** Unions, Wages and Employment: Tests Based on UK Firm-Level Data. **AU** Nickell, S.; Wadhwani, S. **AA** Nickell: University of Oxford. Wadhwari: Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 291; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 16. **PR** No Charge. **JE** 831, 824. **KW** Insider-Outsider Models. Efficient Bargains. Employment. Efficiency Wages. Unions.

AB This paper reports on an attempt to test whether employment lies on the labour demand curve. Our results provide no support for the 'efficient bargain' view - instead, they point in the direction of a labour demand model modified to allow for efficiency wage considerations. We also find that a rich set of financial factors influence employment - and that their exclusion would affect our inferences. An attempt to test the insider-outsider model suggests that the pure insider view is too simple - unemployment does depress wages even after we allow for firm-specific influences. Current wage rises in Britain may be attributed to duration effects, and improvements in productivity and the financial health of firms.

Nitzan, Shmuel

PD February 1987. **TI** Taxpayers, Auditors and the Government - an Extended Tax Evasion Game. **AU** Nitzan, Shmuel; Tzur, Joseph. **AA** Bar-Ilan University, Ramat Gan, ISRAEL. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-105; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 28. **PR** No Charge. **JE** 323, 324, 026. **KW** Tax Evasion Game. Penalty Function. Governmental Regulation. Tax Audit. Income Tax. Taxpayers.

AB We study a tax evasion game with three types of agents: the government, taxpayers, and auditors. The analysis focuses on the characteristics of equilibria and their responsiveness to the parameters of the model: the tax potential and the penalty function. The main contribution of the paper is twofold: first, in marked contrast to earlier theoretical literature on tax evasion, it provides a framework for analyzing the tax evasion problem without ignoring the important role of auditors; second, within our proposed model the degree of protection given to auditors constitutes part of the government's strategy. The endogenous determination of this latter variable offers new insight into the problem of rationalizing governmental regulation and, in particular, regulation in the form of protection to particular professions that fulfill auditing or attestation functions.

TI Voluntary Participation and the Provision of Public and Private Goods. **AU** Gradstein, Mark; Nitzan, Shmuel.

Noll, Roger G.

TI Administrative Procedures as Instruments of Political Control. **AU** McCubbins, Mathew D.; Noll, Roger G.; Weingast, Barry R.

Novos, Ian

PD July 1987. **TI** Social Security Wealth and Wealth Accumulation: Further Microeconomic Evidence. **AA** University of Southern California. **SR** University of Southern California Modelling-Research Group Working Paper: #M8726; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 29. **PR** No Charge. **JE** 915, 918, 212, 921. **KW** Benefits. Earnings. Wealth. Income. Imputed Taxes. Life Cycle. Saving. Social Security. Income Distribution.

AB This study involves an empirical analysis of the effect of social security wealth on wealth accumulation. My analysis takes as its point of departure a study by Feldstein and Pellechio on this subject. Their study used the same data source as analyzed in this paper. Feldstein and Pellechio found strong support for the notion that increases in social security wealth caused families to reduce their wealth accumulation. My results indicate the strong conclusions reached by Feldstein and Pellechio are not robust. In particular, first, when I excluded a group of farmers from our sample increases in social security wealth did not result in families reducing their wealth accumulation. Second, Feldstein and Pellechio calculated social security wealth using income measures from a single year. When I applied their methodology to income measures from a different year results were markedly affected.

Nugent, Jeffrey B.

TI The Size Distribution and Ownership Type of Firms in Tunisian Manufacturing. **AU** Nabli, Mustapha K.; Nugent, Jeffrey B.; Doghri, Lamine.

TI Tax Farming: Anachronism or Optimal Contract? (An Illustration with Respect to Tunisia's Weekly Markets). **AU** Azabou, Mongi; Nugent, Jeffrey B.

TI The Switch to Sharecropping in Medjez-el-Bab. **AU** Matoussi, Mohamed Salah; Nugent, Jeffrey B.

Obstfeld, Maurice

PD April 1987. **TI** Peso Problems, Bubbles, and Risk in the Empirical Assessment of Exchange-Rate Behavior. **AA** University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2203; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 132, 026. **KW** Exchange Rates. Forward Rates. Floating. Rational Expectations. Risk Premium. Bubbles. Market Efficiency.

AB One of the most puzzling aspects of the post-1973 floating exchange rate system has been the apparently inefficient predictive performance of forward exchange rates. This paper explores some aspects of each of three leading explanations of forward-rate behavior. The paper first develops a simple rational-expectations model of the "peso problem" that generates some key empirical regularities of the foreign exchange market: seemingly predictable and conditionally heteroskedastic forward forecast errors, along with possible directional misprediction by the forward premium. The implications

of bubbles for tests of forward-rate predictive efficiency are discussed next. It is argued that the existence of bubbles is extremely difficult (if not impossible) to establish empirically. Even though some types of bubble could distort standard tests on the relation between spot and forward exchange rates, it seems unlikely that these bubbles have been an important factor. Finally, the paper examines foreign-exchange asset pricing under risk aversion and suggests that a convincing account of forward-rate behavior should also help explain the results found in testing other asset-pricing theories, such as the expectations theory of the interest-rate term structure.

Oder, Birgit

PD May 1987. **TI** Die Anwendung der Principal-Agent-Theorie auf die KGaA. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: D-11; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 42. **PR** No Charge. **JE** 511. **KW** Principal Agent Theory. KGaA.

OFlaherty, Brendan

PD March 1987. **TI** "Guessing Better than the Crowd - How the Crowd Will Behave": Conventions, Beauty Contests, and Bubbles. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 347; Department of Economics, Columbia University, New York, NY 10027. **PG** 40. **PR** $5.00. **JE** 313, 023, 026. **KW** Coordination Games. Market Myopia. Information. Insider Trading.

AB Keynes described investment as an activity where the goal was to "guess better than the crowd how the crowd will behave." We explore the correlated equilibria of games where the players have this object. We find biases in favor of myopia and against public information. These biases need not be offset by the presence of fundamentals.

Ortuno, Ortin Ignacio

PD June 1987. **TI** Deducing Interpersonal Comparability. **AU** Ortuno, Ortin Ignacio; Roemer, John E. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 293; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 25. **PR** No Charge. **JE** 022, 024, 025. **KW** Preferences. Extended Sympathy. Utility. Interpersonal Ordering. Local Expertise.

AB An interpersonal ordering is an ordering of the cross-product of states and types. A type characterizes a person's preferences. Suppose each person is competent to make interpersonal judgements for a small neighborhood in state-type space around his current type. If the neighborhoods of 'local expertise' of two people intersect, they must agree on the interpersonal ordering on the intersection. When can these local orderings be extended to an ordering of state-type space? We show this can be done, with a continuity condition, thus deducing interpersonal comparability with local expertise.

Ostensoe, Lawrence

TI Flexible Functional Forms for Profit Functions and Global Curvature Conditions. **AU** Diewert, W. Erwin; Ostensoe, Lawrence.

Ozler, Sule

PD February 1987. **TI** Valuation of Rescheduled Loans, 1978-1983: A Rational Expectations Approach. **AA** Department of Economics, University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 414; Department of Economics, UCLA, 405 Hilgard Avenue, Los Angeles, CA 90024. **PR** $2.50. **JE** 433, 443, 312. **KW** International Debt. LDCs. International Loans. Rescheduling. Rational Expectations. Bank Asset Valuation. Developing Nations. Bank Returns.

AB The impact of LDC loan reschedulings on the major United States banks and their implications for LDC financing has been of interest since the onset of the Mexican crisis. This paper presents an empirical model that calculates the unanticipated revaluation of bank assets in response to news regarding reschedulings. The model incorporates expectation formation and hence, unlike a standard event study methodology, provides a means of computing probability of default of rescheduled loans. The nine largest United States banks are estimated to suffer 8.2 percent of their stock returns during 1981-1983 when the default probability was approximately two percent. We also show that these loans have a significant systematically risky component.

Patel, Jayendu

PD July 1987. **TI** Treasury Bill Futures as Hedges Against Inflation Risk. **AU** Patel, Jayendu; Zeckhauser, Richard. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2322; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 134, 311. **KW** Inflation. Financial Instruments. Treasury Bill Futures. Fisher Hypothesis.

AB An important risk facing agents in a monetary economy arises from inflation uncertainty: in the United States for the 1953-84 period, unexpected quarterly inflation had a standard deviation of 2.1 per cent. The costs of such uncertainty are likely to be even higher for multi-year contracts, since we estimate that a 1 per cent unexpected inflation this year implies an upward revision of 0.43 per cent for expected inflation for the forthcoming year and 1 per cent for the years beyond that. The prospect of hedging inflation risk exposure using conventional financial instruments is bleak, as has been widely documented. We develop a theoretical case for Treasury bill futures as a inflation risk hedge by jointly assuming that (1) the Fisher Hypothesis applies to Treasury bill yields, (2) the Unbiased Expectations Hypothesis (UEH) applies to futures prices, and (3) inflation is an autoregressive process. Our empirical analysis shows that Treasury bill futures can reduce single-period inflation risk by about 30-40 per cent. The expected cost of using such futures is close to zero, since we find that the Unbiased Expectations Hypothesis for Treasury bill futures cannot be rejected. Our results provide new indirect support for the Fisher Hypothesis.

Pauly, Peter

TI The Use of Prior Information in Forecast Combination. **AU** Diebold, Francis X.; Pauly, Peter.

Peck, N. T.

TI On the Interiors of Production Sets in Infinite Dimensional Spaces. **AU** Khan, M. Ali; Peck, N. T.

Peek, Joe

TI Private Saving in the United States: 1950-85. **AU** Hendershott, Patric H.; Peek, Joe.

Peletford, John David

PD July 15, 1987. **TI** The Meaning of External Balance when there are Fluctuations in Income. **AA** Australian National University. **SR** Australian National University Working Papers in Economics and Econometrics: 147; Department of Economics, Australian National University, G.P.O. Box 4, Canberra ACT 2601 AUSTRALIA. **PR** No Charge. **JE** 023, 431, 443, 321. **KW** Current Account. Balance of Payments. Optimal Borrowing.

AB The paper explores the effect of temporary and permanent changes in real income on the paths of optimal consumption, borrowing and the current account balance. On the basis of a two period Fisherian model, in most circumstances it is optimal to use the current account to smooth consumption flows in the face of temporary income fluctuations. When the time horizon is extended it is shown that smoothing should take place for "short term" but not for "long term" fluctuations in income. Long term income changes have some features similar to permanent income changes. Various authors have shown that the immediate optimal response to a permanent income fall is a larger reduction in consumption than in income and so an improvement in the current account; the reason being that in the long run it is usual (but not inevitable) that lower debt is optimally associated with lower income. It is shown that it is this aspect of longer term income falls which causes the larger fall in consumption, and so the opposite of a smoothing response. These issues are examined with various combinations of a fixed and a variable discount rate and a fixed and variable interest rate. The chief differences in these cases arise because, when the discount rate is fixed and the interest rate is variable, steady state consumption variations equal income variations, while with a fixed interest rate but variable discount rate, steady state consumption does not vary with income. Finally, when both rates are endogenous steady state consumption fluctuates by a smaller amount than income.

Perelman, Sergio

PD July 1987. **TI** The Performance of Public Enterprises: A Comparative Efficiency Study of Railways and Postal Services. **AU** Perelman, Sergio; Pestieau, Pierre. **AA** University of Liege. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-127; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 19. **PR** No Charge. **JE** 614, 615, 633, 212. **KW** Public Firms. Technical Efficiency. Postal Service. Railroads. Performance Measurement. Panel Data.

AB Measuring the performance of a public firm is both a complex and necessary task. It is complex because the objectives of a public firm according to which its performance ought to be assessed are many and often conflicting. It is necessary because a rigorous and objective evaluation of public firms' performance is the most obvious escape from debates which are too often passionate. It is also needed because a good study of performance can be used by public managers and by public authorities as a pragmatic and pedagogical tool towards betterment. This paper presents findings of a performance study of two typical public enterprises; railways and postal services. As such enterprises operate on a nationwide scale without direct competitors, private or public, the approach is based on a comparison across nations and over time. Further, it is restricted to the sole viewpoint of technical efficiency, which is the first and unavoidable stage for a full performance assessment. Our data basis being of a cross-section-time-series nature allows for both a static and a dynamic analysis of technical efficiency.

Pestieau, Pierre

TI Tax-Transfer Policies and the Voluntary Provision of Public Goods. **AU** Boadway, Robin; Pestieau, Pierre; Wildasin, David E.

TI The Performance of Public Enterprises: A Comparative Efficiency Study of Railways and Postal Services. **AU** Perelman, Sergio; Pestieau, Pierre.

Peters, H. Elizabeth

PD March 1987. **TI** Retrospective Versus Panel Data in Analyzing Life-Cycle Events. **AA** University of Colorado and Economics Research Center/NORC. **SR** Economics Research Center/NORC Discussion Paper: 87-5; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 33. **PR** $2.00; send requests to Librarian, NORC. **JE** 212, 225, 841, 921. **KW** Longitudinal Data. Survey Data. Marital Histories. Marriage. Divorce. Life Cycle. Panel Survey.

AB Because of the large cost of longitudinal data collection, it is important to assess the quality of information about life-cycle events which can be obtained from less costly retrospective surveys. This paper compares data from a retrospective marital history with that derived for the same individuals from panel information. The data utilized in the study come from the Young Women's cohort of the National Longitudinal Survey of work Experience (NLS) which was initiated in 1968. In 1978 the respondents were asked about the dates of past marital events. The retrospective histories were updated in 1983. The panel information that is available includes marital status and characteristics of the current husband (if present) at each interview date. From this source a limited panel marital history can be constructed. The results indicate that when a marital event is reported in both sources there is substantial agreement about the date of the event. The errors are, however, systematic, and seen primarily to relate to factors which increase the difficulty of recall in retrospective histories. Because the panel data only ask about current marital status, some marital events cannot be correctly identified. This limitation is more important for remarriage rate estimates than for first marriage rate estimates.

Peters, Hans

PD March 1987. **TI** A Characterization of the Nash Bargaining Solution Not Using IIA. **AU** Peters, Hans; van, Damme Eric. **AA** Peters: University of Maastricht. van Damme: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-117; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 15. **PR** No Charge. **JE** 026. **KW** Nash Bargaining Solution. Irrelevant Alternatives Axiom. Threat Point. Rationality.

AB We provide a new axiomatization of the 2-person Nash bargaining solution which does not involve Nash's controversial Independence of Irrelevant Alternatives axiom. Our characterization is obtained by strengthening the usual individual rationality axiom (to: the solution should depend only on individually rational outcomes) and by requiring that the solution be well-behaved with respect to changes in the threat point (the solution should vary continuously and a convex combination of a threat point and its solution should give rise to the same solution). The latter axiom, which is our main innovation, is extensively discussed.

Petersen, Thomas

PD May 1987. **TI** Informationsnutzung in Langzeit-Vertragen. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: D-18; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 29. **PR** No Charge. **JE** 511, 025. **KW** Principal-Agent Model. Moral Hazard. Information. Incentives.

Phillips, G. D. A.

TI Bias Correction in Lagged-Dependent Variable Models. Reduction Tests for the Steiner Problem in Graphs. **AU** Kiviet, Jan F.; Phillips, G. D. A.; Duin, C. W.; Volgenant, A.

Phlips, Louis

TI Futures Markets, Inventories and Monopoly. **AU** Brianza, Tiziano; Phlips, Louis; Richard, Jean Francois.

Pinsker, I. Sh

TI Comparing Some Estimators for MSPE in AR Time Series. **AU** Kipnis, Victor; Pinsker, I. Sh; Grechanovsky, Eugene.

Pitt, Mark M.

PD July 1987. **TI** Estimating the Intrafamily Incidence of Health: Child Illness and Gender Inequality in Indonesian Households. **AU** Pitt, Mark M.; Rosenzweig, Mark R. **AA** Department of Economics, University of Minnesota. **SR** University of Minnesota Economic Development Center Bulletin: 87-9; Department of Economics, 1035 Management and Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 32. **PR** Free. **JE** 913, 917, 851, 121. **KW** Gender Inequality. Health. Indonesia. Children. Infant Morbidity. Family.

AB In this paper, we demonstrate the difficulties of identifying both the own- and cross-effects of health on the allocation of time within a household, and develop and implement a method for estimating the effects of infant morbidity on the differential allocation of time by other family members based on discrete indicators of health and of activity participation commonly available in survey data. Estimates obtained from Indonesian household data indicate that inattention to problems of the measurement and endogeneity of health leads to a substantial underestimate of the effects of variations in child morbidity on the intrahousehold division of labor, and our estimates that take into account the "simultaneity" of health-activity associations indicate that increased levels of infant morbidity significantly exacerbate existing differentials in work-home time allocations across teenage boys and girls in Indonesia.

Plosser, Charles

TI Stochastic Trends and Economic Fluctuations. **AU** King, Robert; Plosser, Charles; Stock, James; Watson, Mark.

Podivinsky, Jan M.

PD July 1987. **TI** Assessing the Adequacy of Asymptotic Tests Using Edgeworth and Monte Carlo Approximations: Some Applications. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8715; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 19. **PR** No Charge. **JE** 211. **KW** Asymptotic Tests. Dynamic Linear Models. Edgeworth Approximations. Monte Carlo Simulations. Wald Test. Encompassing Tests. COMFAC. Common Factors.

