ABSTRACTS OF WORKING PAPERS IN ECONOMICS

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

Abowd, John M

PD August 1991. **TI** The Effects of Product Market Competition on Collective Bargaining Agreements: The Case of Foreign Competition in Canada. **AU** Abowd, John M; Lemieux, Thomas. **AA** Abowd: Cornell University and National Bureau of Economic Research. Lemieux: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3808; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** J41, J51, F41. **KW** Unions. Contracts. Collective Bargaining. Open Economy.

AB In this paper we study the connections between product market conditions, negotiated wage settlements, and union employment in the presence of foreign competition shocks. We exploit the fact that in a small open economy such as Canada the price of imports and exports should represent pure demand shocks. We specify wage and employment determination equations for a sample of collective bargaining agreements from 1965 to 1983. Our estimation strategy consists of specifying the wage as a function of firm-specific value added per worker instrumented with the price of imports and the price of exports in the industry. The OLS specification is rejected in favor of the instrumental variables specification using standard specification tests. The instrumental variables estimates imply that a 1% change in value-added per worker increases the negotiated wage settlements by 0.25%.

Adams, Charles

PD June 1991. **TI** Real and Nominal Exchange Rates in the Long Run. **AU** Adams, Charles; Chadha, Bankim. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: 91/63; International Monetary Fund, Washington, DC 20431. **PG** 10. **PR** not available. **JE** F30, F31. **KW** Purchasing Power Parity. Sticky Prices. Prices. Exchange Rate. Currency.

AB Much attention has been paid to whether real exchange rates among major currencies show a tendency to revert over time to a fixed mean, as suggested by the hypotheses of relative and absolute purchasing power parity. A number of studies have found evidence of a preponderance of negative autocorrelations in real exchange rate changes at long lags, implying temporary components in real exchange rate changes that are reversed over time and the possibility of long-run mean reversion. This paper sheds light on how any tendency toward mean reversion in real exchange rates is brought about by decomposing longer run movements in real exchange rates into components associated with changes in nominal exchange rates and price levels, and their comovements. The paper's main finding is that much of the long-run negative autocorrelation in real exchange rate changes is associated with negative autocorrelation in nominal exchange rate changes.

Adelman, Irma

PD April 1991. **TI** Education, Mobility and Growth. **AU** Adelman, Irma; Morley, Samuel; Schenzler, Christoph; Vogel, Stephen. **AA** Adelman and Vogel: University of California, Berkeley. Morley and Schenzler: Vanderbilt University. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 610; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 44. **PR** $8.80. **JE** J31, I21, J24. **KW** Education. Human Capital. Wage Differentials.

AB One of the unexplained puzzles in Brazilian development experience is the apparent dramatic narrowing in income differentials during the 1970's. Prior to that rapid and skill-intensive growth had caused widening in education income differential despite substantial investments in education, particularly higher education. Between 1970 and 1980 this pattern was reversed, and real income gains for the less educated were 2-3 times greater than those of high school or college graduates. What is even more puzzling is that this occurred while the distribution of income continued to become more unequal. Since the education income differential is a key determinant of the social and private desirability of investments in education, the causes of this narrowing demand attention.

Agenor, Pierre-Richard

PD September 1991. **TI** Credibility and Exchange Rate Management in Developing Countries. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/87; International Monetary Fund, Washington, DC 20431. **PG** 38. **PR** not available. **JE** E42, F31, O17. **KW** Developing Countries. Exchange Rate.

AB The paper examines the role of credibility in the conduct of exchange rate policy in developing countries. The analysis is based on a model in which policy-makers are concerned about inflation and external competitiveness. Price setters in the nontraded goods sector of the economy adjust prices in reaction to anticipated fluctuations in the domestic price of tradable goods. This type of model is shown to generate a "devaluation bias" which undermines the credibility of a fixed exchange rate. The effect of reputational factors, signaling considerations, and joining a currency union as possible solutions to this bias is examined.

Aizenman, Joshna

PD September 1991. **TI** Policy Uncertainty, Persistence and Growth. **AU** Aizenman, Joshna; Marion, Nancy P. **AA** Dartmouth Collage and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3848; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** O41, E22, D81. **KW** Uncertainty. Economic Growth. Growth Model. Economic Policy. Developing Countries.

AB This paper explores links between policy uncertainty and growth. It provides evidence on the correlation between policy uncertainty and per capita real GDP for 46 developing countries over the 1979-85 period. Cross-section regressions on growth suggest that after accounting for standard variables from the endogenous growth literature, policy uncertainty and growth are correlated. The importance of the correlation and even its sign depend on the particular policy and on the geographical region examined. One channel through which policy uncertainty may affect growth is the investment channel. Using an endogenous growth model where domestic investment is characterized by irreversibilities and policy fluctuates between a high and low-tax regime, we show that the gap between the regimes and the persistence of a regime jointly determine the pattern of investment and growth. Policy uncertainty in the absence of persistence does not affect long-run growth.

Albaek, Svend.

PD September 1989. **TI** Stackelberg Leadership as a Natural Solution under Cost Uncertainty. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-13; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 20. **PR** no charge. **JE** D43, D81, L13. **KW** Stackelberg Equilibrium. Duopoly. Uncertainty. Nash Equilibrium. Price Competition.

AB The paper analyzes a differentiated duopoly model with cost uncertainty in an environment where information sharing is prohibited. The duopolists can commit themselves to be a Stackelberg leader or follower at the time when they know the distributions, but not the actual values, of their own and the rival's costs. In a natural Stackelberg Situation (NSS) the firms agree on the assignment of roles and neither prefers the (Bayesian) Nash equilibrium. An NSS is shown to be possible under quantity (but not price) competition. Total expected welfare is higher in the NSS than in the Nash equilibrium.

Alesina, Alberto

PD July 1991. **TI** The European Central Bank: Reshaping Monetary Politics in Europe. **AU** Alesina, Alberto; Grilli, Vittorio. **AA** Alesina: Harvard University. Grilli: Birkbeck College. **SR** Centre for Economic Policy Research Discussion Paper: 563; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 34. **PR** 3 pounds or $5.00. **JE** F33, E58, E52. **KW** European Monetary System. Central Bank. Monetary Policy. Political Economy.

AB This paper studies how the creation of a European Central Bank will change the political economy of monetary policy in Europe. The 12 governors of the EC member countries' national central banks have recently proposed a statute which delineates the institutional structure of the ECB. In this paper, we discuss the likely impact of this proposed structure on the conduct of monetary policy at the European level, particularly from the point of view of the trade-off between inflation and stabilization. We analyze the role of the political independence of the ECB and the effect on policy choices of voting rules for appointing ECB board members.

PD September 1991. **TI** Macroeconomic Policy and Elections in OECD Democracies. **AU** Alesina, Alberto; Cohen, Gerald D.; Roubini, Nouriel. **AA** Alesina: Harvard University and National Bureau of Economic Research. Cohen: Harvard University. Roubini: Yale University, CEPR and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3830; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** D72, E63, E32, O57. **KW** Business Cycle. Elections. Monetary Policy. Fiscal Policy.

AB The purpose of this paper is to test for evidence of opportunistic "political business cycles" in a large sample of 18 OECD economies. Our results can be summarized as follows: 1) We find very little evidence of pre-electoral effects of economic outcomes, in particular, on GDP growth and unemployment; 2) We see some evidence of "political monetary cycles," that is, expansionary monetary policy in election years; 3) We also observe indications of "political budget cycles," or "loose" fiscal policy prior to elections; 4) Inflation exhibits a post-electoral jump which could be explained by either the pre-electoral "loose" monetary and fiscal policies and/or by an opportunistic timing of increases in publicly controlled prices, or indirect taxes.

PD October 1991. **TI** The European Central Bank: Reshaping Monetary Politics in Europe. **AU** Alesina, Alberto; Grilli, Vittorio. **AA** Alesina: Harvard University, CEPR and National Bureau of Economic Research. Grilli: Birkbeck College, CEPR and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3860; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E58, F33, F36, E52. **KW** Central Bank. Europe. Financial Integration. Monetary Policy.

AB This paper studies how the creation of a European Central Bank (ECB) will change the political economy of monetary policy in Europe. The twelve governors of the national Central Banks of the EEC have recently proposed a statute for the ECB which delineates its institutional structure. In this paper, we discuss the likely consequences of this statute on the conduct of monetary policy at the European level, particularly from the point of view of the trade-off between inflation and stabilization. We analyze the role of political independence of the ECB and the effect of voting rules for the appointments of the ECB board members on policy choices.

Alexander, Ian

TI Stock Markets and Corporate Performance: A Comparison of Quoted and Unquoted Companies. **AU** Mayer, Colin P.; Alexander, Ian.

Allen, Beth

PD July 1991. **TI** Market Games with Asymmetric Information: Verification and the Publicly Predictable Information Core. **AA** University of Pennsylvania.

SR University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 91-18; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 38. **PR** no charge. **JE** C71, D51. **KW** Cooperative Games. Exchange Economies.
AB For cooperative (NTU) games generated by finite exchange economies with asymmetric information about common payoff-relevant states of the world, private information use is equivalent to the publicly predictable information sharing rule. This leads to balanced games which therefore have nonempty cores as well as Nash verifiability of a coalition member's ex ante contingent net trades. Conditions yielding Nash and strong verifiability for more general information sharing rules are also provided. In this way, a class of market games with partial commitment that are classified between cooperative and noncooperative games can be studied.

Allen, Franklin

PD October 1991. **TI** Stock Price Manipulation: Market Microstructure and Asymmetric Information. **AU** Allen, Franklin; Gorton, Gary. **AA** Allen: University of Pennsylvania. Gorton: University of Pennsylvania and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3862; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** G12, G14. **KW** Stock Market. Stock Prices. Asymmetric Information. Traders.
AB In recent years, there has been a large literature on how stock exchange specialists set prices when there are investors who know more about the stock than they do. An important assumption in this literature is that there are "liquidity traders" who are equally likely to buy or sell for exogenous reasons. It is plausible that some buyers have cash needs and are forced to sell their stock. However, buyers will usually be able to choose the time at which they trade. It will be optimal for them to minimize the probability of trading with informed investors by choosing an appropriate time to trade and clustering at that time. This asymmetry means that when liquidity buyers are not clustering, purchases are more likely to be by an informed trader than sales so the price movement resulting from a purchase is larger than for a sale. As a result, profitable manipulation by uninformed investors may occur. A model where the specialist takes account of the possibility of manipulation in equilibrium is presented.

Allen, Robert C.

PD December 1990. **TI** Real Incomes in the English Speaking World, 1879-1913. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-32; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 60. **PR** **JE** N31, N33. **KW** Real Wage. Income. Purchasing Power Parity. International Migration.
AB This paper tests the integration of labour markets in Great Britain, Canada, Australia, and the United States by comparing real wages in Manchester, Chicago, San Francisco, Toronto, Vancouver and Sydney. An interurban-intertemporal consumer price index is constructed. It is first used to compare GNP across the four countries. Then it is used for detailed comparisons of the real wages of bricklayers, labourers, and factory workers. It is concluded that labour markets were not well integrated. While an international perspective is helpful in framing questions about wage history, explanations for the level and distribution of wages depend on national factors rather than international migration.

Allen, Steven G.

PD September 1991. **TI** Changes in the Cyclical Sensitivity of Wages in the United States, 1891-1987. **AA** North Carolina State University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3854; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E32, E24. **KW** Wages. Business Cycle. Economic Fluctuations.
AB The conventional wisdom that nominal wages became less sensitive to the business cycle and more autocorrelated after World War II is reexamined here by considering whether these properties are artifacts of the methods used to construct prewar wage series. A replication based on these methods is more cyclically sensitive and exhibits less autocorrelation than the postwar data. Aggregation using variable instead of fixed employment weights also greatly exaggerates the cyclicality of prewar wages. These biases imply that wages are just as sensitive to the cycle today as 100 years ago, perhaps even more so.

Altig, David

PD June 1991. **TI** The Timing of Intergenerational Transfers, Tax Policy, and Aggregate Savings. **AU** Altig, David; Davis, Steve J. **AA** Altig: Indiana University. Davis: University of Chicago. **SR** National Bureau of Economic Research Working Paper: 3753; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** $3.00. **JE** E21, E62, D91, H20. **KW** Overlapping Generations. Tax Reform. Ricardian Neutrality. Altruism. Fiscal Policy.
AB We analyze the interest rate and savings effects of fiscal policy in an overlapping generations framework that accommodates two observations: (1) The interest rate on consumption loans exceeds the rate of return to household savings. (2) Private intergenerational transfers are widespread and primarily occur early in the life cycle of recipients. The wedge between borrowing and lending rates in our model arises from the asymmetric tax treatment of interest income and interest payments. Intergenerational transfers are altruistically motivated. Under the assumption that altruistic transfers occur in at least some family lines and other plausible conditions, we prove the invariance of capital's steady-state marginal product to government tax rate on capital income. In contrast, we find that the tax treatment of interest payments has powerful effects on capital's marginal product and aggregate savings in life-cycle and, especially altruistic linkage models. Our theoretical analysis also generates new testable implications for empirical work on how tax policy effects aggregate savings and on the connection between the age distribution of resources and the age distribution of consumption. Simulations of our model suggest that the 1986 Tax Reform Act's elimination of interest deductibility on consumer loan repayments will significantly increase per capita savings.

Altman, Edward I.

PD 1991. **TI** Defaults and Returns on High Yield Bonds: An Update through the First Half of 1991. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-35; Salomon Brothers Center for the Study of Financial Institutions, Graduate Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 29. **PR** $5.00. **JE** G11, G12. **KW** Securities. Bonds.

AB The high yield default rate was 5.48% in 1991's first half, well above historical levels. Mortality rates on Single-B securities increased in 1990 over the previous year's calculation, with the five-year figure climbing from 11.56% to 20.87%. Reported in the following article for the first time are adjustments to the conventionally calculated default rate for a bias introduced through already-defaulted issuers in the denominator. The revised default rate under the new method in the first half of 1991 is 6.26%. Despite these factors, inclusion of first half 1991 results (+20.6% return) pushes the long-run returns on high yield bonds above the return earned on Treasuries.

PD 1991. **TI** Examining and Modeling Corporate Bond Rating Drift. **AU** Altman, Edward I.; Kao, Duen Li. **AA** Altman: New York University. Kao: General Motors Corporation. **SR** New York University Salomon Brothers Center Working Paper: S-91-39; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Business Administration, New York University, 90 Trinity Place, New York, 10006. **PG** 41. **PR** $5.00. **JE** G12, G14, G31, G32. **KW** Bonds. Corporate Finance. Bond Prices. Capital Markets.

AB The purpose of this research is to report on an in-depth investigation of rating changes (drift) over time. Using Standard & Poor's bond rating history, we attempt to answer a number of related questions: What was the rating change experience of corporate bonds from the time of issuance to various subsequent periods after issuance? Was there a greater tendency for bonds of various initial ratings to be upgraded or downgraded over a ten year post-issuance period? What was the specific 1-10 year experience of bonds of different credit quality, i.e., the ex-post probability of rating changes by specific rating? Did the rating change probabilities vary by time period of issuance? Can the bond rating change process be modeled effectively? That is, was there a conditional relationship between a bond's initial year(s) rating change and its longer term propensity to change? Is the rating drift experience stationary or nonstationary with respect to the age and prior movement of bonds?.

Altonji, Joseph

TI Risk-Sharing, Altruism, and the Factor Structure of Consumption. **AU** Hayashi, Fumio; Altonji, Joseph; Kotlikoff, Laurence.

Ammer, John

TI What Moves the Stock and Bond Markets? A Variance Decomposition for Long-Term Asset Returns. **AU** Campbell, John Y.; Ammer, John.

Andersen, Torben M.

PD June 1989. **TI** Imperfect Competition, Information Acquisition and Price Adjustment. **AU** Andersen, Torben M.; Hviid, Morten. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-11; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 27. **PR** no charge. **JE** D43, D82, L13. **KW** Imperfect Information. Price Stickiness. Prices. Market Power.

AB This paper considers the incentives for acquisition and dissemination of information by prices in imperfectly competitive markets. Since price decisions reveal private information, firms possessing market power may have an incentive to bias their price decision to distort the information disseminated. Prices may thus be either biased or even with costless information not fully adjusted to the state of the market. This problem is studied in the simplest conceivable setting giving rise to this strategic problem in information dissemination, namely, a static Stackelberg model with price setting firms.

PD August 1989. **TI** Macroeconomic Strategies towards Internal and External Balance in the Nordic Countries. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-5; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 30. **PR** no charge. **JE** F41, J51, O11. **KW** Macroeconomic Policy. Wage Determination. Open Economy. Economic Development.

AB The aim of this paper is to clarify the policy strategies pursued in the Nordic countries in the 1970's and 1980's to attain international and external balance. A distinction is made between i) a bridging strategy, ii) a sheltering or adaptive strategy of export led growth. These strategies are characterized and related to the experience of the Nordic countries.

PD October 1989. **TI** A Wage-Bargaining Model for Denmark. **AU** Andersen, Torben M.; Risager Ole. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-17; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 31. **PR** no charge. **JE** J51, J41, J31. **KW** Bargaining. Manufacturing. Wages. Employment.

AB Recent models of wage bargaining provide the background for formulating a wage-employment model which is estimated for the manufacturing sector in Denmark. Emphasis is laid upon an interpretation of the empirical findings in a macroeconomic context. The major results are that wage setting is not characterized by money illusion, shorter working hours lead in the long-run to full wage compensation and a fall in total number of hours worked, and expansionary demand management policies induce wage increases which eventually eliminate the expansionary effects on activity.

Anderson, Gerard, F.

TI Hospital Costs and the Cost of Empty Hospital Beds. **AU** Gaynor, Martin; Anderson, Gerard, F.

Ando, Albert

PD October 1991. **TI** Younger Households Savings: Evidence from Japan and Italy. **AU** Ando, Albert; Guiso, Luigi. **AA** Ando: University of Pennsylvania. Guiso: Bank of Italy. **SR** National Bureau of Economic Research Working Paper: 3871; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E21, D91, D12. **KW** Savings.

Households. Life Cycle Model.
AB Both young and old consumers appear to dissave too little for their behavior to be consistent with a strict life cycle model. We concentrate on young households and document their behavior drawing from Italian and Japanese data. We also provide a theoretical set-up which can account for the observed fact without relying on assumptions about the working of credit markets or the degree of foresight of consumers.

Aoki, Masanao

PD November 1991. **TI** Stochastic Aggregation and Dynamic Field Effects. **AU** Aoki, Masanao; Miyahara, Yoshio. **AA** Aoki: University of California, Los Angeles. Miyahara: Nagoya City University. **SR** University of California at Los Angeles Department of Economics Working Paper: 637; Department of Economics, University of California at Los Angeles, 405 Hilgard Ave., Los Angeles, CA 90024. **PG** 15. **PR** $2.50; checks payable to U.C. Regents. **JE** E19. **KW** Aggregation. Field Effects. Co-integration. Unit Roots.
AB Two macroeconomic variables are introduced to represent aggregate effects of decisions by firms in the goods and labor markets. They are called field effect variables and are shown to produce two co-integrating relations and two unit roots among the macroeconomic variables of the model due to fluctuations of goods and labor market conditions near (stochastic) equilibrium. These effects are distinct from stochastic (trending) effects caused by the productivity factor.

Argy, Victor

PD October 1991. **TI** Nominal Income Targeting: A Critical Evaluation. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/92; International Monetary Fund, Washington, DC 20431. **PG** 86. **PR** not available. **JE** E52, E42, E61. **KW** Monetary Policy. Monetary System. Policy Analysis.
AB This paper evaluates the proposal that government authorities ought to target nominal income. It begins by viewing the literature in some detail. It then undertakes a theoretical analysis of the proposal first for the small country and next for the large country. There is then a general discussion of various issues posed by nominal income targeting. Finally, the paper summarizes the empirical work to date. We show that traditional theoretical analysis tends to be too simple and overly biased in favor of nominal income targeting. When more realistic assumptions are made or econometric simulations are undertaken the case for nominal income targeting is substantially weakened but not, however, destroyed.

Bagwell, Kyle

PD August, 1991. **TI** Competitive Limit Pricing under Imperfect Information. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 954; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 41. **PR** $3.00 in the U.S. or Canada; $5.00 via international mail. **JE** D43, L12, L41, L13. **KW** Limit Pricing. Entry Deterrence. Endogenous Costs.
AB This paper offers a new theory of limit pricing. Incumbents from different markets or regions "compete" against one another, with each attempting to price in a manner that deflects entry into the others' markets. An entrant is imperfectly informed as to the incumbents' respective investments in cost reduction and seeks to enter markets in which incumbents have high costs. In the focal equilibrium, the entrant uses a simple "comparison strategy," in which it enters only the highest-priced markets, and incumbents engage in limit-pricing behavior. The influence on pricing of the number of markets and the scope of entry is also reported. Finally, the theory indicates that limit pricing may in fact deter entry, with the entrant choosing to enter no market whatsoever. Throughout, the central feature of the analysis is that an incumbent's price affects its investment incentives, with lower prices being complementary to greater investment.

Barany, I.

PD October 1991. **TI** Classification of Two-Person Ordinal Bimatrix Games. **AU** Barany, I.; Lee, J.; Shubik, M. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 996; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 26. **PR** $2.00. **JE** C72, C70. **KW** Game Theory. Rationality. Preferences.
AB The set of possible outcomes of a strongly ordinal bimatrix game is studied by imbedding each pair of possible payoffs as a point on the standard two-dimensional integral lattice. In particular, we count the number of different Pareto optimal sets of each cardinality; we establish asymptotic bounds for the number of different convex hulls of the point sets, for the average shape of the set of points dominated by the Pareto optimal set, and for the average shape of the convex hull of the point set. We also indicate the effect of individual rationality considerations on our results. As most of our results are asymptotic, the appendix includes a careful examination of the important case of 2x2 games.

Barbera, Salvador

PD May 1991. **TI** A Characterization of Strategy-Proof Social Choice Functions for Economies with Pure Public Goods. **AU** Barbera, Salvador; Jackson, Matthew. **AA** Barbera: Universitat Autonoma de Barcelona. Jackson: Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 964; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 20. **PR** $3.00 in the U.S or Canada; $5.00 via international mail. **JE** D71, H41. **KW** Public Goods. Social Choice.
AB We characterize strategy-proof social choice functions when individuals have strictly quasiconcave, continuous and satiated utility functions on convex subsets of R(l), representing preferences for the provision of l pure public goods. When specialized to the case l=1, these assumptions amount to requiring that preferences are single peaked, and for such a domain there exists a wide class of strategy-proof social choice functions. For the general l-dimensional case, previous results have shown that there is no efficient, strategy-proof, nondictatorial social choice function, even within the domain restrictions under consideration [Border and Jordan (1983), Zhou (1991)]. In fact, Zhou's powerful result indicates that nondictatorial strategy-proof s.c.f.'s will have a range of dimension one. This allows us to conclude with a complete characterization of all strategy-proof s.c.f.'s on R(l) because restrictions of preferences from our admissible class to one

dimensional subsets satisfy the slightly generalized notion of single-peakedness that is used in our characterization for the case l=1.

Barham, Vicky

PD July 1991. **TI** Education and the Poverty Trap. **AU** Barham, Vicky; Boadway, Robin W.; Marchand, Maurice; Pestieau, Pierre. **AA** Barham and Marchand: CORE and Universite Catholique de Louvain. Boadway: Queen's University. Pestieau: CORE and Universite de Liege. **SR** Queen's Institute for Economic Research Discussion Paper: 830; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 24. **PR** $3.00 Canada and U.S.; $3.50 Foreign. **JE** I21, I28, I31. **KW** Education. Poverty. Liquidity Constraints.

AB An overlapping generations model is constructed in which individual wealth is related to educational attainment, and in which liquidity constraints may induce children to invest in a sub-optimal level of education given their ability. Borrowing for educational attainment is obtained from within the family. Abilities differ among children and may be related to parental ability. Stationary state equilibria are found to exist in which children of poorer families are caught in a poverty trap because of an inability to finance their education. The role of redistributive policy is studied in this context.

Barro, Robert J.

PD September 1991. **TI** World Interest Rates and Investment. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3849; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** O16, O57, E43. **KW** Capital Markets. Credit. Interest Rates.

AB In a world of integrated capital markets, the price of credit - which I measure by short-term expected real interest rates - is determined to equate the world aggregate of investment demand to the world aggregate of desired national saving. I implement this approach empirically by approximating the world by aggregates for ten major developed countries. For the period since 1959, the common component of expected real interest rates for these countries relates especially to developments on world stock and oil markets and secondarily, to world monetary and fiscal policies.

Bartelsman, Eric J.

PD July 1991. **TI** Short and Long Run Externalities. **AU** Bartelsman, Eric J.; Caballero, Ricardo J.; Lyons, Richard K. **AA** Bartelsman: Federal Reserve Board. Caballero and Lyons: Columbia University and National Bureau of Economic Research. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-18; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 26. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** D24, D21, D62, L60. **KW** Externalities. Productivity. Manufacturing. External Economy.

AB In this paper we build upon previous work on external economies in manufacturing [Caballero and Lyons (1989, 1990)] by providing new evidence helpful for discriminating between different types of externalities. We investigate four digit level input-output relationships and find that, over shorter horizons, the linkage between an industry and its customers is the most important factor in the transmission of externalities. This suggests that transactions externalities accruing primarily to the seller, and/or activity-driven demand externalities are significant for explaining the short-run behavior of measured total factor productivity. Over longer horizons, on the other hand, it is the activity level of suppliers that is more important. This suggests that external effects are also operating through intermediate goods linkages.

PD August 1991. **TI** Short and Long Run Externalities. **AU** Bartelsman, Eric J.; Caballero, Ricardo J.; Lyons, Richard K. **AA** Bartelsman: Board of Governors of the Federal Reserve System. Caballero and Lyons: Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3810; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** D24, D21, D62, L60. **KW** External Economy. Manufacturing. Externalities. Productivity.

AB In this paper we build upon previous work on external economies in manufacturing by providing new evidence helpful for discriminating between different types of externalities. We investigate four-digit level input-output relationships and find that, over shorter horizons, the linkage between an industry and its customers is the most important factor in the transmission of externalities. This suggests that transactions externalities accruing primarily to the seller, and/or activity driven demand externalities are significant for explaining the short-run behavior of measured total factor productivity. Over longer horizons, on the other hand, it is the activity level of suppliers that is more important. This suggests that external effects are also operating through intermediate goods linkage.

Batchelder, Ronald W.

PD August 1991. **TI** Pre-Keynesian Monetary Theories of the Great Depression: Whatever Happened to Hawtrey and Cassel? **AU** Batchelder, Ronald W.; Glasner, David. **AA** Pepperdine University and University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 626; Department of Economics, University of California at Los Angeles, 405 Hilgard Ave., Los Angeles, CA 90024. **PG** 38. **PR** $2.50; checks payable to U.C. Regents. **JE** N10, N20, G15. **KW** Great Depression. Gold Standard.

AB Immediately after World War I, Ralph G. Hawtrey and Gustav Cassel independently warned that attempts to re-establish the convertibility of their currencies under the gold standard could cause a deflationary catastrophe unless world gold demand was cooperatively reduced. This paper presents a summary of the Hawtrey-Cassel explanation of the Great Depression and relates this explanation to their view of price adjustments under the gold standard, as well as offering some conjecture regarding the possible reasons for the undeserved obscurity of possible Hawtrey and Cassel's theories.

Becker, Gary S.

PD August 1991. **TI** Habits, Addictions, and Traditions. **AA** University of Chicago and Stanford University. **SR** Economics Research Center/NORC Discussion Paper: 91-8; Economics Research Center/NORC, 1155 E. 60th St., Chicago, Illinois 60637. **PG** 35. **PR** $2.00; send requests to Librarian, NORC. **JE** I12, D12. **KW** Smoking.

Cigarettes. Taxation. Consumer Economics. Addiction.
AB The past casts a long shadow on the present through its influence on the formation of present preferences and choices. The systematic analysis of habitual, addictive, and traditional behavior, and of other ways the past influences present preferences, have profound implications for the analysis of many kinds of economic and social phenomena. These include short and long-run changes in smoking due to higher taxes on a pack of cigarettes, and the effect of income and other taxes on effort and work habits in the long-run. The link between the past and present choice may also explain why and how parents influence the formation of children's preferences, how people get committed to future decisions, and the formation and support of institutions and culture.

Bekaert, Geert

PD October 1991. **TI** On Biases in the Measurement of Foreign Exchange Risk Premiums. **AU** Bekaert, Geert; Hodrick, Robert J. **AA** Bekaert: Northwestern University. Hodrick: Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3861; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** G15, E42. **KW** Foreign Exchange. Spot Rates. Forward Rates.
AB The hypothesis that the forward rate is an unbiased predictor of the future spot rate has been consistently rejected in recent empirical studies. This paper examines several sources of measurement error and misspecification that might induce biases in such studies. Although previous inferences are shown to be robust to a failure to construct true returns and to omitted variable bias arising from conditional heteroskedasticity in spot rates, we show that the parameters were not stable over the 1975-1989 sample period. Estimation that allows for endogenous regime shifts in the parameters demonstrates that deviations from unbiasedness were more severe in the 1980's.

Beller, Andrea H.

TI Black-White Earnings over the 1970's and 1980's: Gender Differences in Trends. **AU** Blau, Francine D.; Beller, Andrea H.

Benabou, Roland

PD July 1991. **TI** Workings of a City: Location, Education, and Production. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 582; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 35. **PR** not available. **JE** R11, R13, J61. **KW** Cities. Human Capital. Externalities. Peer Effects. Communities. Regional Economics.
AB We examine the links between residential choice, human capital investment, and production, in a city composed of several communities where the acquisition of different skills is subject to peer group effects. The equilibrium involves maximal self-segregation by occupation, whereas Pareto efficiency may require identical communities. The inefficiency can even cause entire "ghettos" to drop out of the productive labor force. Underemployment is more extensive, the easier it is for high skill workers to isolate themselves from their low skill counterparts. When perfect segregation is feasible, individual incentives to pursue it are self-defeating, and lead instead to a total shutdown of the productive sector.

PD September 1991. **TI** The Informativeness of Prices: Search with Learning and Cost Uncertainty. **AU** Benabou, Roland; Gertner, Robert. **AA** Benabou: Massachusetts Institute of Technology. Gertner: University of Chicago. **SR** National Bureau of Economic Research Working Paper: 3833; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** D11, D83, E31. **KW** Inflation. Prices. Search Theory. Information. Consumer Theory.
AB Aggregate cost uncertainty, arising from real shocks or unanticipated inflation, reduces the informativeness of prices by scrambling relative and aggregate variations. But when agents can acquire additional information, such increased noise may in fact lead them to become better informed, and price competition will intensify. We examine these issues in a model of search with learning, where consumers search optimally from an unknown price distribution while firms price optimally given consumers' search rules. We show that the decisive factor in whether inflation variability increases or reduces the incentive to search, and thereby market efficiency, is the size of informational costs.

PD September 1991. **TI** On Inflation and Output with Costly Price Changes: A Simple Unifying Result. **AU** Benabou, Roland; Konieczny, Jerzy D. **AA** Benabou: Massachusetts Institute of Technology and National Bureau of Economic Research. Konieczny: Wilfrid Laurier University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 586; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 11. **PR** not available. **JE** D42, E31, D21. **KW** Monopoly. Inflation. Output.
AB We study the effect of inflation on the average output of monopolistic firms facing fixed costs of changing their nominal prices. The slope of this Phillips curve has been analyzed by several authors, usually with specific functional forms. As a result, the literature offers a somewhat confusing array of special results. In this paper we derive a simple, explicit formula which unifies all the effects identified in earlier literature.

PD October 1991. **TI** Workings of a City: Location, Education, and Production. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Technical Paper: 113; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J21, J24, R11. **KW** Human Capital. Labor Force. Communities. Spatial Economics.
AB We examine the implications of local externalities in human capital investment for the size and composition of the productive labor force. The model links residential choice, skills acquisition, and production in a city composed of several communities. Peer effects induce self-segregation by occupation, whereas efficiency may require identical communities. Even when some asymmetry is optimal, equilibrium segregation can cause entire "ghettos" to drop out of the labor force. Underemployment is more extensive, the easier it is for high-skill workers to isolate themselves from others. When perfect segregation is feasible, individual incentives to pursue it are self-defeating, and lead instead to a shutdown of the productive sector.

PD October 1991. **TI** Inflation and Markups: Theories and Evidence from the Retail Trade Sector. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 587; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 13. **PR** not available. **JE** L81, E31, D41, D42, L13. **KW** Retail Trade. Inflation. Competition. Monopoly.