AB This paper assesses the adequacy of two asymptotic test procedures in simple dynamic linear models. Firstly, Edgeworth approximations for two asymptotically equivalent non-nested tests provide higher-order approximate critical values for these tests. The empirical sizes of tests based on both conventional and these higher-order approximate critical values are assessed by Monte Carlo simulation. This indicates that Edgeworth approximation can usefully be applied to tests even in moderately dynamic models. In particular non-nested tests of the Wald complete parametric encompassing form tend to outperform the other non-nested tests investigated. The second application is testing for common factor restrictions. A Monte Carlo study of the empirical size of the Wald COMFAC test suggests that weak exogeneity of regressors is sufficient for testing COMFAC restrictions. However, the form of model dynamics crucially determines the adequacy of asymptotic critical values.

Poirier, Dale J.

PD March 1987. **TI** Probit with Dependent Observations. **AU** Poirier, Dale J.; Ruud, Paul A. **AA** Poirier: Professor of Economics, University of Toronto. Ruud: Economics, Department, University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8734; IBER, 156 Barrows Hall, University of California, Berkeley CA 94720. **PG** 53. **PR** $3.50. **JE** 210, 211. **KW** ARMA. Limited Dependent Variables. Probit. Generalized Method

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of Moments. Autocorrelation. Quasi-Maximum Likelihood Estimators. Generalized Conditional Moment Estimators.
AB Estimation of limited dependent variable models, and binary probit in particular, is examined. Asymptotic distribution theory is provided for the consistency and asymptotic normality of quasi-maximum likelihood estimators. A family of relatively efficient estimators, called generalized conditional moment estimators, is proposed. Probit with a first-order autoregressive error structure is given as an example.

Poole, William

PD June 1987. **TI** Monetary Policy Lessons of Recent Inflation and Disinflation. **AA** Brown University. **SR** National Bureau of Economic Research Working Paper: 2300; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 134, 313. **KW** Velocity of Money. Money Demand. Interest Rates. Federal Reserve. Money Market.
AB The decline of velocity in the 1980's is a surprise that should not have been. Economists unwisely relied on a velocity trend of 3 percent per year when they should have insisted on an economic explanation for rising velocity. An analysis of velocity and interest rates from 1915 to 1986 suggests that the interest elasticity of money demand is substantially higher than previously thought. The postwar increase of rates followed by a major decline of rates in the 1980's explains velocity behavior. The large decline in velocity almost certainly would have caused severe economic problems had the Federal Reserve not accommodated the decline through more rapid money growth. Federal Reserve policy between October 1979 and October 1982 emphasized control of money growth. Money market behavior during this period, compared to periods before and after, provides strong evidence that the market sets interest rates on the basis of a sophisticated understanding of monetary policy. The evidence makes clear that the monetary authorities cannot use interest rates to provide information on the state of the economy unless they know the extent to which interest rates reflect expectations of future monetary policy.

Porter, Richard D.

PD March 1987. **TI** Econometric Modeling of the Demands for the United States Monetary Aggregates: Conventional and Experimental Approaches. **AU** Porter, Richard D.; Spindt, Paul A.; Lindsey, David E. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 217; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 50. **PR** No Charge. **JE** 311, 312, 212, 132. **KW** Money Demand. Depository Institutions. M1. M2. Transaction Money Stock Index. Monetary Policy. Rate Setting Models.
AB This paper is a progress report on various Board staff efforts that are designed to explain the behavior of the M2 and M1 aggregates and various experimental aggregates. The paper explores alternative rate-setting models at depository institutions and their use in a system of quantity demand equations for four major components of M2 - a concluding section examines several refinements to the transaction money stock index (MQ).

Portnoy, Steven

PD July 1987. **TI** Adaptive L-Estimation of Linear Models. **AU** Portnoy, Steven; Koenker, Roger. **AA** University of Illinois. **SR** University of Illinois at Urbana-Champaign Bureau of Economic and Business Research Faculty Paper: 1372; Department of Economics, University of Illinois at Urbana-Champaign, 1206 S. 6th Street, Champaign, IL 61821. **PG** 27. **PR** No Charge. **JE** 211. **KW** Regression Quantiles. Kernel Density Estimation. Linear Models. Adaptive Estimation.
AB Asymptotically efficient (adaptive) estimators for the slope parameters of the linear regression model are constructed based upon the "regression quantile" statistics suggested by Koenker and Bassett (1978). The estimators are natural analogues of the adaptive L-estimators of location of Sacks (1974), but employ kernel-density type estimators of the optimal L-estimator weight function.

Promel, H. J.

PD April 1987. **TI** A Sparse Graham-Rothschild Theorem. **AU** Promel, H. J.; Voigt, B. **AA** Promel: University of Bonn. Voigt: University of Bielefeld. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 87469-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 62. **PR** No Charge. **JE** 213. **KW** Graham-Rothschild Partition Theorem. N-Parameter Sets. Graphs. Operations Research. Amalgamations.
AB The main result of this paper is a sparse version of the Graham-Rothschild partition theorem for n-parameter sets. In particular, a sparse version of Hales-Jewett's theorem is proved. We give several applications, e.g., for arithmetic progressions and finite sums of integers, confirming conjectures of J. Spencer and of J. Nesetril and V. Rodl. We also consider graphs defined on parameter sets and prove a sparse and restricted induced partition theorem for such graphs, extending results from H. J. Promel: "Induced partition properties of combinatorial cubes" and P. Frankl, R. L. Graham, V. Rodl: "Induced Restricted Ramsey Theorems for Spaces".

Puffert, Douglas J.

TI The Financial Impact of Social Security by Cohort Under Alternative Financing Assumptions. **AU** Boskin, Michael J.; Puffert, Douglas J.

Rabemananjara, R.

TI From a V.A.R. Model to a Structural Model, with an Application to the Wage Price Spiral. **AU** Monfort, A.; Rabemananjara, R.

Razin, Assaf

TI The Mundell-Fleming Model: A Quarter Century Later. **AU** Frenkel, Jacob A.; Razin, Assaf.

Reed, Robert W.

TI Shirking and Sorting in a Political Market with Finite-Lived Politicians. **AU** Lott, Jr John R.; Reed, Robert W.

Renault, E.

TI Consistent M-Estimators in a Semi-Parametric Model. **AU** Gourieroux, C.; Monfort, A.; Renault, E.

Richard, J. F.

TI Recent Developments in the Theory of Encompassing. **AU** Hendry, D. F.; Richard, J. F.

Richard, Jean Francois

TI Futures Markets, Inventories and Monopoly. **AU** Briansa, Tiziano; Phlips, Louis; Richard, Jean Francois.

Richardson, J. David

PD June 1987. **TI** International Coordination of Trade Policy. **AA** University of Wisconsin, Madison. **SR** National Bureau of Economic Research Working Paper: 2293; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 421, 422, 411, 431. **KW** GATT. Tariffs. Trade Policy Coordination. Comparative Advantage. Multinational Firms. Export Subsidies.

AB The General Agreement on Tariffs and Trade (GATT) is a coordination compact. Tariff bindings illustrate a mechanism for making commitments credible. Reciprocity illustrates a means for redistributing cooperative gains. The Most-Favored-Nation (MFN) principle illustrates an attempt to keep coordination "virtuous" (cooperative) rather than "vicious" (collusive). Yet international trade policy coordination has clearly become more difficult. What changes might restore the liberalising impetus of trade policy coordination? Several are considered in the paper. One is extension of the "Codes" approach to multilateral negotiations under the GATT, especially to Subsidies and Safeguards. Many reflections in the paper are framed in categories from recent economic thinking about policy coordination in "strategic" environments -- those with small numbers of self-consciously interdependent agents. The paper argues that these are the appropriate environments in which to analyse international coordination of trade policy.

PD August 1987. **TI** Exchange Rates and U.S. Auto Competitiveness. **AA** University of Wisconsin, Madison. **SR** National Bureau of Economic Research Working Paper: 2371; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 631, 421, 422. **KW** Exchange Rates. Automobile Manufacturing. Factor Costs. Car Market. Voluntary Export Restraints. International Competitiveness.

AB This paper develops unique disaggregated data for three United States automakers and three Japanese to assess how changes in exchange rates, factor costs, and voluntary export restraints have affected recent price.

Richter, Marcel K.

TI Testing Strictly Concave Rationality. **AU** Matzkin, Rosa L.; Richter, Marcel K.

Ristau, Ralph

TI Zur Optimalen Unternehmensgrosse hierarchischer Organisationen. **AU** Franke, Bernd; Ristau, Ralph.

Rob, Rafael

PD January 1985. **TI** The Demand Revealing Mechanism: A Survey. **AA** University of Pennsylvania, Department of Economics. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 179; 3718 Locust Walk, Philadelphia, PA 19104-6297 University of Pennsylvania, McNell Building. **PG** 25. **PR** free. **JE** 025, 022. **KW** Public Goods. Pricing System. Demand Revealing Mechanism. Lindahl Mechanism. Free Rider.

AB The failure of the price system to achieve an efficient resource allocation of public goods has long been recognized. One can analytically dissect this market failure within the Lindahl structure. As it is well-known, the latter is an attempt to mimic (-specialize) the Walrasian model to the case of public goods. In the Lindahl framework, individual agents act as conventional utility maximizers, choosing the levels of public services they desire given their tax shares (responding passively, that is, to parameterically given prices). The "auctioneer" adjusts prices ensuring that individual choices are mutually consistent. In equilibrium, tax shares are set at the individualized marginal valuations. Moving to the case of public goods, a recommendation to implement the Lindahl scheme could hardly be justified along the same lines. A large number of agents is certainly not going to promote competition. As we saw, adding an individual means opening a new market. Consequently, the degree of rivalry is, at best, unchanged and the problem of "free riding" still exists. If collective decisions need to be made in sizable communities, there is thus a need for an alternative procedure. The demand revealing mechanism (DRM henceforth) is one such scheme.

PD July 1985. **TI** Demand-Driven Innovation and Spatial Competition Over Time. **AU** Rob, Rafael; Jovanovic, Boyan. **AA** Rafael: University of Pennsylvania. Jovanovic: New York University. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 199; 3718 Locust Walk, Philadelphia, PA 19104-6297 University of Pennsylvania, McNeil Building. **PG** 23. **PR** No Charge. **JE** 621, 611, 511. **KW** Innovation. Spatial Competition. Product Heterogeneity. Firm Size. Demand Pull. Technology.

AB This paper explores a model of innovation and spatial competition over time. The main proposition is that the degree of persistence of firm size differences in a market should increase with the extent of product heterogeneity in that market. Some corroborating evidence is cited.

PD April 1986. **TI** Pollution Claim Settlements Under Private Information. **AA** Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 200; 3718 Locust Walk, Philadelphia, PA 19104-6297 University of Pennsylvania, McNeil Building. **PG** 40. **PR** No Charge. **JE** 025, 026, 722, 022. **KW** Bargaining Game. Transactions Costs. Private Goods. Mechanism. Pollution. Coase Theorem. Negotiations. Market Failure.

AB An investigation of the 'Coase Theorem' when transaction costs are positive is presented. We specify a

bargaining procedure between a polluting firm and affected residents. Transaction costs are formalized as private information about the magnitude of individual damages. We derive the equilibrium outcomes of the bargaining game and show that inefficiencies might very well occur. Furthermore, as the number of residents increases the social surplus is dissipated in the negotiations. A comparison between our results and mechanism theory (private and public) is offered.

PD April 1986. **TI** Coming to the Nuisance: An Efficiency Analysis. **AA** Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 201; University of Pennsylvania 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 19. **PR** No Charge. **JE** 722, 024, 916. **KW** Pollution. Compensation. Law. Environment.
AB The effects of compensating individuals who move to an industrial district and sustain pollution-related losses are investigated. It is argued that two legal rules governing the determination of compensatory payments can be justified as devices facilitating the attainment of Pareto-optimal allocations. One is the denial of recovery on the basis of an assumption of risk defense; the other is the uniformity of payments with no provisions made for idiosyncratic losses. The essential elements underlying our explanation are the heterogeneity of damages and the uncertainty about their magnitude.

Roberds, William

PD July 1987. **TI** Monetary Targeting in a Dynamic Macro Model. **AA** Research Department, Federal Reserve Bank of Minneapolis. **SR** Federal Reserve Bank of Minneapolis Staff Report: 111; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Avenue, Minneapolis, MN 55480. **PG** 34. **PR** No Charge. **JE** 023, 311, 133. **KW** Monetary Targeting. Dynamic Games. Rational Expectations. Monetary Policy. Federal Reserve Policy.
AB The consequences of a straightforward monetary targeting scheme are examined for a simple dynamic macro model. The notion of "targeting" used is the strategic one introduced by Rogoff (1985). Numerical calculations are used to demonstrate that for the model under consideration, monetary targeting is likely to lead to a deterioration of policy performance. These examples cast doubt upon the general efficacy of simple targeting schemes in dynamic rational expectations models.

Roberts, John

TI Bargaining and Influence Costs and the Organization of Economic Activity. **AU** Milgrom, Paul; Roberts, John.

Roemer, John E.

PD March 1987. **TI** What is Public Ownership? **AU** Roemer, John E.; Silvestre, Joaquim. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 294; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 74. **PR** No Charge. **JE** 021, 024, 053. **KW** Resource Allocation. Proportional Equilibrium. Equal Benefits Allocation. Constant-Returns-Equivalent Solution. Property Rights.
AB What allocation of inputs and outputs implements or respects property rights, where agents privately own some inputs (labor) and outputs are produced by use of a publicly owned resource or firm? We attempt an economic, rather than political definition of public ownership, by proposing three resource allocation mechanisms, each of which can be defended as implementing these property rights. These mechanisms or solution concepts each generalize, in different ways, the 'free access' equilibrium for economies with one input (labor) and one output, and a linear production function, where each agent decides how much to work on the publicly owned land, and keeps the product of his labor therefrom. General equilibrium and axiomatic methods.

TI Deducing Interpersonal Comparability. **AU** Ortuno, Ortin Ignacio; Roemer, John E.

PD September 1987. **TI** Public Ownership Resolutions of the Tragedy of the Commons. **AA** University of California, Davis. **SR** University of California at Davis Economics Department Working Paper: 295; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 39. **PR** No Charge. **JE** 022, 024, 026. **KW** Common Ownership. Public Ownership. Dominant Strategy. Nash Equilibrium.
AB Laissez-faire economists often argue that the inefficiency that results from allowing free access to a resource (i.e., viewing the resource as one held in common ownership) should be resolved by privatizing it. I argue that public ownership can solve the inefficiency and retain certain attractive elements of income distribution at the same time. Various creeds of laissez-faire economics are shown to be inconsistent. R. Nozick argues that private appropriations of a common asset are justified so long as no agent is rendered worse off than he was before. It is shown that no resource allocation mechanism satisfying this condition can be implemented in Nash equilibrium. Thus, the system that Nozick advocates must require some central planning, more than the minimal state he advocates. Similarly, it is shown that the Hayekian view that efficiency, decentralization, and inequality are consistent is false. The only efficient resource allocation mechanism, defined for the class of environments that I study, which is decentralizable in the sense of dominant strategy implementation, is highly egalitarian.

Romer, David

TI Sticky Prices As Coordination Failure. **AU** Ball, Laurence; Romer, David.

Romer, Paul M.

PD December 1986. **TI** Growth Based on Increasing Returns Due to Specialization. **AA** University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 70; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 17. **PR** No Charge. **JE** 111, 021. **KW** Specialization. Growth. Increasing Returns.
AB This paper examines two simple examples of dynamic models with specialized inputs and "variety in production." For these examples, it is possible to explicitly calculate dynamic, monopolistically competitive equilibria

with unceasing growth.

PD December 1986. **TI** Increasing Returns, Specialization and External Economies: Growth as Described by Allyn Young. **AA** University of Rochester. **SR** University of Rochester Center for Economic Research: 64; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 30. **PR** No Charge. **JE** 111, 031, 021. **KW** Specialization. External Economies. Increasing Returns.
AB An explicit growth model with specialized inputs is used to show that a decentralized equilibrium can exist despite a form of aggregate increasing returns in production. In this setting, unceasing growth can arise endogenously. In contrast to models that focus on spillovers of knowledge, this model has no true externality; nonetheless, the equilibrium with differentiated products behaves as if it did. It is therefore possible to analyze specialization and growth in terms of Marshallian external economies despite the formal validity of the objections to this kind of analysis raised during the cost controversies of the 1920's.

Rose, Ackerman Susan

TI Differentiated Public Goods: Privatization and Optimality. **AU** Economides, Nicholas; Rose, Ackerman Susan.

Rosen, Harvey

TI Tax Deductibility and Municipal Budget Structure. **AU** Holtz, Eakin Douglas; Rosen, Harvey S.

TI Federal Deductability and Local Property Tax Rates. **AU** Holtz, Eakin Douglas; Rosen, Harvey.

TI Estimating Vector Autoregressions. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey.

TI Wages and Hours: Estimating Vector Autoregressions with Panel Data. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey S.

Rosenzweig, Mark R.

TI Estimating the Intrafamily Incidence of Health: Child Illness and Gender Inequality in Indonesian Households. **AU** Pitt, Mark M.; Rosenzweig, Mark R.