AB In this paper I examine how retail markups are affected by high or volatile inflation. While interesting in its own right, this question is best understood in the light of recent work on the effects of inflation in imperfectly competitive markets. For instance, are inflationary episodes times when consumers' confusion about real prices leads to a rise in monopoly power, or do buyers react to price dispersion and variability by comparing more prices, so that competition intensifies?.

Benchakroun, A.

TI Electricity Distribution Planning Model: A Network Design Approach Solving the Master Problem of the Benders Decomposition Method. **AU** Gascon, V.; Benchakroun, A.; Ferland, J. A.

Benhabib, Jess

PD September 1991. **TI** Social Conflict, Growth and Inequality. **AU** Benhabib, Jess; Rustichini, Aldo. **AA** Benhabib: New York University. Rustichini: Northwestern University. **SR** New York University Economic Research Reports: 91-46; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 47. **PR** no charge. **JE** D74, D31, O41. **KW** Conflict. Income Distribution. Growth Model.

AB Countries with low levels of income invest at lower rates, grow more slowly and exhibit higher levels of political instability than richer countries. To explain these empirical regularities we provide a game theoretic model of conflict between social groups over the distribution of income. Among all possible equilibria, we concentrate on those which are on the constrained Pareto frontier (second best). We study how the level of wealth and the degree of inequality affects growth. We show how lower wealth leads to lower growth and even to stagnation when the incentives to domestic accumulation are weakened by strategic and redistributive considerations. We also study cases which we classify as of the "Olson" type: Efficient growth may be possible at low levels of wealth when capital is scarce but inefficiencies arise in wealthy and stable economies in which organized groups have had the time to mature and exert redistributive pressures.

Bergstrom, Ted

PD September 1991. **TI** When Non-Transitive Relations Take Maxima and Competitive Equilibria Can't be Beat. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 18; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 25. **PR** not available. **JE** D58, D50. **KW** Competitive Equilibrium. General Equilibrium.

AB This paper shows that Nash equilibrium and competitive equilibrium exist as maximal elements of judiciously chosen non-transitive binary relations that are continuous enough and convex enough to have maximal elements. That this should be possible is strongly suggested by the structure of Gale and Mas Collel's proof. To accomplish this result, the convexity and continuity assumptions made in existence theorems of Ky Fan, Sonnenschein, and Gale-Mas Collel are relaxed in such a way as to unify and extend their results.

Berlin, Mitchell

PD June 1991. **TI** Essays on Financial Markets and Institutions. **AU** Berlin, Mitchell; Economides, Nicholas; Figlewski, Stephen; Saunders, Anthony; Schwartz, Robert A.; Silber, William L.; Smith, Roy; Sylla, Richard; Walter, Ingo. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-45; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 101. **PR** $5.00. **JE** G10, G20. **KW** Financial Institutions. Financial Markets.

AB Not available.

Berndt, Ernst R.

PD June 1991. **TI** Mergers, Deregulation and Cost Savings in the U.S. Rail Industry. **AU** Berndt, Ernst R.; Friedlaender, Ann F.; Chiang Wang Shaw-Er, Judy; Vellturo, Christopher A. **AA** Berndt: National Bureau of Economic Research. Friedlaender and Chiang Wang Shaw-Er: Massachusetts Institute of Technology. Vellturo: National Economic Research Associates. **SR** National Bureau of Economic Research Working Paper: 3749; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $3.00. **JE** L51, L43, L91. **KW** Rate Restrictions. Deregulation. Acquisitions. Mergers.

AB The success of deregulation in creating a viable private rail freight system in the U.S. since 1979 is relatively undisputed. Deregulation has proceeded in three ways: (i) eased rate setting restrictions; (ii) simplified merger applications and approval procedures; and (iii) relaxed route abandonment policies. In this paper we attempt to disentangle the effects of deregulation on rail costs from those directly attributable to mergers and acquisitions. We employ a translog variable cost function, based on an unbalanced panel data set of annual observations for major U.S. Class I railroads from 1974 to 1986. We find that both deregulation and mergers contributed significantly to cost savings. However, of the accumulated cost savings achieved by the six major firms involved in mergers post-deregulation, we estimate that by 1986 about 91% of the reduction in accumulated costs is due to deregulation, and about 9% is directly due to mergers and acquisitions (which in turn were facilitated by regulatory reforms).

TI Rail Costs and Capital Adjustments in a Quasi-Regulated Environment. **AU** Friedlaender, Ann F.; Berndt, Ernst R.; Chiang, Judy Shaw-Er Wang; Showalter, Mark; Vellturo, Christopher A.

PD September 1991. **TI** Measuring the Contribution of Public Infrastructure Capital in Sweden. **AU** Berndt, Ernst R.; Hansson, Bengt. **AA** Berndt: Massachusetts Institute of Technology and National Bureau of Economic Research. Hansson: The Central Bank of Sweden. **SR** National Bureau of Economic Research Working Paper: 3842; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** H54, O52, E23, D24. **KW** Sweden. Infrastructure.

Public Goods.
AB Our purpose in this paper is to examine how one might evaluate and measure the contribution of public infrastructure capital on private sector output and productivity growth in Sweden. We do this by specifying and implementing empirically a number of alternative econometric models, using annual data for Sweden from 1960 to 1988. Using a dual cost function approach, we find that increases in public infrastructure capital, ceteris paribus, reduce private sector costs. We compute that amount of public infrastructure capital that would rationalize the cost savings incurred by the private business and manufacturing sectors, and find that the amount that can be rationalized in this manner is less than what was in fact available in 1988, but that the extent of excess public infrastructure capital has been falling in the 1980's.

Bertola, Giuseppe

PD September 1991. **TI** Factor Shares and Savings in Endogenous Growth. **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3851; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** D33, O41. **KW** Income Distribution. Growth Model.
AB This paper studies the distributive effects of growth when different agents' income is drawn from accumulated and non-accumulated factors of production in different proportions, notes that political interactions may contribute to determine factor shares and growth when income sources are heterogeneous, and suggests that distributional issues should be taken into account both when formulating growth-oriented policy prescriptions and when interpreting the wide dispersion of growth rates across economies and over time.

PD September 1991. **TI** Trigger Points and Budget Cuts: Explaining the Effects of Fiscal Austerity. **AU** Bertola, Giuseppe; Drazen, Allen. **AA** Bertola: Princeton University. Drazen: University of Maryland, College Park. **SR** National Bureau of Economic Research Working Paper: 3844; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** Not available. **PR** $3.00. **JE** E21, E62, E10. **KW** Fiscal Policy. Expectations. Target Points. Consumption.
AB We propose and solve an optimizing model which explains counterintuitive effects of fiscal policy in terms of expectations. If government spending follows an upward-trending stochastic process which the public believes may fall sharply when it reaches specific "target points," then optimizing consumption behavior and simple budget constraint arithmetic imply a nonlinear relationship between private consumption and government spending. This theoretical relation is consistent with the experience of several countries.

PD October 1991. **TI** Flexibility, Investment and Growth. **AA** Princeton University, CEPR and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3864; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J61, J24, J31. **KW** Labor Mobility. Wages. Labor Productivity.
AB This paper proposes a model of diversifiable uncertainty, irreversible investment decisions, and endogenous growth. The detailed microeconomic structure of the model makes it possible to study the general equilibrium effects of obstacles to labor mobility. Labor mobility costs reduce private returns to investment, imply a slower rate of endogenous growth, and unambiguously lower a representative agent's welfare. If external effects are disregarded, restricted labor mobility may be consistent with higher wage levels in full employment equilibrium: this may help explain why labor's political representatives often tend to decrease labor mobility in reality, rather than to enhance it. The lower growth rate of "disembodied" productivity, however, implies slower wage growth in equilibrium, with negative welfare effects even for agents who own only labor.

PD October 1991. **TI** Irreversibility and Aggregate Investment. **AU** Bertola, Giuseppe; Caballero, Ricardo J. **AA** Bertola: Princeton University, CEPR and National Bureau of Economic Research. Caballero: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3865; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** G31, D92, E22. **KW** Business Investment. Capital Stock.
AB Investment is often irreversible, in that installed capital has little or no value unless used in production. In the presence of ongoing uncertainty, an individual firm's irreversible investment policy optimally alternates short bursts of positive gross investment to periods of inaction, when the installed capital stock is allowed to depreciate. The behavior of aggregate investment series is characterized by sluggish, continuous adjustment instead. We argue in the paper that aggregate dynamics should be interpreted in terms of unsynchronized irreversible investment decisions by heterogeneous firms, rather than in terms of ad hoc adjustment cost functions in a representative agent framework. We propose a closed form solution for a realistic model of sequential irreversible investment, characterize the aggregate implications of microeconomic irreversibility and idiosyncratic uncertainty, and interpret U.S. data in light of the theoretical results.

PD October 1991. **TI** Labor Turnover Costs and Average Labor Demand. **AA** Princeton University, CEPR and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3866; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J23, J63. **KW** Labor Demand. Turnover. Employment.
AB This paper studies simple partial equilibrium models of dynamic labor demand, under certainty. Labor turnover costs may or may not decrease the firm's average labor demand, depending on the form of the revenue function, on the rates of discount and of labor attrition, and on the relative size of hiring and firing costs. With strictly positive discount and labor attrition rates, the firm's optimal policy is partially myopic, and firing costs may well increase average employment even when hiring costs reduce it.

Binmore, Ken

PD July 1991. **TI** Evolutionary Stability in Repeated Games Played by Finite Automata. **AU** Binmore, Ken; Samuelson, Larry. **AA** Binmore: University of Michigan, Ann Arbor. Samuelson: University of Wisconsin. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-193; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 26. **PR** no charge. **JE** C71.

KW Game Theory. Repeated Games. Prisoner's Dilemma. Cooperative Games.
AB Abreau and Rubinstein study a model in which each of two "metaplayers" choose a finite automaton to play the infinitely repeated Prisoners' Dilemma on their behalf. In one specification of this model, the metaplayers have lexicographic preferences. They seek to maximize their profit; but if two automata achieve the same profit, a metaplayer prefers whichever is less complex. Abreau and Rubinstein interpret their result in terms of decision-makers of unbounded rationality who must delegate authority to subordinates who can only reliably execute simple decision rules. The interpretation to be explored in this paper is that the metaplayers are a metaphor for an evolutionary process. That is to say, the automata represent rules-of-thumb that have evolved using past plays of the (infinitely repeated) game. if metaplayers are to be seen as a metaphor for an evolutionary process, then it is natural to replace the notion of a Nash equilibrium by an appropriate version of the idea of an evolutionarily stable strategy. This paper examines the evolutionary viability of strategies in automaton selection games of the Abreau/Rubinstein variety.

PD September 1991. **TI** A Liberal Leviathan. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 15; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 75. **PR** not available. **JE** C71, C72. **KW** Game Theory. Cooperative Games.
AB This is a draft of a first chapter of a proposed book on game theory and the social contract to be called Playing Fair. The chapter is inteded to be a quick sketch of the theory the book will advocate, along with a commentary on how the theory differs from more conventional treatments of the subject. Any advice or correction will be gratefully received.

PD September 1991. **TI** DeBayesing Game Theory. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 16; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 22. **PR** not available. **JE** C71, C72. **KW** Decision Theory. Bayesian Analysis. Game Theory.
AB This paper argues that Bayesianism should not be a basic assumption in the foundations of game theory. On the contrary, an important task for the foundations of game theory is to justify the use of Bayesian decision theory when its use is justifiable.

PD September 1991. **TI** Bargaining and Morality. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 17; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 26. **PR** not available. **JE** C78, C70. **KW** Bargaining. Game Theory.
AB This paper is a commentary on the game theory in Gauthier's book "Morals by Agreement." It argues both against his concept of "constrained maximization" and his proposed resolution of the bargaining problem.

Blackburn, Keith

PD October 1991. **TI** Univariate Detrending of Macroeconomic Time Series. **AU** Blackburn, Keith; Ravn, Morten O. **AA** Blackburn: University of Southampton. Ravn: University of Southampton and University of Aarhus. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 9112; Department of Economics, University of Southampton, Southampton S09 5NH, ENGLAND. **PG** 51. **PR** no charge. **JE** C22, E32, C51, C52. **KW** Detrending. Time Series. Macroeconomic. Business Cycle. Economic Fluctuations.
AB We compare and contrast the implications of alternative univariate methods for the secular-cyclical decomposition of macroeconomic time series. We study these methods theoretically and empirically in both the time and frequency domains. Our interest is in the extent to which measures of business cycle activity are sensitive to the method of low-frequency filtering, the horizon over which business cycles are defined and the sample period under investigation. We find that, both quantitatively and qualitatively, most of these measures are broadly independent of such considerations. Attention is drawn to the most notable exceptions.

PD October 1991. **TI** Growth through Cooperation. **AU** Blackburn, Keith; Ravn, Morten O. **AA** Blackburn: University of Southampton. Ravn: University of Southampton and University of Aarhus. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 9113; Department of Economics, University of Southampton, Southampton S09 5NH, ENGLAND. **PG** 19. **PR** no charge. **JE** F42, F43, J24, O11. **KW** Endogenous Growth. Externalities. Public Policy. Economic Development. International Coordination.
AB The paper is concerned with public policy and economic development in a world of interdependent economies. Its objective is to construct a simple example of how the international coordination of economic policy offers a means of promoting growth across countries. The example is based on a two-country endogenous growth model in which the production of human capital depends on country specific tax financed public expenditure and worldwide previously accumulated knowledge. We consider optimal policy as the outcome of a dynamic game between benevolent governments. We show that both growth (which has no normative significance, itself) and welfare are, indeed higher under cooperation than under non-cooperation. The innovations of the paper are the endogenization of policy in an endogenous growth model and the introduction of growth considerations into international policy coordination.

PD October 1991. **TI** Equilibrium Growth in a Monetary Economy. **AU** Blackburn, Keith; Hung, Victor T. Y. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 9114; Department of Economics, University of Southampton, Southampton S09 5NH, ENGLAND. **PG** 17. **PR** no charge. **JE** E41, E52, E62, O11, O42. **KW** Endogenous Growth. Money. Monetary Policy.
AB Money is introduced into an endogenous growth model. We consider an artificial economy in which production depends on money-financed public services and exchange requires cash-in-advance. We show that the decentralized outcome is an inefficient competitive balanced growth equilibrium in which money affects growth through two independent channels the public externality in production and the private transactions costs in exchange. We compute the growth (and welfare) maximizing monetary policy which trades off these two effects. We also show that, in the absence of the externality, efficiency is restorable by means of a well-known optimum money supply rule.

Blackburn, McKinley

PD October 1991. **TI** Unobserved Ability, Efficiency Wages, and Interindustry Wage Differentials. **AU** Blackburn, McKinley; Neumark, David. **AA** Blackburn: University of South Carolina. Neumark: University of Pennsylvania and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3857; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J31, J24. **KW** Wages. Wage Differentials. Human Capital.

AB Interindustry wage differentials in wage regressions estimated for individuals have been interpreted as evidence consistent with efficiency wage models. A principal competing explanation is that these differentials are generated by differences across workers in unobserved ability. This paper tests the unobserved ability hypothesis by incorporating test scores into standard wage regressions as error-ridden indicators of unobserved ability. The results indicate that differences in unobserved ability explain relatively little of inter-industry or inter-occupation wage differentials.

Blackorby, Charles

PD October 1990. **TI** Implicit Separability: Characterization and Implications for Consumer Demand. **AU** Blackorby, Charles; Davidson, Russell; Schworm, William. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-25; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** O11, D11. **KW** Leontief Separability. Preference Ordering. Slutsky Matrix.

AB In this paper we characterize a rather general form of separability which we call implicit separability. It is more general than all known types of separability and contains them as special cases. We provide a complete characterization in terms of the direct preference ordering, its dual expenditure function, the demand functions, and the Slutsky matrix. As a result we are able to present restrictions on the demand functions and the Slutsky matrix which are necessary and sufficient for Leontief separability and which are weaker than any previous characterization of separability of which we are aware.

PD October 1990. **TI** Economies with A Two-Sector Representation. **AU** Blackorby, Charles; Davidson, Russell; Schworm, William. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-26; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** D50. **KW** Partial Equilibrium. Aggregate Demand. Two Sector Economy.

AB In both theoretical and empirical research it is a common practice to partition the economy into (at least) two sectors in order to facilitate the analysis. This is most obvious in partial-equilibrium analysis where one hopes that general equilibrium consequences will not obviate all of the analysis of the sector or market in question. In this paper we consider market demand functions which have a two-sector representation. In such economies the aggregate compensated demands in any one sector depend only upon prices in that sector, the vector of utilities, and a scalar aggregate which in turn may depend upon everything. In particular, prices in the other sector appear only through this aggregate,. In a single consumer economy this division into two sectors carries with it no further implications. Nevertheless, when there are three or more consumers, the only economies which have a two-sector representation fall into three broad classes which are quite restrictive in nature. This in turn means that the two-sector assumption is far less innocuous than one might have previously believed and that there are some phenomena which simply cannot be investigated in this framework.

PD October 1990. **TI** The Validity of Piecemeal Second-Best Policy. **AU** Blackorby, Charles; Davidson, Russell; Schworm, William. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-27; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** O50, O61, D11. **KW** Separability. Two Sector Economy. Consumer Model.

AB The validity of piecemeal second-best policy has been the object of many studies since the original negative claims of Lipsey and Lancaster. If there are irreducible distortions in one sector of the economy, under what conditions is it optimal to set the price ratios in the rest of the economy equal to the ratios of their respective marginal costs? For the case of a single consumer Jewitt demonstrated that implicit separability of the preference ordering is necessary and sufficient for this to be optimal. We show that in a multi-consumer economy piecemeal policy is optimal if only if the aggregate compensated demand system has a two- sector representation. In this case the aggregate compensated demands in the distorted (nondistorted) sector depend only upon prices in the distorted (nondistorted) sector, the vector of utilities, and a scalar aggregate which in turn depends on everything. If there is but a single consumer, then this reduces to implicit separability. However, if there are three or more consumers in the economy, then only three broad classes of economies can have two-sector representations. This considerably reduces the class of cases in which piecemeal second-best policies are optimal and demonstrates that the results which have been obtained in a single consumer framework have been much too optimistic.

PD October 1990. **TI** Social Welfare and Public Budgeting. **AU** Blackorby, Charles; Russell, Robert R. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-29; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** D60, D11, D21. **KW** Budgeting. Social Welfare. Preference Ordering. Households.

AB In general, budgeting is a rather vague notion that households, profit or nonprofit organizations, governments, or individual agents might first allocate a given total expenditure to a collection of categories of commodities and then allocate the category expenditures among its components. For a single agent with preferences defined over the commodity space, several rather more precise concepts have been defined and analyzed. The goal of this paper is to extend these results to organizations (or households or governments) whose preferences over the commodity space are derived from the preferences of its members by a generalized utilitarian social welfare function.

Blanchflower, David G.

PD June 1991. **TI** A Longitudinal Analysis of Young Entrepreneurs in Australia and the United States. **AU** Blanchflower, David G.; Meyer, Bruce D. **AA** Blanchflower: Rockefeller Center. Meyer: Northwestern University. **SR** National Bureau of Economic Research Working Paper: 3746; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 39. **PR** $3.00. **JE** J21, J24, J62. **KW** Self-Employment. Labor Force Participation. Entrepreneurship.

AB This paper examines the pattern of self-employment in Australia and the United States. We particularly focus on the movement of young people in and out of self-employment using comparable longitudinal data from the two countries. We find that the forces that influence whether a person becomes self-employed are broadly similar: in both countries skilled manual workers, males and older workers were particularly likely to move to self-employment. We also find that previous firm size, previous union status and previous earnings are important determinants of transitions to self-employment. The main difference we observe is that additional years of schooling had a positive impact on the probability of being self-employed in the U.S. but were not a significant influence in Australia. However, the factors influencing the probability of leaving self-employment are different across the two countries. The only similarity is that in both countries younger individuals are more likely to leave.

Blank, Rebecca M.

PD October 1991. **TI** Why were Poverty Rates so High in the 1980's? **AA** Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3878; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** D31, J31, I32. **KW** Poverty. Economic Growth. Income Distribution.

AB This paper explores the relationship between the macroeconomy and the poverty rate. The first section provides evidence that poverty was far less responsive to macroeconomic growth in the 1980's than it had been in earlier decades. The section explores and rejects four reasons for this: It is not due to the exclusion of in-kind income from the data, to the regional location of the poor, to the public assistance changes of the early 1980's, or to the changing demographic composition of the poor. Instead, it is almost entirely due to declines in real wages that occur among low wage workers over the 1980's. In fact, employment and weeks of work per year within low income households expands more rapidly in the 1980's than in the 1960's. This is almost entirely offset, however, by declines in weekly earnings at the bottom of the income distribution. The result is that economic growth has been a far less effective anti-poverty tool over the past decade.

Blau, Francine D.

PD June 1991. **TI** Black-White Earnings over the 1970's and 1980's: Gender Differences in Trends. **AU** Blau, Francine D.; Beller, Andrea H. **AA** University of Illinois. **SR** National Bureau of Economic Research Working Paper: 3726; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 18. **PR** $3.00. **JE** J15, J16, J31. **KW** Wage Differential. Unemployment. Minorities. Occupational Shifts.

AB This paper uses CPS data to analyze gender differences in black-white annual earnings trends over the 1970's and 1980's. We find that in at least two respects black women fared better than men over this period. First, due to decreasing relative annual time inputs for black males, but not black females, black women experienced increases in both annual earnings and estimated wages compared to white women, while black men gained only in terms of wages compared to white men. Second, since the gender earnings gap among whites was narrowing during this time, as black women's wages rose relative to white women's, they also ,made faster progress relative to white males than did black males. In other important respects, however, the experience of black men and women over the period was similar. First, for both groups, while earnings and wages relative to whites of the same sex rose during the 1970's, they stagnated or declined during the 1980's. While in 1971, both unadjusted wage ratios and adjusted earnings ratios were highest within each sex group for labor market entrants, by 1988 these ratios were fairly similar across experience groups.

Boadway, Robin W.

PD July 1991. **TI** Public Goods, Self-Selection and Optimal Income Taxation. **AU** Boadway, Robin W.; Keen, Michael. **AA** Boadway: Queen's University. Keen: University of Essex and Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 828; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 14. **PR** $3.00 Canada and U.S.; $3.50 Foreign. **JE** H41, H24. **KW** Public Goods. Income Tax. Taxes.

AB Using the self-selection approach to tax analysis, this paper derives a modified Samuelson Rule for the provision of public goods when the government deploys an optimal nonlinear income tax. This approach gives a straightforward interpretation of the central result in this area, generalizes it, and provides a simple characterization of optimal policy in a wide range of circumstances.

TI Education and the Poverty Trap. **AU** Barham, Vicky; Boadway, Robin W.; Marchand, Maurice; Pestieau, Pierre.

PD September 1991. **TI** Publicly Provided Unemployment Insurance and Commitment. **AU** Boadway, Robin W.; Marceau, Nicolas. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 831; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 20. **PR** $3.00 Canada and U.S.; $3.50 Foreign. **JE** J65, J68. **KW** Unemployment Insurance. Commitment. Unemployment. Minimum Wage.

AB A model is constructed in which, given the inability of implicit contracts to be self-enforcing, a minimum wage policy combined with unemployment insurance can be welfare-improving. Unemployment insurance can be decentralized to the private sector if the government can commit to a minimum wage. However, if it cannot, a government which acts in the interest of the workers will have an incentive to increase the minimum wage to exploit private insurers. The full-commitment optimum can be achieved by publicly provided unemployment insurance.

Boldrin, Michele

PD March 1991. **TI** A Dynamic Equilibrium Model of Search, Production and Exchange. **AU** Boldrin, Michele; Kiyotaki, Nobuhiro; Wright, Randall. **AA** Boldrin:

Northwestern University. Kiyotaki: University of Wisconsin and London School of Economics. Wright: University of Pennsylvania and Federal Reserve Bank of Minneapolis. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 91-17; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 48. **PR** no charge. **JE** D51, D58. **KW** General Equilibrium Model. Production. Trading. Exchange Economies.
AB We study a general equilibrium model where agents search for production and trading opportunities, that generalizes the existing literature by considering a large number of differentiated commodities and agents with idiosyncratic tastes. Thus, agents must choose nontrivial exchange as well as production strategies. We consider decreasing, constant, and increasing returns to scale in the matching technology, and characterize the circumstances under which there exist multiple steady state equilibria, or multiple dynamic equilibria for given initial conditions. We also characterize the existence of dynamic equilibria that are limit cycles. Equilibria are not generally optimal, and when multiple equilibria coexist they may be ranked. Pareto optimal allocations are also described and contrasted to those that are obtained in equilibrium. We analyze comparative statics and find that certain intuitive results do not necessarily hold without restrictions on the stochastic structure.

Bonanno, Giacomo

PD October 1991. **TI** Players' Information in Extensive Games. **AA** University of California, Davis. **SR** University of California at Davis Economics Department Working Paper: 393; Department of Economics, University of California at Davis, Davis, California 95616-8578. **PG** 15. **PR** no charge. **JE** C71. **KW** Extensive Games. Perfect Recall. Perfect Information. Cooperative Games.
AB This paper suggests a way of formalizing the amount of information that can be conveyed to each player along every possible play of an extensive game. The information given to each player i when the play of the game reaches node x is expressed as a subset of the set of terminal nodes. Two definitions are put forward, one expressing the minimum amount of information and the other the maximum amount of information that can be conveyed without violating the constraint represented by the information sets. Our definitions provide intuitive characterizations of such notions as perfect recall, perfect information and simultaneity.

Borenstein, Severin

PD September 1991. **TI** The Evolution of U.S. Airline Competition. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 389; Department of Economics, University of California at Davis, Davis, California 95616-8578. **PG** 36. **PR** no charge. **JE** L11, L41, L42, L93. **KW** Antitrust. Airlines. Transportation. Competition. Regulation.
AB Since deregulation, the airline industry has evolved into a dynamic and innovative focus of competition. Airline strategies have led other industries, particularly service industries, to new approaches in producing, distributing, and marketing their products. The evolution of the domestic airline industry has also affected many economists' views on the competitive process in markets where production is network dependent. Recent changes in the structure of the industry have brought calls for reregulation or lesser forms of government intervention. This paper reviews the lessons that more than a decade of deregulation have taught about competition and corporate strategy in service industries and other markets. It also presents and analyzes the public policy decisions facing the government and the options available.

Bos, Dieter

PD June 1989. **TI** Doctrines, Compulsion, and the Economic Duties of the State. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-228; Sonderforschungsbereich 303 an der Universitat Bonn Adenaueralle 24-42, D5300 Bonn 1, GERMANY. **PG** 18. **PR** no charge. **JE** O17, L33, L32. **KW** Economic Theory. Open Economy. Shadow Economy. Public Enterprise. Privatization.
AB According to Stiglitz, the main difference between the state and other economic organizations is as follows: only state membership is universal, only the state has the power of compulsion, in particular the power to tax. Stiglitz himself mentions some "Caveats" referring to voluntary compliance and minority interests. However, in the rest of his paper, in my opinion he overstates the point of state compulsion. Two hundred years after the French Revolution this seems to be a strange position. Over many centuries revolution and evolution have proved effective in changing state constitutions, the power to vote, the power to tax, etc. In the long-run therefore, individuals matter more than any state compulsion. I personally hope that the recent developments in Eastern Europe will be one more proof of this general statement. One might come to the conclusion that states have full power of compulsion only if history is ignored.

Bossaerts, Peter

PD November 1990. **TI** Arbitrage Restrictions across Financial Markets: Theory, Methodology and Tests. **AU** Bossaerts, Peter; Hillion, Pierre. **AA** Bossaerts: California Institute of Technology. Hillion: Insead. **SR** Caltech Social Science Working Paper: 751; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** Not available. **PR** No charge. **JE** G13, G14. **KW** Arbitrage Pricing. Price Uncertainty. Call Options. Stock Market.
AB The Cox, Ingersoll and Ross (1985a) general equilibrium model is extended by allowing the representative investor to trade in a batch call option market with execution price uncertainty. Necessary restrictions on the execution price uncertainty for the original equilibrium to remain intact are derived. They take the form of moment conditions in the pricing error (defined as the difference between the observed call price and the theoretical call price that would obtain in the absence of execution price uncertainty). The moment conditions can easily be estimated and tested using a version of the Method of Simulation Moments (MSM). In it, simulation estimates, obtained by discretely approximating the risk-neutral processes of the underlying stock price and the interest rate, are substituted for analytically unknown call prices. The asymptotics and other aspects of the MSM estimator are discussed. The model is tested on transaction prices from the Berkeley Options Data Base.

Bossert, Walter

PD September 1990. **TI** An Alternative Solution to Two-Person Bargaining Problems with Claims. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-21; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 18. **PR** **JE** C78. **KW** Bargaining Theory. Claims. Egalitarianism.

AB An axiomatic characterization of a new egalitarian-type solution for two person bargaining problems with claims is provided. This claim- egalitarian solution selects the weakly Pareto optimal point in the feasible set with the property that the losses of all agents from their respective claims are equal. The relationships between this and earlier approaches are discussed, and it is shown that the claim-egalitarian solution can be considered inappropriate for bargaining problems with more than two agents, since in this case, it can yield outcomes that violate the individual rationality condition.

Bound, John

PD July 1991. **TI** What Went Wrong? The Erosion of Relative Earnings and Employment among Young Black Men in the 1980's. **AU** Bound, John; Freeman, Richard B. **AA** Bound: University of Michigan, Ann Arbor. Freeman: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3778; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 27. **PR** $3.00. **JE** J10, J15. **KW** Employment. Minimum Wage. Unions. Minorities. Wage Differentials. Education.

AB This paper shows a widening in black-white earnings and employment gaps among young men from the mid-1970's through the 1980's that differs among subgroups. Earning gaps increased most among college graduates and in the midwest while gaps in employment-population rates grew most among high school dropouts. We attribute the differential widening to distinct shifts in demand for subgroups due to changes in industry and regional employment, the falling real minimum wage and deunionization, the growth of the relative supply of black to white workers that was marked among high school dropouts. The differential factors affecting the groups highlights the economic diversity of black Americans.

Boylan, Richard

PD October 1991. **TI** Political Competition in a Model of Economic Growth: Some Theoretical Results. **AU** Boylan, Richard; Ledyard, John O.; McKelvey, Richard D. **AA** Boylan: Washington University. Ledyard and McKelvey: California Institute of Technology. **SR** Caltech Social Science Working Paper: 780; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 27. **PR** no charge. **JE** O41, D72. **KW** Growth Theory. Elections. Consumption. Political Economics. Majority Rule.

AB We study a one sector model of economic growth in which decisions about capital accumulation and consumption are made through a political process of two candidate competition. Each voter's utility for a consumption stream is the present discounted value of that voter's utility of consumption in each period. We are particularly interested in the conditions under which a balanced growth path is achieved. The answer depends on the ability or inability of the candidates to commit to multi-period investment strategies. If they can commit, then in general a political (majority rule) equilibrium will not exist if there is any significant variation in voter utility functions. In fact, a difference only among discount rates is sufficient. Thus, if commitment is possible, cyclical and unpredictable growth paths can be an expected manifestation of the political process. On the other hand, if candidates are unable to commit to multi-period plans, then there is a subgame perfect, stationary, symmetric equilibrium to the infinite horizon two candidate competition that supports the consumption path that is optimal for the median voter. That is, if commitment is not possible, balanced growth can be achieved.

Brainard, William C.

PD October 1991. **TI** On the Internationalization of Portfolios. **AU** Brainard, William C.; Tobin, James. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 991; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 39. **PR** $2.00. **JE** G11, F41, F21, F31. **KW** Portfolio Choice. Open Economy. Capital Mobility. Exchange Rate.

AB Portfolio theory has been an important component of open economy macroeconomic models. In those models, it is essential to distinguish among several categories of assets, both foreign and domestic, and to specify their demands and supplies. This framework has become increasingly relevant. Movements of capital across regional and national boundaries, and across currencies, have exploded in volume, thanks to the dismantling of currency and exchange controls and other financial regulations and to revolutionary economies in technologies of communication and transactions. The globalization of financial markets was stimulated by the floating exchange rate regime established in 1973.

Brewer, Dominic J.

TI How would Universities Respond to Increased Federal Support for Graduate Students. **AU** Ehrenberg, Ronald G.; Rees, Daniel I.; Brewer, Dominic J.

Brezis, Elise

PD October 1991. **TI** Leapfrogging: A Theory of Cycles in National Technological Leadership. **AU** Brezis, Elise; Krugman, Paul R.; Tsiddon, Daniel. **AA** Brezis and Tsiddon: Hebrew University of Jerusalem. Krugman: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3886; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** O33, F14, F43. **KW** Technological Change. Economic Growth. Open Economies.

AB Much recent work has suggested that endogenous technological change tends to reinforce the position of the leading nations. Yet from time to time this leadership role shifts. We suggest a mechanism that explains this pattern of "leapfrogging" as a response to occasional major changes in technology. When such a change occurs, leading nations may have no incentive to adopt the new ideas; given their extensive experience with older technologies, the new ideas do not initially seem to be an improvement. Lagging nations, however, have less experience; the new techniques offer them an opportunity to use their lower wages, to break into the market.

If the new techniques eventually prove to be more productive than the old, there is a reversal of leadership.

Brown, Cary E.

PD November 1991. **TI** Balanced Budget Amendment. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 595; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** Not available. **PR** \$6.00 Domestic, \$8.00 Overseas. \$2.00 Student. **JE** E62, H61, H62. **KW** Constitutional Amendment. Balanced Budget. Government Spending. Fiscal Policy. Budget Deficit.

AB Growing concern about budget deficits has led to many steps and proposals for their control, one of which is a constitutional amendment for a balanced budget. The case for such action is the belief of its proponents that the budget process is dominated by minority pressures that require correction by constitutional requirement of a budget balance or expenditure-review limitations. Opponents find no empirical support for this view of the budget process. They also argue that automatic and discretionary fiscal policies would be inhibited in a serious way and that the use of nominal budget data overstates in a major way the magnitude of the debt-deficit problem. Finally, they find that such an amendment would be unworkable and result in harmful and inefficient budget practices.

Bruno, Michael

PD October 1991. **TI** From Sharp Stabilization to Growth: On the Political Economy of Israel's Transition. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3881; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** \$3.00. **JE** O53, E63, P16. **KW** Democracy. Political Economy. Stabilization Policy. Israel.

AB The paper considers the interplay of the design and execution of stabilization policy and structural reform with the role of various agents and pressure groups in a democracy. The context is the political economy of Israel's transition from a successful stabilization to a renewed growth process whose sustainability is yet to be attained. Particular emphasis is put on the role of Central Bank independence, the fight over the budget and over the role of the exchange rate in the aftermath of a sharp stabilization, and the process of financial and capital market reform. The analysis was done from the point of view and temporary role of an academic as a policy-maker, in this case as the Governor of the Central Bank and Senior Advisor to the government.

Bulow, Jeremy

PD September 1991. **TI** Rational Frenzies and Crashes. **AU** Bulow, Jeremy; Klemperer, Paul. **AA** Bulow: Stanford University and National Bureau of Economic Research. Klemperer: St. Catherine's College. **SR** National Bureau of Economic Research Technical Paper: 112; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** \$3.00. **JE** D41, D83, D81. **KW** Market Structure. Prices. Information.

AB Most markets clear through a sequence of sales rather than through a Walrasian auctioneer. Because buyers can decide between buying now or later, rather than only now or never, buyers' current "willingness to pay" is much more sensitive to price than is the demand curve. A consequence is that markets will be extremely sensitive to new information, leading to both "frenzies," where demand feeds upon itself, and "crashes," where price drops discontinuously. Although no buyer's independent reservation value reveals much about overall demand, a small increase in one such value can cause a large increase or decrease in average price.

Burda, Michael

PD August 1991. **TI** German Trade Unions after Unification: Third Degree Wage Discriminating Monopolists? **AU** Burda, Michael; Funke, Michael. **AA** Burda: INSEAD. Funke: Freie Universitat Berlin. **SR** Centre for Economic Policy Research Discussion Paper: 573; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 25. **PR** 3 pounds or \$5.00. **JE** O15, O52, E24, J51, J61. **KW** Germany. Labor Unions. Migration. Wage Determination.

AB After unification, real wages in Eastern Germany rose rapidly relative to labor productivity despite high and rising levels of unemployment. This substantial increase in wage levels relative to those in Western Germany is difficult to explain without recourse to models of union behavior or collective bargaining. This paper applies and extends such models and evaluates plausible explanations for recent short-run wage developments in the ex-GDR.

Caballero, Ricardo J.

PD June 1991. **TI** Heterogeneity and Output Fluctuations in a Dynamic Menu-Cost Economy. **AU** Caballero, Ricardo J.; Engel, Eduardo M. R. A. **AA** Caballero: Columbia University. Engel: Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 3729; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** \$3.00. **JE** E50, E52, E32. **KW** Monetary Policy. (S,s) Rules. Monetary Neutrality. Strategic Complementarity. Dynamic Model.

AB When firms face menu costs, the relation between their output and money is highly nonlinear. At the aggregate level, however, this need not be so. In this paper we study the dynamic behavior of a general equilibrium menu-cost economy where firms are heterogeneous in the shocks they perceive, and the demands and adjustment costs they face. In this context we (i) generalize the Capin and Apuber (1987) steady state monetary neutrality result; (ii) show that uniqueness of equilibria depends not only on the degree of dispersion of firms' positions in their price-cycle; (iii) characterize the path of output outside the steady state and show that as strategic complementarities become more important, expansions become longer and smoother than contractions; and (iv) show that the potential effectiveness of monetary policy is an increasing function of the distance of the economy from its steady state, but that an uninformed policy maker will have no effect on output on average.

PD June 1991. **TI** Dynamic (S, s) Economies. **AU** Caballero, Ricardo J.; Engel, Eduardo M. R. A. **AA** Caballero: Columbia University. Engel: Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 3734; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** \$3.00. **JE** E10, E20. **KW** Aggregate

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Dynamics. Adjustment Rules. Heterogeneous Agents. Idiosyncratic Shocks.
AB In this paper we provide a framework to study the aggregate dynamic behavior of an economy where individual units follow (S, s) policies. We characterize structural and stochastic heterogeneities that ensure convergence of the economy's aggregate to that of its frictionless counterpart, determine the speed at which convergence takes place, and describe the transitional dynamics of this economy. In particular, we consider a dynamic economy where agents differ in their initial positions within their bands and face both stochastic and structural heterogeneity; where the former refers to the presence of (unit specific) idiosyncratic shocks, and the latter to differences in the widths of units' (S,s) bands and their response to aggregate shocks. We study the evolution of the economy's aggregate and the evolution of the difference between this aggregate and that of an economy without macroeconomic friction, where the latter pertains to a situation where individual units adjust with no delay to all shocks. We also examine the sensitivity of this difference to common shocks. For example, in the retail inventory problem the aggregate deviation inventory level and its sensitivity to common shocks correspond to the aggregate inventory level and its sensitivity to aggregate demand shocks, respectively.

PD June 1991. **TI** A Fallacy of Composition. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 3735; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 16. **PR** $3.00. **JE** E10, C43. **KW** Representative Agents. Firm Level. Aggregation. Macroeconomics.
AB The representative agent framework has endowed macroeconomists with powerful microeconomic tools. Unfortunately, it has also blurred the the distinction between statements that are valid at the individual level from those that apply to the aggregate. In this paper I argue that probability theory puts strong restrictions on the joint behavior of a large number of units that are less than fully synchronized, and that many fallacies arise from disregarding these restrictions. For example, the observation that the aggregate price level is more rigid to downward changes than to upward changes, has led many authors to suggest asymmetries at the firm level as responsible for the alleged macroeconomic fact. However, the basic insight developed in this paper shows that asymmetric pricing policies at the firm level do not necessarily imply asymmetries in upward and downward adjustments of the aggregate price level; and asymmetries in the aggregate price level need not come from asymmetries at the firm level.

PD June 1991. **TI** Durable Goods: An Explanation for Their Slow Adjustment. **AA** Columbia University. **SR** National Bureau of Economic Research Working Paper: 3748; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 29. **PR** $3.00. **JE** E10, E21, D91. **KW** Permanent Income Hypothesis. Dynamic Aggregation. Microeconomic Adjustment. Aggregation.
AB Aggregate expenditure on durable goods responds too slowly to wealth and other aggregate innovations to be consistent with the simplest frictionless version of PIH (permanent income hypothesis). In this paper I present a model of aggregate expenditure on durables that builds up from the lumpy nature of microeconomic purchases, and provide evidence supporting its contribution to the resolution of the "slowness" puzzle. The paper also contains several new results on the problem of dynamic aggregation of stochastically heterogeneous units. In particular, I provide a simple characterization of the effects of heterogeneity and microeconomic lumpiness on aggregate dynamics.

TI Short and Long Run Externalities. **AU** Bartelsman, Eric J.; Caballero, Ricardo J.; Lyons, Richard K.

TI Short and Long Run Externalities. **AU** Bartelsman, Eric J.; Caballero, Ricardo J.; Lyons, Richard K.

TI Irreversibility and Aggregate Investment. **AU** Bertola, Giuseppe; Caballero, Ricardo J.

PD October 1991. **TI** External Effects in U.S. Procyclical Productivity. **AU** Caballero, Ricardo J.; Lyons, Richard K. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-19; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 25. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** D24, L60, E32. **KW** Productivity. Manufacturing. Scale Economies.
AB In this paper we highlight a new dimension of the aggregate procyclical productivity phenomenon. We show that estimates of the degree of returns to scale are larger for manufacturing as a whole than for two-digit industries. Since this difference must be due to factors that are only internalized at the most aggregate level, we term it an external effect. This result rules out explanations based on own-input variation - such as true increasing returns and unmeasured factor utilization tied to own-activity - as the sole explanations for aggregate procyclical productivity. We explore several potential explanations of this external effect.

Cameron, Stephen V.

TI The Nonequivalence of High School Equivalents. **AU** Heckman, James J.; Cameron, Stephen V.

Campbell, John Y.

PD June 1991. **TI** No News is Good News: An Asymmetric Model of Changing Volatility in Stock Returns. **AU** Campbell, John Y.; Hentschel, Ludger. **AA** Princeton University. **SR** National Bureau of Economic Research Working Paper: 3742; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $3.00. **JE** G10, G14. **KW** GARCH. Volatility. Stock Market. Financial Markets.
AB It is sometimes argued that an increase in stock market volatility raises required stock returns, and thus lowers stock prices. This paper modifies the generalized autoregressive conditionally heteroskedastic (GARCH) model of returns to allow for this volatility feedback effect. The resulting model is asymmetric, because volatility feedback amplifies large negative stock returns and dampens large positive returns, making stock returns negatively skewed and increasing the potential for large crashes. The model also implies that volatility feedback is more important when volatility is high. In U.S. monthly and daily data in the period 1926-88, the asymmetric model fits the data better than the standard GARCH model, accounting for almost half the skewness and excess kurtosis of standard monthly GARCH residuals. Estimated volatility discounts on the stock market range from 1% in

normal times to 13% after the stock market crash of October 1987 and 25% in the early 1930's. However, volatility feedback has little effect on the unconditional variance of stock returns.

PD June 1991. **TI** What Moves the Stock and Bond Markets? A Variance Decomposition for Long-Term Asset Returns. **AU** Campbell, John Y.; Ammer, John. **AA** Princeton University. **SR** National Bureau of Economic Research Working Paper: 3760; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** $3.00. **JE** G12, G13, G14. **KW** Stock Returns. Bond Returns. Dividends. Inflation. Interest Rates. Term Structure. Stock Market.

AB This paper uses a log-linear asset pricing framework and a vector autoregressive model to break down movements in stock and bond returns into changes in expectations of future stock dividends, inflation, short-term real interest rates, and excess returns on stocks and bonds. In monthly postwar U.S. data, excess stock returns are found to be driven largely by news about future excess stock returns, while excess 10-year bond returns are driven largely by news about future inflation. Real interest rate changes have little impact on either stock or 10-year bond returns, although they do affect the short-term nominal interest rate and the slope of the term structure. These findings help to explain why postwar excess stock and bond returns have been almost uncorrelated.

Carlino, Gerald

PD August 1991. **TI** The Effects of Exchange Rate and Productivity Changes on U.S. Industrial Output at the State Level. **AU** Carlino, Gerald; Voith, Richard; Cody, Brian. **AA** Carlino and Voith: Federal Reserve Bank of Philadelphia. Cody: Coopers and Lybrand, Chicago. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 91-16; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106-1574. **PG** 31. **PR** no charge except overseas airmail, $2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** F31, O11, O41, R11. **KW** Exchange Rate. Economic Growth. International Trade. Industrialization. Regional Economics.

AB The volatility of the dollar during the 1980's has raised questions about the impact of exchange rate movements on a region's economy. It is well-known that exchange rate changes have differential impacts across sectors of the national economy. Since many industries tend to be concentrated geographically because of nearness to markets and gravitation to inputs, industrial mixes vary widely across regions of the country. This variety suggests that regions may respond differentially to a given change in the value of the dollar. As an empirical matter, regional research on exchange rate changes has been limited to the manufacturing industries due to data limitations. Branson and Love (1987) and Cox and Hill (1988) find substantial differences in exchange rate movements across states for U.S. manufacturing industries. There has been little research investigating, however, the effect of exchange rate movements on regional aggregate economic growth.

Carraro, Carlo

PD August 1991. **TI** Strategies for the International Protection of the Environment. **AU** Carraro, Carlo; Siniscalco, Domenico. **AA** Carraro: Universita Degli Studi di Venezia. Siniscalco: Fondazione Eni Enrico Mattei. **SR** Centre for Economic Policy Research Discussion Paper: 568; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 46. **PR** 3 pounds or $5.00. **JE** F01, Q28, Q20, F42. **KW** Coalitions. Environment. Pollution. Policy Coordination. International Agreements. Global Commons.

AB This paper provides a general framework for studying the profitability and stability of international agreements to protect the environment in the presence of trans-frontier or global pollution. The model assumes N countries bargain on emission control. Each country decides whether or not to coordinate its strategy with other countries. A coalition is formed when both profitability and stability (no free riding) conditions are satisfied. The analysis shows that such coalitions exist but that only a small number of countries decide to cooperate. The paper thus explores the possibility of expanding such coalitions through transfers that induce other countries to cooperate. It is shown that large stable coalitions exist when low environmental interdependence exists and/or when the environmental damage functions are near-separable with respect to domestic and imported emissions. It is also shown that there are cases in which environmental negotiations can achieve substantial emission control even if countries behave non-cooperatively.

Carroll, Christopher D.

PD September 1991. **TI** Does Consumer Sentiment Affect Household Spending? If So, Why? **AU** Carroll, Christopher D.; Fuhrer, Jeffrey C.; Wilcox, David W. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 168; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 27. **PR** no charge. **JE** E21, D12. **KW** Consumption. Consumer Economics.

AB Many commentators have asserted that the collapse of consumer sentiment following the Iraqi invasion of Kuwait caused -- or at least worsened -- the recent economic slowdown. We examine one aspect of the statistical relationship between sentiment and spending by investigating whether lagged changes in sentiment can be used to help predict current changes in consumption expenditure; we find that they can. We then propose one possible interpretation of this predictive power, based on the framework investigated by Campbell and Mankiw (1989, 1990). Under this interpretation, lagged sentiment predicts current consumption because lagged sentiment predicts current income, and current consumption responds to predictable changes in current income. Our results are generally consistent with this interpretation, and give no reason for resorting to other, more exotic explanations of the role of sentiment in explaining consumer spending.

Carroll, Raymond J.

PD May 1989. **TI** Semiparametric Estimation in Logistic Measurement Error Models. **AA** Texas A&M University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-236; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 12. **PR** no charge. **JE** C14, C25. **KW** Logistic Model. Kernel Regression. Bandwidth.

AB We describe semiparametric estimation and inference in a logistic regression model with measurement error in the predictors. The particular measurement error model consists of a primary data set in which only the response Y and a fallible surrogate W of the true predictor X are observed, plus a smaller validation data set for which (Y,X,W) are observed. Except for the underlying assumption of a logistic model in the true predictor, no parametric distributional assumptions are made about the true predictor or its surrogate. We develop a semiparametric parameter estimate of the logistic regression parameter which is asymptotically normally distributed and computationally feasible. The estimate relies on kernel regression techniques. For scalar predictors, by a detailed analysis of the mean squared error of the parameter estimate, we obtain a representation for an optimal bandwidth.

Casella, Alessandra

PD September 1991. **TI** Halting Inflation in Italy and France after World War II. **AU** Casella, Alessandra; Eichengreen, Barry. **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3852; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** O52, N14. **KW** Inflation. Prices. Europe. Economic Fluctuations.

AB In the aftermath of World War II, Italy and France experienced high inflation. The two countries enacted remarkably similar economic policy measures, but stabilization came at different times: for Italy at the end of 1947, for France a year later. Traditional explanations for the regained price stability cannot account for the difference in timing. In this paper, we use the international comparison to shed light on the nature of the inflationary process and on the cause of its decline. We conclude that inflation was symptomatic of an unresolved distributional conflict, and came to an end when one political group, in both countries the Left, accepted its defeat. The Marshall plan helped to bring the stabilization about by reducing the costs to the group offering concessions.

Cass, David

PD August 1991. **TI** Sunspots and Incomplete Financial Markets: The General Case. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 91-19; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 31. **PR** no charge. **JE** D52, D51. **KW** Incomplete Markets. Exchange Economies. Uncertainty.

AB Several years ago I used the canonical textbook model (with two periods, one good and two households) to show that, typically, upon the advent of extrinsic uncertainty or sunspots (with only two possible outcomes), the original, finite set of locally isolated equilibrium allocations expands into a continuum. In effect, this leading example mixed together two very distinct features, sunspot beliefs (a specific structure of preferences and endowments) with incomplete markets (a specific structure of intertemporal trading opportunities).

Cavaretta, A. S.

PD May 1991. **TI** The Total Variation of the Tensor Product Bernstein-Bezier Operator. **AU** Cavaretta, A. S.; Sitharam, Meera. **AA** Cavaretta: Kent State University. Sitharam: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91704-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 7. **PR** no charge. **JE** C60. **KW** Bivariate Polynomials. Tensor Product.

AB An inequality for the total variation of the tensor product Bernstein-Bezier surface is given.

Cecchetti, Stephen G.

PD June 1991. **TI** The Equity Premium and the Risk Free Rate: Matching the Moments. **AU** Cecchetti, Stephen G.; Lam, Pok-Sang; Mark, Nelson C. **AA** Ohio State University. **SR** National Bureau of Economic Research Working Paper: 3752; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 37. **PR** $3.00. **JE** E44, G10, G12. **KW** Representative Agent. Leveraged Equity. Stock Market. Pricing Model. Interest Rate.

AB This paper investigates the ability of a representative agent model with time separable utility to explain the mean vector and the covariance matrix of the risk free interest rate and the return to leveraged equity in the stock market. The paper generalizes the standard calibration methodology by accounting for the uncertainty in both the sample moments to be explained and the estimated parameters to which the model is calibrated. We develop a testing framework to evaluate the model's ability to match the moments of the data. We study two forms of the model, both of which treat leverage in a manner consistent with the data. In the first, dividends explicitly represent the flow that accrues to the owner of the equity, and they are discounted by the marginal rate of intertemporal substitution defined over consumption. The second form of the model introduces bonds and treats equities as the residual claim to the total endowment stream.

Chadha, Bankim

TI Real and Nominal Exchange Rates in the Long Run. **AU** Adams, Charles; Chadha, Bankim.

Chaloupka, Frank J.

PD September 1991. **TI** Alcohol Control Policies and Motor Vehicle Fatalities. **AU** Chaloupka, Frank J.; Saffer, Henry; Grossman, Michael. **AA** Chaloupka: University of Illinois at Chicago and National Bureau of Economic Research. Saffer: National Bureau of Economic Research. Grossman: City University of New York and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3831; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** K14, K42. **KW** Law Enforcement. Alcohol. Drunk Driving.

AB The purpose of this study is to estimate the effects of drunk driving deterrents and other alcohol related policies on drunk driving. The data set employed is an annual time series of state cross-sections for the 48 contiguous states of the U.S. from 1982 through 1988. Total and alternative alcohol involved motor vehicle fatality rates, for the general population and for 18 to 20 year olds, are used as measures of drunk driving. The results indicate that the most effective policies are increased beer taxes and mandatory administrative license actions. Maintaining the beer tax at its real 1951 value would have reduced fatalities by 11.5 percent annually, on average, during the sample period. A mandatory administrative license sanction of one year would have reduced fatalities by 9 percent. The next most effective policies are a 21 year old legal drinking age, preliminary breath test and dram shop laws and relatively large mandatory fines. These policies each reduce total fatalities by about 5 to 6 percent.

Chemmanur, Thomas J.

PD February 1991. **TI** Investment Banker Reputation, Information Production, and Financial Intermediation. **AU** Chemmanur, Thomas J.; Fulghieri, Paolo. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-09; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 26. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** G24, G14, L14. **KW** Moral Hazard. Project Evaluation. Sequential Equilibrium.

AB We develop a model of reputation acquisition by financial intermediaries in the context of an investment banker underwriting a stock issue. We analyze the incentive problem between investment bankers and investors on the one hand, and entrepreneurs and investors on the other. Entrepreneurs, with private information about their firms' projects, sell equity to raise capital to invest in these projects. They may market equity directly to investors, or use the services of an investment banker. Investment bankers, who interact repeatedly with the equity market, evaluate entrepreneurs' projects and report to investors when marketing equity, in return for a fee from entrepreneurs. Setting strict standards in evaluating projects is costly for investment bankers, inducing moral hazard in their relationship with investors, who do not observe these standards.

Chemmanur, Thomas J.

PD March 1991. **TI** Optimal Incorporation, Structure of Debt Contracts, and Limited- Recourse Project Financing. **AU** Chemmanur, Thomas J.; John, Kose. **AA** Chemmanur: Columbia University. John: New York University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-08; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 31. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** G32, G31. **KW** Debt Financing. Managerial Control. Benefits. Corporate Structure.

AB This paper develops a simple framework to study the many interrelated choices of corporate structure and the structure of debt contracts for a firm with multiple projects. The model perspective is that of an entrepreneur who derives benefits from the right to control corporations. With access to multiple projects, he makes the following choices: (1) whether to set up his projects as a joint firm or as separate firms (spin-off), (2) the amount of debt financing to use, (3) the structure of the debt contract (e.g., straight debt on the joint firm, limited-recourse project financing, or spin-off with straight debt), and (4) the fraction of his wealth to invest in each firm (if he sets up more than one). Differences in managerial ability across projects, benefits of control, and the probability of loss of control through a takeover or through bankruptcy are driving factors in this model.

Chen, Ming-Jer

PD April 1991. **TI** Action Characteristics as Predictors of Competitive Responses. **AU** Chen, Ming-Jer; Smith, Ken G.; Grimm, Curtis M. **AA** Chen: Columbia University. Smith and Grimm: University of Maryland, College Park. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-12; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 21. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** L10, L93, D40. **KW** Dynamic Model. Strategic Action. Airline Competition. Airlines.

AB A central question in competitive dynamics is whether a competitive response can be predicted. This study links various characteristics of actions with the total number and the time lag of competitors' responses. The hypothesized relationships were tested with a sample of competitive moves among U.S. airlines. The results suggested that responses are influenced by the characteristics of the actions that evoked them. Specifically, the total number of competitors affected by an action and the importance to these competitors of the markets under attack by the action increase the number of competitive responses. Strategic, as opposed to tactical actions, or actions which require substantial implementation efforts reduce the number and delay the timing of rivals' counteractions. Finally, contrary to predictions, competitors who have a high stake in the markets under attack by a competitive move, react slowly.

PD June 1991. **TI** Nonresponse and Delayed Response to Competitive Moves: The Roles of Competitor Dependence and Action Irreversibility. **AU** Chen, Ming-Jer; MacMillan, Ian, C. **AA** Chen, Columbia University. MacMillan, University of Pennsylvania. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-13; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 28. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** L10, L93, D40. **KW** Competition. Airline Competition. Airlines.

AB Competitive moves which are unchallenged or which experience delayed response are important weapons in the strategist's arsenal, so factors which discourage or delay response are of great interest. Using a game theoretic framework, this study investigates the effects of competitors' dependence on the markets under attack and the irreversibility of an aggressor's move into these markets on various dimensions of competitive response. The hypothesized relationships were tested with a sample of competitive moves among the U.S. airlines. The results suggested that competitor dependence depresses the chances of nonresponse, while increasing the response delay and the likelihood that the responder will match the move. Action irreversibility generally has the opposite effect. In addition, significant interaction effects exist between competitor dependence and action irreversibility.

Chiang Wang Shaw-Er, Judy

TI Mergers, Deregulation and Cost Savings in the U.S. Rail Industry. **AU** Berndt, Ernst R.; Friedlaender, Ann F.; Chiang Wang Shaw-Er, Judy; Vellturo, Christopher A.

TI Mergers, Deregulation and Cost Savings in the U.S. Rail Industry. **AU** Berndt, Ernst R.; Friedlaender, Ann F.; Chiang Wang Shaw-Er, Judy; Vellturo, Christopher A.

Chiang, Judy Shaw-Er Wang

TI Rail Costs and Capital Adjustments in a Quasi-Regulated Environment. **AU** Friedlaender, Ann F.; Berndt, Ernst R.;

Chiang, Judy Shaw-Er Wang; Showalter, Mark; Vellturo, Christopher A.

TI Rail Costs and Capital Adjustments in a Quasi-Regulated Environment. **AU** Friedlaender, Ann F.; Berndt, Ernst R.; Chiang, Judy Shaw-Er Wang; Showalter, Mark; Vellturo, Christopher A.

Chinn, Menzie

PD August 1991. **TI** Are Exchange Rate Expectations Biased? Tests for a Cross-Section of 25 Currencies. **AU** Chinn, Menzie; Frankel, Jeffrey. **AA** Chinn: University of California, Santa Cruz. Frankel: University of California, Berkeley and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3807; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** G15, F31, D84. **KW** Exchange Rate. Currencies. Expectations.

AB We investigate the properties of exchange rate forecasts with a data set encompassing a broad cross-section of currencies. The key finding is that expectations appear to be biased in our sample. This result is robust to the possibility of random measurement error in the survey measures. Investors would be better off placing less weight on their forecasts on the forward rate, and more on the current spot rate.

TI Exchange Rate Expectations and the Risk Premium: Tests for a Cross-Section of 17 Currencies. **AU** Frankel, Jeffrey; Chinn, Menzie.

Christopeit, Norbert

PD July 1991. **TI** Some Comments on a Simple Nonlinear Filter with Application to Adaptive Control. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-192; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 17. **PR** no charge. **JE** C62, C63. **KW** Differential Equation. Brownian Motion.

AB In this paper we study the asymptotic behavior of the solution to the simple nonlinear stochastic differential equation, dx(t)=kx(t)(1-x(t)), t greater than or equal to 0, with initial value x(0)=x an element of [0,1], driven by a Brownian motion (w(t)). This equation may be thought of as a filter equation arising in the contest of certain control problems with an unobservable additive drift term.

Clarida, Richard H.

PD August 1991. **TI** The Real Exchange Rate, Exports, and Manufacturing Profits: A Theoretical Framework with Some Empirical Support. **AA** Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3811; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** F14, F31, L60, E23. **KW** Exchange Rate. Manufacturing. Profits.

AB This paper investigates the relationship between manufacturing profits, exports, and the real exchange rate. Using Marston's (1990) model of pricing-to-market, we derive a cointegrated log-linear profits equation that restricts the long-run relationship among real U.S. manufacturing profits, domestic sales, the real exchange rate, real unit costs, the U.S. relative price of output, and foreign sales. We show that the elasticity of real profits with respect to the real exchange rate is bounded below by the product of (i) 1 minus the long-run pass-through coefficient and (ii) the ratio of export revenues to total profits. Our empirical findings suggest that, even after taking into account output, costs, and relative prices, real exchange rate fluctuations have a sizable and statistically significant influence on real U.S. manufacturing profits.

PD August 1991. **TI** Co-Integration, Aggregate Consumption, and the Demand for Imports: A Structural Econometric Investigation. **AA** Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3812; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** D91, D12. **KW** Life Cycle Model. Permanent Income Hypothesis. Consumption. Imports.

AB This paper uses a two-good version of Hall's (1978) representative agent, permanent income model to derive a structural import demand equation for nondurable consumer goods. Under the identification restriction that taste shocks are stationary, the model is shown to imply that log imports, log domestic goods, and the log relative price of imports are cointegrated. The data decisively reject the null hypothesis that imports, the relative price of imports, and the consumption of home goods are not cointegrated. We employ the nonlinear least squares technique recently proposed by Phillips and Loretan (1990) to estimate the parameters of the import demand equation. The message of this paper is that, at least for non-durable consumer goods, it is possible to interpret the traditional import demand equation as a cointegrating regression, and to interpret the price and expenditure elasticities estimated from such a trade equation as a cointegrating vector.

PD August 1991. **TI** Endogenous Comparative Advantage, Government, and the Pattern of Trade. **AU** Clarida, Richard H.; Findlay, Ronald. **AA** Clarida: Columbia University and National Bureau of Economic Research. Findlay: Columbia University. **SR** National Bureau of Economic Research Working Paper: 3813; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** F11, F13. **KW** International Trade. Government Policy. Comparative Advantage. Trade Policy.

AB This paper explores the relationship between government policy and comparative advantage in a neoclassical model of international trade. A specification of the Ricardo-Viner model with public goods and public inputs is presented that is used to study the role that government policy can play in the determination and promotion of comparative advantage and in the maximization of the gains that may be obtained from international trade. The model is also used to study the influence that international trade can exert on the scale and scope of government activity. The paper endeavors to reconcile a positive theory of trade and government with the apparent shift in measured productivity that often follows an opening to trade.

PD August 1991. **TI** Entry, Dumping, and Shakeout. **AA** Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3814; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not

available. **PR** $2.00. **JE** F11, F41. **KW** International Trade. Dumping.
AB This paper investigates the relationship between entry, demand, and dumping in the context of a two country Ricardian model of international trade. Dumping - the export of goods at a price below average cost - can arise in the free trade equilibrium if the two countries differ in their initial stock of technological knowledge. Interestingly, and in contrast to models of dumping in cyclical downturns, dumping will not occur with endogenous entry if world demand is too low. Despite the fact that high world demand induces so much entry that price is driven below opportunity cost, welfare in both the dumping (exporting) country and the importing country improve in the free trade dumping equilibrium relative to autarky.

Clarke, Francis H.

PD October 1990. **TI** Coastal States and Distant Water Fishing Nations: Conflicting Views of the Future. **AU** Clarke, Francis H.; Munro, Gordon R. **AA** Clarke: University of Montreal. Munro: University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-24; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** Q22, Q28. **KW** Coastal States. Fishing. Principal-Agent Model. Regional Economics.
AB Under the new law of the sea, coastal states have the power to impose terms and conditions of access upon distant water fishing nations seeking to enter the coastal state's Exclusive Economic Zone. This paper is concerned with the optimal terms and conditions of access, as seen from the coastal state's perspective. It is assumed, on the basis of real world observations that the coastal state can monitor the actions of the distant water fishing nation's actions only imperfectly, The realistic possibility that the distant water fishing nations will discount future returns from the relevant fishery at a higher rate than does the coastal state is allowed for. It is argued that this problem is best examined within the context of principal-agent analysis. It is concluded that an incentive gap is inescapable, except under unusual circumstances. The nature of the incentive gap is such that the distant water fishing nation will be encouraged to engage in apparent overexploitation of the resource.

Clotfelter, Charles T.

TI The Peculiar Scale Economies of Lotto. **AU** Cook, Philip J.; Clotfelter, Charles T.

PD July 1991. **TI** The "Gambler's Fallacy" in Lottery Play. **AU** Clotfelter, Charles T.; Cook, Philip J. **AA** Duke University. **SR** National Bureau of Economic Research Working Paper: 3769; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 7. **PR** $3.00. **JE** D80, D81. **KW** Lotteries. Probability.
AB The "gambler's fallacy" is the belief that the probability of an event is lowered when that event has recently occurred, even though the probability of the event is objectively known to be independent from one trial to the next. This paper provides evidence on the time pattern of lottery participation to see whether actual behavior is consistent with this fallacy. Using data from the Maryland daily numbers game, we find a clear and consistent tendency for the amount of money bet on a particular number to fall sharply immediately after it is drawn, and then gradually to recover to its former level over the course of several months. This pattern is consistent with the hypothesis that lottery players are in fact subject to the gambler's fallacy.