PD July 1987. **TI** Human Capital, Population Growth and Economic Development: Beyond Correlations. **AA** Department of Economics, University of Minnesota. **SR** University of Minnesota Economic Development Center Bulletin: 87-8; Department of Economics, 1035 Management and Economics, University of Minnesota, Minneapolis, MN 55455. **PG** 36. **PR** Free. **JE** 112, 851, 841. **KW** Human Capital Formation. Population. LDCs. Economic Development. Literacy. Family Size. Fertility Rate.
AB Empirical evidence on three assertions commonly-made by population policy advocates about the relationships among population growth, human capital formation and economic development is discussed and evaluated in the light of economic-biological models of household behavior and of its relevance to population policy. The three assertions are that (a) population growth and human capital investments jointly reflect and respond to changes in the economic environment, (b) larger families directly impede human capital formation, and (c) the inability of couples to control fertility is an important determinant of investment in human capital. The evidence suggests that widely-observed correlations among population growth, human capital and economic variables, which admit to alternative interpretations, are far stronger than are the estimates from studies whose objective is to quantify the causal mechanisms underlying the three assertions; however, there is empirical support for each.

Roubini, Nouriel

TI Dynamic Optimization in Two-Party Models. **AU** McKibbin, Warwick; Roubini, Nouriel; Sachs, Jeffery.

Ruback, Richard S.

TI Discounting Rules for Risky Assets. **AU** Myers, Stewart C.; Ruback, Richard S.

Rubinstein, Ariel

TI The Structure of Nash Equilibrium in Repeated Games with Finite Automata. **AU** Abreu, Dilip; Rubinstein, Ariel.

Rudin, Jeremy R.

PD March 1987. **TI** Central Bank Secrecy, "Fed Watching," and the Predictability of Interest Rates. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 87-12; Department of Economics, University of British Columbia #997 - 1873 East Mall, Vancouver, B.C. V6T 1W5. **PG** 35 pgs. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 311, 132. **KW** Interest Rates. Federal Reserve. Central Bank. Monetary Policy. Forecasting.
AB A common criticism of central bank secrecy is that it will lead to greater forecast errors on the part of private agents. The model considered here demonstrates that reducing central bank secrecy can actually reduce the forecasting accuracy of many of the private agents in the economy when it is recognized that some agents engage in "Fed watching" and others do not. This result comes about because the interest rate process depends in part on the information agents use in forecasting future interest rates. When central bank secrecy is reduced future interest rates will respond more strongly to the unforecastable elements in future money supply and demand disturbances, reducing the forecasting accuracy of some of the private agents in the economy.

Ruhter, Wayne E.

TI Parental Malincentives, Social Legislation and Deficit Financing. **AU** Thompson, Earl A.; Ruhter, Wayne E.

Ruud, Paul A.

TI Probit with Dependent Observations. **AU** Poirier, Dale J.; Ruud, Paul A.

Sachs, Jeffery

TI Dynamic Optimization in Two-Party Models. **AU** McKibbin, Warwick; Roubini, Nouriel; Sachs, Jeffery.

Sachs, Jeffrey

PD April 1987. **TI** Trade and Exchange Rate Policies in Growth-Oriented Adjustment Programs. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2226; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 411, 421, 422, 431, 433, 443, 121. **KW** Exchange Rates. Stabilization Programs. IMF. External Debt Crisis. Trade Liberalization.

AB The search for "growth-oriented adjustment programs" reflects a widespread malaise concerning IMF stabilization programs in countries suffering from external debt crises. A new orthodoxy is emerging from this search, which links recovery in the debtor countries to a shift to "outward-oriented" development, based on trade liberalization. This paper describes many important limitations of this new orthodoxy. The heavy emphasis on liberalization is a historical, and indeed runs contrary to the experiences of the successful East Asian economies. It also distracts attention from more pressing needs of the debtor economies.

PD June 1987. **TI** International Policy Coordination: The Case of the Developing Country Debt Crisis. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 2287; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 440, 430, 121. **KW** Debt Crisis. Debtor Nations.

AB This paper reviews the management of the debt crisis to date, and considers several possible alternative approaches for international cooperation in the future. The first part of the paper briefly reviews the scope of the crisis, and some of the reasons for its onset. Then, the paper describe the internationally coordinated policy responses to the crisis, as well as the conceptual underpinnings of this coordinated response. In the latter part of the paper, some of the reasons for the incomplete success of the policy response are described, and several alternative measures for the future are discussed. The discussion emphasizes the possible merits of debt forgiveness in addition to debt reschedulings as an instrument for the future management of the debt crisis.

Saffer, Henry

PD June 1987. **TI** Breath Testing and the Demand for Drunk Driving. **AU** Saffer, Henry; Chaloupka, Frank. **AA** Saffer: Kean College and NBER. Chaloupka: City University of New York and NBER. **SR** National Bureau of Economic Research Working Paper: 2301; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 916, 913, 615. **KW** Automobile Accidents. Public Safety. Alcohol. Highway Mortality.

AB This paper presents an empirical investigation of the effect of a preliminary breath test law on drunk driving behavior. A preliminary breath test law reduces the procedural problems associated with obtaining evidence of drunk driving and thus increases the probability that a drunk driver will be arrested. In 1985, only 23 states had a preliminary breath test law. According to the theory of deterrence, increasing the probability of arrest for drunk driving will reduce the future occurrence of this behavior. The data set employed to test the theory is a time series from 1980 to 1985 of cross sections of the 48 contiguous states. Four highway mortality rates are used as measures of drunk driving. The effect of the breath test law was estimated using four independent variable models and 12 dummy variable models. The four independent variable models were also estimated using Leamer's specification test. The purpose of using these alternative specifications and Leamer's specification test was to examine the breath test coefficients for specification bias. The econometric results show that the passage of a breath test law has a significant deterrent effect on drunk driving. Simulations with these results suggest that if all states had a preliminary breath test law, highway mortality could be reduced by about 2000 deaths per year.

Safra, Zvi

TI Ascending Bid Auction Games: A Non Expected Utility Analysis. **AU** Karni, Edi; Safra, Zvi.

Saijo, Tatsuyoshi

PD October 1986. **TI** On the Gibbard-Maskin-Muller-Satterthwaite Theorem. **AA** Department of Economics, University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 269; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 20. **PR** No Charge. **JE** 025, 024. **KW** Nash Implementability. Strong Dictatorship. Monotonicity. Social Choice. Nash Implementable Indifference.

AB Suppose that there are at least three alternatives, that the domain of a social choice function consists of all linear orders, and that it satisfies citizen sovereignty. Then the theorems due variously to Gibbard, Maskin, Muller-Satterthwaite, and Satterthwaite show that the following are all equivalent: (1) truthful implementability in dominant strategies, (2) dictatorship, (3) Maskin monotonicity, and (4) Nash implementability. We will refer to these results collectively as "the Gibbard-Maskin-Muller-Satterthwaite (GMMS) theorem." We will examine whether or not the equivalence among four properties is maintained if we introduce indifference among the alternatives in addition to the conditions of the GMMS theorem. It turns out that (1) and (2) are equivalent to (5) quasiweak monotonicity, which is weaker than Maskin monotonicity. On the other hand, (3), (4), (6) Nash implementable indifference, (7) weak monotonicity, and (8) strong dictatorship are all equivalent. Strong dictatorship requires that the best alternative set of the dictator is always a singleton. That is, the class of weakly monotonic social choice functions is strictly included in the class of quasiweakly monotonic functions. Furthermore, even though (6) is weaker than (4) by definition, relaxing the implementability concept does not produce any gain. Finally, since any social choice function on an unrestricted domain is Maskin monotonic if and only if it is constant, no Nash implementable indifferent social choice function exists, which is a revision of Manimay Sen's Theorem 3.6.

PD October 1986. **TI** On Constant Maskin Monotonic Social Choice Functions. **AA** Department of Economics, University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 268; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 8. **PR** No Charge. **JE** 025, 024. **KW** Social Choice. Nash Implementation. Maskin Monotonicity. Social Choice Function. Performance Function.

AB A social choice function satisfying a "dual dominance" condition is Maskin monotonic if and only if it is constant. Hence, any non-constant social choice function satisfying dual dominance is not Nash implementable. Among the important examples are all social choice functions on unrestricted domains. On the other hand, non-constant social choice functions such as a Walrasian performance function in economic environments need not satisfy dual dominance.

PD October 1986. **TI** Strategy Space Reduction in Maskin's Theorem: Sufficient Conditions for Nash Implementation. **AA** Department of Economics, University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 267; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 15. **PR** No Charge. **JE** 025, 024, 026. **KW** Maskin's Theorem. Nash Implementation. Monotonicity. Veto Power. Strategy Space Reduction. Social Choice.

AB Maskin claims that any social choice correspondence satisfying monotonicity, no veto power and having at least three participants is Nash implementable. Revising Maskin's construction of the game form, Williams gives a first correct proof of Maskin's theorem under the proviso that the number of social alternatives is finite and that the social choice correspondence satisfies citizen sovereignty. For an arbitrary size of the alternative set, however, Williams proves Maskin's theorem by imposing an additional restriction on the nature of the alternative set. In this paper, I make improvements in two important aspects of their Nash implementation theorems: a significant reduction in the strategy space and a proof for an arbitrary alternative set. In Maskin's and Williams' game forms, each participant announces a preference profile of all participants and also a socially optimal alternative with respect to the announced preference profile. I prove Maskin's theorem using a much smaller strategy space with respect to the preference announcements. Namely, each participant announces only two participants' preferences (i.e., his own preferences and his successor's preferences), an alternative that is not necessarily optimal, and a positive integer not exceeding the number of participants. With this specification of the strategy space, I confirm Maskin's theorem for an arbitrary size of the alternative set.

PD January 1987. **TI** Implementation Theory: An Introductory Note. **AA** Department of Economics, University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 272; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 29. **PR** No Charge. **JE** 025, 026, 024, 021, 022. **KW** Implementation Theory. Hurwicz Impossibility Theorem. Information. Incentives. Rationality. Social Optimal.

AB If there is an incentive problem in the preference reporting mechanism, is it possible to find other mechanisms which would attain the society's goal? For example, instead of the preference reporting mechanism, the planner can use some surrogate variables such as quantities and prices. He may even use, for example, colors, sounds, pictures, or numbers. If the planner succeeds in designing more than one such mechanism, which one is the "best"? The transmission of information from one participant to another, or from one participant to the planner, or from the planner to participants, is not costless. In a sense, "less" information is "better." Furthermore, information processing also may consume some resources. In summary, our problem is: "After a society reaches an agreement on the set of socially optimal alternatives, is it possible for the planner to design a rule or a mechanism to achieve one of the optimal alternatives without destroying the participants' incentives? If it is possible, which is the 'best' mechanism?" Recently, this problem has been referred to as the implementation problem of a given social choice (or goal) function. Among the predecessors, it is Hurwicz '1972 who opened the door of this exciting new field, and formulated the problem in an analytical framework.

PD January 1987. **TI** The Size of the Strategy Space Needed for Nash Implementation is Double That of the Message Space for Realization. **AA** Department of Economics, University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 271; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 15. **PR** No Charge. **JE** 025, 024, 026, 022, 021. **KW** Nash Implementation. Realization. Strategy Space Reduction. Informational Efficiency. Incentive Compatibility. Social Choice.

AB Realization theory studies the informational efficiency of mechanisms. On the other hand, implementation theory is concerned with the mechanisms incentive compatibility. If there is a realization mechanism of a given social choice correspondence, is it possible to construct an implementation mechanism based on the realization mechanism? Williams '1986 proves that a Nash implementation mechanism can be constructed whose strategy space is the Cartesian product of participants' message spaces needed for realization. This paper shows that the size of the strategy space needed for Nash implementation is approximately double that of the participant message space needed for realization. Furthermore, some conditions for the double space to be minimal attaining Nash implementability are proposed.

Salehi, Isfahani Djavad

PD March 1987. **TI** Population Growth and Intensification of Subsistence Agriculture: A Test of the Boserup Hypothesis. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-03-01; Department of Economics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. **PR** Free by request. **JE** 711, 841, 717, 718, 825.

KW Population. Agriculture. Iran. Subsistence. Cultivation Intensity. Irrigation. Labor Productivity. Arable Land.

AB This paper develops a testable hypothesis for the Boserup model of agricultural growth and tests it using cross sectional data from Iran. Taking the main assumptions of her argument to be that (a) population growth is exogenous and (b) more intensive techniques have lower productivity of labor, we proceed to build a model of a village with abundant land and two techniques of land use which satisfy these assumptions. With relatively mild restrictions on the technical conditions of production it is shown that population growth leads first to the adoption and then increase in the share of the more intensive technique in land and output. We also derive the condition under which population density and intensity of cultivation are positively correlated. It is shown that a positive association between population density and the intensity of cultivation implies the same between the level of population and intensity of cultivation. Estimates of the regression equation based on two samples of Iranian agriculture in 1960 and 1974 provide strong support for the model developed in this paper, and hence for the Boserup view. Population density in both samples is positively correlated with the irrigation ratio, as the model predicts.

Salinger, Michael A.

PD May 1987. **TI** The Meaning of "Upstream" and "Downstream" and the Implications for Modeling Vertical Mergers. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-87-14; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 48. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 611, 612, 022. **KW** Mergers. Vertical Integration. Oligopoly. Antitrust.

AB This paper discusses alternative definitions of the terms "upstream" and "downstream," and shows how each can be represented within a single model of successive and complementary oligopoly. The different definitions have strikingly different implications for the effect of vertical mergers. While the correct definition is not obvious, the model implies an observable condition that determines the competitive effect of a vertical merger. This condition can be a guide to empirical studies of vertical mergers and, if verified, the basis for an antitrust rule.

Salkever, David S.

TI Economic Rents Derived from Hospital Privileges in the Market for Podiatric Services. **AU** Frank, Richard G.; Weiner, Jonathan P.; Steinwachs, Donald M.; Salkever, David S.

Samet, Dov

TI Bounded Versus Unbounded Rationality: The Strength of Weakness. **AU** Gilboa, Itzhak; Samet, Dov.

Sampson, Michael

TI Output Growth and Employment Fluctuations. **AU** Hercowitz, Zvi; Sampson, Michael.

Samuelson, William

PD June 1987. **TI** Status Quo Bias in Individual Decision Making. **AU** Samuelson, William; Zeckhauser, Richard J. **AA** Samuelson: Boston University. Zeckhauser: John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 159 D. **PG** 83. **PR** No Charge. **JE** 022, 921, 511, 913. **KW** Decision Making. Status Quo Bias. Health Plans. Pensions.

AB In the canonical model of choice, the labeling of alternatives affects neither preferences nor choices. In real-world decisions, however, the alternatives often carry influential labels. Usually one alternative is labeled "status quo" -- that is, doing nothing or maintaining one's current or previous decision is almost always an option. This paper reports the results of a series of decision-making experiments showing that individuals disproportionately stick with the status quo. To complement our experimental evidence, we collected real world data on the choice of health plans by personnel at Harvard University and on the mix of TIAA (bonds) and CREF (stocks) chosen by faculty members at American universities for their pensions. Both sets of data revealed a substantial status quo bias. Drawing on economics, psychology, and decision theory, we identify possible explanations for this bias. Economic applications are discussed, from optimal marketing techniques (such as soft sells) to important macroeconomic phenomena (such as wage rigidities) to central issues in industrial organization (such as exit barriers).

Sanderson, Warren

TI Are User Fees Regressive? The Welfare Implications of Health Care Financing Proposals in Peru. **AU** Gertler, Paul; Locay, Luis; Sanderson, Warren.

Sandmo, Agnar

PD 1986. **TI** A Reinterpretation of Elasticity Formulae in Optimum Tax Theory. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-64; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 15. **PR** No Charge. **JE** 321, 323. **KW** Optimal Taxation. Compensated Elasticity. Leisure. Taxes.

AB This paper presents a unified interpretation of three special cases which have been widely discussed in the theory of optimum taxation. These are the Corlett-Hague case and two versions of the inverse elasticity rule, derived on the assumption that either the compensated or the uncompensated cross elasticities of demand are zero. It is demonstrated that all three cases imply that it is the compensated elasticities which determine efficient tax differentiation, and that complementarity with leisure, emphasized by Corlett and Hague, plays a role in the interpretation of all three cases.

Sappington, David E. M.

TI Countervailing Incentives in Agency Problems. **AU** Lewis, Tracy R.; Sappington, David E. M.

Sarig, Oded

PD June 1987. **TI** Bond Price Data and Bond Market

Liquidity. **AU** Sarig, Oded; Warga, Arthur. **AA** Columbia University Graduate School of Business. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-87-17; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 32. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 229, 313. **KW** Bond Prices. Data Errors. Data Bases. Liquidity Driven Errors. CRSP.

AB This paper attempts to characterize liquidity driven price errors in the CRSP Government Bond File by comparing its price records to the independently collected Shearson Lehman Brothers Bond Data Base. The results of our investigation come in the form of both good and bad news. Liquidity driven price errors seem to be systematically related to certain bond characteristics. On the other hand, these errors are approximately mean zero. We show that data filters based on these bond characteristics reduce the noise in price records while preserving their mean zero nature. The effects of these errors on studies of bond market equilibrium models and performance evaluation are estimated using filtered data.