Cody, Brian

TI The Effects of Exchange Rate and Productivity Changes on U.S. Industrial Output at the State Level. **AU** Carlino, Gerald; Voith, Richard; Cody, Brian.

Cohen, Gerald D.

TI Macroeconomic Policy and Elections in OECD Democracies. **AU** Alesina, Alberto; Cohen, Gerald D.; Roubini, Nouriel.

Cole, Nancy

TI Does Participation in Transfer Programs during Pregnancy Improve Birth Weight? **AU** Currie, Janet; Cole, Nancy.

Coleman, Ken

TI Simulations and Spatial Voting Models. **AU** Page, Scott E.; Coleman, Ken; Miller, John H.

Cook, Philip J.

PD July 1991. **TI** The Peculiar Scale Economies of Lotto. **AU** Cook, Philip J.; Clotfelter, Charles T. **AA** Duke University. **SR** National Bureau of Economic Research Working Paper: 3766; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 15. **PR** $3.00. **JE** D80, D81. **KW** Probability. Jackpot. Parimutuel Game. Lotteries.
AB The best-selling lottery game in the United States is lotto, a parimutuel game of long odds and large jackpots. Unlike in the other popular lottery games (numbers and instant), there is a strong tendency for per-capita lotto sales to increase with the size of the population base. The fact that the jackpot also tends to increase with population size is not a complete explanation, since the probability of winning tends to be inversely proportional to state population. Our explanation for why the games are more successful in large states is that players tend to judge the likelihood of winning based on the frequency with which someone wins; then a larger state can offer a game at longer odds but the same perceived probability of winning as a smaller state.

TI The "Gambler's Fallacy" in Lottery Play. **AU** Clotfelter, Charles T.; Cook, Philip J.

Copeland, Brian R.

PD January 1990. **TI** Taxes Versus Standards to Control Pollution in Imperfectly Competitive Markets. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 91-03; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 19. **PR** **JE** Q28, Q25, L21. **KW** Pollution. Externalities. Market Power. Market Structure. Imperfect Competition. Taxes.
AB This paper investigates the effects of market structure on the choice between taxes and emission standards as instruments to control pollution. Two different sources of nonequivalence are illustrated. In games where one firm moves before another, the leader can exploit the different effects that taxes and

standards have on the supply response of its rival(s), and generate different outcomes in the two regimes. In a two-stage simultaneous move Cournot game, firms have an incentive to invest in pollution control equipment strategically in a tax regime; whereas no strategic motive for investment is induced by a standards regime. In each of our examples, standards tend to be more anti-competitive than taxes.

PD January 1990. **TI** Tourism, Welfare, and De-Industrialization in a Small Open Economy. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 91-04; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** F10. **KW** Tourism. International Trade. Non-Traded Goods. Service Sector.

AB This paper investigates the effects of an expansion of tourism on welfare, output and factor prices in the host country using a general equilibrium international trade model. In the absence of taxes, foreign ownership, and distortions, an increase in foreign visitors will increase welfare only if the price of non-tradables increases. Factor mobility and foreign ownership tend to reduce the gains from tourism, while commodity taxes tend to increase the gains. Conditions under which an increase in tourism can lead to de-industrialization are also discussed.

Corbae, Dean

PD October 1991. **TI** A Reexamination of the Consumption Function using Frequency Domain Regressions. **AU** Corbae, Dean; Ouliaris, Sam; Phillips, Peter C. B. **AA** Corbae: University of Iowa. Ouliaris: National University of Singapore. Phillips: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 997; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 21. **PR** no charge. **JE** D91, D12, E21, E27. **KW** Permanent Income Hypothesis. Consumption. Consumer Economics.

AB This paper reexamines the permanent income hypothesis (PIH) in the frequency domain. Using a simple model, we demonstrate that the PIH implies the marginal propensity to consume (MPC) out of zero frequency income is unity. The PIH also implies that the MPC out of transitory (or high frequency) income is smaller than the long-run MPC. The paper employs a systems spectral regression procedure to test the PIH that accommodates stochastic trends in the consumption and income series as well as the joint dependence in these series. Monte Carlo simulations suggest that single equation techniques can produce inefficient tests of the PIH and that systems spectral regression methods provide substantially better tests. New empirical estimates of the consumption function and tests of the PIH based on systems spectral regression methods are reported for U.S. aggregate consumption and income data over the period 1948-1990. The empirical results provide partial support for the theoretical implications of the PIH in the frequency domain.

Corbett, Jenny

PD September 1991. **TI** Financial Reform in Eastern Europe: Progress with the Wrong Model. **AU** Corbett, Jenny; Mayer, Colin P. **AA** Corbett: Oxford University. Mayer: City University Business School, London. **SR** Centre for Economic Policy Research Discussion Paper: 603; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 44. **PR** 3 pounds or $5.00. **JE** G32, G38, O52, P34, P31. **KW** Eastern Europe. Financial Systems. Banking. Corporate Control. Privatization.

AB Eastern Europe is engaged in a massive program of financial reform. This paper argues that while this program has many desirable features, it has failed to address some of the most basic issues. These concern the relationship between the financial system and the enterprise sector, and the association suggests that there is a choice between financial systems that has not as yet been adequately considered and that it is far from evident that Eastern Europe is at present proceeding with the right model.

Corman, Hope

PD September 1991. **TI** The Effects of Child Health on Marital Status and Family Structure. **AU** Corman, Hope; Kaestner, Robert. **AA** Rider College and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3850; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J12, J13, I31, I12. **KW** Children. Marriage. Health.

AB The purpose of this paper is to provide evidence on the effect of child health on marital stability and family structure within an economic framework. We use the 1988 National Health Interview Survey's Child Health Supplement, with a sample of about 9,000 families to test whether having an unhealthy child decreases the mother's chance of being married, and whether it increases her chance of living in an extended family. Using two different measures of child health, we find that having an unhealthy child does decrease the mother's likelihood of being married. Our results are strongest for white women who were married at the time of the child's birth and for black women who were unmarried at that time.

Corneo, Giacomo G.

PD July 1991. **TI** Feasibility of Predatory Pricing in a Capacity-Constrained Duopoly. **AU** Corneo, Giacomo G.; Jeanne, Olivier. **AA** Corneo: University of Bonn. Jeanne: University of Paris. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-343; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 17. **PR** no charge. **JE** D43, L13. **KW** Oligopoly. Bertrand Competition. Predation. Prices. Nash Equilibrium.

AB Predatory pricing is feasible only if the minimax profit of a firm is strictly smaller than the expected profit in the corresponding Bertrand-Nash equilibrium. We completely characterize the conditions for feasibility of predatory pricing in Kreps and Scheinkman's model of capacity-constrained duopoly. The predator must have a larger capacity than that of the prey, and than the Cournot capacity too. Surprisingly, predatory pricing may be infeasible not only if the prey is too large but also if it is too small. This result involves a counterintuitive property of Bertrand-Nash equilibria in mixed strategies.

Cumby, Robert

PD June 1991. **TI** Essays on Banking and Monetary Economics. **AU** Cumby, Robert; Levich, Richard M.; Saunders, Anthony; Sylla, Richard; Wachtel, Paul; Walter, Ingo. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-46; Salomon

Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 107. **PR** $5.00. **JE** G21, E42, E52, E58. **KW** Commercial Banks. Federal Reserve. Monetary Policy.
AB Not available.

Currie, Janet

PD August 1991. **TI** Rules, Coordination and Manipulability among Arbitrators. **AA** University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3821; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J52, J41. **KW** Wages. Negotiation. Wage Contracts. Arbitration.
AB This paper provides evidence that the variance of arbitrated wage settlements is systematically lower than the variance of wage settlements negotiated without arbitration using a panel of contracts between teachers and school boards in the Canadian province of British Columbia. This finding is interpreted as evidence that arbitrators coordinate their decisions. However, coordination on a rule leaves arbitrators as a group vulnerable to manipulation by coalitions of employers or employees that understand the rule. Because successful manipulation of arbitrators undermines the credibility of the institution, arbitrators as a group have incentives to change their rules from time to time. Evidence is presented that in BC, school boards were more successful than teachers at manipulating arbitrators, and that arbitrators responded by changing their rule.

PD September 1991. **TI** Does Participation in Transfer Programs during Pregnancy Improve Birth Weight? **AU** Currie, Janet; Cole, Nancy. **AA** Currie: Massachusetts Institute of Technology and National Bureau of Economic Research. Cole: University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 3832; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** I38, J13. **KW** Children. Poverty. Welfare. AFDC.
AB A primary goal of transfer programs to the non-aged, non-disabled poor in the United States is to improve the well-being of children in poor families. Thus it is surprising that most of the considerable research which has been devoted to the study of transfer programs focuses on the incentive effects of the programs for parents rather than on the question of whether parental participation in such programs measurably benefits children. This paper begins to fill this gap in the literature by examining the relationship between a mother's participation during pregnancy in Aid to Families with Dependent Children, the Food Stamp Program, or housing assistance, and one of the least controversial measures of child welfare: the birth weight.

Dagsvik, John

PD June 1991. **TI** Was the Great Depression a Low-level Equilibrium? **AU** Dagsvik, John; Jovanovic, Boyan. **AA** Dagsvik: Central Bureau of Statistics, Norway. Jovanovic: New York University. **SR** National Bureau of Economic Research Working Paper: 3726; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** $3.00. **JE** E10, E24, N12. **KW** Coordination Failure. Markov Process. Multiple Equilibria. Great Depression.
AB Was the Great Depression the outcome of a massive coordination failure? Or was it a unique equilibrium response to adverse shocks? More generally, do aggregates fluctuate partly because agents occasionally settle on inferior, low-level equilibria? These questions lie at the heart of the current disagreement over how one should view business cycles. This paper estimates an employment model with monetary and real shocks. In one region of the parameter-space the model yields uniqueness, while in the other it yields up to three equilibria. When more than one equilibrium exists, a selection rule is needed. The equilibrium selection rule that we use has a Markovian structure, but the money supply is denied a coordination role - it can not affect the choice of the equilibrium point. The global maximum likelihood estimates lie in the uniqueness region, implying that instead of being low-level, coordination-failure equilibrium, the Depression era was caused by movements in fundamentals only.

Daniel, Kermit

PD August 1991. **TI** Self-Selection, Endogenous Wage Offers, and Statistical Discrimination. **AA** University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 91-9; Economics Research Center/NORC, 1155 E. 60th St., Chicago, Illinois 60637. **PG** 23. **PR** $2.00; send requests to Librarian, NORC. **JE** J12, J21, J31. **KW** Heterogeneity. Labor Force. Marriage. Wages.
AB It is well-known that statistical discrimination can arise if the mean or variance of productive characteristics differs across groups, or if groups differ in their ability to signal ability to employers. Although such differences are sufficient to produce statistical discrimination, in this paper I demonstrate that they are not necessary. Statistical discrimination can arise from the self-selection inherent in any work force. The statistical discrimination that results can exhibit an apparently paradoxical feature-workers with high reservation wages may be offered lower wages than those with low reservation wages. The difference in the marriage premium in wages between men and women in consistent with the form of statistical discrimination I describe.

Danthine, Jean-Pierre

PD October 1990. **TI** Risk Sharing, the Minimum Wage and the Business Cycle. **AU** Danthine, Jean-Pierre; Donaldson, John B. **AA** Danthine: Universite de Lausanne. Donaldson: Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-10; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 27. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** E30, E32, E24. **KW** Contracting. General Equilibrium. Wages. Employment.
AB This paper constructs a dynamic general equilibrium model in which the inability of workers to borrow against their future incomes causes the labor market to substitute as a vehicle for income and risk allocation. Incorporating a static model of labor contracting as proposed by Dreze, this arrangement may imply a minimum wage and resulting unemployment. The paper integrates non-Walrasian contracting theory into the real business cycle paradigm, softening the assertion that RBC fluctuations necessarily result from the

optimal responses of economic agents to uncertainty in the rate of technological change.

PD January 1991. **TI** Methodological and Empirical Issues in Real Business Cycle Theory. **AU** Danthine, Jean-Pierre; Donaldson, John B. **AA** Danthine: Universite de Lausanne. Donaldson: Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-11; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 48. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** E30, E32. **KW** Dynamic Models. General Equilibrium Models. Aggregate Output. Technology Shocks.
AB Real Business Cycle theory has recently been the focus of several surveys (Danthine (1989), McCallum (1989), Mankiw (1989) and Plosser (1989)) whose main thrusts we will not attempt to replicate here. Instead, we focus on the methodological import of this body of work in section 1, followed by a summary of the current state of empirical knowledge about business cycle phenomena, the outcome of a process of collecting stylized facts largely stimulated by the methodological requirements of the RBC approach itself, in section 2. Finally, we discuss the significance to be attributed to the most frequent criticisms of RBC models and assess what influence these criticisms may have on future research in section 3.

Davidson, Russell

TI Implicit Separability: Characterization and Implications for Consumer Demand. **AU** Blackorby, Charles; Davidson, Russell; Schworm, William.

TI Economies with A Two-Sector Representation. **AU** Blackorby, Charles; Davidson, Russell; Schworm, William.

TI The Validity of Piecemeal Second-Best Policy. **AU** Blackorby, Charles; Davidson, Russell; Schworm, William.

Davis, Donald

PD September 1991. **TI** Explaining the Volume of Intraindustry Trade: Are Increasing Returns Necessary? **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 411; Division of International Finance, Board of Governors of the Federal Reserve System, Washington DC 20551. **PG** 31. **PR** no charge. **JE** F12, F11. **KW** Scale Economies. Trade Theory. Developed Countries.
AB The recent theoretical literature has suggested that increasing returns to scale are necessary to account for the volume of intra-industry trade among developed economies. The present paper shows that such trade can arise quite naturally in a setting with constant returns to scale. An example is developed with "perfectly intra-industry goods," in which countries with identical endowments and arbitrarily small technical differences nonetheless trade substantial amounts of goods of identical factor intensity. This is extended to a case with factor price equalization, fully determinate trade and the possibility of substantial intra-industry trade. Finally, we develop the simplest possible model that can give a unified account of inter-industry and intra-industry trade, while allowing a straightforward comparison with standard Heckscher-Ohlin results. A striking feature of the last example is that intra-industry trade attains a maximum at a point where countries have identical factor endowment ratios.

Davis, Steve J.

PD June 1991. **TI** Gross Job Creation, Gross Job Destruction and Employment Reallocation. **AU** Davis, Steve J.; Haltiwanger, John. **AA** Davis: University of Chicago. Haltiwanger: University of Maryland, College Park. **SR** National Bureau of Economic Research Working Paper: 3728; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 32. **PR** $3.00. **JE** J23, J63, L60. **KW** Plant Level. Job Reallocation. Manufacturing. Employment.
AB This study measures the heterogeneity of establishment level employment changes in the U.S. manufacturing sector over the 1972 to 1986 period. We measure this heterogeneity in terms of the gross creation and destruction of jobs and the rate at which jobs are reallocated across plants. Our measurement efforts enable us to quantify the connection between job reallocation and worker reallocation, to evaluate theories of heterogeneity in plant level employment dynamics, and to establish new results related to the cyclical behavior of the labor market.

TI The Timing of Intergenerational Transfers, Tax Policy, and Aggregate Savings. **AU** Altig, David; Davis, Steve J.

de Bartolome, Charles A. M.

PD September 1991. **TI** Which Tax Rate do People Use? Average or Marginal? **AA** New York University. **SR** New York University Economic Research Reports: 91-49; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 31. **PR** no charge. **JE** H21, H24, C91. **KW** Income Tax. Taxes. Taxation. Experimental Economics.
AB I investigate by experiment the tax rate used by individuals when making marginal economic decisions. I find that there are at least as many individuals, who use the average tax rate "as if" it is the marginal tax rate, as individuals who use the true marginal tax rate. The reason individuals use the average tax rate is shown to lie in the presentation of the tax table: almost all individuals use the true marginal tax rate if the tax table is redesigned to stress the marginal rate. The use of the average tax rate is shown to lower the excess burden of a typical household by approximately 40%.

de Bisthoven, Olivier Janssens

TI The Simplex Algorithm Extended to Piecewise Linearly Constrained Problems I: The Method and an Implementation. **AU** Wolf, Daniel De; de Bisthoven, Olivier Janssens; Smeers, Yves.

de Janvry, Alain

TI Implications of OECD Agricultural Trade Liberalization for the Low Income Countries: A General Equilibrium-Multimarket Approach. **AU** Sadoulet, Elisabeth; de Janvry, Alain.

Degeorge, Francois

PD August 1991. **TI** Information Handling and Firm Performance: Evidence from Reverse LBOs. **AU** Degeorge, Francois; Zeckhauser, Richard. **AA** Harvard University.

SR National Bureau of Economic Research Working Paper: 3798; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** $3.00. **JE** G14, D82, D21. **KW** Leveraged Buyout. Information Asymmetry. Public Offering.
AB We investigate the transition from private to public ownership of companies that had previously been subject to leveraged buy outs. As they go to the public markets for equity, such firms face an information asymmetry problem. Behavioral effects are also likely to be at work. We show that the combination of informational and behavioral effects will cause firms to handle information in particular ways, leading to an equilibrium pattern in which disappointing performance after the initial public offering should be expected. We find empirical support for this theory by studying 62 reverse LBOs that went public between 1983 and 1987. There is strong evidence that the performance of the reverse LBOs before going public overestimates their likely performance after the initial public offering. The market appears to anticipate this pattern.

Delorme, Charles

PD April 1991. **TI** Complexity of a Max-Cut Approximation. **AU** Delorme, Charles; Poljak, Svatopluk. **AA** Delorme: University Paris-Sud. Poljak: Charles University, Prague. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91687-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 27. **PR** no charge. **JE** C61, C60. **KW** Max-Cut Problem. Graph Theory.
AB We study various properties of an eigenvalue upper bound on the max-cut problem. We show that the bound behaves in a manner similar to the max-cut for the operations of switching, vertex splitting, and contraction. It can also be adjusted for branch and bound techniques. We introduce a Gram representation of a weighted graph, in order to construct weighted graphs with pre-given eigenvalue properties. As a corollary, we prove that the decision problem whether the upper bound coincides with the actual value of the max-cut is NP-complete. We study the mutual relation between the max-cut and the bound on the line-graphs, which allow a good approximation. We show that the ratio between the upper bound and the actual size of the max-cut is close to 9/8 for the studied classes, and several other graphs.

Dermine, Jean

PD October 1990. **TI** Floating Rate Securities and Duration: A Note. **AA** INSEAD. **SR** New York University Salomon Brothers Center Working Paper: S-91-36; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 1006. **PG** 10. **PR** $5.00. **JE** E43, G11, G12. **KW** Interest Rate. Securities.
AB The object of the note is to reassess the duration of a floating rate security when the coupon is a linear function of the interest rate. The paper generalizes some results in the literature on the sensitivity of duration to a change in the fixed or multiplicative spread.

PD October 1990. **TI** Duration and Taxes: An Application of Paul Samuelson's Fundamental Theorem of Tax Rate Invariance. **AA** INSEAD. **SR** New York University Salomon Brothers Center Working Paper: S-91-37; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 10. **PR** $5.00. **JE** H24, G11. **KW** Taxation. Assets. Portfolio Choice.
AB The purpose of the note is to show that Samuelson's Fundamental Theorem of Tax Rate Invariance is a useful tool to analyze the after-tax price sensitivity of a fixed-income asset. In contrast with the current literature, it appears that the after-tax duration can be a decreasing function of the investor's tax rate.

PD April 1991. **TI** Deposit Insurance, Credit Risk and Capital Adequacy: A Note. **AA** INSEAD. **SR** New York University Salomon Brothers Center Working Paper: S-91-38; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 15. **PR** $5.00. **JE** G21, G32, G28. **KW** Banking. Credit. Commercial Banks. Financial Markets. Capital Structure.
AB Previous research on deposit insurance and capital adequacy has modeled the bank as a corporate firm with insured liabilities. No attempt was made to analyze explicitly the economic function of the financial intermediary. The purpose of this note is to model bank lending and calculate credit-risk sensitive insurance premia. The lending function of banks creates specific risk characteristics and the need to model equity as a "capped" call option. Previous estimates of insurance premia which are based on a "naked" call assumption could be biased. Moreover, it is shown that the Modigliani-Miller capital structure irrelevance theorem implies the ineffectiveness of bank capital regulations.

Dessi, Roberta

PD July 1991. **TI** Household Saving and Wealth in China: Some Evidence from Survey Data. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9112; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 31. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** D31, D12, E21. **KW** China. Saving. Wealth.
AB This paper uses survey data from 1987 to investigate the main influences on the saving behavior and patterns of wealth ownership of Chinese households. Current income and employment status are found to be important, while life cycle factors appear to play a greater role for urban than for rural households; we suggest some explanations for these findings. We also explore the magnitude and nature of involuntary savings, and consider their macroeconomic implications.

Deutsch, Melinda

TI Comments on the Evaluation of Policy Models. **AU** Granger, Clive W. J.; Deutsch, Melinda.

Devarajan, Shantayanan

PD May 1991. **TI** External Shocks, Purchasing Power Parity, and the Equilibrium Real Exchange Rate. **AU** Devarajan, Shantayanan; Lewis, Jeffrey D.; Robinson, Sherman. **AA** Devarajan and Lewis: Harvard University. Robinson: University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 611; Department of Agricultural and Resource Economics, 207

Giannini Hall, University of California, Berkeley, Berkeley, CA 94704. **PG** 34. **PR** $6.80. **JE** F31, F11. **KW** Exchange Rate. Trade Model.

AB Two approaches are commonly used to determine the equilibrium real exchange rate in a country after external shocks: purchasing power parity (PPP) calculations and the Salter-Swan, tradables-nontradables model. There are theoretical and empirical problems with both approaches, and tensions between them. In this paper, we resolve these theoretical and empirical difficulties. We present a model which is a generalization of the Salter-Swan model that incorporates imperfect substitutes for both imports and exports. Within the framework of this model, there is a natural definition of the real exchange rate that is consistent both with the PPP approach and with the Salter-Swan model (suitably extended). Our model, however, is capable of capturing a richer set of phenomena, including terms-of-trade shocks in the equilibrium real exchange rate, requiring little more information than that required to do PPP calculations. We also show that the results from our model are consistent with results from multisector computable general equilibrium (CGE) models, which generalize the trade specification of the small model.

PD June 1991. **TI** Do the Benefits of Fixed Exchange Rates Outweigh their Costs? The Franc Zone in Africa. **AU** Devarajan, Shantayanan; Rodrik, Dani. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 3727; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** $3.00. **JE** F31, E63, O55. **KW** Inflation. Monetary Policy. Exchange Rates.

AB We develop a simple formal framework to clarify the trade-offs involved in the choice between a fixed and flexible exchange rate system. We then apply the framework to the CFA Zone countries in Africa, which have maintained a fixed parity with the French Franc since independence. Thanks to the predominance of a few agricultural products and natural resources in their exports, CFA member countries have suffered frequent shocks in their terms of trade. A flexible exchange rate could have possibly alleviated the costs of these external shocks. On the other hand, CFA member countries have managed to maintain lower inflation levels than their neighbors. Our framework provides a way of weighing these costs and benefits. The inflation differential between CFA and non-CFA African countries has been around 14 percentage points. We attribute this differential to the standard time consistency problem inherent in discretionary macroeconomic policy. Nonetheless, our highly stylized calculations suggest that fixed exchange rates have been, on the whole, a bad bargain for the CFA member countries.

Devereux, Michael B.

PD August 1991. **TI** International Risk Sharing and Economic Growth. **AU** Devereux, Michael B.; Smith, Gregor W. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 829; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 26. **PR** $3.00 Canada and U.S.; $3.50 Foreign. **JE** F43, O41. **KW** Endogenous Growth. Risk Sharing. Open Economy. Growth Model.

AB International risk-sharing which diversifies away income risk will reduce saving, with constant relative risk aversion. If growth arises from the external effects of human capital accumulation then reducing saving will reduce growth. Welfare also may fall with risk-sharing, because endogenous growth with external effects of capital accumulation typically implies a competitive equilibrium growth rate already less than the optimal growth rate. We demonstrate these results in standard, representative agent and overlapping generations economies. In the same economies diversifying away rate-of-return risk also will reduce saving and growth rates if relative risk aversion exceeds one.

Deza, Michel

PD November 1990. **TI** Extreme Hypermetrics and L-Polytopes. **AU** Deza, Michel; Grishukin, Viatcheslav P.; Laurent, Monique. **AA** Deza: University of Paris. Grishukin: Academy of Sciences of USSR. Laurent: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90668-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 54. **PR** no charge. **JE** C60. **KW** Hypermetric Space. L-Polytopes. Lattices.

AB Hypermetric spaces are in correspondence with L-polytopes in Lattices ([A],[DGL]). Using this connection, we define the rank of an L-polytope as the rank of the corresponding hypermetric space, i.e. the dimension of the smallest face of the hypermetric cone that contains it. We study some properties for this notion of rank, in particular, its invariance, some bounds for it, also an additive formula for the rank of reducible L-polytopes. We consider especially the case of L-polytopes of rank 1: extreme L-polytopes that correspond to extreme rays of the hypermetric cone.

PD June 1991. **TI** Isometric Hypercube Embedding of Generalized Bipartite Metrics. **AU** Deza, Michel; Laurent, Monique. **AA** Deza: University of Paris VII. Laurent: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91706-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 26. **PR** no charge. **JE** C63, C60. **KW** Bipartite Metrics. Isometric Hypercube. Polynomial Algorithm.

AB A semi-metric d is h-embeddable if it can be written as a nonnegative integer combination of cut metrics. The problem of testing h-embeddability is NP-complete (Chvatal 1980). A good characterization of h-embeddability permitting a polynomial time algorithm was given for several classes of semi-metrics. We consider here generalized bipartite metrics, i.e. metrics d such that d(i,j) = 2 for all distinct i,j an element of S or i,j an element of T for some bipartition (S,T) of the points. We characterize h-embeddable generalized bipartite metrics by their distance matrix and derive a polynomial recognition algorithm. We have examples of such metrics that satisfy the even and hypermetric conditions (in fact, belong to the cut cone) but are not h-embeddable.

Dhrymes, Phoebus J.

PD August 1991. **TI** The Structure of Production Technology, Productivity and Aggregation Effects. **AA** Center for Economic Studies. **SR** Bureau of the Census Center for Economic Studies Discussion Paper: 91-5; Center for Economic Studies, Bureau of the Census, Washington, DC 20233. **PG** 26. **PR** Not available. **JE** E23, E10, D24. **KW** Solow Residual. Scale Economies. Production. Cobb-Douglas.

AB This is a sequel to an earlier paper by the author, Dhrymes (1990). Using the LRD sample, that paper examined the adequacy of the functional form specifications commonly employed in the literature of U.S. manufacturing production relations. The current paper focuses the investigation on two digit industries (but retains the plant as the basic unit of observation), i.e., our sample consists of all "large" manufacturing plants, in each of Industry 35, 36 and 38, over the period 1972-1986. It examines the extent to which increasing returns to scale characterize production at the two digit level; it is established that returns to scale at the mean, in the case of the translog production function are almost identical to those obtained with the Cobb-Douglas function. Finally, it examines the robustness and characteristics of measures of productivity, obtained in the context of an econometric formulation and those obtained by the method of what may be thought of as the "Solow Residual" and generally designated as total factor productivity.

Diebold, Francis X.

PD June 1991. **TI** Further Evidence on Business Cycle Duration Dependence. **AU** Diebold, Francis X.; Rudebusch, Glenn D.; Sichel, Daniel E. **AA** Diebold: University of Pennsylvania and Federal Reserve Bank of Philadelphia. Rudebusch and Sichel: Board of Governors of the Federal Reserve System. **SR** Federal Reserve Bank of Philadelphia Research Working Paper; 91-11; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 16. **PR** $2.00. **JE** E32, N10. **KW** Hazard Model. Business Cycle. Macroeconomics.

AB We clarify and extend our earlier work on business cycle duration dependence in two ways. First, using a flexible yet parsimonious exponential-quadratic hazard model, we reassess our earlier findings for the United States. We document striking differences between prewar data for France, Germany, and Great Britain. The characteristics of prewar European business cycle durations are very similar to those of the United States.

Doiren, Denise J.

PD September 1990. **TI** A Test of the Insider-Outsider Hypothesis in Union Preferences. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90- 18; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** J51. **KW** Insider-Outsider. Unions. Employment. Wage Determination. Seniority Rules.

AB In this paper, a model of wage and employment determination in a unionized industry is developed and estimated. The novelty of the approach lies in the specification of the union preference structure. More precisely, a function measuring the weight placed by the union on various workers utilities is specified and estimated. For example, in the presence of seniority rules, we would expect the estimated slope of this function to be negative ((i.e. that lower weights are placed on the utilities of less senior workers). Also, by allowing this function to shift depending on whether employment exceeds the union membership or not, I can test for an insider-outsider model (in which the union places no utility on nonmembers) as well as other models linking union preferences to changes in membership. The model is estimated using data on the International Woodworkers of America and the wood products industry in British Columbia, Canada. In the more general models, I cannot find convincing evidence of a shift in union utility parameters such as that implied by an insider-outsider framework or other obvious frameworks estimated here. I do find evidence of seniority in the sense that the union weighting function is decreasing in the level of employment.

Dollar, David

PD September 1991. **TI** Agricultural Seasonality and the Organization of Manufacturing during Early Industrialization: The Contrast between Britain and the United States. **AU** Dollar, David; Sokoloff, Kenneth L. **AA** Dollar: The World Bank. Sokoloff: University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 30; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** N51, N53, Q12, Q13. **KW** Manufacturing. Agriculture. Seasonality. Labor Force. Economic Fluctuations.

AB The United States differed dramatically from Britain in the way manufacturing was organized during early industrialization. Even before widespread mechanization, American production was almost exclusively from centralized plants, whereas the British and other European economies were characterized by extensive cottage manufacture. This paper argues that this contrast was rooted in a salient disparity between the land-to-labor ratios of the two countries. Together with its later settlement, the relative abundance of land in the U.S. led its agricultural sector to be much less concentrated in grain than was British agriculture. Since the labor requirements of grain production were much more seasonal than were those of the other major agricultural products of the era (dairy products, livestock, wood, and cleared land), and agriculture was the dominant sector in both economies, there were more seasonal fluctuations in British labor markets than in the American. We argue that this difference in the extent of seasonality is crucial, because cottage manufacture had a relative advantage in the use of off peak or part-time labor. Quantitative evidence and a general equilibrium model are employed to present the analysis, and subject it to tests of consistency with the empirical record.

Donaldson, John B.

TI Risk Sharing, the Minimum Wage and the Business Cycle. **AU** Danthine, Jean-Pierre; Donaldson, John B.

TI Methodological and Empirical Issues in Real Business Cycle Theory. **AU** Danthine, Jean-Pierre; Donaldson, John B.

Drazen, Allen

TI Trigger Points and Budget Cuts: Explaining the Effects of Fiscal Austerity. **AU** Bertola, Giuseppe; Drazen, Allen.

Driscoll, John C.

TI Money, Output, and Prices: Evidence from a New Monetary Aggregate. **AU** Rotemberg, Julio J.; Driscoll, John C.; Poterba, James M.

TI Money, Output, and Prices: Evidence from a New Monetary Aggregate. **AU** Rotemberg, Julio J.; Driscoll, John C.; Poterba, James M.

Dubin, Jeffrey A.

PD October 1991. **TI** Experimental Estimates of the

Impact of Wage Subsidies. **AU** Dubin, Jeffrey A.; Rivers, Douglas. **AA** Dubin: California Institute of Technology. Rivers: Stanford University. **SR** Caltech Social Science Working Paper: 778; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 26. **PR** no charge. **JE** J64, J65. **KW** Wage Subsidies. Unemployment. Search Theory.

AB The effects of a wage subsidy program on the duration of insured unemployment are investigated using experimental data. Participation in the experiment was voluntary and about one third of the subjects refused to take the subsidy voucher offered to them. Because subsidies appear to have stigmatic effects which tend to lower participation rates by high skilled workers, experimental participants have longer average durations of unemployment than non-participants. However, correcting for self-selection, we find that wage subsidies can substantially increase a participant's probability of reemployment. Subsidies are also compared to a search bonus proposal which is also cost effective, but, due to differences in participation patterns, has rather different effects.

Dunne, J. Paul

PD August 1991. **TI** Conversion and Employment: A Comparative Assessment. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9116; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 21. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** H56, H50, O57. **KW** Military Expenditure. Employment. Military Spending. Economic Development.