Schonfeld, Peter

PD January 1986. **TI** A Note on C.R. Rao's Wider Definition BLUE in the General Gauss-Markov Model. **AU** Schonfeld, Peter; Werner, Hans Joachim. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-55; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 15. **PR** No Charge. **JE** 211. **KW** BLUE. Singular Dispersion Matrix. Regression. Estimators. Gauss Markov Model.

AB In this paper an extremely simple approach to the theory of wider sense or extended best unbiased estimators of estimable functions in a regression is considered. The extended estimators enlarge the class of representations of the traditional BLUE in the case of a singular dispersion matrix. Explicit and convenient representations of the quadratic unbiased and best unbiased estimators are exhibited for various levels of extension. It is also shown that C.R. Rao's '1973 approach to wider sense BLUEs has a natural embedding in the present approach.

Schreft, Stacey L.

PD September 1987. **TI** A Model of Cash and Credit Purchases. **AA** Department of Economics, Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8704; Department of Economics, Michigan State University, East Lansing, Michigan 48824. **PG** 38. **PR** No Charge. **JE** 311, 023. **KW** Monetary Theory. Overlapping Generations.

AB This paper presents two versions of a general equilibrium model in which both money and trade credit are used in exchange. The first version consists of three-period-lived overlapping generations, while the second has infinitely-lived agents. The features of the environment giving rise to the transactions demand for money are common to both versions. Agents are spatially separated, located on a circle. Each agent produces a location-specific consumption good and cares about leisure and consumption at all locations. Exchange proceeds sequentially, with trading in securities preceding trading in the location-specific goods markets at each date. The assumptions on preferences result in agents traveling around the circle during the goods trading session, buying goods at each point. Two forms of credit are available: cash loans in the securities markets and trade credit in the goods markets. The critical assumption is that obtaining either type of credit involves a real cost, proportional to the distance between the lender's location and the borrower's residence.

Schulenburg, Graf V. D. J. M.

TI Intergenerational Equity and Fund Balance for Statutory Health Insurance. **AU** Kleindorfer, Paul R.; Schulenburg, Graf V. D. J. M.

Schurger, Klaus

PD May 1987. **TI** Limit Theorems for Random Variables with a Multiparameter. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-80; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 41. **PR** No Charge. **JE** 211, 213. **KW** Multiparameter. Ergodic Theorem. Subadditivity. L-Convergence. Multiparameter Random Sets.

AB A multiparameter mean ergodic theorem for subadditive processes (which, more precisely, might be called here 2-subadditive; cf. has been proved by Smythe. Here, the indices are certain intervals of the d-dimensional square lattice Zd. In the case d=2, Smythe studied processes which he called strongly subadditive, and for which he derived a result on a.e. sectorial convergence. Other notions of strong subadditivity have been introduced by Akcoglu and Krengel as well as by Nguyen, Nguyen and Zessin the indices are bounded Borelian subsets of Rd. The purpose of this paper is to extend the convergence results of Derriennic, Liggett and Schurger to a certain class of multiparameter processes X satisfying a strong almost subadditivity condition (SASC), which have certain monotonicity properties to be introduced in Section 3 (the indices being certain intervals of Zd. The SASC (having some similarity to Smythe's notion of strong subadditivity when d=2) is a multiparameter analogue of the almost subadditivity condition which has been introduced by Derriennic.

Schwab, Robert M.

TI Income Originating in the State and Local Sector. **AU** Hulten, Charles R.; Schwab, Robert M.

Schweizer, Urs

PD April 1986. **TI** Litigation and Settlement in Sequential Equilibrium. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-52; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 48. **PR** No Charge. **JE** 916, 026. **KW** Litigation. Settlement. Asymmetric Information. Sequential Equilibria.

AB Two parties are assumed to have the choice between settling a dispute out of court and resorting to costly

litigation. The principle according to which parties will voluntarily transact whenever some mutually beneficial transaction exists does not apply in a setting of incomplete information. In this paper, a game of litigation and settlement is introduced which allows for two-sided asymmetric information. The corresponding set of sequential equilibria is fully characterized. All but at most three distinguished equilibria will be shown to be eliminated by a so-called interim rule. For these distinguished equilibria, the value of private information in terms of expected payoffs is explored in detail. The informational structures of previous studies of litigation and settlement are discussed as limiting cases of this paper's more general framework.

Segerstrom, Paul S.

PD May 1987. **TI** A Schumpeterian Model of the Product Life Cycle. **AU** Segerstrom, Paul S.; Anant, T. C. A.; Dinopoulos, Elias. **AA** Department of Economics, Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8606; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 26. **PR** No Charge. **JE** 410, 411, 421, 422, 621, 022. **KW** Product Life Cycle. Product Innovation. North-South. Bertrand Equilibrium. Ricardian Model. Tariffs.

AB This paper presents a dynamic general equilibrium model of North-South trade that integrates the product life cycle approach of Vernon (1966) and Krugman (1979) with Schumpeter's (1942) description of product innovation. In this model, individual products experience Vernon-type product life cycles and the rate of product innovation is endogenously determined based on the outcome of R&D races between firms. The model has a steady state equilibrium in the number of products produced in the North by dominant firms. Tariffs designed to protect dying industries in the North from southern competition reduce this steady state number of northern firms that earn positive economic profits, reduce the rate of product innovation in the North and increase relative wages of northern production workers.

Selden, Larry

TI A General Equilibrium Analysis of Option And Stock Market Interactions. **AU** Detemple, Jerome; Selden, Larry.

Selowsky, Marcelo

TI Costly Adjustment and Limited Borrowing: A Welfare Analysis of Policies to Achieve External Balance. **AU** Aizenman, Joshua; Selowsky, Marcelo.

Selten, Reinhard

PD September 1986. **TI** Order of Strength and Exhaustivity as Additional Hypotheses in Theories for 3-person Characteristic Function Games. **AU** Selten, Reinhard; Uhlich, Gerald R. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-86; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 18. **PR** No Charge. **JE** 026. **KW** 3-Person Characteristic Functions. Equal Division Payoff Bound. Bargaining Set. Exhaustivity. Communication.

AB The theory of equal division payoff bounds in its modified form (Selten 1985) has proved to be more successful in the prediction of 3-person characteristic function experiments than various versions of the bargaining set. In this paper the question is raised whether the hypotheses "order of strength" (applied to zero-normalizations) and "exhaustivity" introduced earlier as parts of equal share analysis (Selten 1972) lead to improvements of predictions, if they are added to other theories. Order of strength improves predictions for games where one-person coalitions receive zero-payoffs, but not for other games. Exhaustivity improves predictions for experimental procedures with free verbal communication but if communication is restricted to the exchange of formal offers, predictions are better without exhaustivity as an additional hypothesis. These conclusions are based on reevaluation of 11 data sets from various published and unpublished sources.

Shapiro, Carl

TI Dynamic Competition with Lock-Up. **AU** Farrell, Joseph; Shapiro, Carl.

PD March 1987. **TI** Theories of Oligopoly Behavior. **AA** Woodrow Wilson School of Public and International Affairs Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 126; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 112. **PR** No Charge. **JE** 611, 026, 022. **KW** Oligopoly Theory. Supergames. Dynamic Competition. Game Theory. Repeated Games.

AB This paper provides a systematic survey of modern oligopoly theory. Taking the view that there cannot and should not be a single oligopoly theory, I explore the particular games - and hence the economic environments and modes of strategy - that lead to relatively competitive or relatively collusive behavior. The paper is organised according to the timing of the oligopolistic rivalry implicit in the various oligopoly games. The four general types of competition studied are captured by static games, repeated games, two-period games, and dynamic games. An operative understanding of oligopoly theory requires the ability to integrate the principles from each of these strands of the literature.

Shapiro, Matthew D.

PD April 1987. **TI** Measuring Market Power in U.S. Industry. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 2212; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 611, 212, 132, 022. **KW** Market Power. Markup. Lerner Index. Competitiveness. Demand Elasticity. Monopoly Power. Non-Competitive Conduct.

AB Non-competitive conduct can be assessed by estimating the size of the markup or Lerner index achieved in a market. The markup implies a price elasticity of demand faced by the representative firm. For a given markup, non-competitive conduct is greater the more elastic is the market elasticity of demand. The ratio of the firm's to the market elasticity is a measure of non-competitive conduct that is insensitive to the value of the monopoly. To implement this measure, both the firm's

and the market elasticities of demand must be estimated. Hall shows how to estimate the markup, and hence the elasticity faced by the firm, from the cyclical behavior of productivity. To estimate the market elasticity, an instrumental variables procedure exploiting a covariance restriction between productivity shocks and demand shocks is used. Results for broad sectors of private industry and for non-durable manufacturing industries display a wide range of monopoly power.

Shapiro, Perry

PD March 1987. **TI** A Constitutional Choice Model of Takings. **AU** Shapiro, Perry; Fischel, William A. **AA** Shapiro: University of California, Santa Barbara. Fischel: Dartmouth College. **SR** University of California at Santa Barbra Department of Economics Working Paper: 274; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 43. **PR** No Charge. **JE** 916, 717. **KW** Compensation. Constitutional Choice. Efficiency. Eminent Domain. Taking. Private Property. Government.
AB Landowners, before they know whether or not their property will be taken by government, choose the optimal compensation rule. The choice is governed by the behavior of government. The optimal compensation policies for various models of government are derived.

PD March 1987. **TI** Takings, Insurance and Michelman: Comments on Economic Interpretations of 'Just Compensation' Law. **AU** Shapiro, Perry; Fischel, William A. **AA** Shapiro: University of California, Santa Barbara. Fischel: Dartmouth College. **SR** University of California at Santa Barbara Department of Economics Working Paper: 273; Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 35. **PR** No Charge. **JE** 916, 717. **KW** Eminent Domain. Just Compensation. Settlement Costs. Efficiency. Insurance Model. Demoralization Costs.
AB This paper examines the need for compensation when the government takes private property for public use. It questions that private insurance can fully replace the need for public compensation while clarifying and extending Frank Michaelman's framework for deciding whether compensation should be paid.

Sharma, Sunil

PD March 1987. **TI** Specification Diagnostics for Econometric Models of Duration. **AA** University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 440; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 54. **PR** $2.50; checks payable to University of California Regents. **JE** 211. **KW** Specification Diagnostics. Duration Models. Heterogeneity. Conditional Moment Tests. Weibull Distribution. Score Tests. Hypothesis Testing.
AB This paper provides new diagnostics for evaluating the appropriateness of distributional assumptions in econometric models of duration. The exposition is in terms of the Weibull distribution, but the method is applicable more generally. The diagnostics developed are score tests of the null hypothesis of Weibull distributed durations (conditional on covariates) against alternatives which are based on expansions of various orders in a system of orthogonal functions. The statistics essentially test whether moment restrictions implied by the null specification are satisfied by the data. The paper also shows that recently developed diagnostics for uncorrected heterogeneity essentially amount to testing whether a particular moment relationship implied by the null is satisfied.

Sharpe, Steven A.

PD March 1987. **TI** Asymmetric Information, Bank Lending, and Implicit Contracts: A Stylized Model of Continuing Relationships. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 221; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 35. **PR** No Charge. **JE** 312, 315, 026, 521. **KW** Credit Rationing. Information. Implicit Contracts. Reputation.
AB Information asymmetries have been employed to produce rigorous theories of credit rationing. This paper provides a complimentary theory of credit market behavior by exploring dynamic "customer relationships" arising when a bank that actually lends to a firm learns more about that firm than other banks. Rents generated by older high quality firms are partially "captured" by their original lenders because of dynamic adverse selection. As a result, competition drives banks to lend to new firms at rates which initially generate expected losses, and the allocation of capital is shifted toward low quality and inexperienced firms. The inefficiencies are eliminated if firms can write complete contingent contracts with their banks. Because such contracting is costly and difficult, and rarely observed in long-term economic relationships, we explore the role of "implicit," or non-binding, "contracts" and bank reputation. The equilibrium in lending offers has the feature that implicit contracts, if offered, yield rents to competitive banks.

Sheehan, Dennis P.

TI The Role of Large Block Shareholders: An Analysis of Public Corporations with Majority Shareholders. **AU** Holderness, Clifford G.; Sheehan, Dennis P.

Shiller, Robert J.

TI Econometric Modeling as Information Aggregation. **AU** Fair, Ray C.; Shiller, Robert J.

TI The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors. **AU** Campbell, John Y.; Shiller, Robert J.

PD July 1987. **TI** The Term Structure of Interest Rates: U.S. Government Term Structure Data. **AU** Shiller, Robert J.; McCulloch, J. Houston. **AA** Shiller: Cowles Foundation, Yale University. McCulloch: Ohio State University. **SR** Yale Cowles Foundation Discussion Paper: 843; Cowles Foundation, Yale University, Box 2125, Yale Station, New Haven, CT 06520. **PG** 119. **PR** No Charge. **JE** 311, 313. **KW** Term Structure. Interest Rates. Government Securities. Rates of Return. Forward Rates. Bond Yields.
AB This paper consolidates and interprets the literature

on the term structure, as it stands today. Definitions of rates of return, forward rates and holding returns for all time intervals are treated here in a uniform manner and their interrelations, exact or approximate, delineated. The concept of duration is used throughout to simplify mathematical expressions. Continuous compounding is used where possible, to avoid arbitrary distinctions based on compounding assumptions. Both the theoretical and the empirical literature are treated. The attached tables by J. Huston McCulloch give term structure data for U. S. government securities 1946-1987. The tables give discount bond yields, forward rates and par bond yields as defined in the paper. The data relate to the concepts in the paper more precisely than does any previously published data series.

Shleifer, Andrei

PD June 1987. **TI** Breach of Trust in Hostile Takeovers. **AU** Shleifer, Andrei; Summers, Lawrence H. **AA** Shleifer: Princeton University and National Bureau of Economic Research. Summers: Harvard University and National Bureau of Economic Research. **SR** Princeton Financial Research Center Memorandum: 81; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 49. **PR** $3.00. **JE** 521, 611, 511, 512. **KW** Contracts. Takeovers. Event Studies. Managerial Behavior. Corporations.

AB The paper questions the common view that share price increases of firms involved in hostile takeovers measure efficiency gains from acquisitions. Even if such gains exist, most of the increase in the combined value of the target and the acquiror is likely to come from stakeholder wealth losses, such as declines in value of subcontractors' firm-specific capital or employees' human capital. The use of event studies to gauge wealth creation in takeovers is unjustified. The paper also suggests a theory of managerial behavior, in which hiring and entrenching trustworthy managers enables shareholders to commit to upholding implicit contracts with stakeholders. Hostile takeovers are an innovation allowing shareholders to renege on such contracts ex post, against managers' will. On this view, shareholder gains are redistributions from stakeholders, and can in the long run result in deterioration of trust necessary for the functioning of the corporation.

PD June 1987. **TI** The Efficiency of Investment in the Presence of Aggregate Demand Spillovers. **AU** Shleifer, Andrei; Vishny, Robert. **AA** Shleifer: Princeton University. Vishny: University of Chicago. **SR** Princeton Financial Research Center Memorandum: 79; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 26. **PR** $3.00. **JE** 023, 522. **KW** Aggregate Demand. Investment. Multiplier. Externalities. Profits.

AB In the presence of aggregate demand spillovers, an imperfectly competitive firm's profit is positively related to aggregate income, which in turn rises with profits of all firms in the economy. This pecuniary externality makes a dollar of a firm's profit raise aggregate income by more than a dollar, since other firms' profits also rise, and in this way gives rise to a "multiplier." Since such "multipliers" are ignored by firms making investment decisions, privately optimal investment choices under uncertainty will not in general be socially optimal. Under reasonable conditions, private investment is too low.

TI Characteristics of Hostile and Friendly Takeover Targets. **AU** Morck, Randall; Shleifer, Andrei; Vishny, Robert W.

PD June 1987. **TI** The Efficiency of Investment in the Presence of Aggregate Demand Spillovers. **AU** Shleifer, Andrei; Vishny, Robert W. **AA** University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2297; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 522, 514. **KW** Investment. Business Profit. Pecuniary Externality. Multiplier.

AB In the presence of aggregate demand spillovers, an imperfectly competitive firm's profit is positively related to income, which in turn rises with profits of all firms in the economy. This pecuniary externality makes a dollar of a firm's profit raise aggregate income by more than a dollar, since other firms' profits also rise, and in this way gives rise to a "multiplier." Since such "multipliers" are ignored by firms making investment decisions, privately optimal investment choices under uncertainty will not in general be socially optimal. Under reasonable conditions, private investment is too low.

TI Characteristics of Hostile and Friendly Takeover Targets. **AU** Morck, Randall; Shleifer, Andrei; Vishny, Robert W.

Shoven, John B.

PD May 1987. **TI** The Social Security Cost of Smoking. **AU** Shoven, John B.; Sundberg, Jeffrey O.; Bunker, John P. **AA** Shoven and Sundberg: Department of Economics, Stanford University. Bunker: School of Medicine, Stanford University. **SR** National Bureau of Economic Research Working Paper: 2234; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 915, 913, 322. **KW** Smokers. Tobacco. Life Expectancy. Social Security. Health Economics.

AB Our paper is an examination of the Social Security cost of smoking from an individual point of view. It is well known that smokers have a shorter life expectancy than nonsmokers. This means that by smoking they are giving up potential Social Security benefits. We estimate this cost and consider the effects on the system as a whole. We use mortality ratios, which relate the annual death probabilities of smokers and nonsmokers, and the percentage of smokers in each age group to break down the life tables for men and women born in 1920 into the approximate life tables for smokers and nonsmokers. We then calculate expected Social Security taxes and benefits for each group, using median earnings as a base. We find that smoking costs men about $20,000 and women about $10,000 in expected net benefits. The implication of this for the system as a whole is that the prevalence of smoking has a direct effect on the financial viability of the system; every decrease in the number of smokers in society increases the system's liability. Changes in smoking behavior should be recognized as affecting the system.

Silvestre, Joaquim

TI What is Public Ownership? **AU** Roemer, John E.;

Silvestre, Joaquim.

Singh, Nirvikar

TI Multinational Rivalry and National Advantage: Some Theoretical Considerations. **AU** Bardhan, Pranab; Singh, Nirvikar.

Siow, Aloysius

PD July 1987. **TI** The Use of Wages in Coordinating Hours of Work. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 354; Department of Economics, Columbia University, New York, NY 10027. **PG** 44. **PR** $5.00. **JE** 824, 821, 212. **KW** Labor Supply. Occupation. Jobs. Turnover. Working Hours.

AB This paper studies theoretical and empirical models of coordination of hours of work. While a firm may explicitly coordinate the hours of its workers, the interactions with agents outside the firm may not be explicitly coordinated. As long as the productivities of agents are affected by each others' choices of hours, they will take the choices of others into account when making their own decisions. The equilibrium due to this implicit coordination is a Nash Equilibrium. Compared with the explicit coordination within a firm, the Nash Equilibrium is inefficient. A robust finding of the theoretical models is that there will be bunching of hours in equilibrium among heterogenous workers. The next part of the paper develops and estimates three econometric models of coordinated labor supply. I modify MaCurdy's dynamic model of labor supply (MaCurdy (1981)) by making the wage negatively related to the deviation of a worker's hours from the mean of his co-workers. Since there is no data on hours of his co-workers, a major assumption is that the mean hours of work of all workers in his occupation, industry and year is a good estimate of the mean hours of his co-workers. With this proxy, I estimate the models using micro panel data from the Michigan Panel Study of Income Dynamics (PSID).

Sjoblom, Kriss

TI Education as a Signal: Some Evidence. **AU** Kroch, Eugene A.; Sjoblom, Kriss.

Skinner, Jonathan

PD August 1987. **TI** Risky Income, Life Cycle Consumption and Precautionary Savings. **AA** University of Virginia. **SR** National Bureau of Economic Research Working Paper: 2336; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 921, 026. **KW** Saving. Income. Risk. Life Cycle. Uncertainty.

AB This paper argues that precautionary savings against uncertain income comprise a large fraction of aggregate savings. A closed-form approximation for life cycle consumption subject to uncertain interest rates and earnings is derived by taking a second-order Taylor-Series approximation of the Euler equations. Using empirical measures of income uncertainty, I find that precautionary savings comprises up to 56 percent of aggregate life cycle savings. The derived expression for n-period optimal consumption is easily implemented for econometric estimation, and accords well with the exact numerical solution. Empirical comparisons of savings patterns among occupational groups using the Consumer Expenditure Survey contradict the predictions of the life cycle model. Riskier occupations, such as the self-employed and salespersons, save less than other occupations, although this finding may in part reflect unobservable differences in risk aversion among occupations.

PD August 1987. **TI** Taxation and Output Growth: Evidence From African Countries. **AA** University of Virginia. **SR** National Bureau of Economic Research Working Paper: 2335; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 323, 111, 112, 321. **KW** Taxes. Africa. Tax Policy. Deficits. Growth. Budget. Development. LDC.

AB There is considerable debate over the appropriate role for tax policy in developing economies. In one view, tax hikes reduce deficits and ease budgetary pressures, thereby encouraging long-term growth. An alternative view emphasizes the distortionary effects associated with increased taxation and the positive benefits of a carefully designed tax system. This paper tests these propositions by measuring the impact of government taxation and expenditure on aggregate output growth. A theoretical model is derived which shows that the impact of tax distortions on output growth is usually negative. The theoretical model is tested using a pooled cross-section time-series data set for 31 sub-Saharan African countries during 1965-73 and 1974-82. The regressions imply that the positive benefits of government investment during 1965-73 outweighed the distortionary effects of taxes necessary to finance them. By 1974-82, however, the marginal productivity of government investment had fallen; tax-financed public investment was predicted to have reduced output growth. The empirical results also imply that a revenue neutral shift from the import, corporate, and personal tax to a sales/excise (or consumption) tax will encourage output growth.

Sklivas, Steven D.

PD May 1985. **TI** The Strategic Choice of Managerial Incentives. **AA** University of Pennsylvania, Department of Economics. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 184; 3718 Locust Walk, Philadelphia, PA 19104-6297 University of Pennsylvania, McNeil Building. **PG** 29. **PR** No Charge. **JE** 611, 022, 026, 512, 511. **KW** Oligopoly. Principal Agent. Game Theory. Nash Equilibrium.

AB A game-theoretic model is developed in which profit-maximizing owners instruct their managers to deviate from profit maximization in choosing price or quantity. Owners in an oligopoly behave strategically in this principal-agent relationship in contrast to the standard principal-agent model of Holmstrom (1979). The behavior of firms in an oligopoly is described by the owner-manager game. The manager chooses the price or quantity for the firm while the owner collects the profits resulting from this decision and determines his manager's incentives. The owner instructs his manager how to behave by determining his payoff function. When viewed as two separate games, one played among owners and

another among managers, one can see analytic and intuitive similarity to two-stage games, as in Dixit (1980) and Fundenberg-Tirole (1984). As a first step in solving this game the unique Nash Equilibrium prices or quantities played by managers are found for all possible choices of managers' payoffs. This solution gives the relationship between incentives and profits needed to describe the game played among owners. A Nash Equilibrium is then found for the owners' game. The outcome of the owner-manager game is the managers' equilibrium actions when owners choose the equilibrium incentives. The solution results in quantity (price) competition being closer to perfect competition (collusion) than Cournot (Bertrand) behavior.

Slemrod, Joel

TI Housing Finance Imperfections and Private Saving: A Comparative Simulation Analysis of the U.S. and Japan. **AU** Hayashi, Fumio; Ito, Takatoshi; Slemrod, Joel.

Smith, Bruce D.

TI Equilibrium in Cooperative Games of Policy Formulation. **AU** Cooley, Thomas F.; Smith, Bruce D.

Sofianos, George

TI Loan Commitments and Monetary Policy. **AU** Wachtel, Paul; Sofianos, George; Melnik, Arie.

Solon, Gary

PD June 1987. **TI** The Effect of Family Background on Economic Status: A Longitudinal Analysis of Sibling Correlations. **AU** Solon, Gary; Corcoran, Mary; Gordon, Roger; Laren, Deborah. **AA** The University of Michigan. **SR** National Bureau of Economic Research Working Paper: 2282; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 841, 921, 931, 812. **KW** Family. Life Cycle. Occupation. Economic Status. Household Income.

AB Numerous previous studies have used sibling correlations to measure the importance of family background as a determinant of economic status. These studies, however, have been biased by several flaws: failure to separate permanent from transitory status variation (including that from measurement error), failure to account for life-cycle stage, and overly homogeneous samples. This paper presents a methodology to address these problems and applies it to longitudinal data from the Panel Study of Income Dynamics. Our main conclusion is that family background appears to exert greater influence on economic status than has been indicated by earlier research.

PD August 1987. **TI** Sibling and Intergenerational Correlations in Welfare Program Participation. **AU** Solon, Gary; Corcoran, Mary; Gordon, Roger; Laren, Deborah. **AA** University of Michigan, Ann Arbor. **SR** National Bureau of Economic Research Working Paper: 2334; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 911, 841, 914, 824. **KW** Family Background. Earnings. Occupational Status. Unemployment. Income.

AB Many previous studies have used sibling correlations to measure the effect of family background on earnings, income, and occupational status. This paper uses data on a sample of sisters to explore the importance of family background as a determinant of welfare program participation. The results show a strikingly high degree of sibling resemblance in welfare receipt. For example, a woman's estimated probability of having participated in welfare programs is .20 if her sister has not participated, but is .66 if her sister has participated.

Sondermann, Dieter

PD August 1986. **TI** Currency Options: Hedging and Social Value. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-48; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 22. **PR** No Charge. **JE** 313, 211, 441, 431. **KW** Financial Markets. Futures Markets. Hedging. Contingent Claims. Currency Options. Foreign Exchange Markets. Volatility.

AB That currency options have a social value has been questioned both on practical and theoretical grounds. The first type of arguments stress the speculative element of such options and refer to the forward exchange markets as the approved means of hedging against foreign exchange risks. This view overlooks the fact that only future currency streams which are expected with certainty can be hedged on forward markets. If for some reason these future payments fail to realize or deviate from their expected value the "hedger" on the forward market may end up with a costly open position. This may e.g. be the case in a tender situation. Currency options as a non-redundant alternative to forward markets allow for a better allocation of exchange risks. The social value of currency options is increased, if such options are created by hedging. If this is the case the risk is not simply transferred from the hedger to the option writer (as in the case of forward contracts or of uncovered options), but the "active" option writer eliminates a substantial part of the risk at a cost about equal to the expected risk, thus reducing overall risk. Some details are given in Section 2. The second argument against the social value of options is a theoretical one made by Hakansson '2, mentioned already by Danthine in his introduction. Indeed, if exchange rates were to follow a geometric Brownian motion and if transaction costs were strictly zero, currency options would be redundant. But since under the first assumption the transaction volume of the hedging portfolio becomes infinite in every arbitrarily small time interval, transaction costs become infinite as well, however small the cost of a single transaction is. Hence, although transaction costs on currency markets are lower than on stock markets, currency options are by no means redundant and hedging cannot follow strictly the Black-Scholes formula.

PD October 1986. **TI** Option Pricing with Bounds on the Underlying Securities. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-49; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 27. **PR** No Charge. **JE** 313, 213, 211. **KW** Option Pricing. Securities.

AB No abstract available.

Spindt, Paul A.

TI Econometric Modeling of the Demands for the United States Monetary Aggregates: Conventional and Experimental Approaches. **AU** Porter, Richard D.; Spindt, Paul A.; Lindsey, David E.

Spingarn, Jonathan E.

PD May 1987. **TI** On Computation of Spatial Economic Equilibria. **AA** Georgia Institute of Technology. **SR** Universite Catholique de Louvain Core Discussion Paper: 8731; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 18. **PR** No Charge. **JE** 411, 213, 021. **KW** Network Equilibria. Trade Flows. Equilibrium Prices. Spatially Separated Markets.

AB An algorithm is described for computing network equilibria, that is finding a circulation x and a differential y such that y(j) an element of Tj(x(j)) for every arc j of a network and where the Tj are maximal monotone. The Tj are assumed to be specified in a form convenient for the solution of economic equilibria. It is then shown how the algorithm can be applied to solve for equilibrium prices and trade flows in an economy with several commodities and spatially separated markets, each region having its own correspondences between supply and price and between demand and price.

Spulber, Daniel F.

TI Menu Costs and the Neutrality of Money. **AU** Caplin, Andrew S.; Spulber, Daniel F.

PD July 1987. **TI** Nominal Wage Rigidity and Stagflation. **AA** University of Southern California. **SR** University of Southern California Modelling-Research Group Working Paper: #M8727; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0152. **PG** 22. **PR** No Charge. **JE** 023, 311, 824. **KW** Inflation. Menu Costs. Money Neutrality. Stagflation. Wages. Unemployment. Rigidity. Phillips Curve. Monetary Policy.

AB The effects of monetary growth are examined in a model with endogenous nominal wage rigidity. Nominal wages are adjusted at discrete time intervals due to menu costs. The aggregate wage and the level of unemployment are shown to be invariant to unanticipated nominal shocks. Conditions are given under which anticipated money growth may increase unemployment thus creating stagflation or may reduce unemployment as in the Phillips curve analysis.

TI Procurement Auctions. **AU** Dasgupta, Sudipto; Spulber, Daniel F.

Steckel, Richard H.

PD June 1987. **TI** Household Migration, Urban Growth, and Industrialization: the United States, 1850-1860. **AA** Ohio State University. **SR** National Bureau of Economic Research Working Paper: 2281; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 042, 841, 823, 931. **KW** Urbanization. Migration. Industrial Revolution. United States Economic History.

AB This paper utilizes a national sample of nearly 1,600 households linked in the census manuscript schedules to investigate causes and consequences of migration to urban areas during the midst of America's industrial revolution. Although record linkage was limited to the subset of households that had at least one child in 1850, the data are relatively rich in socioeconomic information. A regional analysis of migration and occupational change shows that while established households were generally mobile, they were extraordinarily reluctant to commit labor to urban-industrial pursuits. The evidence suggests that the presence of children, retraining costs, lack of control over fertility, risk aversion, and an unfavorable view of urban areas by rural residents contributed to their avoidance of cities and towns. The findings also contribute to debates over the compression of the wage structure and the extent of socioeconomic mobility.

Steinwachs, Donald M.

TI Economic Rents Derived from Hospital Privileges in the Market for Podiatric Services. **AU** Frank, Richard G.; Weiner, Jonathan P.; Steinwachs, Donald M.; Salkever, David S.

TI Economic Rents Derived from Hospital Privileges in the Market for Podiatric Services. **AU** Frank, Richard G.; Weiner, Jonathan P.; Steinwachs, Donald M.; Salkever, David S.

Stewart, Geoff

PD March 1987. **TI** Efficiency, Distribution and the Choice Between Capitalist and Labour-Managed Production. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8714; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 24. **PR** No Charge. **JE** 611, 511, 022, 514, 825. **KW** Labor-Managed Production. Firm Organization. Information. Entry Barriers.

AB This paper suggests that, in certain circumstances, relative efficiency will not be the sole determinant of firm organization. First, an individual possessing an informational advantage may be able to secure a higher return from a capitalist firm even if it is less efficient than labour-managed production because in the latter there exist, by definition, arrangements designed to facilitate access to information. Secondly, once established an organizational form may not be perfectly responsive to subsequent, externally induced, changes in relative efficiency. Entry barriers afford protection from outside and the conversion of an established firm may be impeded by incomplete property rights over knowledge, small numbers bargaining and incomplete information. Furthermore, the external environment might itself respond to suit the requirements of established modes of production.

Stiglitz, Joseph

TI Implicit Contracts, Labor Mobility and Unemployment. **AU** Arnott, Richard; Hosios, Arthur; Stiglitz, Joseph.

Stock, James

TI Regression vs. Volatility Tests of the Efficiency of

Foreign Exchange Markets. **AU** Frankel, Jeffrey A.; Stock, James A.

TI Stochastic Trends and Economic Fluctuations. **AU** King, Robert; Plosser, Charles; Stock, James; Watson, Mark.

PD April 1987. **TI** Integrated Regressors and Tests of the Permanent Income Hypothesis. **AU** Stock, James H.; West, Kenneth D. **AA** Stock: Harvard University; West: Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 127; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 25. **PR** No Charge. **JE** 131, 211, 023, 212. **KW** Permanent Income. Consumption. Random Walk. Unit Root. Hypothesis Tests. Cointegration.
AB We use recent research on estimation and testing in the presence of unit roots to argue that Hall's (1978) t and F tests of whether consumption is predicted by lagged income, or by lags of consumption beyond the first, are asymptotically valid. A Monte Carlo experiment suggests that the asymptotic t and F distributions provide a good approximation to the actual finite sample distribution.

TI Estimating Integrated Higher Order Continuous Time Autoregressions with an Application to Money-Income Causality. **AU** Harvey, A. C.; Stock, James H.

Stockman, Alan C.

PD July 1987. **TI** Sectoral and National Aggregate Disturbances to Industrial Output in Seven European Countries. **AA** University of Rochester. **SR** National Bureau of Economic Research Working Paper: 2313; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 023, 223, 621, 825. **KW** Industrial Output. Europe. Business Cycles. Employment. Productivity. Technology. Fluctuations. Growth.
AB A class of real business cycle models suggests that shocks to technology can explain aggregate fluctuations in output and employment. This paper begins from the premise that shocks to productivity may vary across industries but are unlikely to vary systematically across national boundaries for a set of developed countries. Alternative sources of macroeconomic fluctuations, however, such as those due to nation-specific government policies, may produce variations in output growth across nations that are common to industries. This paper discusses these implications within the context of a simple theoretical model, then the paper decomposes the quarterly and annual growth rate of industrial production in two-digit manufacturing industries in seven European countries and the United States into components that are specific to industries but common to nations, and idiosyncratic components. The paper shows that shocks that are nation-specific and common to industries are important, and cast doubt on the hypothesis that most macroeconomic fluctuations can be ascribed to shocks to technology.

Summers, Lawrence H.

TI Breach of Trust in Hostile Takeovers. **AU** Shleifer, Andrei; Summers, Lawrence H.

TI Why Have Private Saving Rates in the United States and Canada Diverged? **AU** Carroll, Chris; Summers, Lawrence H.