AB This paper investigates the relationship between defense spending and employment and considers the likely effects of cuts in military spending. The theoretical approaches to analyzing the relation between military expenditure and economic development are considered and the empirical evidence is surveyed. The paper provides an analysis of military spending and unemployment for 14 OECD countries, a comparative assessment of individual country studies, and a discussion of the problems of conversion. The results suggests that fears that cuts in military spending will lead to an increase in unemployment are unjustified and that, although there are problems of adjustment and coordination, the evidence suggests that disarmament presents an economic opportunity rather than a problem.

Eaton, Curtis B.

TI Evolutionary Equilibrium in Market Supergames. **AU** Slade, Margaret E.; Eaton, Curtis B.

Economides, Nicholas

TI Essays on Financial Markets and Institutions. **AU** Berlin, Mitchell; Economides, Nicholas; Figlewski, Stephen; Saunders, Anthony; Schwartz, Robert A.; Silber, William L.; Smith, Roy; Sylla, Richard; Walter, Ingo.

Edwards, Sebastian

PD August 1991. **TI** Stabilization and Liberalization Policies in Central and Eastern Europe: Lessons from Latin America. **AA** University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3816; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** O57, O11. **KW** Europe. Inflation. Exchange Rate. Economic Development. Developing Countries.

AB This paper discusses some economic problems faced by the Eastern European nations in light of recent Latin American experiences. The paper first argues that in spite of some important cultural, political and institutional differences, there are indeed some similarities between Eastern European and Latin American economic problems. The discussion concentrates on four specific areas: (1) monetary overhang and repressed inflation; (2) fiscal imbalances and inflationary pressures; (3) deindexation and inflationary inertia; and (4) the use of the exchange rate as a nominal anchor.

Ehrenberg, Ronald G.

PD June 1991. **TI** How would Universities Respond to Increased Federal Support for Graduate Students. **AU** Ehrenberg, Ronald G.; Rees, Daniel I.; Brewer, Dominic J. **AA** Cornell University. **SR** National Bureau of Economic Research Working Paper: 3741; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 24. **PR** $3.00. **JE** H52, I22, I28. **KW** Doctoral Funding. Institutional Funding. Substitution Effects. Federal Funding.

AB Projections of forthcoming shortages of Ph.D.s and thus new faculty for the academic sector, abound. Among the policies proposed to prevent such shortages is increased federal support for graduate students. Lost in the policy debate, however, has been concern for the possibility that increased federal support might induce academic institutions to redirect their own internal resources in a way that at least partially frustrates the intent of the policy change. Our paper presents an analysis of this issue using institutionally-based data for science and engineering fields. We find that doctorate-producing universities do respond to changes in external support for graduate students by altering the number of students they support on institutional funds. While adjustments to changes in external support levels appear to be quite rapid, the magnitude of these responses are quite small. On average, an increase of 100 in the number of students supported by external funds is estimated to reduce the number supported on institutional funds by 22 to 23.

Eichengreen, Barry

PD September 1991. **TI** Designing a Central Bank for Europe: A Cautionary Tale from the Early Years of the Federal Reserve System. **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3840; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E58, F33, F36. **KW** Central Bank. Europe. Financial Integration.

AB Important questions concerning the structure and operation of a European central bank remain to be answered. Although there exists no precedent for the process of institution-building in which the European Community is currently engaged, the founding and early operation of the Federal Reserve System in the United States provides a suggestive parallel. It suggests that Stage 2 of the Delors Plan contains potential sources of instability. It suggests attempting a direct transition from Stage 1 (national monetary autonomy) to Stage 3 (centralization of authority). It suggests the need for more thought about voting and mediation procedures to be used to reconcile and aggregate national interests.

TI Halting Inflation in Italy and France after World War II. **AU** Casella, Alessandra; Eichengreen, Barry.

Engel, Eduardo M. R. A.

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

TI Dynamic (S, s) Economies. **AU** Caballero, Ricardo J.; Engel, Eduardo M. R. A.

Ericsson, Neil R.

PD October 1991. **TI** Parameter Constancy, Mean Square Forecast Errors, and Measuring Forecast Performance: An Exposition, Extensions, and Illustration. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 412; Division of International Finance, Board of Governors of the Federal Reserve System, Washington DC 20551. **PG** 26. **PR** no charge. **JE** C12, C52, E41. **KW** Forecasting. Diagnostic Testing. Econometrics. Encompassing. Information Sets. Mean Square Error. Statistical Inference.

AB Parameter constancy and a model's mean square forecast error are two commonly used measures of forecast performance. By explicit consideration of the information sets involved, this paper clarifies the roles that each plays in analyzing a model's forecast accuracy. Both criteria are necessary for "good" forecast performance, but neither (nor both) is sufficient. Further, these criteria fit into a general taxonomy of model evaluation statistics, and the information set corresponding to a model's mean square forecast error leads to a new test statistic, forecast-model encompassing. Two models of U.K. money demand illustrate the various measures of forecast accuracy.

PD November 1991. **TI** Cointegration, Exogeneity, and Policy Analysis: An Overview. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 415; Division of International Finance, Board of Governors of the Federal Reserve System, Washington DC 20551. **PG** 27. **PR** no charge. **JE** C22, C51, C52, E61. **KW** Cointegration. Conditional Models. Error Correction Models. Exogeneity. Parameter Constancy. Policy Analysis. Predictive Accuracy.

AB This overview describes the concepts of cointegration and exogeneity, focusing on analytical structure, statistical inference, and implications for policy analysis. Examples help clarify the concepts. The remainder of the overview summarizes the articles in a special issue of the Journal of Policy Modeling entitled "Cointegration, Exogeneity, and Policy Analysis.".

Erwin, Scott

TI A Note on Internationally Coordinated Policy Packages Intended to be Robust under Model Uncertainty. **AU** Frankel, Jeffrey; Erwin, Scott.

Eswaran, Mukesh

PD September 1990. **TI** A Demand Oriented Theory of Economic Development. **AU** Eswaran, Mukesh; Kotwal Ashok. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-22; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 36. **PR** **JE** O14, O10. **KW** Dual Economy Model. General Equilibrium. Hierarchical Preferences. Engel's Laws.

AB A general equilibrium framework is presented to explain a variety of developmental experiences. The demand is modeled by assuming a system of preferences that incorporate Engel's Laws in a stark way. The framework explains why poverty might be impervious to industrial progress in some countries. It also explains why the countries exporting manufactured goods have been more successful in raising the real wages in their economies than the countries exporting primary goods. The framework indicates how the initial conditions in terms of the level and distribution of wealth influence the growth of real wages in an economy.

PD September 1990. **TI** Demand Externality as an Impediment to Productivity Growth in LDCs. **AU** Eswaran, Mukesh; Kotwal, Ashok. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-23; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** O10, O14, O30. **KW** Externalities. Developing Countries. Conglomerates. Demand Spillovers.

AB Since the industrial sectors of LDC's tend to be highly concentrated, productivity-enhancing activities of individual firms generate significant demand spillovers. This paper offers a theoretical analysis of how these demand spillovers and industrial productivity growth are related. Conglomeration is shown to lead to a Pareto-improvement. It is also shown that Stackelberg leadership by one of the sectors would result in an outcome that dominates the Nash outcome. It is suggested that the strategy of industrialization followed by Japan and South Korea could, perhaps, be interpreted in the light of the above results.

Ethier, Wilfred J.

PD August 1991. **TI** Multinational Firms, Technology Diffusion and Trade. **AU** Ethier, Wilfred J.; Markusen, James R. **AA** Ethier: University of Pennsylvania. Markusen: University of Colorado and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3825; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** F23. **KW** Multinational Firms. Knowledge.

AB Empirical evidence indicates a close association between multinational firms and knowledge capital, a "public good" within the firm. We model a firm which wishes to exploit its knowledge capital abroad, but whose workers learn all the knowledge necessary for production and can defect and produce the good themselves. The home firm must then choose between costly exporting and the possible dissipation of its knowledge capital by producing abroad. The paper examines the choice between exporting, licensing, and acquiring a subsidiary in this environment. We analyze the cost and technology parameters that support the alternative modes of serving the foreign market, and we describe the international equilibrium that jointly determines the pattern of specialization and the market mode.

Fair, Ray C.

PD June 1991. **TI** How Fast do Old Men Slow Down?. **AA** Yale University. **SR** National Bureau of Economic Research Working Paper: 3757; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $3.00. **JE** I12, J14, J61. **KW** Track and Field. Age-Graded Races. Physiology. Polynomial Spline.

AB This study uses data on men's track and field and road racing records by age to estimate the rate at which men slow down with age. For most of the running events (400 meters through the half marathon), the slowdown rate per year is estimated to be .80 percent between ages 35 and 51. At age 51 the rate begins to increase. It is 1.04 percent at age 60, 1.46 percent at age 75, and 2.01 percent at age 95. The slowdown rate is smaller for 100 meters. For the events longer than the half marathon, the rate is smaller through about age 60 and then larger after that. The slowdown rate is generally larger at all ages for the field events. Table 2 shows that the age-factors in Masters Age Graded Tables are excessively variable and biased against older runners. Tables 3 and 5 present the age factors implied by this study. These tables can be used to estimate one's projected time or distance by age. They can also be used by race officials for age- graded events. A brief comparison of the present results to results in the physiological literature is also presented in this paper. The main estimation technique used is a combination of the polynomial spline method and the frontier-function method. A number of the events have been pooled to provide more efficient estimates.

PD August 1991. **TI** Estimating Event Probabilities from Macroeconometric Models using Stochastic Simulation. **AA** Yale University. **SR** National Bureau of Economic Research Technical Paper: 111; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** C15, C11, C52. **KW** Simulation Model. Probability.

AB This paper shows how probability questions can be answered within the context of macroeconometric models by using stochastic simulation. One can estimate, for example, the probability of a recession occurring within some fixed period in the future. Probability estimates are presented for two recessionary events and one inflationary event. An advantage of the present procedure is that the probabilities estimated from the stochastic simulation are objective in the sense that they are based on the use of estimated distributions. They are consistent with the probability structure of the model. This paper also shows that estimated probabilities can be used in the evaluation of a model, and an example of this type of evaluation is presented.

Farber, Henry S.

PD July 1991. **TI** Learning and Wage Dynamics. **AU** Farber, Henry S.; Gibbons, Robert. **AA** Farber: Princeton University. Gibbons: Cornell University. **SR** National Bureau of Economic Research Working Paper: 3764; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J30, J31. **KW** On-the-job Training. Education. Signaling.

AB We develop a dynamic model of learning and wage determination: education may convey initial information about ability, but subsequent performance observations also are informative. Although the role of schooling in the labor market's inference process declines as performance observations accumulate, the estimated effect of schooling on the level of wages is independent of labor-market experience. In addition: time-invariant variables correlated with ability but unobserved by employers are increasingly correlated with wages as experience increases; wage residuals are a martingale; and wage cuts are not rare, even for workers who do not change jobs. We present evidence from the National Longitudinal Survey of Youth that is generally consistent with all four of the model's predictions. We conclude that a blend of the learning model with an on-the-job- training model is more plausible than either model alone.

Fecher, F.

PD June 1991. **TI** Productive Performance of the French Insurance Industry. **AU** Fecher, F.; Kessler, D.; Perelman, S.; Pestieau, Pierre. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9125; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 22. **PR** not available. **JE** G22. **KW** Insurance. Life Insurance.

AB The purpose of this paper is to provide for both life and non-life insurance an assessment of the relative productive performance of French companies. We use both a parametric and a nonparametric approach to construct a frontier to be used as a yardstick of productive efficiency. Our data basis covers 84 life and 243 non-life companies for the period 1984-89. The main findings show a high correlation between parametric and nonparametric results and a wide dispersion in the rates of inefficiency across companies. This dispersion can be reduced when controlling for variations in scale, ownership, distribution, reinsurance and claims ratios.

Feenberg, Daniel R.

PD September 1991. **TI** Which Households Own Municipal Bonds? Evidence from Tax Returns. **AU** Feenberg, Daniel R.; Poterba, James M. **AA** Feenberg: National Bureau of Economic Research. Poterba: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 588; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 18. **PR** not available. **JE** H21, H24. **KW** Interest Income. Taxation. Taxes.

AB This paper uses data from 1988 federal income tax returns, which asked taxpayers to report their tax-exempt interest income as an information item, to analyze the distribution of tax-exempt asset holdings. More than three quarters of the tax-exempt debt held by households was held by those with marginal tax rates of 28% or more. The paper reports two measures of the average marginal tax rate on tax-exempt debt. The first measures the increase in taxes if a small fraction of each taxpayer's exempt interest income were converted to taxable interest. This weighted average of "first-dollar" marginal tax rates was 25.8%. A second calculation finds that if all tax-exempt interest were reported as taxable interest, taxes would rise by 27.6% of the increase in taxable interest. Many taxpayers who have substantial tax-exempt interest receipts, but low first-dollar marginal tax rates, would be driven into higher tax brackets if the exemption were eliminated but their portfolios remained the same.

Feenstra, Robert C.

PD September 1991. **TI** Trade Adjustment Assistance and Pareto Gains from Trade. **AU** Feenstra, Robert C.; Lewis, Tracy R. **AA** Feenstra: University of California, Davis and National Bureau of Economic Research. Lewis: University of California, Davis. **SR** National Bureau of Economic Research Working Paper: 3845; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** D24, D51, H21. **KW** Commodity Taxes. Taxes. Capital Mobility. Labor Mobility. Subsidies.

AB In a model where all factors of production are imperfectly mobile, we argue that the Dixit-Norman scheme of commodity taxes may not lead to strict Pareto gains from trade. Rather, this scheme must be augmented by policies which give factors an incentive to move: hence, the role for trade adjustment assistance (TAA). We demonstrate that by knowledge of the distribution of adjustment costs across individuals, the government can offer a single TAA subsidy to all individuals willing to move between industries, and maintain a non-negative budget. The TAA subsidy, combined with the Dixit-Norman pattern of commodity taxes, can lead to Pareto gains from trade under the conditions we identify.

Fei, John C. H.

PD August 1991. **TI** Growth with Fluctuations. **AU** Fei, John C. H.; Reed, Deborah. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 639; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 35. **PR** $2.00 + postage. **JE** O41, O31. **KW** Innovation. Growth Model.

AB In this paper we integrate fluctuations in the intensity and factor bias of innovation with a model of long-run growth. We introduce two conceptual tools for the derivation of comparative dynamic theorems and implement these tools under specific assumptions on the behavior of the model. We conclude with a discussion of the integration of long-run and short-run macroeconomic phenomena.

Fenn, George

PD October 1991. **TI** Debt Maturity and the Back-to-the-Wall Theory of Corporate Finance. **AU** Fenn, George; Sharpe, Steven A. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 171; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 46. **PR** no charge. **JE** G32, G31. **KW** Debt. Credit Rationing. Capital Structure. Debt Contracts.

AB In this paper we consider the relationship between managerial incentives and debt in a multi-period model of production. Our aim is to examine the incentive properties of debt contracts of different maturities, and to determine under what conditions one type of debt is favored over another. We show that in a multi-period model, long-term debt behaves a great deal like equity, owing to the incentive of investors to restructure the debt when returns are low early on. Yet, and somewhat paradoxically, long-term debt often furnishes stronger managerial performance incentives than short-term debt. Since long-term debt has the added advantage of precluding costly liquidation, it often dominates short-term debt as a form of financing.

Ferland, J. A.

TI Electricity Distribution Planning Model: A Network Design Approach Solving the Master Problem of the Benders Decomposition Method. **AU** Gascon, V.; Benchakroun, A.; Ferland, J. A.

Fershtman, Chaim

PD September 1991. **TI** Social Status, Culture and Economic Performance. **AU** Fershtman, Chaim; Weiss, Yoram. **AA** Tel Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 32-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 40. **PR** no charge. **JE** J24, J31, J21. **KW** Social Status. Culture. Occupational Choice.

AB Cultural differences among societies may translate into different status of occupations and can, therefore, affect the choice of education and occupation and consequently, the equilibrium level of output and wages. The purpose of this paper is to trace out the relationship between social status and economic outcome in a general equilibrium framework.

TI On the Stability of Occupational Rankings. **AU** Weiss, Yoram; Fershtman, Chaim.

PD October 1991. **TI** Random Liquidity, Price Dispersion and Inflation. **AU** Fershtman, Chaim; Fishman, Arthur. **AA** Tel Aviv University. **SR** Tel Aviv Sackler Institute of Economic Studies Working Paper: 12-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 25. **PR** no charge. **JE** E31, E21, D11. **KW** Consumer Economics. Consumption. Inflation. Prices.

AB This paper investigates the relationship between inflation, equilibrium price dispersion and consumer welfare. We consider an economy with a search good and a competitively supplied good. The market for the search good is characterized by price dispersion due to incomplete information. Since the price of this good is random, consumers cannot predict the cost of future consumption. Given that consumption requires retaining nominal resources, which are subject to inflationary erosion, this uncertainty has the effect of reducing the incentives to save for future consumption. We refer to this effect as the random liquidity effect. In equilibrium however, firms internalize this disincentive to save, thereby affecting the shape of the real price distribution. We show that for moderate rates of inflation, an increase in the rate of inflation reduces the average real price of the search good relative to other goods and increases real dispersion of the price of the search good in accordance with the empirical literature.

Figlewski, Stephen

TI Essays on Financial Markets and Institutions. **AU** Berlin, Mitchell; Economides, Nicholas; Figlewski, Stephen; Saunders, Anthony; Schwartz, Robert A.; Silber, William L.; Smith, Roy; Sylla, Richard; Walter, Ingo.

TI Essays on Financial Markets and Institutions. **AU** Berlin, Mitchell; Economides, Nicholas; Figlewski, Stephen; Saunders, Anthony; Schwartz, Robert A.; Silber, William L.; Smith, Roy; Sylla, Richard; Walter, Ingo.

Findlay, Ronald

TI Endogenous Comparative Advantage, Government, and the Pattern of Trade. **AU** Clarida, Richard H.; Findlay, Ronald.

Fischer, Stanley

PD April 1991. **TI** Privatization in East European Transformation. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 578; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 27. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** O57, L33, P21. **KW** Privatization. Eastern Europe. Socialism. Corporations.

AB Privatization of state assets is an essential step to the creation of a viable private sector in the formerly socialist economies of Eastern Europe and the Soviet Union. A standard approach to the problem has rapidly emerged. Small firms should be privatized by sale almost immediately. Larger industrial firms should be corporatized as soon as possible, moved out of the shelter of the ministries that now in principle control them, and put under the direction of corporate boards; shares should be distributed, through sale or free transfer, to some combination of current workers in the firms, current management, mutual funds, holding companies, banks, insurance companies, pension funds, citizens, and the government. I analyze the standard approach and alternatives, as well as progress in implementing privatization, with emphasis on Poland, Hungary, and Czechoslovakia. Progress in privatizing small firms has been rapid in several East European countries, but privatization of large firms has been slow, with most success to date in Hungary.

PD April 1991. **TI** Issues in International Economic Integration. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 579; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 27. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Students. **JE** F15, F14. **KW** International Trade. Economic Integration.

AB The politicians and economists who created the post-World War II economy aimed to restore the global economy that existed in 1913 and that was destroyed by two world wars and the Great Depression. They succeeded beyond any sober expectation. International trade has grown faster than output throughout the post-World War II period: by 1973, after two decades of unprecedented growth and prosperity, the ratio of trade to output was above its 1913 level, and the share of trade in GNP has continued to grow since then. Money, bond, and stock markets are now as integrated as they were in the pre-capital control pre-world War I period. However, capital flows to developing countries declined sharply during the last decade and foreign direct investment is still relatively less important today than it was a century ago. A year ago these trends looked set to accelerate: all of Eastern Europe and perhaps even the Soviet Union were about to join the rest of the non-socialist world economy; and the reach of the GATT was about to expand to open up trade in agriculture, services and perhaps even textiles. Today the pessimist can paint a more somber picture.

PD April 1991. **TI** Growth, Macroeconomics, and Development. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 580; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 42. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** O11, O41. **KW** Economic Development. Economic Growth. Macroeconomic Policy.

AB For most developing countries, in Africa and Latin America, the eighties are known as the lost decade; for many it was a decade of negative growth. Developing country economic policy in the eighties focused on structural adjustment, a combination of macroeconomic stabilization measures to restore domestic and external equilibrium, and structural changes in policies and institutions designed to make the economy more efficient and flexible, and thereby increase growth. The aim of this paper is firmly to establish -- or re-establish -- that macroeconomic policies matter for economic growth and development.

Fishelson, Gideon

PD September 1991. **TI** More the Salant Principle. **AA** Tel Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 31-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 11. **PR** no charge. **JE** Q31, L13, L11, D43. **KW** Market Structure. Cartel. Exhaustible Resource. Prices.

AB The study examines the resulting paths of prices (the corresponding paths of quantities being directly inferred) in a market of an exhaustible resource that is supplied jointly by a cartel and a competitive fringe. The cartel exercises price leadership in order to maximize the present value of its profits with the fringe corresponding to the market behavior of the cartel. The uniqueness of the study is in the assumptions that the time preference of the cartel is larger than that of the fringe or that its constant, marginal cost of extraction is lower than that of the fringe. Thus the resulting paths of prices are inverted relatively to those found by Salant (1976).

Fisher, Franklin M.

PD April 1991. **TI** The Production-Theoretic Measurement of Input Price and Quantity Indices. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 575; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 31. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Students. **JE** C43, C81, C82, E23. **KW** Production Theory. Output. Prices.

AB It has long been understood that conventional measures of the cost of living such as the consumer price index are but approximations to a "true" index based on consumer theory. It is less well accepted that measurement of prices and quantities in production are or ought to be focused on approximating "true" indices based on production theory. Indeed, in calculating aggregates for production, concentration has been on arithmetical properties. In a real sense, practice has come before theory, and practice has dominated. Yet the question of what it is that we are trying to measure is of obvious importance.

Fishman, Arthur

TI Random Liquidity, Price Dispersion and Inflation. **AU** Fershtman, Chaim; Fishman, Arthur.

Flavin, Marjorie

PD August 1991. **TI** The Joint Consumption/Asset Demand Decision: A Case Study in Robust Estimation. **AA** University of Virginia and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3802; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** D11, D12, D91. **KW** Intertemporal Model. Life Cycle Model. Consumption. Borrowing Constraints. Consumer Economics.

AB The paper uses a previously unexploited data set -- the Michigan Survey of Consumer Finances -- to ask whether the finding that consumption tracks current income more closely than is consistent with the permanent income hypothesis can be attributed solely or partially to borrowing constraints. Using household data on income and asset stocks, the paper studies the saving side of the consumption/saving decision, and thus provides inferences on a comprehensive concept of consumption. To limit the influence of outliers, the paper uses a robust instrumental variables estimator, and argues that achieving robustness with respect to leverage points is actually simpler, both conceptually and computationally, in an instrumental variables context than in the OLS context. The results indicate that households do use asset stocks to smooth their consumption, although this smoothing is far from complete. However, there is no evidence that the excess sensitivity of consumption to current income is caused by borrowing constraints.

Flood, Robert P.

PD September 1991. **TI** Exchange Rate Regime Choice. **AU** Flood, Robert P.; Marion, Nancy P. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/90; International Monetary Fund, Washington, DC 20431. **PG** 7. **PR** not available. **JE** F33, F31, E42, E52. **KW** Exchange Rate. Monetary Policy. Central Bank. Monetary System.

AB Traditionally the choice of exchange rate regime has been seen as a second-best policy choice, which can be directed toward mitigating the distortionary effects of price or information rigidities. In this paradigm the optimal degree of exchange rate flexibility is found to depend on the source and nature of shocks hitting an economy. More recent literature views the exchange rate as a widely and frequently seen manifestation of government policy with careful exchange rate management emerging as a tool that can enhance shaky policy credibility.

Foresi, Silverio

PD June 1991. **TI** Do Firms "Keep up with the Joneses"? Evidence on Cross-Sectional Variation in Investment. **AU** Foresi, Silverio; Mei, Jianping. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-41; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 28. **PR** $5.00. **JE** D21, E22, D41. **KW** Heterogeneity. Competition. Fixed Effects. Panel Data. Investment.

AB What accounts for the variation of investment through time and across industries? To answer the question, this paper develops a simple framework for the study of investment. The approach takes advantage of panel data on investment and allows us to address what affect firm's investment decisions and how the investment behaviors vary across different industries. We find that the investment-capital ratio and the average profitability of capital of competitors help explain investment of firms.

Foster, William E.

TI Resource Mobility, Diversification of Ownership, and Political Rent-Seeking Incentives. **AU** Gray, Richard; Foster, William E.; Rausser, Gordon C.

Frank, Richard G.

PD August 1991. **TI** Pricing, Patent Loss and the Market for Pharmaceuticals. **AU** Frank, Richard G.; Salkever, David S. **AA** Johns Hopkins University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3803; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** L65, L13, D43, M37. **KW** Drugs, Manufacturing. Prices. Oligopoly. Stackelberg Model. Advertising.

AB Empirical studies suggest that entry of generic competitors results in minimal decreases or even increases in brand name drug prices as well as sharp declines in brand name advertising. This paper examines circumstances under which this empirical pattern could be observed. The analysis focuses on models where the demand for brand name pharmaceuticals is divided into two segments, only one of which is cross-price-sensitive. Brand name firms are assumed to set price and advertising in a Stackelberg context; they allow for responses by generic producers but the latter take decisions by brand name firms as given. Brand name price and advertising responses to entry are shown to depend upon the properties of the reduced form brand name demand function. Conditions for positive price responses and negative advertising responses are derived.

Frankel, Jeffrey

PD June 1991. **TI** A Note on Internationally Coordinated Policy Packages Intended to be Robust under Model Uncertainty. **AU** Frankel, Jeffrey; Erwin, Scott. **AA** Frankel: University of California, Berkeley. Erwin: Northwestern University. **SR** National Bureau of Economic Research Working Paper: 3747; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 9. **PR** $3.00. **JE** E52, E61, F42. **KW** Bargaining. Welfare. Macroeconomic Policy.

AB Holtham and Hughes Hallett, and a number of other authors, have suggested that a printout of all 1,000 cases of coordination considered in Frankel and Rockett (1988) should be made available. They wish to check whether, if coordination is restricted to policy packages that they call "strong" bargains, it would raise welfare a higher percentage of the time. We now make those results available. The results show that if coordination is restricted to packages that are robust with respect to model uncertainty, such as the so-called "strong" bargains, it does indeed improve the odds in favor of gains from coordination.

PD June 1991. **TI** An Indicator of Future Inflation Extracted from the Steepness of the Interest Rate Yield Curve Along its Entire Length. **AU** Frankel, Jeffrey; Lown, Clara S. **AA** Frankel: University of California, Berkeley. Lown: Federal Reserve Bank of New York. **SR** National Bureau of

Economic Research Working Paper: 3751; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 11. **PR** $3.00. **JE** E31, E37, E43. **KW** Interest Rate. Inflation. Yield Curve. Forecasting.

AB It is often suggested that the slope of the term structure of interest rates contains information about the expected future path of inflation. Mishkin (1990) has recently shown that the spread between the 12-month and 3-month interest rates helps to predict the difference between the 12-month and 3-month inflation rates. His approach however, lacks a theoretical foundation, other than the (rejected) hypothesis that the real interest rate is constant. This paper applies a simple existing theoretical framework, which allows the real interest rate to vary in the short-run but converge to a constant in the long-run, to the problem of predicting the inflation spread. It is shown that the appropriate indicator of expected inflation can make use of the entire length of the yield curve, in particular by estimating the steepness of a specific nonlinear transformation of the curve, rather than being restricted to a spread between two points.

TI Are Exchange Rate Expectations Biased? Tests for a Cross-Section of 25 Currencies. **AU** Chinn, Menzie; Frankel, Jeffrey.

PD August 1991. **TI** The European Monetary System: Credible at Last? **AU** Frankel, Jeffrey; Phillips, Steven. **AA** Frankel: University of California, Berkeley and National Bureau of Economic Research. Phillips: International Monetary Fund. **SR** National Bureau of Economic Research Working Paper: 3819; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** F31, E42, D84. **KW** Exchange Rate. Target Zones. Expectations.

AB We update tests of the credibility of the EMS exchange rate target zones. Our main methodological innovation is to use a survey of exchange rate forecasts, as well as interest differentials, in measuring exchange rate expectations. We investigate the hypothesis -- suggested by the apparent stabilization of the EMS and by recent institutional developments -- that the EMS target zones have experienced an increase in credibility since their 1987 realignment. The evidence tends to support this hypothesis for most currencies. We also examine the empirical failure of standard target zone models, but find no evidence that it can be attributed to mismeasurement of expectations. Finally, we consider an alternative credibility measure which captures the importance of possible realignments in overall expectations of exchange rate changes.

PD August 1991. **TI** Exchange Rate Expectations and the Risk Premium: Tests for a Cross-Section of 17 Currencies. **AU** Frankel, Jeffrey; Chinn, Menzie. **AA** University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 3806; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 10. **PR** $3.00. **JE** F30, F31, E43. **KW** Discount Rate. Depreciation. Expectations. Currencies.

AB Survey data on a broad cross section of 17 currencies are used to determine whether the forward discount moves primarily in response to changes in expectations of depreciation, or in the risk premium. We find that changes in expected depreciation are quantitatively significant. However we also find evidence, in contrast to earlier studies involving only four or five major currencies, that variation in the risk premium constitutes a large part of variation in the forward discount as well.

Freeman, Alida Castillo

PD June 1991. **TI** Minimum Wages in Puerto Rico: Textbook Case of a Wage Floor? **AU** Freeman, Alida Castillo; Freeman, Richard B. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3759; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 12. **PR** $3.00. **JE** J31, J38, E24. **KW** Employment Effects. Elasticity of Employment. Earnings Distribution.

AB This paper uses time series and cross-industry data on employment and wages in Puerto Rico to assess the effects of applying the U.S. minimum wage to the Puerto Rican labor market. We find that the U.S. minimum has a massive effect on the earnings distribution in Puerto Rico and that it has substantially lowered employment and altered the allocation of labor across industries. The reduction in employment is due to the fact the minimum has a high level relative to average earnings or productivity, not to an especially high estimated elasticity of employment to the minimum. We claim that the results support the textbook model of the minimum wage more strongly than studies of the minimum in the U.S. because in Puerto Rico the U.S. minimum has "real bite".

Freeman, Richard B.

TI Minimum Wages in Puerto Rico: Textbook Case of a Wage Floor? **AU** Freeman, Alida Castillo; Freeman, Richard B.

TI What Went Wrong? The Erosion of Relative Earnings and Employment among Young Black Men in the 1980's. **AU** Bound, John; Freeman, Richard B.

PD August 1991. **TI** How much has De-Unionization Contributed to the Rise in Male Earnings Inequality? **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3826; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J51, J31, D31. **KW** Unions. Wages. Income Distribution. Wage Differentials.

AB This paper estimates the effect of changing union density on earnings differentials and inequality among male workers in the U.S. and on industry earnings differentials among OECD countries. For the U.S. the evidence indicates that the fall in union density contributed to the 1980's increase in earnings inequality. Cross-section based estimates of union wage effects suggest that 40-50% of the rise in the white collar premium, 15-40% of the rise in the college premium, and 20% of the rise in the standard deviation of ln earnings for all men are attributable to the fall in union density. Longitudinal-based estimates of union wage effects suggest that deunionization contributed less to the rise in differentials.

PD September 1991. **TI** Skill Differentials in Canada in an Era of Rising Labor Market Inequality. **AU** Freeman, Richard B.; Needels, Karen. **AA** Freeman: National Bureau of Economic Research. Needels: Princeton University. **SR** National Bureau of Economic Research Working Paper: 3827; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J31, J24, J21. **KW** Wage

Differentials. Education. Canada. Wages.
AB This paper examines educational earnings differentials in Canada in the 1980's and compares changes in differentials to those in the United States. Our major finding is that the college/high school differential increased much less in Canada than in the United States. We also find that within educational groups the distribution of earnings widened, gender pay gaps narrowed, and age pay gaps increased in Canada as in the United States. The greater growth of the college graduate proportion of the work force in Canada than in the United States is one important reason why differentials rose more modestly in Canada than in the United States. The greater strength of Canadian unions in wage-setting, and the faster growth of real national output, and a better trade balance in Canada may also have contributed to the smaller rise in differentials.