Sun, Ye Neng

TI On Symmetric Cournot - Nash Equilibrium Distributions in a Finite Action Atomless Game. **AU** Khan, M. Ali; Sun, Ye Neng.

TI On a Graph Topology on C(X,Y) with X Compact Hausdorff and Y Tychonoff. **AU** Khan, M. Ali; Sun, Ye Neng.

TI On Complete Regularity of Spaces of Economic Agents Endowed with the Order Topology. **AU** Khan, M. Ali; Sun, Ye Neng.

TI On a Reformulation of Cournot-Nash Equilibria. **AU** Khan, M. Ali; Sun, Ye Neng.

Sundaram, Raghu

TI An Alternate Approach to Axiomatizations of the von Neumann/Morgenstern Characteristic Function. **AU** Lewis, Alain A.; Sundaram, Raghu.

Sundberg, Jeffrey O.

TI The Social Security Cost of Smoking. **AU** Shoven, John B.; Sundberg, Jeffrey O.; Bunker, John P.

Sutton, John

PD November 1985. **TI** Non-Cooperative Bargaining Theory: An Introduction. **AA** Department of Economics, London School of Economics. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 192; 3718 Locust Walk, University of Pennsylvania, McNeil Building Philadelphia, PA 19104-6297. **PG** 35. **PR** No Charge. **JE** 026. **KW** Incomplete Information. Game Theory. Non-Cooperative Game.
AB The approach to bargaining which characterizes the papers discussed above, appears to be potentially fruitful, in at least two important respects. Firstly, by providing a wide range of noncooperative models, of a kind which permit us to distinguish salient features of real bargaining problems, it can lead to a more satisfactory mesh between the simple principles embodied in bargaining axioms, and the range of problems which we tackle. Secondly, the incomplete information literature holds out the promise of a richer and more satisfying approach to the analysis of disagreement in bargaining - the problem many economists would see as the central one. The difficulties encountered in extending the analysis, both to games of incomplete information, and to n-person bargaining, are formidable. But if only to keep these difficulties in perspective, it is worth remembering the starting point of the present literature, which lies in Stahl's early attempts to analyse sequential bargaining processes. It was Stahl's (1972) examples which prompted Selten's refinement of the Nash equilibrium concept to that of a Perfect Equilibrium, the applications of which far outrun the literature described here. Perhaps the most optimistic view of the present literature, is that the sort of difficulties emphasised in the latter half of the present paper, may in turn spark off valuable new departures in the analysis of games in

extensive form.

Swamy, P. A. V. B.

PD March 1987. **TI** Further Thoughts on Testing for Causality with Econometric Models. **AU** Swamy, P. A. V. B.; von zur, Muehlen P. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 211; Special Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 54. **PR** No Charge. **JE** 211, 212, 036. **KW** Causality. Hypothesis Testing. Cause. Causation.

AB A causal mechanism in economics is a coherent economic theory describing aspects of the various economic processes by which an exogenous action produces its effects. Such mechanisms are capable of providing predictions about as yet unobserved phenomena. While incoherent theories, i.e., theories with contradictory premises, are patently false, coherent economic theories merely have the potential of being true, because with uncertain knowledge the truth or falsity of such theories cannot be established. This does not mean that economists cannot form coherent beliefs about their causal theories. Clearly, economists are compelled to think and act based on their beliefs about causal theories. But justification of coherent opinions in the sense that one who rejects them is guilty of an error comparable to a logical fallacy is not available. This does not negate the value of statistics. Statistical methods are useful for providing weak or strong (but inconclusive) evidence against correlations among variables, and against propositions that one variable has no predictive value for another variable in the linear or nonlinear least squares sense. Likewise, econometric techniques are of great value for generating predictions from coherent causal models.

Tabellini, Guido

TI A Positive Theory of Fiscal Deficits and Government Debt in a Democracy. **AU** Alesina, Alberto; Tabellini, Guido.

PD July 1987. **TI** Monetary and Fiscal Policy Coordination with a High Public Debt. **AA** University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 449; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 66. **PR** $2.50; checks payable to U.C. Regents. **JE** 023, 311, 321, 122. **KW** Public Debt. Italy. Fiscal Policy. Monetary Policy. Game Theory. Central Bank. Monetary Reform. Credibility.

AB Some important monetary reforms have been implemented in Italy in the 1980s. These reforms have increased the decentralization between the Bank of Italy and the Treasury. This paper investigates whether there is contradiction between the monetary reforms and the goal of stabilizing the Italian public debt. A game theoretic model is analyzed. The model suggests that there is no contradiction: a less accommodative monetary regime reinforces the Treasury incentives to balance the budget, and hence can facilitate the stabilization of public debt. The empirical evidence however indicates that the new Italian monetary regime lacks credibility and contains several ambiguities. It is concluded that these ambiguities could indeed give rise to an explosive monetary fiscal policy mix, and that therefore the process of monetary reform should be completed and the ambiguities removed.

Taub, Bart

PD March 1986. **TI** Dynamic Consistency of Insurance Contracts. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-05-02; Department of Economics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. **PG** 18. **PR** Free by Request. **JE** 026, 025, 213, 023. **KW** Adverse Selection. Income Distribution. Insurance. Enforcement. Exclusion. Shock Processes.

AB A contract institution offsets individual income shocks with a contract which takes advantage of the cross-sectional heterogeneity of the shocks. Contracts which have no defection are characterized by the parameters of income, shock processes, and tastes. A conclusion about income redistribution emerges.

PD November 25, 1986. **TI** Aggregate Fluctuations as an Information Transmission Mechanism. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-05-06; Working Paper Coordinator, Department of Economics, Sandy Hall, Blacksburg, VA 24061. **PR** Free by request. **JE** 023, 026, 131, 213. **KW** Business Cycles. Information Externalities. Endogenous Information. Z-Transforms.

AB A model is presented in which individuals attempt to track shocks with a capital-like quantity that is costly to produce and to adjust. The shocks have separate individual-specific and economy-wide components. The observations of the shocks are constrained so that individuals do not have direct access to desired information about economy-wide shocks. The information is potentially available from the observation of endogenous aggregates, but because the aggregates are endogenous, there is an informational externality associated with them. Two polar cases are considered. When the desired information is about economy-wide real shocks, as in Townsend (1983), the externality is potentially completely internalized. When the desired information is about purely nominal aggregates, as in Lucas (1973, 1975), aggregate fluctuations are a necessary condition of equilibrium.

PD December 1986. **TI** The Optimum Quantity of Money in a Stochastic Economy. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-05-03; Working Paper Coordinator, Department of Economics, Sandy Hall, Blacksburg, VA 24061. **PR** Free by Request. **JE** 023, 311, 134, 131, 026. **KW** Optimal Inflation. Insurance. Money Supply. Monetary Economy. Prices. Risk. Rate of Time Preference. Transactions Demand.

AB Individuals in a monetary economy face both economy-wide and individual-specific risks. Friedman's (1969) assertion that the price level should fall at the rate of time preference must be modified when such risks are present. Bewley's (1983) conjecture that the modified

deflation should proceed at a rate greater than the rate of time preference is demonstrated to be true in special cases but to be false in general. The indeterminacy of equilibrium is removed by the inclusion of a transactions demand.

PD February 1987. **TI** Efficiency in a Pure Currency Economy with Inflation. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-05-05; Working Paper Coordinator, Department of Economics, Sandy Hall, Blacksburg, VA 24061. **PR** Free by Request. **JE** 023, 026, 134, 213, 311. **KW** Cash-In-Advance Constraint. Precautionary Money Demand. Quantity of Money. Insurance. Consumption. Monetary Policy. Money Supply.

AB The equilibrium of an economy in which individuals face a cash-in-advance constraint is presented. Individuals are restricted to having linear utility of consumption, but with the marginal utility of current consumption heterogeneously stochastic as in Lucas (1978). As in Lucas's model, precautionary balances are held. Because of the linearity restriction, an explicit solution of the equilibrium distribution of real balances and the effect of inflation on it can be solved in closed form. This makes a discussion of efficiency tractable. Two examples are presented. In the first, an efficient equilibrium exists. In the second, an efficient equilibrium is infeasible, for the reason stated by Bewley (1983): real balances are so large that it is infeasible to finance the efficient deflation with the limited resources available. Contrary to Bewley's conjecture, in both examples the efficient rate of return on real balances is less than the internal rate of discount.

PD March 1987. **TI** The Equivalence of Lending Equilibria and Signalling-Based Insurance Under Asymmetric Information. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-05-04; Working Paper Coordinator, Department of Economics, Sandy Hall, Blacksburg, VA 24061. **PR** Free by Request. **JE** 023, 026, 131, 213, 315. **KW** Lending. Liquidity Constraints. Permanent Income. Information Asymmetry. Signalling. Insurance. Consumption.

AB A model is presented in which a continuum of individuals have stochastic idiosyncratic shocks. Perfect insurance is feasible but unattainable due to an information asymmetry; income shocks are observable only by the individuals receiving them. Any insurance institution must therefore rely on self-reporting of income innovations. Two ways of achieving incentive-compatible self-reporting are presented. The first is a debt market with an explicit lending restriction. The second is an open-loop insurance contract that linearly filters a signal transmitted by individuals. The two are then demonstrated to be identical. Moreover, equilibrium consumption fluctuates in a random walk, which is inefficient given the potential for perfect insurance. The results are complementary to those of Green (1987) but permit more general stochastic processes of income to be analysed. The serial correlation of the processes have a significant effect on the efficiency of the equilibrium.

Thisse, Jacques Francois

TI The Public Firm as an Instrument for Regulating an Oligopolistic Market. **AU** Cremer, Helmuth; Marchand, Maurice; Thisse, Jacques Francois.

TI Demand for Differentiated Products, Discrete Choice Models, and the Address Approach. **AU** Anderson, Simon P.; de Palma, Andre; Thisse, Jacques Francois.

PD April 1987. **TI** On the Strategic Choice of Spatial Price Policy. **AU** Thisse, Jacques Francois; Vives, Xavier. **AA** Thisse: Centre for Operations Research and Econometrics, Universite Catholique de Louvain. Vives: University of Pennsylvania. **SR** Universite Catholique de Louvain Core d Discussion Paper: 8708; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PR** No Charge. **JE** 611, 022, 026. **KW** Pricing. Spatial Competition. Duopoly. Price Discrimination. Geographic Pricing. Product Differentiation. Basing Point System. Game Theory.

AB The strategic incentives with respect to the choice of a price policy in spatial competition are analysed in a duopoly model. Price discrimination emerges as the unique equilibrium outcome either with simultaneous choice of policy and price or with sequential choice where firms may commit first to a certain price policy (uniform mill pricing) before the actual market stage. This is so even though profits may be higher with uniform pricing. Our models are applied to analyse some common business practices that arise in geographical pricing, like the basing point system, and in the pricing of varieties or options from a base product in a product differentiation context.

Thompson, Earl A.

PD April 1987. **TI** Parental Malincentives, Social Legislation and Deficit Financing. **AU** Thompson, Earl A.; Ruhter, Wayne E. **AA** Thompson: University of California, Los Angeles. Ruhter: University of Texas at Dallas. **SR** University of California at Los Angeles Department of Economics Working Paper: 441; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 62. **PR** $2.50; checks payable to University of California Regents. **JE** 024, 025, 851, 911, 912. **KW** Social Security. Democratic Theory. Legislative Morality. Family Allocation. Child Labor. Economic Policy. Welfare Economics. Incentives.

AB An elaboration of Marshall's parental malincentive argument provides a detailed economic rationalization of the commonly observed qualitative pattern of social legislation around the world. Nevertheless, our theoretical and empirical analysis also shows that public-good benevolence has been too weak for voter-efficient, balanced-budget democracies to provide Pareto-sufficient levels of collective investment for their youth. This confirms Pigou's classic conjecture on the inefficiency of simple democracy. A realistically benevolent, voter-efficient democracy can, however, eliminate Pigou's nonoptimality if the democracy also adopts a policy of collective lump-sum redistribution from the young. Such a policy, in the form of peacetime deficit financing, has recently evolved in various wealthy democracies and

indeed appears to have eliminated the Pareto nonoptimalities of Marshall and Pigou. Nevertheless, for a full social optimum rather than simply a Pareto optimum, political representatives in deficit-financing democracies must retain a paternalistic bias toward protecting future generations so that they choose a lower deficit than is in the interest of the voting public.

Tillmann, Georg

PD 1986. **TI** Equity and Production. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-80; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** No Charge. **JE** 024, 021, 320. **KW** Bergsonian Welfare Function. Foley-Equitable. Equity-Efficiency Trade-Off. Distributional Issues. Fair Allocations. Fairness Criteria.

AB One of the most central concepts in welfare economics is that of Pareto-efficiency. It is clear, however, that efficiency only is unsatisfactory from a distributional viewpoint. Therefore it has to be complemented with an equity criterion which should be ordinal, too, to avoid interpersonal utility comparisons which are the normal case in Bergsonian welfare functions. Now, it is an interesting question to scrutinize the properties of fair allocations in production economies. This will be done in the following in a generalised Mirrlees framework where agents differ from each other in preferences and productivity. As our results concerning fairness are rather negative we introduce another fairness criterion and compare these two. But even if existence employing the second criterion is always assured this criterion is unsatisfactory, too: In economies with many agents only the Laissez-faire state, i.e. the equilibrium without any tax, "survives". To obtain "real equity" optimality must be given up. Again, we have the usual equity-efficiency trade-off, well known from the tax-literature. The paper is organised as follows: In section I the model and the results are presented. All the proofs are gathered in section II.

Titman, Sheridan

PD April 1987. **TI** Stock Returns as Predictors of Interest Rates and Inflation. **AU** Titman, Sheridan; Warga, Arthur. **AA** Warga: Columbia Graduate School of Business. Titman: University of California at Los Angeles Graduate School of Business. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-87-13; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 20. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 132, 134, 313. **KW** Inflation. Expected Inflation. Interest Rates. Stock Returns.

AB This study examines whether stock returns provide forecasts of changes in interest rates and inflation. In contrast to earlier work that indicated that changes in expected inflation negatively affects stock returns, we find a statistically significant positive relation between stock returns and future inflation rate changes as well as a significant positive relation between stock returns and future interest rate changes. Real Estate Investment Trusts, which are particularly interest and inflation sensitive securities, provide better forecasts than a broad market index. Finally, we find that most of the evidence supporting the forecasting ability of stock returns occurs in the October 1979 to October 1982 period when the Fed chose not to counteract interest rate changes.

Tsui, Kai Y.

TI An Integrated Monthly and Hourly Regional Electricity Model for Ontario, Canada. **AU** Hsiao, Cheng; Chan, M. W. Luke; Mountain, Dean C.; Tsui, Kai Y.

Tzur, Joseph

TI Taxpayers, Auditors and the Government - an Extended Tax Evasion Game. **AU** Nitzan, Shmuel; Tzur, Joseph.

Uhlich, Gerald R.

TI Order of Strength and Exhaustivity as Additional Hypotheses in Theories for 3-person Characteristic Function Games. **AU** Selten, Reinhard; Uhlich, Gerald R.

Ulman, Lloyd

PD February 1987. **TI** Industrial Relations. **AA** Economics Department, University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 8733; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 16. **PR** $3.50. **JE** 821, 831, 833, 832. **KW** Implicit Contracts. Efficiency Wages. Collective Bargaining. Worker Ideologies.

AB This is a background article on Industrial Relations written for The New Palgrave.

Valletta, Robert G.

TI The Effect of Public Sector Labor Laws on Collective Bargaining, Wages and Unemployment. **AU** Freeman, Richard B.; Valletta, Robert G.

van Damme, Eric

TI A Characterization of the Nash Bargaining Solution Not Using IIA. **AU** Peters, Hans; van, Damme Eric.

van de Klundert, Th

TI Wage Rigidity and Capital Mobility in an Optimizing Model of a Small Open Economy. **AU** van, der Ploeg Frederick; van, de Klundert Th.

van der Ploeg, Frederick

PD March 1987. **TI** International Policy Coordination in Interdependent Monetary Economies. **AA** London School of Economics. **SR** Centre for Economic Policy Research Discussion Paper: 169; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 24. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 023, 113, 431, 432, 423. **KW** Policy Coordination. Exchange Rates. Time Inconsistency. Precommitment. Inflation Tax.

AB A classical equilibrium model is analysed of two

interdependent monetary economies in which it is assumed that cash is the only asset, and which is characterized by perfect foresight, flexible exchange rates and imperfect substitution between home and foreign goods. The first-best optimum sets the marginal rate of substitution between private and public goods to unity and leads to no tax distortions and the optimal quantity of money. Both non-cooperative and cooperative market-oriented outcomes are time-inconsistent, since each government has an incentive to renege and levy a surprise inflation tax. International policy coordination without precommitment can be counterproductive even though there are no tax distortions and the provision of public goods is optimal, since it exacerbates the credibility problems perceived by the private sectors and therefore leads to excessive inflation and too low a level of real money balances. The reason is that a unilateral surprise inflation tax induces a real depreciation and leads to inflation costs, but a multilateral expansion of monetary growth does not. The typical ranking in order of decreasing welfare is first-best optimum, cooperation with precommitment, competition with precommitment, competition without precommitment and coordination without precommitment.

PD March 1987. **TI** Wage Rigidity and Capital Mobility in an Optimizing Model of a Small Open Economy. **AU** van, der Ploeg Frederick; van, de Klundert Th. **AA** van der Ploeg: London School of Economics. van de Klundert: Tilberg University. **SR** Center for Economic Policy Research Discussion Paper: 168; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 39. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 023, 431, 311, 321. **KW** Open Economy. Capital Mobility. Purchasing Power Parity. Wage Rigidity. Fiscal Policy. Monetary Policy.

AB This paper formulates an optimizing model of a small open economy with a representative (immortal) household, a firm and a government. The asset menu consists of domestic currency, non-traded bonds and traded bonds. There is a risk-premium on traded bonds, which leads to deviations from perfect capital mobility and UIP. Taxes are lump-sum, so that finance by bonds and by taxation are equivalent. The model allows for current-account and wealth dynamics. There are six versions of the model depending on whether one assumes purchasing power parity or imperfect substitution between home and foreign goods and on whether there is labour market equilibrium, nominal wage rigidity or real wage rigidity. For each of these variants, the steady-state effects of a fiscal contraction, monetary disinflation, a worsening of the supply side, an increase in the world interest rate, and a resource discovery are discussed. The transient effects of these policies for some of these versions are analysed with the aid of a "multiple shooting" algorithm.

TI Monetary and Fiscal Policy in an Optimizing Model with Capital Accumulation and Finite Lives. **AU** Marini, Giancarlo; van, der Ploeg Frederick.

van der Sluis, H. J.

TI Better Assignment Lower Bounds for the Euclidean Traveling Salesman Problem. **AU** Volgenant, A.; van, der Sluis H. J.; Jonker, R.

Van Order, Robert

TI Pricing Mortgages: An Interpretation of the Models and Results. **AU** Hendershott, Patric H.; Van, Order Robert.

van Wijnbergen, Sweder

PD June 1987. **TI** Monopolistic Competition, Credibility and the Output Costs of Disinflation Programs: An Analysis of Price Controls. **AA** The World Bank. **SR** National Bureau of Economic Research Working Paper: 2302; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 134, 431, 023. **KW** Inflation. Price Controls. Open Economy. Monetary Policy. Interest Rates. Exchange Rates.

AB Brazil, Argentina and Israel all used price controls as part of disinflation programs in 1985-1986. In each case they were intended to break an "inertial" component of inflation. This paper focuses on a specific mechanism through which inflation inertia can emerge: the interaction between lack of credibility of government monetary policy announcements and the price setting behavior of forward looking firms. We show that this interaction can lead to inertia extending well beyond the price setting period; that is important since the price setting period is likely to be short in high inflation economies. We develop an open economy macromodel in which firms set prices before uncertainty about government monetary policy is resolved. Lack of credibility is then shown to lead to output losses during a disinflation program. We demonstrate the effects of price controls and show that their temporary use can be defended on welfare grounds. The paper analyzes asset price behavior during disinflation programs with and without price controls and the influence of credibility problems. We discuss nominal and real interest rates, the stock market and exchange rates. Finally we show that if past government policy has any information content about future government policy, cheating on current announcements of tight policy buys current employment gains during the price control period at the cost of higher inflation afterwards. Sustaining low inflation after the price control period thus requires restrictive monetary policy during the price control period.

Venti, Steven F.

PD April 1987. **TI** Have IRAs Increased U.S. Saving? Evidence from Consumer Expenditure Surveys. **AU** Venti, Steven F.; Wise, David A. **AA** Venti: Dartmouth College. Wise: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2217; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 312, 313, 311, 133, 921. **KW** Individual Retirement Accounts. Savings. Financial Assets. Survey Data.

AB The vast majority of Individual Retirement Account contributions represent net new saving, based on evidence from the quarterly Consumer Expenditure Surveys (CES). The results are based on analysis of the relationship between IRA contributions and other financial asset saving. The data show almost no substitution of IRAs for other saving. While the core of the paper is based on cross-section analysis, important use is made of the CES

panel of independent cross-sections that span the period during which IRAs were introduced. Estimates for the post 1982 period, when IRAs were available to all employees, are based on a flexible constrained optimization model, with the IRA limit the principle constraint. The implications of this model for saving in the absence of the IRA option match very closely the actual non-IRA financial asset saving behavior prior to 1982. IRA saving does not show up as other financial asset saving in the pre-IRA period.

PD July 1987. **TI** Aging, Moving, and Housing Wealth. **AU** Venti, Steven F.; Wise, David A. **AA** Venti: Dartmouth College. Wise: Harvard University. **SR** National Bureau of Economic Research Working Paper: 2324; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 932, 921. **KW** Aging. Elderly. Housing Equity. Residence. Moving. Retirement. Homeowners. Consumption. Reverse Mortgages.
AB We have described the relationship between family attributes and moving, and between moving and change in housing wealth. Moving is often associated with retirement and with precipitating shocks like the death of a spouse or by other changes in marital status. Median housing wealth increases as the elderly age. Even when the elderly move, housing equity is as likely to increase as to decrease. Thus the typical mover is not liquidity constrained, although some are. High transaction cost associated with moving is apparently not the cause for the lack of the reduction in housing wealth as the elderly age. The absence of a well developed market for reverse mortgages may be explained by a lack of demand for these financial instruments. The evidence suggests that the typical elderly family does not wish to reduce housing wealth to increase current consumption. For whatever reason, there is apparently a considerable attachment among homeowners to past housing.

Vial, Jean Philippe

PD February 1987. **TI** A Fully Polynomial Time Projective Method. **AA** Universite de Geneve. **SR** Universite Catholique de Louvain Core Discussion Paper: 8713; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 9. **PR** No Charge. **JE** 213. **KW** Projective Method. Linear Programming. Polynomial Time Algorithm. Iterative Algorithm.
AB This paper proposes a modification of the algorithm of de Ghellinck and Vial, which keeps the size of the numbers occurring in the calculation bounded by a fixed bound, independently of the number of iterations. This algorithm is fully polynomial in time.

Vishny, Robert

TI The Efficiency of Investment in the Presence of Aggregate Demand Spillovers. **AU** Shleifer, Andrei; Vishny, Robert.

TI Characteristics of Hostile and Friendly Takeover Targets. **AU** Morck, Randall; Shleifer, Andrei; Vishny, Robert W.

TI The Efficiency of Investment in the Presence of Aggregate Demand Spillovers. **AU** Shleifer, Andrei; Vishny, Robert W.

TI Characteristics of Hostile and Friendly Takeover Targets. **AU** Morck, Randall; Shleifer, Andrei; Vishny, Robert W.

Vives, Xavier

PD November 1985. **TI** Rationing Rules and Bertrand-Edgeworth Equilibria in Large Markets. **AA** Department of Economics, University Of Pennsylvania. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 191; 3718 Locust Walk, Philadelphia, PA 19104-6297 University of Pennsylvania, McNeil Building. **PG** 4. **PR** No Charge. **JE** 611, 022. **KW** Rationing. Mixed Strategy. Nash Equilibrium.
AB In a market with concave downward sloping demand and symmetric firms which compete in prices with constant marginal costs and capacity limits it is shown that the supports of the symmetric (mixed strategy) Nash equilibria converge to the unique competitive price provided that unsatisfied demand is allocated according to the surplus-maximizing rationing rule.

TI On the Strategic Choice of Spatial Price Policy. **AU** Thisse, Jacques Francois; Vives, Xavier.

Vohra, Rajiv

TI Pareto Optimal Allocations of Non Convex Economies in Locally Convex Spaces. **AU** Khan, M. Ali; Vohra, Rajiv.

Voigt, B.

TI A Sparse Graham-Rothschild Theorem. **AU** Promel, H. J.; Voigt, B.

Volgenant, A.

PD February 1986. **TI** Better Assignment Lower Bounds for the Euclidean Traveling Salesman Problem. **AU** Volgenant, A.; van, der Sluis H. J.; Jonker, R. **AA** University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 3/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 16. **PR** No Charge. **JE** 213. **KW** Traveling Salesman Problem. Flow Algorithms. Lower Bounds. Linear Assignment. Integer Programming.
AB As known in literature a flow-type approach to the Euclidean Traveling Salesman Problem gives better assignment lower bounds, using cities on the convex hull as sources and sinks. By selecting them carefully this approach is improved. Further improvements are obtained by (temporarily) omitting cities. Computational results for problems with up to 100 cities show the effectiveness of the improvements.

TI Bias Correction in Lagged-Dependent Variable Models. Reduction Tests for the Steiner Problem in Graphs. **AU** Kiviet, Jan F.; Phillips, G. D. A.; Duin, C. W.; Volgenant, A.

Volgenant, Ton

TI An Improved Transformation of the Symmetric Multiple Traveling Salesman Problem. **AU** Jonker, Roy; Volgenant, Ton.

PD July 1986. **TI** On Some Generalizations of the Traveling Salesman Problem. **AU** Volgenant, Ton; Jonker, Roy. **AA** University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 5/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 12. **PR** No Charge. **JE** 213. **KW** Traveling Salesman Problem. Shortest Path Problem. Longest Path Problem. Linear Assignment Relaxation.

AB We discuss generalized traveling salesman problems where nodes are visited at most once, and a penalty cost is incurred for each not visited node. This generalization includes the longest path problem and the shortest path problem with specified nodes to be visited. A new transformation of generalized into standard traveling salesman problem is presented. We give computational results for the shortest path problem with specified nodes. The transformation enables solving symmetric problems with a relatively large number of specified nodes, which cannot be solved by previously published algorithms based on a linear assignment relaxation. Furthermore, we show how to obtain improved lower bounds for a special Euclidean-type variant.

von zur, Muehlen P.

TI Further Thoughts on Testing for Causality with Econometric Models. **AU** Swamy, P. A. V. B.; von zur, Muehlen P.

Wachtel, Paul

PD May 1987. **TI** Loan Commitments and Monetary Policy. **AU** Wachtel, Paul; Sofianos, George; Melnik, Arie. **AA** Wachtel and Sofianos: New York University. Melnik: University of Haifa. **SR** National Bureau of Economic Research Working Paper: 2232; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 312, 314, 315, 132, 212. **KW** Monetary Policy. VAR. Credit Rationing. Bank Loans. Interest Rates.

AB The impact of loan commitment agreements on the way in which changes in monetary policy affects the economy is examined. In particular, the empirical relevance of quantity credit rationing in the transmission of monetary policy is studied with VAR models. We find evidence of a differential impact of monetary policy on loans under commitment and not under commitment. Our conclusion is that credit rationing for bank loans does occur, although loan commitments effectively protect borrowers from credit rationing. Thus, loan commitments which insulate borrowers from the effects of quantity rationing force monetary policy to work exclusively through interest rate channels.

Wadhwani, S.

TI Unions, Wages and Employment: Tests Based on UK Firm-Level Data. **AU** Nickell, S.; Wadhwani, S.

Warga, Arthur

TI Stock Returns as Predictors of Interest Rates and Inflation. **AU** Titman, Sheridan; Warga, Arthur.

TI Bond Price Data and Bond Market Liquidity. **AU** Sarig, Oded; Warga, Arthur.

Watson, Mark

TI Stochastic Trends and Economic Fluctuations. **AU** King, Robert; Plosser, Charles; Stock, James; Watson, Mark.

Weddepohl, C.

PD August 1986. **TI** Supply-Constrained Equilibria in Economies with Indexed Prices. **AA** University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 14/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 25. **PR** No Charge. **JE** 021, 022. **KW** Equilibrium. Rationing. Price Indexing. Dreze Equilibrium.

AB In an exchange economy prices are rigid and the prices are restricted by index functions. The indexes can be of a general type and can be different for each commodity. Indexed prices can appear in other indexes. Also restrictions in terms of a general price index are considered. Existence of a Dreze equilibrium and particularly a supply-constrained Dreze equilibrium is proved. The system of indexes must be solvable in terms of unconstrained prices and for the unconstrained commodities a monotonicity condition must hold.

Weiner, Jonathan P.

TI Economic Rents Derived from Hospital Privileges in the Market for Podiatric Services. **AU** Frank, Richard G.; Weiner, Jonathan P.; Steinwachs, Donald M.; Salkever, David S.

Weingast, Barry R.

TI Administrative Procedures as Instruments of Political Control. **AU** McCubbins, Mathew D.; Noll, Roger G.; Weingast, Barry R.

Weinrich, Gerd

TI Instability and Indexation in a Labour-Managed Economy. **AU** Bartlett, Will; Weinrich, Gerd.

PD March 1987. **TI** On The Foundations of Stochastic Non-Price Rationing and the Adjustment of Prices. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E-87-05-01; Working Paper Coordinator, Department of Economics, Sandy Hall, Blacksburg, VA 24061. **PR** Free by Request. **JE** 021, 026, 022. **KW** Price Stickiness. Stochastic Quantity Rationing. Disequilibrium. Game. Price Adjustment.

AB The paper presents a general model of an economy with price stickiness. The model is structurally equivalent to a generalized game. Strategies are vectors of transaction offers and the list of all agents' transaction offers determines agents' strategy sets, by means of quantity signals. An equilibrium in this game is an

equilibrium with quantity rationing. If the quantity signals consist of the aggregate values of demands and supplies, then compatible rationing mechanisms must be manipulable and stochastic. The study of price adjustment between successive plays of the game calls for a measure of the size of disequilibrium in an equilibrium. Since under stochastic rationing equilibrium transaction offers differ from actual trades, the ratios of aggregate demands and supplies provide such a measure. In order that it be reliable in spite of agents' incentives to manipulate, their preference structures must meet a (weak) condition.

PD April 1987. **TI** A Business Cycle Model Based on Efficiency Wages, Monopolistic Competition and Nondecreasing Returns. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-09-03; Department of Economics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. **PG** 25. **PR** Free by request. **JE** 131, 023, 611, 821. **KW** Efficiency Wages. Business Cycles. Wages. Unemployment. Prices.

AB A model is analyzed in which workers' efforts depend positively on the real wage and the unemployment rate. Due to monopolistic competition and nondecreasing returns it is optimal for firms to set the output price as a fixed markup over the nominal wage. When demand shocks occur, firms' first response is therefore to adjust output and employment. But as the unemployment rate changes, the efficient real wage changes, too. This causes firms to adjust their nominal wages and prices which in turn implies a revision of labor input and production decisions. The resulting dynamics typically generates counterclockwise movements in the output-inflation-plane. Size and length of these movements depend on the elasticity of effort with respect to the unemployment rate. Extreme cases are those of zero elasticity in which prices remain fixed and output change is maximal; and of very high elasticity in which prices are perfectly flexible and the economy jumps instantaneously to its new long run equilibrium, as predicted by rational expectations models. It is argued that the most plausible case lies in the middle where the model produces full fledged business cycles.

Wellisz, Stanislaw

PD March 1987. **TI** Income Appropriation and Rent-Seeking. **AU** Wellisz, Stanislaw; Findlay, Ronald. **AA** Columbia University Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 339; Department of Economics, Columbia University, New York, NY 10027. **PG** 54. **PR** $5.00. **JE** 025. **KW** Government Policy. Interest Groups. Lobbying. Influence.

AB Our objective in this paper has been to bring out the implications for economic analysis of two crucial departures from traditional assumptions. One is that self-interested individual behavior in the economy is not confined to the provision of directly useful goods and services for oneself or others through exchange, but can also be aimed through group action at influencing government policy measures and regulations to favor one's self and others similarly placed at least partly at the expense of the rest of society. The other is that the government and the state cannot always be looked upon as either a selfless guardian of the public interest or as an impartial mediator between different segments of the policy and society. Once this perspective is adopted it becomes apparent that many aspects of economic life that are "irrational" from the standpoint of traditional neoclassical analysis, such as high tariffs in small open economies or extravagant levels of public expenditure become explicable in terms of the interests of the relevant groups. The "invisible hand" proposition no longer holds in a world of oligopolistic group interests in the private sector and an autonomous state, and self-seeking does not necessarily promote the common good.

Werner, Hans Joachim

TI A Note on C.R. Rao's Wider Definition BLUE in the General Gauss-Markov Model. **AU** Schonfeld, Peter; Werner, Hans Joachim.

PD December 1986. **TI** Some Recent Results on Drazin-Monotonicity of Property-n Matrices. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-54; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 13. **PR** No Charge. **JE** 211, 213. **KW** Property-n Matrix. Drazin Inverse. Monotonicity.

AB If a square matrix has a nonnegative power, it is called a property-n matrix. In a recent paper Werner derived some interesting necessary and sufficient conditions for a property-n matrix to be Drazin-monotone. In particular, it was shown that a property-n matrix with $\mathrm{ind}(A) = k$ is Drazin-monotone if and only if A to the kth power is nonnegative and A to the $(2k+1)$th power is weak-r-monotone. Our principal aim here is to show how this result can be strengthened considerably. To tackle this problem we also present several further results on the structure of Drazin-monotone (property-n) matrices.

PD December 1986. **TI** C.R. Rao's IPM Method: A Geometric Approach. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-53; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 20. **PR** No Charge. **JE** 211, 213. **KW** Inverse Partitioned Matrix Method. Gauss Markov Model. BLUE. Rao-BLUE Approach. W-BLUE Approach. Bicomplementarity.