PD October 1991. **TI** Crime and the Employment of Disadvantaged Youths. **AA** London School of Economics and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3875; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J15, K42, J21. **KW** Criminals. Illegal Behavior. Youth Employment.
AB This paper examines the magnitude of criminal activity among disadvantaged youths in the 1980's. It shows that a large proportion of youths who dropped out of high school, particularly black school dropouts, developed criminal records in the decade; and that those who were incarcerated in 1980 or earlier were much less likely to hold jobs than other youths over the entire decade. The magnitudes of incarceration, probation, and parole among black dropouts, in particular, suggest that crime has become an intrinsic part of the youth unemployment and poverty problem, rather than deviant behavior on the margin. Limited evidence on the returns to crime suggest that with the decline in earnings and employment for less educated young men, crime offers an increasingly attractive alternative.

Freeman, Scott
PD August 1991. **TI** The Optimality of Nominal Contracts. **AU** Freeman, Scott; Tabellini, Guido. **AA** Freeman: University of Texas, Austin; Tabellini: Innocenzo Gasparini Institute for Economic Research. **SR** National Bureau of Economic Research Technical Paper: 110; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** L14, D81, D90. **KW** Contracts. Uncertainty. Decision Theory. Intertemporal Model.
AB Why do we see nominal contracts in the presence of price level risk? To answer this question, this paper studies an overlapping generations model in which the equilibrium contract form is optimal, given the contracts elsewhere in the economy. Nominal contracts turn out to be optimal in the presence of aggregate price level risk under two circumstances. First, if individuals have the same constant degree of relative risk aversion. The reason is that in this case nominal contracts (eventually coupled with equity contracts) lead to optimal risk sharing. Second, nominal contracts can be optimal, even if the first condition is not met, if the repayment of contracts is subject to a binding cash-in-advance constraint. The reason is that a contingent contract, while reducing purchasing power risk, also increases the cash flow risk. Under a binding cash-in-advance constraint on the repayment of contracts, this second risk is costly, and it is minimized by a nominal contract. Finally, the paper also identifies some symmetry conditions under which nominal contracts are optimal even in the presence of relative price risk.

Friedlaender, Ann F.
PD March 1991. **TI** Fair Rates and Rates of Return in a Deregulated Rail Industry. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 576; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 35. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Students. **JE** L91, L51. **KW** Railroads. Regulation. Transportation.
AB This paper addresses the question of whether "fair" rates to captive shippers are compatible with "fair" rates of return for the railroads in the period of quasi deregulation since the passage of the Staggers Act in 1980. This question is analyzed by developing a simple model of "polar" Ramsey pricing in which a public utility faces a break-even constraint while selling in two sectors: a competitive one in which price equals marginal cost; and a captive one, which has to bear the entire revenue burden. Under these circumstances, the markup in the captive sector can be shown to depend on the degree of economies of scale and the marginal cost revenue shares in the captive and competitive sectors. Using the results of a translog cost function based on panel data of Class I railroads from 1974-1986, the paper shows that returns to scale are sufficiently large to cause coal rates to rise to socially unacceptable levels if captive coal shippers have to bear the entire revenue burden.

TI Mergers, Deregulation and Cost Savings in the U.S. Rail Industry. **AU** Berndt, Ernst R.; Friedlaender, Ann F.; Chiang Wang Shaw-Er, Judy; Vellturo, Christopher A.

PD September 1991. **TI** Rail Costs and Capital Adjustments in a Quasi-Regulated Environment. **AU** Friedlaender, Ann F.; Berndt, Ernst R.; Chiang, Judy Shaw-Er Wang; Showalter, Mark; Vellturo, Christopher A. **AA** Friedlaender and Chiang: Massachusetts Institute of Technology. Berndt: National Bureau of Economic Research. Showalter: Brigham Young University. Vellturo: National Economic Research Associates. **SR** National Bureau of Economic Research Working Paper: 3841; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** L91, R48, R41. **KW** Transportation. Railroads. Regulation.
AB This paper reports on results obtained from the estimation of a rail cost function using a pooled time series, cross-section of Class I railroads for the period 1974-1986. An analysis is performed of short-run and long-run returns to scale, the extent of capital disequilibrium, and adjustments to way and structures capital in the heavily regulated and quasi-regulated environments before and after the passage of the Staggers Act in 1980. In general, it is found that there is considerable overcapitalization in the rail industry and that this has persisted in spite of the regulatory freedom provided by the Staggers Act.

Friedman, Benjamin M.
PD October 1991. **TI** Another Look at the Evidence on Money-Income Causality. **AU** Friedman, Benjamin M.; Kuttner, Kenneth N. **AA** Friedman: Harvard University and

https://doi.org/10.1017/S0951007900002497 Published online by Cambridge University Press

National Bureau of Economic Research. Kuttner: Federal Reserve Bank of Chicago. **SR** National Bureau of Economic Research Working Paper: 3856; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E27, E23, E44. **KW** Financial Markets. Output. Interest Rates. Forecasting.
AB Stock and Watson's widely noted finding that money has statistically significant marginal predictive power with respect to real output (as measured by industrial production), even in a sample extending through 1985 and even in the presence of a short-term interest rate, is not robust to two plausible changes. First, extending the sample through 1990 renders money insignificant within Stock and Watson's chosen specification. Second, using the commercial paper rate in place of the Treasury bill rate renders money insignificant even in the sample ending in 1985. A positive finding is that the difference between the commercial paper rate and the Treasury bill rate does have highly significant predictive value for real output, even in the presence of money, regardless of sample.

PD October 1991. **TI** Why does the Paper-Bill Spread Predict Real Economic Activity. **AU** Friedman, Benjamin M.; Kuttner, Kenneth N. **AA** Friedman: Harvard University and National Bureau of Economic Research. Kuttner: Federal Reserve Bank of Chicago. **SR** National Bureau of Economic Research Working Paper: 3879; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E32, E43, E44. **KW** Interest Rates. Treasury Bills. Business Cycle.
AB Evidence based on the past three decades of U.S. experience shows that the difference between the interest rates on commercial paper and Treasury bills has consistently borne a systematic relationship to subsequent fluctuations of nonfinancial economic activity. This interest rate spread typically widens in advance of recessions, and narrows again before recoveries. The relationship remains valid even after allowance for other financial variables that previous researchers have often advanced as potential business cycle predictors. This paper provides support for each of three different explanations for this predictive power of the paper bill spread. First, changing perceptions of default risk exert a clearly recognizable influence on the spread. Second, again under conditions of imperfect substitutability, a widening paper bill spread is also a symptom of the contraction in bank lending due to tighter monetary policy. Third, there is also evidence of a further role for independent changes in the behavior of borrowers in the commercial paper market due to their changing cash requirements over the course of the business cycle.

Froot, Kenneth A.

PD June 1991. **TI** Japanese Foreign Direct Investment. **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 3737; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $3.00. **JE** F21, F13, G15. **KW** Protectionism. International Investment. Tax Policy. Nationality Bias. Barriers.
AB Japan's outflows of foreign direct investment (FDI) have increased dramatically in recent years, to the point where Japan has become the world's largest overseas direct investor. This paper documents the increase in Japanese FDI, as well as its breakdown across industries and countries. Investments in real estate and financial services have grown most rapidly, as has Japanese FDI into North America, which now accounts for fully half of Japan's outflows. The paper then goes on to discuss and evaluate some of the most popular explanations for this explosion in investment: Japanese current account surpluses; actual or anticipated protectionism abroad; appreciated stock prices and value of the yen; and changes in international tax policy.

Fry, Vanessa

PD September, 1989. **TI** Abstention and Aggregation: Demand for Tobacco in the United Kingdom. **AU** Fry, Vanessa; Pashardes, Panos. **AA** Fry: Oxford University and IFS. Pashardes: City University and IFS. **SR** Institute for Fiscal Studies (IFS) Working Paper: W89/8; Institute for Fiscal Studies, 180.182 Tottenham Court Road, London W1P 9LE, ENGLAND. **PG** 30. **PR** 3 pounds. **JE** E21, O11, D11, D12. **KW** Zero Expenditures. Aggregate Demand. Consumer Theory.
AB This paper examines the implications of zero expenditures at the micro level for the modeling of aggregate consumer demands. Zero expenditure by an individual consumer on a good can be due to abstention from its consumption in the sense that there is no non-negative price which would induce consumption. When such zero expenditures are included in the data from which aggregate consumer demand is estimated the resulting parameters may be unstable. The issue is investigated empirically using pooled Family Expenditure Survey data for the United Kingdom for the years 1970-1984, focusing on the demand for tobacco.

Frydman, Roman

PD September 1991. **TI** Privatization and Corporate Governance in Eastern Europe: Can a Market Economy be Designed? **AU** Frydman, Roman; Rapaczynski, Andrzej. **AA** Frydman: New York University. Rapaczynski: Columbia University. **SR** New York University Economic Research Reports: 91-52; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 48. **PR** no charge. **JE** P51, L33, P21, O17. **KW** Privatization. Corporate Control. Eastern Europe.
AB The usual view of the problem of transition in Eastern Europe is that the industrial plant is technologically obsolete and the countries involved lack many of the technical and managerial skills necessary to run a modern production process. In addition, the absence of a rational price system causes great misallocations of resources and creates wrong incentives for the people in control of enterprises. While we share these concerns, we believe that the analysis of the difficulties facing the East European economies is often flawed by insufficient attention to what constitutes the most basic systemic obstacle to the growth of the region's economies. For in addition to all these problems, and beyond the political crisis they may generate, there remains what we consider to be the most challenging question of the whole economic reform: what will fill the gap created by the withdrawal of the state from the position of control? Indeed, without solving this problem, the process of modernization is bound not only to be costly, but also to fail.

PD September 1991. **TI** Evolution and Design in the East European Transition. **AU** Frydman, Roman; Rapaczynski, Andrzej. **AA** Frydman: New York University. Rapaczynski: Columbia University. **SR** New York University Economic

Research Reports: 91-53; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 55. **PR** no charge. **JE** P51, L33, O12. **KW** Privatization. Corporate Control. Eastern Europe. Infrastructure.

AB Most of the work on privatization in Eastern Europe to date has concentrated on the change of ownership issue and its importance for the restructuring process. In our previous papers, we have linked these issues to a broader question of the future corporate governance structure in Eastern Europe. But all of the studies so far have looked at the impact of privatization primarily in terms of its effect on each enterprise taken as a unit. The aggregate effects of privatization have usually been left out of account, presumably in the assumption that the interaction among firms and the effect of their restructuring on the economy as a whole had no particular bearing on the appropriate method and scope of privatization to be pursued on the enterprise level. In this paper, we begin to fill this gap in the literature, and link the discussion of the various approaches to large-scale privatization with other problems of economic transition.

Fuchs, Victor R.

PD October 1991. **TI** National Health Insurance Revisited. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3884; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** I11. **KW** Health Care. Medical Insurance. Medical Costs.

AB This paper explains why one in seven Americans has no health insurance, and compares the casualty and the social insurance models of health insurance. The paper discusses the relationship among national health insurance (NHI), the cost of care, and the health of the population, and it considers the prospects for NHI in the United States in the short-run and the long-run. Four explanations for the absence of NHI in the United States -- distrust of government, heterogeneity of the population, a robust voluntary sector, and lack of "noblesse oblige" -- are evaluated in the light of recent political, social, and economic trends.

Fudenberg, Drew

PD October 1991. **TI** Maintaining a Reputation when Strategies are Imperfectly Observed. **AU** Fudenberg, Drew; Levine, David K. **AA** Fudenberg: Massachusetts Institute of Technology. Levine: University of California, Los Angeles. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 589; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 43. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** C72, D74, L14. **KW** Reputation. Commitment. Stackelberg.

AB This paper studies reputation effects in games with a single long-run player whose choice of stage-game strategy is imperfectly observed by his opponents. We obtain lower and upper bounds on the long-run player's payoff in any Nash equilibrium of the game. If the long-run player's stage game strategy is statistically identified by the observed outcomes, then for generic payoffs the upper and lower bounds both converge, as the discount factor tends to 1, to the long-run player's Stackelberg payoff, which is the most he could obtain by publicly committing himself to any strategy.

PD October 1991. **TI** Explaining Cooperation and Commitment in Repeated Games. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 590; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 70. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** C71, D74, L14. **KW** Commitment. Cooperation. Reputation. Evolution. Cooperative Games.

AB Although repeated games typically have many equilibria, there is a widespread intuition that certain of these equilibria are particularly reasonable. This paper surveys two literatures that attempt to explain why this is so, namely those on reputation effects and evolutionary stability in repeated games.

PD October 1991. **TI** Efficiency and Observability with Long-Run and Short-Run Players. **AU** Fudenberg, Drew; Levine, David K. **AA** Fudenberg: Massachusetts Institute of Technology. Levine: University of California, Los Angeles. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 591; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 51. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** D82, D74, C71. **KW** Folk Theorem. Repeated Games. Cooperative Games.

AB We present a general algorithm for computing the limit, as delta tends toward 1, of the set of payoffs of perfect public equilibria of repeated games with long-run and short-run players, allowing for the possibility that the players' actions are not observable by their opponents. We illustrate the algorithm with two economic examples. In a simple partnership we show how to compute the equilibrium payoffs when the folk theorem fails. In an investment game, we show that two competing capitalists subject to moral hazard may both become worse off if their firms are merged and they split the profits from the merger. Finally, we show that with short-run players each long-run player's highest equilibrium payoff is generally greater when their realized actions are observed.

PD October 1991. **TI** Steady State Learning and Nash Equilibrium. **AU** Fudenberg, Drew; Levine, David K. **AA** Fudenberg: Massachusetts Institute of Technology. Levine: University of California, Los Angeles. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 594; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 52. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** C44, C72, D83. **KW** Learning. Nash Equilibrium.

AB We study the steady states of a system in which players learn about the strategies their opponents are playing by updating their Bayesian priors in light of their observations. Players are matched at random to play a fixed extensive-form game, and each player observes the realized actions in his own matches, but not the intended off-path play of his opponents or the realized actions in other matches. If lifetimes are long and players are very patient, the steady state distribution of actions approximates those of a Nash equilibrium.

Fuhrer, Jeffrey C.

TI Does Consumer Sentiment Affect Household Spending? If So, Why? **AU** Carroll, Christopher D.; Fuhrer, Jeffrey C.; Wilcox, David W.

Fulghieri, Paolo

TI Investment Banker Reputation, Information Production, and Financial Intermediation. **AU** Chemmanur, Thomas J.; Fulghieri, Paolo.

Fullerton, Don

PD June 1991. **TI** Lifetime Versus Annual Perspectives on Tax Incidence. **AU** Fullerton, Don; Lim Rogers, Diane. **AA** Fullerton: University of Virginia. Lim Rogers: Pennsylvania State. **SR** National Bureau of Economic Research Working Paper: 3750; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 21. **PR** $3.00. **JE** H20, H22, H24. **KW** Taxation. Taxes. Earnings Profile. Tax Policy. Income Taxes.

AB Recent academic research on tax incidence has shifted from an emphasis on static and annual perspectives to examinations of dynamic and lifetime issues. Meanwhile, policy economists are forced to rely on annual data and hence annual analyses. The purpose of this paper is to discuss the nature and analysis of lifetime tax incidence, and to compare and contrast this lifetime perspective with the more familiar annual perspective. In our comparison, we find that (1) the lifetime perspective requires much more data over longer periods of time, because results depend critically on the whole shape of the lifetime earnings profile, (2) individuals classified by annual income decile are often reclassified into very different lifetime income deciles, (3) the personal income tax and corporate income tax appear less progressive on a lifetime basis, while consumption taxes appear less regressive on a lifetime basis, and (4) despite the different approaches and the different reasons underlying the incidence of each particular tax, the lifetime incidence of the entire U.S. tax system is strikingly similar to the annual incidence.

Funke, Michael

TI German Trade Unions after Unification: Third Degree Wage Discriminating Monopolists? **AU** Burda, Michael; Funke, Michael.

Gascon, V.

PD April 1991. **TI** Electricity Distribution Planning Model: A Network Design Approach Solving the Master Problem of the Benders Decomposition Method. **AU** Gascon, V.; Benchakroun, A.; Ferland, J. A. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9123; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 21. **PR** not available. **JE** C61, C63, O21. **KW** Linear Programming. Planning Model. Electricity.

AB We present here a Lagrangian relaxation method combined with a heuristic procedure to solve the master problem of an electricity distribution planning model. A Benders decomposition method is used to solve the equivalent global mixed integer linear programming problem. The procedure exploits the inherent network structure of the master problem and eliminates the difficulty of dealing with a dynamic problem. The procedure also gives some interesting computational results.

Gaynor, Martin

PD October 1991. **TI** Hospital Costs and the Cost of Empty Hospital Beds. **AU** Gaynor, Martin; Anderson, Gerard, F. **AA** Gaynor: Johns Hopkins University and National Bureau of Economic Research. Anderson: Johns Hopkins University. **SR** National Bureau of Economic Research Working Paper: 3872; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** I11. **KW** Health Care. Hospitals. Medical Costs.

AB The cost of excess capacity in the hospital industry has reemerged as an important policy issue. Utilized capacity in the hospital industry, as measured by the inpatient hospital bed occupancy rate, has declined over the past 10 years and now stands at approximately 65 percent. Congress and the Administration are concerned that the costs associated with empty beds represent wasteful expense and have proposed an adjustment to Medicare payment rates which will penalize hospitals with low occupancy rates. Hospitals, on the other hand, have indicated that the costs of empty hospital beds are low and that reimbursement adjustments are unnecessary. In order to provide more current and representative estimates of the cost of an empty hospital bed we estimate the cost function model of Friedman and Pauly using data from a national sample of 5315 hospitals for the years 1983-1987.

Geanakoplos, John

PD July 1991. **TI** Overlapping Generations. **AU** Geanakoplos, John; Polemarchakis, Heraklis. **AA** Geanakoplos: Yale University. Polemarchakis: Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9131; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 25. **PR** not available. **JE** D91, D51, D11. **KW** Utility Theory. Exchange Economy.

AB Four characteristics account for the properties of competitive equilibria in economies of overlapping generations: i) the countable infinity of commodities and individuals; ii) the impatience displayed by the utility functions of individuals; iii) the finite number of individuals who desire and essentially own each commodity; iv) the recursive patterns possibly displayed by the utility functions and endowments of individuals and the production functions of firms.

Gertner, Robert

TI The Informativeness of Prices: Search with Learning and Cost Uncertainty. **AU** Benabou, Roland; Gertner, Robert.

Gibbons, Robert

TI Learning and Wage Dynamics. **AU** Farber, Henry S.; Gibbons, Robert.

PD July 1991. **TI** Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence. **AU** Gibbons, Robert; Murphy, Kevin J. **AA** Gibbons: Cornell University. Murphy: Harvard University. **SR** National Bureau of Economic Research Working Paper: 3792; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** $3.00. **JE** J33, J41, J44. **KW** Contracts. Executive Officers. Incentives. CEOs. Wages. Compensation.

AB This paper studies career concerns - concerns about the effects of current performance on future compensation - and describes how optimal incentive contracts are affected when career concerns are taken into account. Career concerns arise frequently: they occur whenever the market uses a worker's current output to update its belief about the worker's ability and competition then forces future wages (or wage contracts) to reflect these updated beliefs. Career concerns are stronger when a worker is further from retirement, because a longer prospective career increases the return to changing the market's belief. In the presence of career concerns, the optimal compensation contract optimizes total incentives- the combination of the implicit incentives from career concerns and the explicit incentives from the compensation contract. Thus, the explicit incentives from the optimal compensation contract should be strongest when a worker is close to retirement. We find empirical support for this prediction in the relation between chief-executive compensation and stock-market performance.

Giovannini, Alberto

PD August 1991. **TI** The Currency Reform as the Last Stage of Economic and Monetary Union: Some Policy Questions. **AA** Columbia University, Centre for Economic Policy Research and National Bureau of Economic Research. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-15; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 15. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** F31, F33, F36. **KW** Currency. Financial Integration. Europe. Monetary Reform. Exchange Rate.

AB The paper discusses the policy problems of a project aimed at substituting several national currencies with one single currency. While these problems are of general interest, the analysis is motivated by the plan for Economic and Monetary Union among the members of the European Community. The issues discussed include the choice of conversion rates and the effects of exchange rate devaluations at the time of the monetary reform.

Glasner, David

TI Pre-Keynesian Monetary Theories of the Great Depression: Whatever Happened to Hawtrey and Cassel? **AU** Batchelder, Ronald W.; Glasner, David.

Godley, Wynne A. H.

PD April 1991. **TI** Britain and the Danger of EMU and A Macroview of the Danish Economy. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9111; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 35. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** F33, F15, E17, E63, O52. **KW** EMU. Macroeconomic Model. Macroeconomic Policy. Denmark. Balance of Payments. Government Spending.

AB 1. This short paper was originally a contribution to a public discussion in Copenhagen. Its main purpose is to contest the view, which is at present quite widely held, that macroeconomic policy is impotent, that we have nothing to fear from "free trade" and consequently that Britain has everything to gain, with little qualification, from membership of EMU. 2. This second paper is an exercise in elementary applied macroeconomics. The history of the Danish economy during the past twenty years, as revealed by aggregate statistics, is first described and some major problems identified. Various alternative past histories are then explored (some of them only to be rejected) using an econometric model of the Danish economy. The purpose is to reveal (in particular) how Denmark has had, in the end, to pay a very heavy price for having run excessive balance of payments deficits for several years in the late sixties and early seventies. The model is also used to identify strategic problems at the present time.

Goldin, Claudia

PD August 1991. **TI** The Great Compression: The Wage Structure in the United States at Mid-Century. **AU** Goldin, Claudia; Margo, Robert A. **AA** Goldin: Harvard University and National Bureau of Economic Research. Margo: Vanderbilt University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3817; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** N32, J31. **KW** Wages. Wage Structure. Human Capital. .

AB The structure of wages narrowed considerably during the 1940's, increased slightly during the 1950's and 1960's, and then expanded greatly after 1970. The era of wage stretching of the past two decades has been a current focus, but we return attention here to the decade that was witness to an extraordinary compression in the wage structure. Wages narrowed by education, job experience, region, and occupation, and compression occurred within these cells as well. For white men, the 90-10 differential in the log of wages was 1.414 in 1940 but 1.060 in 1950. By 1985 it has risen back to its 1940 level. Thus the recent widening of the wage structure has returned to it a dispersion characteristic of fifty years ago.

Goldstein, Morris

PD September 1991. **TI** Market-Based Fiscal Discipline in Monetary Unions: Evidence from the U.S. Municipal Bond Market. **AU** Goldstein, Morris; Woglom, Geoffrey. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/89; International Monetary Fund, Washington, DC 20431. **PG** 34. **PR** not available. **JE** E62, H72, H74. **KW** Fiscal Policy. Budget Deficit. Credit. Borrowing.

AB The concept of market-based fiscal discipline posits that a government which runs persistent, excessive fiscal deficits will face an increased cost of borrowing and eventually, a reduced availability of credit, and that these market actions will provide an incentive to correct irresponsible fiscal behavior. This paper presents new empirical evidence on market-based fiscal discipline by estimating the relationship between the cost of borrowing and fiscal policy behavior across U.S. states. We find that U.S. states which have followed more prudent fiscal policies are perceived by the market as having lower default risk and are therefore able to reap the benefit of lower borrowing costs.

Gordon, Robert J.

PD August 1991. **TI** Productivity in the Transportation Sector. **AA** Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3815; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** L90, D24, C82, L51. **KW** Productivity. Transportation. Railroads. Airlines. Regulation.

AB This is a comprehensive study of measurement and substantive issues that arise in determining the rate of multifactor productivity (MFP) growth in the transportation industry over the postwar period, 1948-87. Official data on output and employment are provided by two government agencies and conflict markedly for railroads, airlines, and trucking. This paper identifies the source of the conflicts and selects the best of the government indexes for further study. It concludes that improved data reduce the magnitude of the post-1973 productivity slowdown in transportation MFP growth from a previously reported 2.5 percent per annum to just 0.5 percent. The effect of deregulation has been mixed; MFP growth accelerated markedly for railroads when 1978-87 is compared to the pre-1978 period, but slowed sharply for airlines and trucking.

Gordon, Roger H.

TI Taxes and the Choice of Organizational Form. **AU** MacKie-Mason, Jeffrey K.; Gordon, Roger H.

PD September 1991. **TI** Do Tax-Exempt Bonds Really Subsidize Municipal Capital? **AU** Gordon, Roger H.; Metcalf, Gilbert E. **AA** Gordon: University of Michigan and National Bureau of Economic Research. Metcalf: Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3835; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** H71. **KW** Taxes. Arbitrage. Municipal Bonds. Government Bonds.

AB We argue that the tax-exempt status of municipal bonds provides little or no subsidy to capital investment by communities. Instead, the tax exemption simply provides arbitrage opportunities to high and low tax bracket individuals while leaving individuals in intermediate tax brackets essentially unaffected. We also argue that the revenue cost of the tax exemption is much less than traditionally thought due to the portfolio rebalancing that would occur if the tax exemption were eliminated. Finally, we note that the only way to prevent all municipal arbitrage possibilities would be to pass through municipal interest income and payments to residents for tax purposes.

Gorton, Gary

TI Stock Price Manipulation: Market Microstructure and Asymmetric Information. **AU** Allen, Franklin; Gorton, Gary.

Granger, Clive W. J.

PD October 1991. **TI** Comments on the Evaluation of Policy Models. **AU** Granger, Clive W. J.; Deutsch, Melinda. **AA** University of California, San Diego. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 413; Division of International Finance, Board of Governors of the Federal Reserve System, Washington DC 20551. **PG** 23. **PR** no charge. **JE** C12, C52, E52, E61. **KW** Evaluation. Forecasting. Forecast Encompassing. Mean Square Error. Policy Models.

AB This paper examines the evaluation of models claimed to be relevant for policy-making purposes. A number of tests are proposed to determine the usefulness of such models in the policy-making process. These tests are applied to three empirical examples.

Gray, Richard

PD August 1991. **TI** Resource Mobility, Diversification of Ownership, and Political Rent-Seeking Incentives. **AU** Gray, Richard; Foster, William E.; Rausser, Gordon C. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 552; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 16. **PR** $5.00. **JE** D23, L33, O18. **KW** Property Rights. Planned Economy. Economic Development. Market Economy.

AB Eastern Europe is at a major crossroad in economic development. It is expected that the reorganization of these emerging market economies will result in a transfer of largely government controlled assets to the ownership by smaller organizations and individuals. Many neoclassical economists have argued that the assignment of property rights is a crucial initial step in the path toward a market economy. Some of these same economists would use the Coase theorem to argue the distribution of the property rights is an issue of equity rather than efficiency. Still others would argue that one property right distribution may be more economically efficient than others because of organizational and transaction costs (Williamson 1985). What these arguments fail to recognize is that the political-economic impact of property right assignment can dominate any associated efficiency consequences.

Gray, Wayne B.

PD July 1991. **TI** Do OSHA Inspections Reduce Injuries? A Panel Analysis. **AU** Gray, Wayne B.; Scholz, John T. **AA** Gray: Clark University. Scholz: New York State University. **SR** National Bureau of Economic Research Working Paper: 3744; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $3.00. **JE** J26, L60. **KW** Penalties. Workplace Safety. OSHA. Safety Inspection.

AB Using data on injuries and OSHA inspections for 6,842 large manufacturing plants between 1979 and 1985, we find evidence that OSHA inspections significantly reduce injuries. This effect comes exclusively from inspections that impose penalties; inspections which do not impose penalties appear to have no effect on injuries. Plants which are inspected (and penalized) in a given year experience a 22 percent decline in their injuries during the following few years. In our sample, total OSHA enforcement is predicted to have reduced injuries by about 2 percent. We take advantage of the panel nature of our data to test for a number of potential biases: autocorrelated injuries, plant-specific fixed-effects which are correlated with both inspections and injuries, and endogeneity of inspections (injuries causing inspections). These biases lead us to use the percentage change in injuries, rather than injury levels, as the dependent variable for our estimation. Our analysis shows that the estimated effect of inspections on the percentage change in injuries is not significantly affected by these biases, and thus seems to reflect a "deterrence" effect of OSHA inspections on injuries.

Gregory, Allan W.

PD June 1991. **TI** Calibration in Macroeconomics. **AU** Gregory, Allan W.; Smith, Gregor W. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 826; Department of Economics, Queen's

University, Kingston, Ontario, CANADA K7L 3N6. **PG** 36. **PR** $3.00 Canada and U.S.; $3.50 Foreign. **JE** C52, E17. **KW** Asset Pricing. Simulation Model. Macroeconomics.
AB This chapter reviews calibration techniques in macroeconomics. The discussion begins with an outline of the use of calibration in applied work. Next, a simple asset pricing model is the setting for a demonstration of calibration and for comparison with conventional estimation and testing. Experiments with calibrated models may be formalized as Monte Carlo testing. With the asset pricing model, we use simulation methods to calculate the exact size of the variance-bounds-type test proposed by Hansen and Jagannathan (1991). Finally, we suggest that calibration is best viewed as an informal guide to model reformulation.

PD July 1991. **TI** Testing for Structural Breaks in Cointegrated Relationships. **AU** Gregory, Allan W.; Nason, James M. **AA** Gregory: Queen's University. Nason: University of British Columbia. **SR** Queen's Institute for Economic Research Discussion Paper: 827; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 37. **PR** $3.00 Canada and U.S.; $3.50 Foreign. **JE** C12, C15, C22, C52. **KW** Cointegration. Structural Breaks.
AB The purpose of this paper is to investigate using Monte Carlo methods the tests of Hansen (1991) to detect structural breaks in cointegrated relations. The evaluation takes place within the linear quadratic model. The evidence for a single regressor suggests that the tests have proper size and that the power is good provided the cost of adjustment is low. In addition to the tests of Hansen, we consider the sensitivity of the augmented Dickey-Fuller(ADF) test for cointegration in the presence of a structural break. Our Monte Carlo experiments show that the ADF test suffers a substantial loss of power (a failure to reject the null of no cointegration). As a practical example we consider the stability of the long-run coefficients in annual U.S. money demand.

Griliches, Zvi

PD July 1991. **TI** The Search for R&D Spillovers. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3768; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** $3.00. **JE** O30, O32, E23. **KW** Growth Theory. R&D. Externalities. Technical Change.
AB R&D spillovers are, potentially, a major source of endogenous growth in various recent "New Growth Theory" models. This paper reviews the basic model of R&D spillovers and then focuses on the empirical evidence for their existence and magnitude. It reviews the older empirical literature with special attention to the econometric difficulties of actually coming up with convincing evidence on this topic. Taken individually, many of the studies are flawed and subject to a variety of reservations, but the overall impression remains that R&D spillovers are both prevalent and important.

Grilli, Vittorio

TI The European Central Bank: Reshaping Monetary Politics in Europe. **AU** Alesina, Alberto; Grilli, Vittorio.

PD July 1991. **TI** Financial Intermediation and Monetary Policies in the World Economy. **AU** Grilli, Vittorio; Roubini, Nouriel. **AA** Grilli: Birkbeck College. Roubini: Yale University. **SR** Centre for Economic Policy Research Discussion Paper: 566; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 49. **PR** 3 pounds or $5.00. **JE** F41, E51, E52. **KW** Monetary Policy. Financial Intermediation. Credit. Money Supply.
AB In this paper we investigate the role of credit institutions in transmitting monetary shocks to the domestic economy and to the output of the rest of the world. In modeling the monetary and financial sector of the economy we distinguish between monetary injections, that take place via lump-sum transfers to individuals and those that involve increased credit to the commercial banking sector through discount window operations. We distinguish between the discount rate of the central bank and the lending and borrowing interest rates of commercial banks, which we assume are also subject to reserve requirements. We find that domestic output increases after a steady state increase in monetary injections via increases in domestic credit, but an increase in the steady state level of monetary transfers reduces the level of output.

TI The European Central Bank: Reshaping Monetary Politics in Europe. **AU** Alesina, Alberto; Grilli, Vittorio.

Grimm, Curtis M.

TI Action Characteristics as Predictors of Competitive Responses. **AU** Chen, Ming-Jer; Smith, Ken G.; Grimm, Curtis M.

Grishukin, Viatcheslav P.

TI Extreme Hypermetrics and L-Polytopes. **AU** Deza, Michel; Grishukin, Viatcheslav P.; Laurent, Monique.

Grossman, Herschel I.

PD August 1991. **TI** A Theory of War Finance. **AU** Grossman, Herschel I.; Han Taejoon. **AA** Grossman: National Bureau of Economic Research and Brown University. Han: Brown University. **SR** National Bureau of Economic Research Working Paper: 3799; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** H56, H63, F34. **KW** Public Debt. Government Spending. War. Military Spending.
AB This paper analyzes the financial and war spending policies of a state that faces a war in which defeat would result in the loss of sovereign power and in which the material consequences, conditional on avoiding defeat, are stochastic. The analysis takes explicit account of the historical experiences of lenders, who face debt repudiation if the state to whom they have lent is defeated and who also face partial default if the material consequences of the war are unfavorable for the debtor state, even if it avoids defeat. In this analysis, the state uses war debt to smooth expected consumption intertemporally in response to temporary war spending, and the state also uses contingent debt servicing to insure realized consumption against the risk associated with the material consequences of the war.

Grossman, Michael

TI Alcohol Control Policies and Motor Vehicle Fatalities. **AU** Chaloupka, Frank J.; Saffer, Henry; Grossman, Michael.

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Grund, Birgit

PD April 1991. **TI** On the Performance of Kernel Estimators for High-Dimensional, Sparse Binary Data. **AU** Grund, Birgit; Hall, Peter. **AA** Grund: Universite Catholique de Louvain and Humboldt-Universitat, Berlin. Hall: Universite Catholique de Louvain and Australian National University. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9124; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 33. **PR** not available. **JE** C13, C51. **KW** Binary Distribution. Kernel Estimators. Smoothing.

AB We develop mathematical models for high dimensional binary distributions, and apply them to the study of smoothing methods for sparse binary data. Our analysis permits a concise account of the way in which data dimension, data sparseness and distribution smoothness interact to determine the over-all performance of smoothing methods. Previous work on this problem has been hampered by the requirement that the data dimension be fixed. Our approach allows dimension to increase with sample size, so that the theoretical model may accurately reflect the situations encountered in practice; e.g. approximately 20 dimensions and 40 data points. We compare the performance of kernel estimators with that of the cell frequency estimator, and describe the effectiveness of cross-validation.

Guiso, Luigi

PD August 1991. **TI** Why is Italy's Savings Rate so High? **AU** Guiso, Luigi; Jappelli, Tullio; Terlizzese, Daniele. **AA** Guiso and Terlizzese: Banca d'Italia. Jappelli: Universita di Napoli. **SR** Centre for Economic Policy Research Discussion Paper: 572; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 42. **PR** 3 pounds or $5.00. **JE** E21, O16, O52, D91. **KW** Saving. Capital Market. Economic Development. Credit.

AB In this paper we provide an explanation for three features that characterize the Italian savings rate: by international standards, Italy is a "high-saving" country; the Italian savings rate has declined markedly in the last three decades; the correlation between saving and growth is stronger in Italy than in countries at comparable stages of economic development. We compare the size and characteristics of credit and insurance markets in the major OECD countries and argue that the strikingly low development of Italian capital markets may explain these features of savings in Italy. In the second part of the paper we provide a number of empirical tests to assess the effect of earnings uncertainty and borrowing constraints on household saving.

TI Younger Households Savings: Evidence from Japan and Italy. **AU** Ando, Albert; Guiso, Luigi.

Haaland, Jan I.

PD August 1991. **TI** Market Integration, Competition and Welfare. **AU** Haaland, Jan I.; Wooton, Ian. **AA** Haaland: Norwegian School of Economics and Business Administration. Wooton: University of Western Ontario. **SR** Centre for Economic Policy Research Discussion Paper: 574; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 27. **PR** 3 pounds or $5.00. **JE** F12, F15, L13. **KW** Market Integration. Segmented Markets. Competition. European Community.

AB The current debate on the likely impact of completion of the market in the European Community focuses crucially on the nature of the market structure. It has been suggested that 1992 will move an industry from a segmented markets equilibrium to one in which the national markets are fully integrated. We examine the effects of this form of market completion on prices, consumer welfare and profits using a theoretical model augmented by numerical simulations. We find that the effects of market integration can change qualitatively, according to the assumptions made about demand, the barriers to trade and the degree of concentration in the market.

Haines, Michael R.

PD October 1991. **TI** The Use of Historical Census Data for Mortality and Fertility Research. **AA** Colgate University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 31; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** N31, N32, I12, J13. **KW** Census Data. Population. Demographics. Children. Marriage.

AB This paper illustrates the application of indirect techniques of fertility and mortality estimation to historical census data, both in published form and as micro census samples derived from the original enumerators' manuscript. There are many instances in which census data exist but adequate vital registration data do not, such as in the United States prior to 1933, when the Birth and Death Registration areas finally covered the entire nation. Since the United States has taken decennial censuses since 1790, and since all the original population schedules except those for 1890 have been preserved, it is possible to apply these indirect methods. For example, the censuses of 1900 and 1910 asked questions on children ever born, children surviving, and duration of current marriage, but this information was never tabulated or used for 1900 and only partly tabulated for 1910. The Public Use Samples of the 1900 and 1910 censuses make possible the utilization of those data to estimate levels, differentials, and even recent trends in childhood mortality. Application of own-children methods to samples of the censuses since 1850 permits estimation of age-specific overall and marital fertility rates. Finally, the use of the 1900 Public Use Sample in conjunction with published data on parity from the 1910 census (or tabulations from the 1910 Public Use Sample) allows application of the two-census, parity increment method of birth rate estimation.

Haldrup, Niels

PD August 1989. **TI** Unit Roots and Deterministic Trends: With Yet Another Comment on the Existence and Integration of a Unit Root in U.S. GNP. **AU** Haldrup, Niels; Hylleberg, Svend. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-3; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 25. **PR** no charge. **JE** E32, C12, C15, C22. **KW** Unit Roots. Monte Carlo. Time Series Analysis.

AB Recent results on the existence and interpretation of a unit root in U.S. GNP are discussed and it is argued the evidence presented pointing in different directions is fragile and that the results very much depend on the way the problem is attacked. Specifically it is argued that whether the process is an autoregression with a unit root and drift or whether a trend stationary representation must be preferred is debatable.

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However, to use a simple approximation as a univariate time series process in the rejection of for instance business cycle theories cannot be defended at all. In the course of the discussion some of the distributional results obtained by Dickey and Fuller (1981) for the distribution of the deterministic components are discussed and it is shown that the power of the test on the deterministic components is low and that use of these tables can be misleading in small samples when the data generating process contains a drift.

Hall, Bronwyn H.

PD July 1991. **TI** Corporate Restructuring and Investment Horizons. **AA** University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 3794; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 36. **PR** $3.00. **JE** L20, L21, G34, G31. **KW** Long-Run Investment. Takeovers. Capital Costs. Investment.

AB The recent wave of corporate restructuring in the United States has been accused of shortening the investment horizons of U.S. managers. This paper surveys the empirical and case study evidence on restructuring and investment behavior and reaches the following conclusions: (1) A large fraction of the restructurings were motivated by synergistic or other efficiency-enhancing reasons and have little to do with investment horizons. (2) However, massive shifts toward debt in the capital structure of manufacturing firms, often induced by hostile takeover threats, are accompanied by reduced investment of all kinds, particularly in a few industries which are characterized by "stable" technology and cost- based innovative strategies. (3) The evidence is consistent with optimizing behavior on the part of firms faced with a lower relative price of debt to equity and a higher overall cost of capital during the nineteen-eighties, but there are still doubts about whether the U.S. market for corporate control elicits the correct level of long-run investment. Thus the paper concludes with a discussion of the evidence on cross-country differences in the financing of investment and the market for corporate control and suggestions for future research in this area.

Hall, Peter

PD March 1991. **TI** On the Inconsistency of Bootstrap Distribution Estimators. **AU** Hall, Peter; Hardle, Wolfgang; Simar, Leopold. **AA** Hall: Australian National University. Hardle: Universite Catholique de Louvain. Simar: Facultes Universitaires Saint-Louis, Bruxelles and Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9120; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 8. **PR** not available. **JE** C51, C63. **KW** Bootstrap. Consistency. Iterated Bootstrap. Asymptotic Theory.

AB We show that bootstrap distribution estimators of a ranked parameter value are consistent if and only if there are no ties for the rank in question. When inconsistency occurs, the bootstrap distribution estimator does not even converge in probability. This asymptotic result has important implications for small to moderate sample sizes, where poor distribution estimators can result when there are no ties but there are two or more closely spaced parameter values competing for the same rank. Several ways of alleviating the problem of inconsistency are suggested.

TI On the Performance of Kernel Estimators for High-Dimensional, Sparse Binary Data. **AU** Grund, Birgit; Hall, Peter.

PD May 1991. **TI** Iterated Bootstrap with Applications to Frontier Models. **AU** Hall, Peter; Hardle, Wolfgang; Simar, Leopold. **AA** Hall: Australian National University. Hardle: Universite Catholique de Louvain. Simar: Facultes Universitaires Saint-Louis, Bruxelles and Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9121; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 23. **PR** not available. **JE** C51, C63. **KW** Bootstrap. Iterated Bootstrap. Frontier Models. Production.

AB The iterated bootstrap may be used to estimate errors which arise from a single pass of the bootstrap and thereby to correct for them. Here the iteration is employed to correct for coverage probability of confidence intervals obtained by a percentile method in the context of production frontier estimation with panel data. The parameter of interest is the maximum of the intercepts in a fixed firm effect model. The bootstrap distribution estimators are consistent if and only if there are no ties for this maximum. In the regular case (no ties), poor distribution estimators can result when the second largest intercept is close to the maximum. The iterated bootstrap is thus suggested to improve the accuracy of the obtained distributions. The result is illustrated in the analysis of labor efficiency of railways companies.

Haltiwanger, John

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

Han Taejoon

TI A Theory of War Finance. **AU** Grossman, Herschel I.; Han Taejoon.

Hannan, Timothy H.

PD September 1991. **TI** The Functional Relationship between Prices and Market Concentration: The Case of the Banking Industry. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 169; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 39. **PR** no charge. **JE** G21, L11, D41. **KW** Prices. Market Concentration. Market Structure. Banking. Commercial Banks.

AB Because of their significance to antitrust policy in banking, the functional relationships between local market concentration and bank loan and deposit rates are traced in detail. To determine robustness with respect to methodology, both parametric and nonparametric procedures are employed. In general, loan rates are found to rise relatively sharply with concentration, starting at Herfindahl values greater than .18. The deposit rate relationship is found to be less stable over time. For the November 1985 cross-section, MMDA and NOW account rates decline with concentration, starting at Herfindahl values less the .18, but later cross-sections indicate a much weaker relationship.

Hansson, Bengt

TI Measuring the Contribution of Public Infrastructure

Capital in Sweden. **AU** Berndt, Ernst R.; Hansson, Bengt.

Hardle, Wolfgang

TI On the Inconsistency of Bootstrap Distribution Estimators. **AU** Hall, Peter; Hardle, Wolfgang; Simar, Leopold.

TI Iterated Bootstrap with Applications to Frontier Models. **AU** Hall, Peter; Hardle, Wolfgang; Simar, Leopold.

Hart, Oliver

PD October 1991. **TI** A Theory of Debt Based on the Inalienability of Human Capital. **AU** Hart, Oliver; Moore, John. **AA** Hart: Massachusetts Institute of Technology. Moore: London School of Economics and Princeton University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 592; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** not available. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** G32, G33, D23, L14. **KW** Debt. Collateral. Contracts.

AB Consider an entrepreneur who needs to raise funds from an investor, but cannot commit not to withdraw his human capital from the project. The possibility of a default or quit puts an upper bound on the total future indebtedness from the entrepreneur to the investor at any date. We characterize the optimal repayment path and show how it is affected both by the maturity structure of the project return stream and by the durability and specificity of project assets. Our results are consistent with the conventional wisdom about what determines the maturity structure of (long-term) debt contracts.

Hart, Sergiu

PD April 1991. **TI** A Neo(2)Bayesian Foundation of the Maxmin Value for Two-Person Zero-Sum Games. **AU** Hart, Sergiu; Modica, Salvatore; Schmeidler, David. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-340; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 18. **PR** no charge. **JE** C72. **KW** Zero-Sum Games. Decision Theory. Game Theory. Utility Theory.

AB A joint derivation of utility and value for two-person zero-sum games is obtained using a decision theoretic approach. Acts map states to consequences. The latter are lotteries over prizes, and the set of states is a product of two finite sets (m rows and n columns). Preferences over acts are complete, transitive, continuous, monotonic and certainty-independent (Gilboa and Schmeidler (1989)), and satisfy a new axiom which we introduce. These axioms are shown to characterize preferences such that (i) the induced preferences on consequences are represented by a von Neumann-Morgenstern utility function, and (ii) each act is ranked according to the maxmin value of the corresponding (m x n) utility matrix (viewed as a two-person zero-sum game).

Hausman, Jerry A.

PD October 1991. **TI** An Ordered Probit Analysis of Transaction Stock Prices. **AU** Hausman, Jerry A.; Lo, Andrew W.; MacKinlay, A. Craig. **AA** Hausman and Lo: Massachusetts Institute of Technology. MacKinlay: University of Pennsylvania. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 593; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 72. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** G12, G14. **KW** Stock Market. Asset Pricing. Stock Prices.

AB We estimate the conditional distribution of trade-to-trade price changes using ordered probit, a statistical model for discrete random variables. Such an approach takes into account the fact that transaction price changes occur in discrete increments, typically eighths of a dollar, and occur at irregularly spaced time intervals. Unlike existing continuous-time/discrete-state models of discrete transaction prices, ordered probit can capture the effects of other economic variables on price changes, such as volume, past price changes, and the time between trades. Using 1988 transactions data for over 100 randomly chosen U.S. stocks, we estimate the ordered probit model via maximum likelihood and use the parameter estimates to measure several transaction-related quantities, such as the price impact of trades of a given size, the tendency towards price reversals from one transaction to the next, and the empirical significance of price discreteness.

PD October 1991. **TI** An Ordered Probit Analysis of Transaction Stock Prices. **AU** Hausman, Jerry A.; Lo, Andrew W.; MacKinlay, A. Craig. **AA** Hausman and Lo: Massachusetts Institute of Technology and National Bureau of Economic Research. MacKinlay: University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 3888; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** G12, G14. **KW** Stock Prices. Stock Market.

AB We estimate the conditional distribution of trade-to-trade price changes using ordered probit, a statistical model for discrete random variables. Such an approach takes into account the fact that transaction price changes occur in discrete increments, typically eighths of a dollar, and occur at irregularly spaced time intervals. Unlike existing continuous-time/discrete-state models of discrete transaction prices, ordered probit can capture the effects of other economic variables on price changes, such as volume, past price changes, and the time between trades. Using 1988 transactions data for over 100 randomly chosen U.S. stocks, we estimated the ordered probit model via maximum likelihood and use the parameter estimates to measure several transaction-related quantities, such as the price impact of trades of a given size, the tendency towards price reversals from one transaction to the next, and the empirical significance of price discreteness.

Haworth, Barry

TI Economics and Cultural Diversity: The Principles Course Enhanced. **AU** Tuma, Elias H.; Haworth, Barry.

Hayami, Yujiro

PD April 1991. **TI** Japan in the New World Confrontation: A Historical Perspective. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 635; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 14. **PR** $2.00 + postage. **JE** O14, O11. **KW** Economic Development. Economic Growth. Industrialization.

AB In terms of the history of modern economic growth the major axis of world confrontation has always been between early- and late-comers to industrialization. Severe confrontation arises typically when a late-comer country is believed to have developed a model of economic development capable of catching up or even surpassing the economic power of the early-comer countries. Rises and falls of the various catch-up models in modern history are examined. In this historical perspective the nature of confrontation is identified between the system of developmental market economies in Japan and Asian NIES and the system of liberal market economies in Western countries.

Hayashi, Fumio

PD September 1991. **TI** Risk-Sharing, Altruism, and the Factor Structure of Consumption. **AU** Hayashi, Fumio; Altonji, Joseph; Kotlikoff, Laurence. **AA** Hayashi: University of Pennsylvania and National Bureau of Economic Research. Altonji: Northwestern University and National Bureau of Economic Research. Kotlikoff: Boston University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3834; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** D11, D12, D91. **KW** Consumption. Consumer Theory. Intertemporal Model.

AB We consider four models of consumption that differ with respect to efficient risk-sharing and altruism. They range from complete markets with altruism to family risk-sharing. We use a matched sample of parents and independent children available from the Panel Study of Income Dynamics to discriminate between the four models. Our testing procedure is designed to deal with the set of observed independent children being endogenously selected. The combined hypothesis of complete markets and altruism can be decisively rejected, while we fail to reject altruism and hence family risk-sharing for a subset of families.

PD September 1991. **TI** Measuring Depreciation for Japan: Rejoinder to Delde and Summers. **AA** University of Pennsylvania and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3836; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** H61, C82, C43. **KW** Depreciation. National Accounts. Japan.

AB Recently, my claim that depreciation reported in the Japanese national accounts is underestimated by a substantial margin has been challenged by Dekle and Summers (NBER Working Paper No. 3690), on the grounds that the implied depreciation rate (ratio of depreciation to the capital stock) is implausibly high. I argue in this rejoinder that Japan's high depreciation rate can be attributable to two factors. First, the depreciation rate for owner-occupied housing is much higher in Japan. Second, equipment capital (a component of the denominator in the depreciation rate) in the Japanese national accounts seems underestimated. Therefore, my estimate of the level of depreciation for Japan does not seem exaggerated.

Head, Allen C.

PD September 1991. **TI** Cross-Country Variations in Aggregate Volatility: Evidence from 56 Countries. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 832; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 27. **PR** $3.00 Canada and U.S.; $3.50 Foreign. **JE** E32, F41, O57. **KW** Business Cycle. Aggregate Volatility.

AB Relationships between country size (measured by both population and aggregate GDP) and standard of living (measured by per capita GDP) and the volatilities of aggregate output, consumption, and investment are investigated for a sample of 56 countries. Both characteristics are shown to be negatively related to the volatilities of the growth rates of all three aggregates for the period 1950-85. The relationships between the importance of nontradable goods (measured by the ratio of consumption expenditures on nontradables to expenditures on tradables) and the volatilities of aggregates are studied for a sub-sample of 23 countries. This characteristic and the volatilities of all three aggregates are shown to be negatively related. These results are consistent with the predictions of theoretical models studied by Crucini (1990) and Head (1991).

Heal, Geoffrey

PD September 1991. **TI** Risk Management and Global Change. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-20; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 17. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** F01, Q20, Q30, D61. **KW** Uncertainty. Risk. Climate. Environment. Resource Allocation.

AB The paper reviews the economic theory of resource allocation in the face of risk and uncertainty and applies this to the risks associated with global climate change. The applicability of insurance and risk diversification are considered. We review the factors that determine how much it is worth spending to reduce the risk of damage due to climate change, and the economic mechanisms via which this might be achieved. An analytical framework for assessing the roles of the discount rate and the degree of risk aversion is developed.

Heckman, James J.

PD August 1991. **TI** The Nonequivalence of High School Equivalents. **AU** Heckman, James J.; Cameron, Stephen V. **AA** Heckman: University of Chicago and National Bureau of Economic Research. Cameron: University of Chicago. **SR** National Bureau of Economic Research Working Paper: 3804; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** I21, I31, J24. **KW** Human Capital. Wages. Education.

AB This paper analyzes the causes and consequences of the growing proportion of high school certified persons who achieve that status by exam certification rather than through high school graduation. Exam certified high school equivalents are statistically indistinguishable from high school dropouts. Both dropouts and exam certified equivalents have comparably poor wages, earnings, hours of work, unemployment experiences and job tenure. This is so whether or not ability measures are used to control for differences. Whatever differences are found among exam certified equivalents, high school dropouts and high school graduates are accounted for by their years of schooling completed. There is no cheap substitute for schooling.

Helpman, Elhanan

PD October 1991. **TI** Endogenous Macroeconomic Growth Theory. **AA** Harvard University and National

Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3869; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** O41, O31. **KW** Innovation. Growth Model. Economic Growth.

AB The paper focuses on the innovation-based approach to endogenous growth. It begins by spelling out conditions for sustained long-run growth in neoclassical economies and uses these conditions as a standard of comparison for the conditions required to sustain long-run growth in economies with product innovation. It presents two models of product innovation that can sustain growth in the long-run. The models share the same fundamental mechanism of economic growth. They are used to derive a variety of implications relating structural features to long-run growth rates and they are then applied to a number of policy issues. The usefulness of the approach represented by these models is examined by considering a number of issues, such as unemployment and trade relations.

Helwege, Jean

PD September 1991. **TI** More on the International Similarity of Interindustry Wage Differentials: Evidence from the Federal Republic of Germany and the United States. **AU** Helwege, Jean; Wagner, Joachim. **AA** Helwege: Board of Governors of the Federal Reserve System. Wagner: Universitaet Hannover. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 167; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 16. **PR** no charge. **JE** J31, O57. **KW** Wage Differentials. Wages. Wage Structure.

AB This study examines interindustry wages differentials in the U.S. and Germany using large microdata samples from wage surveys in 1979, 1985 and 1987. In contrast to previous studies, which found correlations of wage differentials in Germany and the U.S. of .85 and .95, we find less similarity in the wage structures of the two countries - the correlation between wage differentials based on the 1979 surveys is .62 and the correlation based on the later surveys is .76.

Hendershott, Patric H.

PD July 1991. **TI** An Altered U.S. Housing Finance System: Implications for Housing. **AA** Ohio State University. **SR** National Bureau of Economic Research Working Paper: 3770; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $3.00. **JE** G21, G28, R31. **KW** Deregulation. Mortgages. Portfolio. Tax Policy. Interest Rate.

AB During the 1960's and 1970's, the U.S. government closely regulated the single-family housing finance system. The regulation manifested itself in a highly specialized system with four notable characteristics: portfolio restrictions against investments in corporate assets, tax inducements to invest in residential mortgages, prohibitions against investing in ARMS, and deposit rates ceilings. All were removed in the 1980's, and not surprisingly, the housing finance system changed markedly. Between early 1982 and 1989, two-fifths of all new loans had adjustable, not fixed, rates, and savings an loans reduced their holdings of FRMs (both whole loans and mortgage pass-throughs) by 15 to 20 percent. Moreover, the fraction of conventional FRM originations that have been pooled into pass-throughs rose from less than one-twentieth before 1981 to over one-half after 1985. With the opportunity of borrowers to shift to lower coupon ARMs when rates rise and with the integration of the home mortgage market with capital markets generally, one would expect that the U.S. housing sector is now less sensitive to rising interest rates than it was in the 1960's and 1970's. Numerous studies support this expectation.

PD October 1991. **TI** Are Real House Prices Likely to Decline by 47 Percent? **AA** Ohio State University. **SR** National Bureau of Economic Research Working Paper: 3880; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** R31. **KW** Housing Market. Housing. Urban Economics.

AB Mankiw and Weil have estimated a demographically-driven real house price equation on annual data from the 1947-87 period and used it to forecast real house prices over the 1988-2007 period. The result is their infamous 47 percent real decline. Their equation really only fits data from the 1950's and 1960's. Not only is the post 1970 fit poor, but the cumulative in-sample forecast for the 1970-87 period is off by a factor of four. While real house prices seem more likely to decline than increase over the next two decades, the most likely decline is 10 to 15 percent, not 47 percent.

Hendricks, Darryll

TI Nonrational Actors and Financial Market Behavior. **AU** Zeckhauser, Richard; Patel, Jayendu; Hendricks, Darryll.

Hentschel, Ludger

TI No News is Good News: An Asymmetric Model of Changing Volatility in Stock Returns. **AU** Campbell, John Y.; Hentschel, Ludger.

Hercowitz, Zvi

PD September 1991. **TI** Macroeconomic Implications of Mass Immigration to Israel. **AU** Hercowitz, Zvi; Meridor, Leora. **AA** Hercowitz: Tel Aviv University. Meridor: Bank of Israel. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 29-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 45. **PR** no charge. **JE** F22, O53, F41, F47. **KW** Migration. Open Economy Model. Immigration.

AB This paper attempts to model and simulate the macroeconomic process generated by the massive immigration of Soviet Jews to Israel, which started at the end of 1989. The framework is a dynamic optimization model of an open economy calibrated to Israeli data - including the national income accounts, tax rates, and projections of immigration from 1990 to 1994. The aim of this analysis is to analyze the quantitative effects of different policy instruments the adjustment process triggered by the immigration.

Hillion, Pierre

TI Arbitrage Restrictions across Financial Markets: Theory, Methodology and Tests. **AU** Bossaerts, Peter; Hillion, Pierre.

Hines, James R., Jr

PD June 1991. **TI** Dividends and Profits: Some Unsubtle Foreign Influences. **AA** Princeton University. **SR** National Bureau of Economic Research Working Paper: 3730; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 35. **PR** $3.00. **JE** G30, H25, L21. **KW** Multinational Firms.

Corporations. Profits. Tax Credits.
AB American corporations earn a large and growing share of their profits from their foreign operations. This paper evaluates the effect of foreign earnings on dividend payments by American corporations. The results suggest that the effect may be rather dramatic: that, all other things equal, U.S. corporations pay dividends out of foreign earnings at rates that are three times higher than their payout rates from domestic earnings. Why firms do so is unclear, though this behavior may be consistent with a signaling view of dividends. There is a curious tax consequence of this high payout rate on foreign earnings: the tax system, which grants foreign tax credits to U.S. corporations for the foreign taxes they pay, may receive more revenue from taxing the dividends of U.S. shareholders than from the corporate tax on foreign earnings.

Hinojosa-Ojeda, Raul

PD April 1991. **TI** Alternative Scenarios of U.S. - Mexico Integration: A Computable General Equilibrium Approach. **AU** Hinojosa-Ojeda, Raul; Robinson, Sherman. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 609; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, Berkeley, CA 94704. **PG** 54. **PR** $10.80. **JE** F13, F14, O19. **KW** Free Trade. International Trade. Trade Model. Trade Policy. Imports.
AB This paper analyzes the economic impact on the U.S. and Mexican economies of creating a free trade area. The empirical analysis is based on a three-country (U.S., Mexico, and the rest of the world), multisectoral, computable general equilibrium model. The model solves for prices, wages, profits and the real exchange rate that achieve equilibrium migration of rural and urban unskilled labor and rural-urban migration within Mexico. The model also solves for equilibrium sectoral production, consumption, exports, and imports in each country. The model represents a methodological advance over earlier multi-country trade models in its functional specification of sectoral import substitution possibilities and its inclusion of migration.

Hodrick, Robert J.

TI On Biases in the Measurement of Foreign Exchange Risk Premiums. **AU** Bekaert, Geert; Hodrick, Robert J.

Hoffmaister, Alexander

PD October 1991. **TI** The Cost of Export Subsidies: Evidence from Costa Rica. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/94; International Monetary Fund, Washington, DC 20431. **PG** 25. **PR** not available. **JE** F13, F17, F32. **KW** Exports. Subsidies. Trade Balance.
AB This paper develops a model to estimate the effects of export subsidies on the supply of exports. Using data for Costa Rica over the 1980's, it is shown that while the export subsidy scheme in the operation led to an increase in exports, the direct fiscal costs of the scheme were quite large. Furthermore, the subsidy scheme led to a significant increase of imports. These results suggest that elimination of export subsidies would not have a particularly harmful effect on the trade balance, and would increase the fiscal position and generate economic efficiency besides.

Holler, Manfred J.

PD June 1989. **TI** Potential Failures of Global Policies in Strategic Social Choices. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-15; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 18. **PR** no charge. **JE** D71, D72, D62, E61. **KW** Social Choice. Fairness. Justice. Morality. Public Goods.
AB The results of this note indicate a potential of severe drawbacks of global measures and social institutions when the social choice refers to a strategic setting. The drawbacks are such that Pareto efficiency cannot be achieved and the multiplicity of equilibria implies instability and failure of coordination. The basic feature of modeling morality and moral behavior are reconsidered and strategic problems of moral behavior are illustrated by examples. The discussion shows that, in game situations, the problem of moral behavior cannot always be solved by assigning positive, intrinsic, utilities to the payoffs related with moral strategies. In the context, morality is introduced as an example of a global policy measure and a proxy of a public good which does not exclude anybody from consumption and is thought to benefit everybody to the same extent if corresponding choices are made.

PD September 1989. **TI** Consistent Choice and Sexes: Empirical Findings and Consequences. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-9; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 22. **PR** no charge. **JE** D81, C91. **KW** Preferences. Expected Utility. Experimental Economics.
AB In this paper I will present empirical results, derived from a replication of an experiment reported in Tversky and Kahneman (1981), which indicate significant differences in the choice behavior of male and female respondents. A comparison of tests with students at the University of Munich, Germany, and at the University of Aarhus, Denmark, suggests that these differences depend on the cultural background of the respondents.

PD September 1989. **TI** Nonprofitable Equilibria in Reputation Games. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-10; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 25. **PR** no charge. **JE** C72, D21. **KW** Incomplete Information. Sequential Equilibrium. Noncooperative Game.
AB Nonprofitable equilibria for local games are a constituent element for standard reputation games of the Kreps-Wilson type where the sequential equilibria concept is applied. In this paper the general nonprofitability of mixed strategy equilibria in 2-by-2 games is demonstrated if maximum strategies are (completely) mixed and discussed in the context of the Kreps-Wilson market entry game. Thereby it is shown that there is an incentive problem in the game as far as the equilibrium is concerned. The concept of cautiously rationalizable sequential equilibrium is proposed as a solution to this problem.

PD November 1989. **TI** Anti-Nash and an Option for Maximin. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-16; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 20. **PR** no charge. **JE** C72. **KW** Game Theory. Nash Equilibrium. Noncooperative Games.

AB In this paper we will discuss some peculiarities of Nash equilibrium which are at odds with its standard applications: the underlying dynamic interpretation, the incentive independency if equilibria are mixed, and the unprofitability if equilibrium and maximum are mixed and the game is 2-by-2. Maximin is proposed as an alternative solution concept in "relevant situations.".

Hong, Chew Soo

PD August 1991. **TI** Choquet Expected Utility: Commutativity and Act-Independence. **AU** Hong, Chew Soo; Karni, Edi. **AA** Hong: University of California, Irvine. Karni: Johns Hopkins University. **SR** Johns Hopkins Department of Economics Working Paper: 271; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. **PG** 8. **PR** no charge. **JE** D81, D11. **KW** Expected Utility Theory. Expected Utility. Commutativity.

AB This paper establishes the equivalence between act-independence and commutativity under mild conditions. As a result, using a theorem of Ṅakamura, we obtain an axiomatization of subjective expected utility and Choquet expected utility with finite state spaces based on act-independence and commotonic act-independence.

Hooper, Peter

PD August 1991. **TI** International Economic Transactions: Issues in Measurement and Empirical Research. **AU** Hooper, Peter; Richardson, J. David. **AA** Hooper: Federal Reserve Board. Richardson: Syracuse University. **SR** National Bureau of Economic Research Working Paper: 3805; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** C81, C82, F14. **KW** Data Collection. International Data.

AB This paper summarizes a forthcoming book that describes issues and recent innovations in the measurement of international transactions. A number of distinguished authors assess data measuring trade in merchandise, services, and foreign-direct-investment claims. Others assess international prices and data measuring comparisons of inputs and outputs internationally. (International financial data are not assessed.) The chapters in many cases tabulate the data and illustrate their application to recent research questions. U.S. international data are emphasized, but those of other countries are frequently highlighted as well.

Hoover, Kevin D.

PD September 1991. **TI** Causality and Temporal Order in Macroeconomics or Why Even Economists Don't Know How to Get Causes from Probabilities. **AA** University of California at Davis. **SR** University of California at Davis Research Program in Applied Macroeconomics and Macro Policy: 76; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 30. **PR** No charge. **JE** C40, C32, E17. **KW** Causality. Granger Causality. Macroeconomics.

AB Many accounts of causality, most famously that of Hume, and in economics that of Granger, rely fundamentally on temporal order as a basis for causal asymmetry. Whatever else is requisite for a relation to be causal, it must place causes before effects. This paper considers Nancy Cartwright's analysis that uses temporal order to resolve the problem of observational equivalence in macroeconomics. It argues that, because of agency, nonhomogeneity and informational complexity, such a solution cannot in principle or practice be applied to macroeconomics. Invariance under interventions (Simon) or propagation of causal interactions (Salmon) are surer foundations for causal asymmetry.

Host, Viggo

PD August 1989. **TI** An International Element in the Vote? A Comparative Study of 17 OECD Countries 1948-85. **AU** Host, Viggo; Paldam, Martin. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-7; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 20. **PR** no charge. **JE** D72, D71, O57. **KW** Elections. Voting. Social Choice.