AB The inverse partitioned matrix (IPM) method, introduced by C.R. Rao '1971, 1972, is one of the methods that have hitherto been proposed for estimating parameters in the general Gauss-Markoff model. Following Hall and Meyer '1975, and Baksalary and Kala '1980, our first aim is to have fresh look at the computational aspects of this method. Afterwards, we demonstrate how the concept of weak bicomplementarity (see Werner '1986) can be used to reveal new and simpler estimation formulas.

Werner, Jan

PD October 1986. **TI** Asset Prices and Real Indeterminacy in Equilibrium with Financial Markets. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-50;

Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 13. **PR** No Charge. **JE** 313, 021, 022, 023. **KW** Exchange Economy. Future Markets. Indeterminacy. Financial Markets. Incomplete Markets.

AB One of the features of the Arrow-Debreu model of a competitive economy that makes it an inadequate tool for representing the world we live in is the assumption of a complete set of markets. Over the past decade, there have been significant attempts to modify the original model in order to reflect the incomplete and sequential aspect of real world trading. Much of the interest have been focused in the modelling of futures markets. Futures markets can be thought of as being of two kinds: markets for contingent deliveries of commodities and markets for financial assets, i.e. for contingent deliveries of units of account. In the present paper we study an exchange economy extending over two periods with incomplete futures markets for financial assets. A general equilibrium in such an economy has been previously studied by Werner (1985), Cass (1984), and Duffie (1985). The first part of the paper (Section 3) is devoted to equilibrium prices of assets. We show that every asset price vector that admits no arbitrage opportunity (i.e. such that there is no portfolio of assets that yields a positive and non-zero return stream, and can be purchased at zero cost) is an equilibrium asset price vector. More precisely, for every such an asset price vector there exists a vector of prices of commodities such that consumers' optimal consumption plans and portfolios of assets are market clearing. This result suggests a large indeterminacy of equilibrium allocations generated by the indeterminacy of asset prices in equilibrium.

West, Kenneth D.

TI Integrated Regressors and Tests of the Permanent Income Hypothesis. **AU** Stock, James H.; West, Kenneth D.

Wildasin, David E.

PD 1987. **TI** Distortionary Taxation and Demand Estimation for Public Goods. **AA** University of Indiana. **SR** Universite Catholique de Louvain Core Discussion Paper: 8721; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 19. **PR** No Charge. **JE** 025, 323, 324, 921. **KW** Taxes. Distortions. Public Goods. Voter Theory. Tax Distortion. Benefit-Cost Analysis.

AB This paper considers the problem of estimation of the demand for public goods when these goods are financed by distortionary taxation, instead of by distortionless taxes as is usually assumed. It is shown that failure to take account of tax distortions leads to a misspecification of the effective price of public goods. This biases the estimates of the price and income elasticities of demand. Sample calculations are presented which illustrate the potential magnitude of the errors involved.

TI Tax-Transfer Policies and the Voluntary Provision of Public Goods. **AU** Boadway, Robin; Pestieau, Pierre; Wildasin, David E.

TI A Median Voter Model of Social Security. **AU** Boadway, Robin W.; Wildasin, David E.

PD April 1987. **TI** Nash Equilibria in Models of Fiscal Competition. **AA** University of Indiana. **SR** Universite Catholique de Louvain Core Discussion Paper: 8720; Centre for Operations Research and Econometrics, Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 12. **PR** No Charge. **JE** 323, 324, 026, 025. **KW** Nash Equilibria. Public Expenditure. Tax Revenues. Tax Base.

AB This paper analyzes Nash equilibria in a simple model of an economy with jurisdictions engaging in fiscal competition. Small-number Nash equilibria in which tax rates are the strategic variables are shown not to coincide with Nash equilibria in which public expenditure levels are the strategic variables.

Wilson, Charles A.

TI International Duopoly with Tariffs. **AU** Fisher, Eric ON; Wilson, Charles A.

Wilson, Robert

PD March 1987. **TI** Entry and Exit. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: TR510; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, Ca 94305. **PG** 79. **PR** $4.00. **JE** 611, 026. **KW** Imperfect Competition. Game Theory. Incomplete Information. Entry Deterrence. Forced Exit. Investment Strategies. Pricing Strategies.

AB This paper surveys a portion of the recent literature on imperfect competition among firms, presenting several examples applying game-theoretic methods to the analysis of competitive battles for survival. The selection emphasizes models of dynamic games with incomplete information that represent salient features of entry deterrence and forced exit, and the role of pricing and investment strategies.

PD March 1987. **TI** Deterrence in Oligopolistic Competition. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: TR506; IMSSS, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 50. **PR** $4.00. **JE** 611, 026. **KW** Oligopoly. Deterrence. Game-Theory. Dynamics. Information. Market Share.

AB Most 'deterrence theory' studies political and military contexts; this paper reviews theoretical studies in economic contexts, such as battles among firms for market shares. The role of deterrence in oligopolistic competition is described briefly; the analytic methodology of game theory is examined critically; and the main conclusions of the theoretical models are summarized. In an appendix, the implications of various specialized models are described for particular issues in deterrence theory. The roles of dynamic interactions and informational asymmetries are emphasized.

Wise, David A.

TI Have IRAs Increased U.S. Saving? Evidence from Consumer Expenditure Surveys. **AU** Venti, Steven F.; Wise, David A.

TI The Wealth and Poverty of Widows: Assets Before

and After the Husband's Death. **AU** Hurd, Michael D.; Wise, David A.

TI Aging, Moving, and Housing Wealth. **AU** Venti, Steven F.; Wise, David A.

TI Employee Retirement and a Firm's Pension Plan. **AU** Kotlikoff, Laurence J.; Wise, David A.

Wolfe, Barbara L.

TI Schooling and Earnings Distribution with Endogenous Labor Force Participation, Marital Status and Family Size. **AU** Blau, David M.; Behrman, Jere R.; Wolfe, Barbara L.

Wolinsky, Asher

PD May 1985. **TI** Matching, Search and Bargaining. **AA** Hebrew University of Jerusalem. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 185; University of Pennsylvania 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 44. **PR** no charge. **JE** 026. **KW** Bargaining. Search Technology. Matching Processes.

AB The purpose of the present paper is to improve the analysis of the basic bargaining problem. This is done by utilizing the recent advances in the strategic approach to bargaining (see Rubinstein '1982, Binmore '1982, 1983, Shaked and Sutton '1984), which enable us to model explicitly the manner in which the search and matching processes affect the resolution of the bilateral bargaining problem. The paper is thus an extension of an earlier work by Rubinstein and Wolinsky '1984 who also incorporated a strategic bargaining model into a simple matching model. The major contribution of the present paper over the earlier one is in making the agents' search activities endogenous. This results in a model where agents search with varying intensities both when unmatched and during the bargaining; the search intensities chosen at each instant depend on the quality of the match and on the expected returns from search, and in turn affect the outcomes of the bargaining.

PD August 1985. **TI** True Monopolistic Competition as a Result of Imperfect Information. **AA** University of Pennsylvania, Department of Economics. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 186; 3718 Locust Walk, Philadelphia, PA 19104-6297 University of Pennsylvania, McNeil Building. **PG** 28. **PR** No Charge. **JE** 611, 026. **KW** Imperfect Information. Product Differentiation. Oligopoly.

AB The paper restates Hart's definition of large group monopolistic competition, distinguishes it from oligopolistic competition, and raises the question of whether there are reasonable circumstances that give rise to true monopolistic competition as defined. The purpose is to show that consumers' imperfect information may create conditions that will turn an otherwise oligopolistic market into a truly monopolistically competitive one.

TI Bilateral Monopolies and Incentives for Merger. **AU** Horn, Henrik; Wolinsky, Asher.

Wolthuis, H.

PD September 1986. **TI** Rate of Return Endowment Insurance. **AU** Wolthuis, H.; Huisman, J. Th. **AA** University of Amsterdam. **SR** University of Amsterdam Actuarial Science and Econometrics Report: AE 10/86; Faculty of Actuarial Science and Econometrics, University of Amsterdam, Jodenbreestraat 23, 1011 NH Amsterdam, the NETHERLANDS. **PG** 51. **PR** No Charge. **JE** 213, 026, 635. **KW** Life Insurance. Rate of Return. Actuarial Methods.

AB In the report rates of return are defined and calculated for an endowment insurance, both for the method of internal rate of return and a number of actuarial methods, under which the method proposed by the Dutch Association of Life Insurance Companies (Nederlandse Vereniging van Levensverzekeraars; NVL) and a method proposed by a Dutch consumer organisation (De Consumentenbond). The connection between the methods that determine rates of return is analyzed for the entire life policy and for the saving and risk component separately; about it a number of fundamental theorems are formulated. The method of the NVL, that aims to calculate the rate of return of the saving component, leads to a too high rate of return, mainly because the gross saving premiums are reduced by expenses for the death benefits of the saving component.

Wright, Matthew

TI Evaluating Information Programs When Outcomes are Discrete: Energy Audit Programs and Household Energy Retrofit Activity. **AU** Cameron, Trudy Ann; Wright, Matthew.

Yakov, Amihud

PD December 1986. **TI** Trading Mechanisms and Stock Returns: An Empirical Investigation. **AU** Yakov, Amihud; Mendelson, Haim. **AA** Yakov: Graduate School of Business Administration, New York University and the Faculty of Management, Tel Aviv University. Mendelson: William E. Simon Graduate School of Business Administration, University of Rochester. **SR** University of Rochester Managerial Economics Research Center Working Paper: MERC87-03; William E. Simon Graduate School of Business Administration, University of Rochester, Rochester, NY 14627. **PG** 38. **PR** NC single copies; 50 cents each paper beyond 5 in each order. **JE** 313, 441, 212, 132. **KW** Market Mechanisms. Dealership Market. Return Distribution. Return Autocorrelation. Stock Exchange. Opening. Closing. Securities. Stock Prices.

AB This paper examines the effects of the mechanism by which securities are traded on their price behavior. We compare the behavior of open-to-open and close-to-close returns on NYSE stocks, given the differences in execution methods applied in the opening and closing transactions. Opening returns are found to exhibit greater dispersion, greater deviations from normality and a more negative and significant autocorrelation pattern than closing returns. We study the effects of the bid-ask spread and the price-adjustment process on the estimated return variances and covariances and discuss the associated biases. We conclude that the trading mechanism has a significant effect on stock price behavior.

Yanelle, Marie Odile

PD May 1987. **TI** Bertrand-Competition Among Intermediaries. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-31; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 44. **PR** No Charge. **JE** 022, 611, 026, 021. **KW** Non-Cooperative Game. Perfect Competition Equilibrium. Intermediaries. Bertrand Game. Perfect Competition. Bertrand Equilibrium.

AB This paper takes issue with the presumption that non-cooperative Bertrand-competition among price-setting firms with constant marginal costs yields the same results as perfect-competition. This presumption is frequently found in the literature. It underlies for example the analysis of competition with asymmetric information in the work of Rothschild-Stiglitz (9) or Stiglitz-Weiss (10). The equivalence of Bertrand- and perfect competition has in fact only been established for the simplest partial equilibrium model of the market for a single good. Below I will show that this equivalence can break down in more complicated settings. Specifically, I will consider a model of Bertrand-competition among intermediaries who compete on the market for their inputs as well as their outputs. This case is of particular interest because it encompasses the problem of competition among banks which was analysed by Stiglitz-Weiss (10). In their paper banks compete both for deposits and for loan contracts. In order to abstract from the information problem presented in the model of Stiglitz-Weiss, I analyze the competition among intermediaries in the context of an ordinary good's market.

Yannelis, Nicholas C.

PD August 1987. **TI** Equilibrium Points of Non-Cooperative Random and Bayesian Games. **AA** Department of Economics, Tulane University. **SR** University of Minnesota Center for Economic Research Discussion Paper: 241; Economics Research Library, 525 Science Classroom Building, 222 Pleasant Street, Southeast University of Minnesota, Minneapolis, MN 55455. **PG** 33. **PR** Free. **JE** 026. **KW** Bayesian Game. Random Game. Incomplete Information.

AB We provide random equilibrium existence theorems for non-cooperative random games with a countable number of players. Our results give as corollaries generalized random versions of the ordinary equilibrium existence result of Nash. Moreover, they can be used to obtain equilibrium existence results for games with incomplete information, and in particular Bayesian games. In view of recent work on applications of Bayesian games and Bayesian equilibria, the latter results seem to be quite useful since they delineate conditions under which such equilibria exist.

PD August 1987. **TI** On the Lebesgue-Aumann Dominated Convergence Theorem in Infinite Dimensional Spaces. **AA** Department of Economics, Tulane University. **SR** University of Minnesota Center for Economic Research Discussion Paper: 240; Economics Research Library, 525 Science Classroom Building, University of Minnesota, 222 Pleasant Street Southeast Minneapolis, MN 55455. **PG** 24. **PR** Free. **JE** 022, 026, 213. **KW** Lebesgue-Aumann Theorem. Banach Space. Convergence Theorem.

AB The Lebesgue-Aumann dominated convergence Theorem is generalized to correspondences taking values in a Banach space.

Yao, Dennis A.

PD October 1985. **TI** Strategic Responses to Automobile Emissions Control: A Game-Theoretic Analysis. **AA** Wharton School, University of Pennsylvania. **SR** University of Pennsylvania Center for the Study of Organizational Innovation Working Paper: 188; University of Pennsylvania 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 41. **PR** No Charge. **JE** 026, 612, 613, 722, 621. **KW** Asymmetric Information. Innovation. Externalities. Game Theory. Pollution. Regulation. Research.

AB This paper examines the dynamics of regulation under technological uncertainty and asymmetric information about technological capability. A two-period model is developed and applied to the regulation of automobile emissions, a situation in which emissions standards have been used to "force" the automakers to innovate. It is found that the initial level of R&D activity caused by regulation increases as the intrinsic technical capability of industry increases, though the level of activity is likely to be less than that in a single-period model irrespective of capability. The former result does not depend on marginal productivities of research that favor high-capability types over lower-capability types and implies that a poor-capability industry will not attempt to make up for its inability to innovate with increased research activity.

TI Second-Sourcing and the Experience Curve: Price Competition in Defense Procurement. **AU** Anton, James J.; Yao, Dennis A.

Yeldan, A. Erinc

PD June 1987. **TI** Structural Adjustment and Trade in Turkey: A General Equilibrium Analysis of the Export-Led Versus Domestic Demand-Led Strategies of Development. **AA** Department of Agricultural and Applied Economics, University of Minnesota. **SR** University of Minnesota Economic Development Center Bulletin: 87-7; Department of Agricultural and Applied Economics, 331 Classroom Office Building, University of Minnesota, St. Paul, MN 55108. **PG** 64. **PR** Free. **JE** 112, 113, 132, 133, 121. **KW** Computable General Equilibrium Models. Export-Led Growth. Development Strategies. Turkey. Computable General Equilibrium Models. Export Promotion.

AB This paper attempts to assess the feasibility of the current strategy of manufactured export-led growth for Turkey over the Fifth and Sixth Five-Year Plan periods (1985-1994). The explicit hypothesis of the paper is that a domestic market, wage-goods oriented development strategy with agriculture leading the process will be more conducive to Turkey's long-term economic growth, as compared to an export-oriented strategy. The simulation experiments are conducted with the aid of a dynamic micro-planning model which belongs to a class of price-

endogenous constructs known as Computable General Equilibrium (CGE) models. The model as applied to Turkey distinguishes seven economic sectors, four types of labor, three consumer groups, seven social classes, and a government. In addition, it accommodates both fixed and flexible wages along with a disequilibrium mechanism of labor allocation, endogenous rural-urban migration, international trade flows with government intervention, and separate rules of allocation for the private -versus- public fixed investment.

Zaman, Asad

PD March 1987. **TI** Consistency via Type 2 Inequalities: A Generalization of Wu's Theorem. **AA** Columbia University Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 340; Department of Economics, Columbia University, New York, NY 10027. **PG** 19. **PR** $5.00. **JE** 211. **KW** Consistency. Nonlinear Regression. M-Estimators. Inid Observations.

AB Wu (1981) introduced a new technique for proving consistency of least squares estimators in nonlinear regression. This paper extends his result in three directions. Firstly, we consider minimization of arbitrary functions (M-estimators, instead of least squares) in general models with i.n.i.d. observations. Second, we introduce a Type 2 inequality which usually gives sharper results. Third, a generalized form of Kronecker's Lemma yields a further improvement.

Zeckhauser, Richard

TI Status Quo Bias in Individual Decision Making. **AU** Samuelson, William; Zeckhauser, Richard J.

TI Treasury Bill Futures as Hedges Against Inflation Risk. **AU** Patel, Jayendu; Zeckhauser, Richard.

Zink, Helmut

PD March 1987. **TI** Price Stickiness Due to Market Intransparency and Search. **AA** University of California, at Los Angeles and the University of Berne. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-120; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 60. **PR** No Charge. **JE** 022, 611, 026. **KW** Price Dynamics Quality Uncertainty. Search. Price Dispersion. Information. Rational Expectations. Pricing Strategies. Nash Equilibrium.

AB A market model with price stickiness is developed. Each firm has perfect information about present and future production costs and demands, has rational expectations about the pricing strategies of its competitors, and is essentially flexible in setting prices. Each customer only knows a small fraction of all offers but is at all times informed about the distribution of actual prices and can search for better offers. It is shown that after an increase of production costs all firms delay their price reaction stochastically since the first firms which raise their prices