AB The paper tests the "folk" hypothesis that the vote at elections in different countries is affected by international opinion swings which are sometimes to the right and sometimes to the left. An hypothesis that, if it had been true, would have allowed us to predict the election outcome in one country by considering the outcome in recent elections in other countries. In order to test this hypothesis all (governmental) elections between 1948 and 1985 in 17 main democracies at the election is constructed. We next delete the i-index and reach the S(t)-swing series. The hypothesis is then operationalized as saying that S(t) contains positive autocorrelation. The S(t)-series is shown to behave as perfect white noise, so the hypothesis is rejected.

Hung, Victor T. Y.

TI Equilibrium Growth in a Monetary Economy. **AU** Blackburn, Keith; Hung, Victor T. Y.

Hurd, Michael D.

PD September 1991. **TI** Changing Social Security Survivorship Benefits and the Poverty of Widows. **AU** Hurd, Michael D.; Wise, David A. **AA** Hurd: State University of New York, Stony Brook and National Bureau of Economic Research. Wise: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3843; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J14, H55, I31. **KW** Social Security. Widows. Poverty. Retirement. Elderly.

AB The paper considers the effect on widows' poverty of changes in Social Security survivorship benefits, by a reduction in couples' benefits so that total Social Security cost is unchanged. A twenty percent increase in survivorship benefits, for example, would reduce the 1989 poverty rate of widows aged 65 to 69 by about twenty-four percent, from 0.25 to 0.19. The poverty rate of couples would be increased by about thirty-three percent, from about 0.06 to about 0.08.

Hviid, Morten

TI Imperfect Competition, Information Acquisition and Price Adjustment. **AU** Andersen, Torben M.; Hviid, Morten.

Hylleberg, Svend

PD April 1989. **TI** Unit Roots and Deterministic Trends: Yet Another Comment on the Existence and Integration of a Unit Root in U.S. GNP. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-1; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 16. **PR** no charge. **JE** E32, C12, C15, C22. **KW** Unit Roots. Monte Carlo. Time Series Model. Business Cycle.

AB Recent results on the existence and interpretation of a unit root in U.S. GNP are discussed and it is argued that the evidence presented pointing in different directions is fragile and that the results very much depend on the way the problem is attacked. Specifically it is argued that whether the process is an autoregression with a unit root and drift or whether a trend stationary representation must be preferred is debatable. However, to use a simple approximation as a univariate time series process in the rejection of for instance business cycle theories cannot be defended at all.

TI Unit Roots and Deterministic Trends: With Yet Another Comment on the Existence and Integration of a Unit Root in U.S. GNP. **AU** Haldrup, Niels; Hylleberg, Svend.

Imrich, Wilfried

PD December 1990. **TI** Simple Tournaments and Sharply Transitive Groups. **AU** Imrich, Wilfried; Nesetril, Jaroslav. **AA** Imrich: Montanuniversitat Leoben. Nesetril: Charles University, Prague and University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90669-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 9. **PR** no charge. **JE** C60. **KW** Simple Tournaments. Tournaments. Graph Theory.

AB We prove that with the possible exception of total orders every tournament with sharply transitive group of automorphisms is simple.

Jackson, Matthew

TI A Characterization of Strategy-Proof Social Choice Functions for Economies with Pure Public Goods. **AU** Barbera, Salvador; Jackson, Matthew.

PD May 1991. **TI** Implementing Social Choice Functions: A New Look at Some Impossibility Results. **AU** Jackson, Matthew; Srivastava, Sanjay. **AA** Jackson: Northwestern University. Srivastava: Carnegie Mellon University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 965; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 29. **PR** $3.00 in the U.S or Canada; $5.00 via international mail. **JE** D71, C72. **KW** Social Choice. Nash Equilibrium. Noncooperative Games. Implementation.

AB For some solution concepts, such as dominant strategies, Nash equilibrium, and undominated strategies, only dictatorial social choice functions are implementable on a full domain of preferences with at least three alternatives. For other solution concepts, such as the iterative removal of weakly dominated strategies, undominated Nash equilibrium, and maximin, it is possible to implement non-dictatorial social choice functions. We begin by offering simple proofs of several of the "impossibility" results. These proofs provide intuition into the properties of a solution concept which make it impossible to implement non-dictatorial social choice functions. This allows us to provide a characterization of solution concepts which lead to impossibility results, as well as two easily checked sufficient conditions.

PD August 1991. **TI** Undominated Nash Implementation in Bounded Mechanisms. **AU** Jackson, Matthew; Palfrey, Thomas R.; Srivastava, Sanjay. **AA** Jackson: Northwestern University. Palfrey: California Institute of Technology. Srivastava: Carnegie Mellon University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 966; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 37. **PR** $3.00 in the U.S or Canada; $5.00 via international mail. **JE** D71, C72. **KW** Social Choice. Nash Equilibrium. Implementation.

AB We study social choice correspondences which can be implemented in undominated Nash equilibrium by bounded mechanisms. (An undominated Nash equilibrium is a Nash equilibrium in which no agent uses a weakly dominated strategy. A mechanism is bounded if every dominated strategy is dominated by an undominated strategy.) We provide necessary conditions and sufficient conditions for such implementation. Our conditions are satisfied in virtually all "economic" settings, and are also satisfied by many interesting correspondences identified in the social choice literature. For economic settings, we provide a particularly simple implementing mechanism in which the undominated Nash equilibrium outcomes coincide with those obtained by iterated elimination of weakly dominated strategies.

Jappelli, Tullio

TI Why is Italy's Savings Rate so High? **AU** Guiso, Luigi; Jappelli, Tullio; Terlizzese, Daniele.

Jeanne, Olivier

TI Feasibility of Predatory Pricing in a Capacity-Constrained Duopoly. **AU** Corneo, Giacomo G.; Jeanne, Olivier.

Jensen, Henrik

PD May 1989. **TI** A Note on the Time Independence of the N(th) Entrant's Mixed Strategy in the Original Kreps/Wilson Monopoly-Entrant Game. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-2; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 19. **PR** no charge. **JE** L12, D42, C72. **KW** Sequential Equilibrium. Monopoly. Noncooperative Game.

AB A peculiar feature of the Kreps/Wilson concept of sequential equilibrium, when applied to a game between a monopoly and a succession of potential market entrants, is observable in situations where the given entrant's beliefs about the true nature of the monopoly requires that the entrant adopts a mixed strategy. In the original example provided by Kreps and Wilson, the mixing depends solely on the monopoly's one-period payoff in case the entrant abstains. The period in which the entrant is deciding whether to enter or abstain seems not to influence the value of the corresponding probability. One could suspect that this feature is a result of the specific payoffs applied in the game, and that a general payoff representation would yield more substantial results. However, it will be shown that the time independence of the mixed strategy does generalize for any payoff matrix consistent with the basic structure of the game.

Jensen, Richard

TI Patent Prices, Product Standards, and International Competition. **AU** Thursby, Marie; Jensen, Richard.

John, Kose

TI Optimal Incorporation, Structure of Debt Contracts, and Limited- Recourse Project Financing. **AU** Chemmanur, Thomas J.; John, Kose.

John, Reinhard

PD August 1991. **TI** The Weak Axiom of Revealed Preference and Homogeneity of Demand Functions. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-345; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 8. **PR** no charge. **JE** D11. **KW** Revealed Preferences. Demand Functions.

AB We characterize (a weak version of) the Weak Axiom of Revealed Preference for demand functions which are not necessarily homogeneous. We relate this property to the validity of the Weak Axiom and to the negative semidefiniteness of the Slutsky substitution matrices. In particular, it is shown that the Weak Axiom implies homogeneity.

Jovanovic, Boyan

TI Was the Great Depression a Low-level Equilibrium? **AU** Dagsvik, John; Jovanovic, Boyan.

PD June 1991. **TI** The Diffusion of Technology and Inequality among Nations. **AU** Jovanovic, Boyan; Lach, Saul. **AA** Jovanovic: New York University. Lach: Hebrew University. **SR** National Bureau of Economic Research Working Paper: 3732; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 36. **PR** $3.00. **JE** E23, E32, O30. **KW** Technological Shock. Business Cycle. GNP. Adoption. Output. Growth Model.

AB One usually accounts for output growth in terms of the growth of the primary inputs: labor, physical capital, and possibly human capital. In this paper we account for growth with labor and with intermediate goods. Because we have no measures of the extent of adoption of most intermediate goods in most countries, we have to assume something about how they spread, based on what we see in U.S. data. We find that if all countries have (a) the same production function, (b) the same speed of technology adoption, and (c) imperfectly correlated technology shocks, then we can easily account for the extent and persistence of inequality among nations. Unfortunately, while it easily generates the sorts of low frequency movements that we observe, our technology shock seems to have little to do with high frequency movements in GNP so that if our definition of this shock is correct, real business cycle models are way off the mark.

Kaestner, Robert

TI The Effects of Child Health on Marital Status and Family Structure. **AU** Corman, Hope; Kaestner, Robert.

Kang, Johan M.

TI Crime Rates Versus Labor Market Conditions: Theory and Time Series Evidence. **AU** Yamada, Tadashi; Yamada, Tetsuji; Kang, Johan M.

Kao, Duen Li

TI Examining and Modeling Corporate Bond Rating Drift. **AU** Altman, Edward I.; Kao, Duen Li.

Kaplow, Louis

PD August 1991. **TI** Optimal Law Enforcement with Self-Reporting of Behavior. **AU** Kaplow, Louis; Shavell, Steven. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3822; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** K42. **KW** Law Enforcement. Crime.

AB Self-reporting -- the reporting by parties of their own behavior to an enforcement authority -- is a commonly observed aspect of law enforcement, as in the context of environmental and safety regulation. We add self-reporting to the model of the control of harmful externalities through probabilistic law enforcement. Optimal self-reporting schemes are characterized and are shown to offer two advantages over schemes without self-reporting: enforcement resources are saved because individuals who are led to report harmful acts need not be identified; risk is reduced because individuals bear certain sanctions when they report their behavior, rather than face uncertain sanctions.

PD October 1991. **TI** Private versus Socially Optimal Provision of Ex Ante Legal Advice. **AU** Kaplow, Louis; Shavell, Steven. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3868; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** K10, K40. **KW** Liability. Legal System. Lawyers.

AB This article considers whether the demand for legal advice about potential liability for future acts in socially excessive. Using the standard model of accidents, we find that the answer depends on the type of advice and the form of liability. When advice provides information about properly determined liability, the demand for advice is socially optimal under strict liability but is socially excessive under the negligence rule. When advice identifies errors the legal system is expected to make, the demand for advice is socially excessive under both liability rules.

Karni, Edi

TI Choquet Expected Utility: Commutativity and Act-Independence. **AU** Hong, Chew Soo; Karni, Edi.

Keen, Michael

TI Public Goods, Self-Selection and Optimal Income Taxation. **AU** Boadway, Robin W.; Keen, Michael.

Kesselman, Jonathan R.

PD October 1990. **TI** Income Security via the Tax System: Canadian and American Reforms. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-31; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 51. **PR** **JE** H22, H23, H24. **KW** Income Security.

Tax Reform. Harmonization. Tax Credits.
AB Recent reforms of the Canadian and American personal tax systems have embodied numerous changes in provisions related to income security. These include a broader range of income transfer benefits that are taxable, the use of clawback devices to recover income security and tax-based benefits at higher incomes, and, in Canada, the conversion of all personal exemptions into nonrefundable tax credits. Yet there is little sign that the income security systems of the two countries are converging. This study examines the reasons for lack of harmonization, reviews the reforms of recent years, and then assesses the economics of these reforms in detail.

Kessler, D.
TI Productive Performance of the French Insurance Industry. **AU** Fecher, F.; Kessler, D.; Perelman, S.; Pestieau, Pierre.

Khan, Mohsin S.
PD September 1991. **TI** Islamic Banking. **AU** Khan, Mohsin S.; Mirakhor, Abbas. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/88; International Monetary Fund, Washington, DC 20431. **PG** 6. **PR** not available. **JE** P43, G21, O53, O16. **KW** Commercial Banks. Finance Markets. Banking.
AB Islamic banks are prohibited from charging or paying interest, and thus can operate only on the basis of profit-sharing arrangements. This paper provides a brief survey of the theory and practice of Islamic banking. It covers developments in Islamic banking since the mid-1970's, how such banks operate, and the analytical underpinnings of a financial system based on Islamic principles. Finally, the future of Islamic banking is assessed.

Kim, In Joon
PD May 1991. **TI** On the Empirical Biases of the Black and Scholes Model. **AU** Kim, In Joon; Kim, Keun Chong; Ziskind, Ross. **AA** I. Kim and K. Kim: New York University. Ziskind: Wagner Stott Clearing Corporation, New York. **SR** New York University Salomon Brothers Center Working Paper: S-91-34; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 25. **PR** $5.00. **JE** G12, G14. **KW** Options. Asset Pricing. Finance Theory.
AB This paper examines the empirical biases of the Black and Scholes model from a new angle by explicitly considering random errors in the market prices of options. Our focus is on interaction between the structure of pricing errors and a property of the Black and Scholes model. The effect is illustrated by simulation results which exhibit the same type of biases that have been reported in previous work. The empirical biases could have been induced as a result of skewed pricing errors and the differential sensitivity of volatility to the pricing errors.

Kim, Keun Chong
TI On the Empirical Biases of the Black and Scholes Model. **AU** Kim, In Joon; Kim, Keun Chong; Ziskind, Ross.

Kiyotaki, Nobuhiro
TI A Dynamic Equilibrium Model of Search, Production and Exchange. **AU** Boldrin, Michele; Kiyotaki, Nobuhiro; Wright, Randall.

Klein, Martin
PD December 1990. **TI** Capital Asset Price Dynamics: Heterogeneity and Hysteresis. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-173; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 11. **PR** no charge. **JE** G12, G11, G35. **KW** Hysteresis. Pricing. Asset Markets. Portfolio Choice. Dividends.
AB This paper discusses the price determination in asset markets with heterogeneous investors that face costs of portfolio adjustment. A price function mapping stochastic dividends into prices is developed. Asset prices exhibit "hysteresis" in the sense that large dividend changes cause a level shift in the relationship between asset prices and dividends. For subsequent small dividend changes the new level persists. It is reversed only when another large shock in the opposite direction occurs. another implication of the model is that although all investors are risk neutral, the market as a whole reacts in a way "as if" there was risk aversion. The higher the variance of the stochastic process driving the evolution of the dividends, the higher is the average expected return in the market.

Klemperer, Paul
TI Rational Frenzies and Crashes. **AU** Bulow, Jeremy; Klemperer, Paul.

Kole, Linda S.
PD November 1991. **TI** The Usefulness of P* Measures for Japan and Germany. **AU** Kole, Linda S.; Leahy, Michael P. **AA** Board of Governors of the Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 414; Division of International Finance, Board of Governors of the Federal Reserve System, Washington DC 20551. **PG** 65. **PR** no charge. **JE** E31, E32, E51. **KW** Prices. Inflation. Price Level.
AB This paper develops measures of long-run equilibrium price levels (P*) for Japan and Germany following the approach used for the United States by Hallman, Porter, and Small [1991]. Under this approach, P* is determined by potential output, equilibrium velocity, and the amount of money in the economy. Constructing P* for these foreign countries is more complicated than in the U.S. case because the velocities of the broad monetary aggregates (M2+CDs in Japan and M3 in Germany) exhibit clear downward trends in contrast to the relatively flat trend of U.S. M2 velocity. We utilize dynamic specifications of money demand to construct measures of equilibrium velocity and P* for Japan and Germany. We then assess the explanatory power of deviations of actual prices from P* in predicting the amount of inflationary potential in the Japanese and German economies. In general, we find that the P* approach is useful in the analysis of German inflation, but that it is less promising for Japan than it has been for the United States.

Konieczny, Jerzy D.
TI On Inflation and Output with Costly Price Changes: A Simple Unifying Result. **AU** Benabou, Roland; Konieczny, Jerzy D.

Kotlikoff, Laurence

TI Risk-Sharing, Altruism, and the Factor Structure of Consumption. **AU** Hayashi, Fumio; Altonji, Joseph; Kotlikoff, Laurence.

Kotwal Ashok

TI A Demand Oriented Theory of Economic Development. **AU** Eswaran, Mukesh; Kotwal Ashok.

Kotwal, Ashok

TI Demand Externality as an Impediment to Productivity Growth in LDCs. **AU** Eswaran, Mukesh; Kotwal, Ashok.

Krelle, Wilhelm

PD May 1991. **TI** Appendices and Numerical Examples to the Paper: Learning in a Class **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-183; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 33. **PR** no charge. **JE** C72, D83, C63. **KW** Learning. Recursive Solution. Noncooperative Games.

AB This is an extended and more detailed version of the paper "Learning in a Class of Non-Zero-Sum Two-Person Games" in the form of appendices. It gives the whole set of recursive formula necessary to solve the problem and illustrates the solution by numerical examples. These calculations are too lengthy and tedious to be included in the original paper but they may be helpful for a reader who wishes to go into the details of the solution procedure.

PD May 1991. **TI** Learning in a Class of Non-Zero-Sum Two-Person Games Part I. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-182; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 24. **PR** no charge. **JE** C72, D83. **KW** Two-Person Game. Incomplete Information. Learning.

AB We consider a finite two person game where the players move in turn. Neither player knows the payoffs of the other, but each player has an a priori probability distribution for the possible "types" of his opponent and is able to form an opinion of this a priori probability of his opponent. Each player follows the Bayesian rule of maximizing his payoff expectation. "Learning" in this context means that a player narrows down the possible "types" of his opponent by observing and analyzing his moves in the course of the game. Thus he is able to correct his a priori probabilities and to improve his decisions. Asymptotically he may know exactly against whom he is playing.

Krueger, Alan B.

PD October 1991. **TI** How Computers have Changed the Wage Structure: Evidence from Microdata, 1984-89. **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3858; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J31, J24. **KW** Computer Science. Wages. Labor Productivity.

AB This paper examines whether employees who use a computer at work earn a higher wage rate than otherwise similar workers who do not use a computer at work. The analysis primarily relies on data from the Current Population Survey and the High School and Beyond Survey. A variety of statistical models are estimated to try to correct for unobserved variables that might be correlated with both job-related computer use and earnings. The estimates suggest that workers who use computers on their job earn roughly a 10 to 15 percent higher wage rate. In addition, the estimates suggest that the expansion in computer use in the 1980's can account for between one-third and one-half of the observed increase in the rate of return to education. Finally, occupations that experienced greater growth in computer use between 1984 and 1989 also experienced above average wage growth.

Krugman, Paul R.

PD June 1991. **TI** First Nature, Second Nature, and Metropolitan Location. **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 3740; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $3.00. **JE** R10, R11, R12, N71. **KW** Urban Economics. Firm Location. Regional Economics. Spatial Equilibrium.

AB This paper develops models of spatial equilibrium in which a central "metropolis" emerges to supply manufactured goods to an agricultural hinterland. The location of the metropolis is not fully determined by the location of resources: as long as it is not too far from the geographical center of the region, the concentration of economic mass at the metropolis makes it the optimal location for manufacturing firms, and is thus self-justifying. The approach in this paper therefore helps explain the role of historical accident and self-fulfilling expectations in metropolitan location.

TI Leapfrogging: A Theory of Cycles in National Technological Leadership. **AU** Brezis, Elise; Krugman, Paul R.; Tsiddon, Daniel.

Kruse, Douglas L.

PD October 1991. **TI** Pension Substitution in the 1980's: Why the Shift toward Defined Contribution Pension Plans? **AA** Rutgers University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3882; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J33, J14. **KW** Pensions. Retirement.

AB The relative decline of defined benefit (DB) pension plans, and growth of defined contribution (DC) plans, has been often noted but not extensively explored. This paper reports on the construction of a new longitudinal company-based data set on pension plans for the years 1980-86 (including all U.S. companies with large plans, and a 10% sample of companies with small plans, within this period). Among the findings are that the decline in DB coverage is primarily due to fewer participants in companies maintaining such plans, while very little of the growth in DC coverage is due to companies terminating DB plans. Also, multinomial logit analysis of manufacturing company choices indicates that the higher administrative costs of DB plans play a statistically significant, but small, role in their decline, while new pension adopters in less stable industries are more likely to choose DC plans.

Kumar, Manmohan S.

PD October 1991. **TI** Forecasting Accuracy of Crude Oil

Futures Prices. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/93; International Monetary Fund, Washington, DC 20431. **PG** 38. **PR** not available. **JE** G13, G14, E37. **KW** Futures Market. Oil. Speculation. Forecasting.

AB This paper undertakes an investigation into the efficiency of the crude oil futures market and the forecasting accuracy of futures prices. Efficiency of the market is analyzed in terms of the expected excess returns to speculation in the futures market. Accuracy of futures prices is compared with that of forecasts using alternative techniques, including time series and econometric models, as well as judgemental forecasts. The paper also explores the predictive power of futures prices by comparing the forecasting accuracy of end-of-month prices with weekly and monthly averages, using a variety of different weighting schemes. Finally, the paper investigates whether the forecasts from using futures prices can be improved by incorporating information from other forecasting techniques.

Kuttner, Kenneth N.

TI Another Look at the Evidence on Money-Income Causality. **AU** Friedman, Benjamin M.; Kuttner, Kenneth N.

TI Why does the Paper-Bill Spread Predict Real Economic Activity. **AU** Friedman, Benjamin M.; Kuttner, Kenneth N.

Labahn, Roger

PD July 1991. **TI** Some Minimum Gossip Graphs. **AA** University of Rostock. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91708-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 14. **PR** no charge. **JE** C60. **KW** Graph Theory. Connected Graphs.

AB What is the minimum number of edges a graph on n vertices must have to allow gossiping within [log(2) n] rounds? This question is answered for integers of the form n=(2 to the power p)-2 or n=(2 to the power p)-4, and for n=10. Moreover, for n=10 and n=14, all of those graphs of minimum size are constructed.

PD July 1991. **TI** Characterizing Minimum Gossip Graphs on 16 Vertices. **AU** Labahn, Roger; Pietsch, Christian. **AA** Labahn: University of Rostock. Pietsch: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91707-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 11. **PR** no charge. **JE** C60. **KW** Graph Theory. Connected Graph.

AB We give a classification of all minimum gossip graphs on (2 to the power k) vertices for (1 less than or equal to k less than or equal to 4) and construct minimum gossip graphs on (2 to the power k) vertices for general k.

Lach, Saul

TI The Diffusion of Technology and Inequality among Nations. **AU** Jovanovic, Boyan; Lach, Saul.

Lagunoff, Roger D.

PD August 1991. **TI** Some Simple Noncooperative Core Stories. **AA** AT&T Bell Laboratories and University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 91-20; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 17. **PR** no charge. **JE** C72, D51. **KW** Core. Voting. Status Quo. Subgame Perfect.

AB What are the strategic properties of the core? We address this question by considering mechanisms that emulate the "no recontracting out" property of the core. In particular, mechanisms are defined relative to a status quo outcome that serves as a disagreement point if no coalition forms to "recontract out." We then ask the question: what is a plausible class of such mechanisms for which the following result is valid.

Lakonishok, Josef

PD September 1991. **TI** Do Institutional Investors Destabilize Stock Prices? Evidence on Herding and Feedback Trading. **AU** Lakonishok, Josef; Shleifer, Andrei; Vishny, Robert W. **AA** Lakonishok: University of Illinois, Urbana-Champaign. Shleifer: Harvard University and National Bureau of Economic Research. Vishny: University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3846; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** G11, G12, G23. **KW** Portfolio Choice. Pensions. Stock Market. Asset Pricing.

AB This paper uses a new data set of quarterly portfolio holdings of 769 all-equity pension funds between 1985 and 1989 to evaluate the potential effect of their trading on stock prices. We address two aspects of trading by money managers: herding, which refers to buying (selling) the same stocks as other managers buy (sell) at the same time; and positive feedback trading, which refers to buying winners and selling losers. These two aspects of trading are commonly a part of the argument that institutions destabilize stock prices. At the level of individual stocks at quarterly frequencies, we find no evidence of substantial herding or positive feedback trading by pension fund managers, except in small stocks. Also, there is no strong cross-sectional correlation between changes in pension funds' holdings of a stock and its abnormal return.

Lam, Pok-Sang

TI The Equity Premium and the Risk Free Rate: Matching the Moments. **AU** Cecchetti, Stephen G.; Lam, Pok-Sang; Mark, Nelson C.

Lambert, Peter J.

PD Summer, 1989. **TI** Progression and Differences in Needs: Can we Justify Our Income Taxes? **AA** University of York and Institute for Fiscal Studies. **SR** Institute for Fiscal Studies (IFS) Working Paper: W89/7; Institute for Fiscal Studies, 180.182 Tottenham Court Road, London W1P 9LE, England. **PG** 28. **PR** 3 pounds. **JE** D31, H23, H22. **KW** Income Distribution. Income Taxes. Tax Policy.

AB It seems almost a stylized fact, that for the personal income tax the distribution of post-tax income Lorenz dominates the distribution of pre-tax income. What explains this? The Jakobsson (1976) analysis does not, if, as is the case, the tax differentiates between income units on the basis of non-income attributes. Why then should we be interested in inequality in money income? Is this "stylized fact" merely a statistical quirk, or does it have deeper significance? An income tax which is inequality-reducing is welfare-superior to an equal-yield proportional tax applied to the same pretax income distribution, according to the Atkinson (1970) analysis in which welfare is average utility of income. But if non-income information is to be taken into account in assessing welfare, such interference in distribution may no longer be capable of justification.

Larson, C. Erik

PD September 1991. **TI** Optimal Inventory Policies when the Demand Distribution is Not Known. **AU** Larson, C. Erik; Olson, Lars J.; Sharma, Sunil. **AA** Larson: University of Southern California. Olson: University of California, Riverside. Sharma: University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 631; Department of Economics, University of California at Los Angeles, 405 Hilgard Ave., Los Angeles, CA 90024. **PG** 31. **PR** $2.50. **JE** D21, D81, D83. **KW** Inventory Models. Learning. Inventories.

AB This paper analyzes the stochastic inventory control problem when the demand distribution is not known. In contrast to previous Bayesian inventory models, this paper adopts a nonparametric Bayesian approach that places no restrictions on the prior information about demand, allows for any underlying true (but unknown) demand distribution, and accommodates fixed order costs which make the cost function non-convex. The firm's prior information is characterized by a Dirichlet process prior. As information on the demand distribution accumulates, optimal history-dependent (s,S) rules are shown to converge to an (s,S) rule that is optimal when the underlying demand distribution is known. Two examples are presented.

Laurent, Monique

TI Extreme Hypermetrics and L-Polytopes. **AU** Deza, Michel; Grishukin, Viatcheslav P.; Laurent, Monique.

TI Isometric Hypercube Embedding of Generalized Bipartite Metrics. **AU** Deza, Michel; Laurent, Monique.

Lavy, Victor

PD September 1991. **TI** Willingness to Pay for the Quality and Intensity of Medical Care: Evidence from Low Income Households in Ghana. **AU** Lavy, Victor; Quigley, John M. **AA** Lavy: The World Bank and Hebrew University of Jerusalem. Quigley: University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-178; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 40. **PR** $3.50. **JE** I11, D12, I31. **KW** Health Care. Poverty. Ghana. Households. Medical Costs.

AB This paper presents estimates of willingness to pay for medical care, including the quality and intensity of medical treatment sought in response to illness or injury. The empirical analysis is based on some 5000 observations on the behavior of low income households in Ghana in 1986. The results indicate that the decision to seek medical treatment is responsive to household income. Prices have significant but inelastic influences on the choice among types of treatment and the intensity of treatment sought. Availability of treatment has a substantial effect upon the types of treatment and the utilization of facilities. These results are robust to changes in the structure of the estimating model.

Leahy, Michael P.

TI The Usefulness of P* Measures for Japan and Germany. **AU** Kole, Linda S.; Leahy, Michael P.

Leamer, Edward E.

PD October 1991. **TI** Eastern Data and Western Attitudes. **AA** University of California at Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Technical Paper: 114; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** O57, O41, O11. **KW** Developing Countries. Growth Theory. Economic Growth. Economic Development.

AB Most studies of the economies of Eastern Europe by Western analysts depend substantially on Western data and Western attitudes. Usually this dependence is implicit and concealed. An explicit and transparent treatment may yield better results, both for the individual analyst and for the profession overall. This article proposes and illustrates an econometric method for pooling Western and Eastern data. The pooled estimates depend on doubt about the Western attitudes, on the degree of experimental contamination in Western and Eastern data and on the similarity of Western and Eastern structures. The method is illustrated by a study of the determinants of the growth rates of developed and developing countries.

Ledyard, John O.

TI Political Competition in a Model of Economic Growth: Some Theoretical Results. **AU** Boylan, Richard; Ledyard, John O.; McKelvey, Richard D.

Lee, In Ho

PD October 1991. **TI** Equilibrium Borrowing and Lending with Bankruptcy. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 634S; Department of Economics, University of California at Los Angeles, 405 Hilgard Ave., Los Angeles, CA 90024. **PG** 39. **PR** $2.50; checks payable to U.C. Regents. **JE** C73, D91, G33. **KW** Credit Rationing. Time Inconsistency. Bankruptcy. Debt.

AB In the long-term relationship with a borrower, the lender has a time inconsistency problem because the lender cannot make a binding commitment with respect to the credit limits. This paper establishes that credit rationing may result from the time inconsistency even in the absence of asymmetric information or the lack of repayment enforcing mechanism. We construct a two-person game based on a model originally developed by Hellwig (1977). In the game we define the "credible credit limit" as the debt level beyond which there is no loan with a positive expected return to the lender. Using this definition we characterize the equilibrium as follows. First, if the lender has a negative expected return from the loan up to the credible credit limit, there exists a continuum of equilibria which all result in borrowing which is strictly less than the credible credit limit. Second, in the case where the lender has a positive expected return from the loan up to the credible credit limit, the subgame perfect equilibrium results in a unique outcome in which the lender always extends the loan up to the credible credit limit.

Lee, J.

TI Classification of Two-Person Ordinal Bimatrix Games.

AU Barany, I.; Lee, J.; Shubik, M.

Lee, Kevin C.

PD April 1991. **TI** Persistence of Shocks and Their Sources in a Multisectoral Model of U.K. Output Growth. **AU** Lee, Kevin C.; Pesaran, M. Hashem; Pierse, Richard. G. **AA** Lee and Pierse: University of Cambridge. Pesaran: University of California, Los Angeles and University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9115; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 28. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** E32, E23, E13. **KW** Output Fluctuations. Shocks. Multisectoral Model.

AB The paper develops a multisectoral framework for the measurement of persistence of shocks to sectoral and aggregate output, and provides a decomposition of the contribution of shocks from different sources to the overall persistence measure. The framework is applied to the analysis of output fluctuations in the U.K. economy, distinguishing four types of macroeconomic shocks; namely, innovations in money supply growth, in stock returns, in exchange rates, and in oil prices. Among the macro shocks, exchange rate shocks are shown to have the largest persistence effects on aggregate output, primarily exerted through their effect on the durable and non-durable manufacturing sectors. But in most cases, the contribution of the identified macro shocks to total persistence turned out to be small, as compared to that of sector-specific shocks.

Leff, Nathaniel H.

PD August 1991. **TI** Homogeneous Preferences and Heterogeneous Performance: International Differences in Saving and Investment Behavior. **AU** Leff, Nathaniel H.; Sato, Kazuo. **AA** Leff: Columbia University. Sato: Rutgers University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-14; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 21. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** O47, O41, E21, E22. **KW** Preferences. Growth Model. Savings. Investment.

AB This paper departs from one of the assumptions customary in growth theory, that preferences are homogeneous across economic agents. Instead, we present a methodology for testing empirically the hypothesis of preference homogeneity. We apply the methodology in the specific context of international saving and investment behavior, to address two questions. Do significant international differences in saving and investment behavior exist that can be attributed to differences in tastes? How important are such differences relative to the proportion of saving and investment behavior that can be explained with the standard assumption? The results provide evidence for considerable heterogeneity of preferences.

Lehmann, Bruce N.

PD October 1991. **TI** Asset Pricing and Intrinsic Values: A Review Essay. **AA** Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3873; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** G12, G14. **KW** Asset Pricing. Market Efficiency. Stock Market.

AB The efficient markets hypothesis has dominated modern research on asset prices. Asset prices and their intrinsic values differ in inefficient financial markets but difficulties in the measurement of intrinsic value greatly complicate market efficiency tests. Reflections on the measurement of intrinsic value provide insight into the interpretation of existing evidence and suggestions for generating new evidence on market efficiency. This review essay on the state of knowledge about market efficiency focuses on "A Reappraisal of the Efficiency of Financial Markets," analyzing the research areas from this perspective: (1) short-run stock return predictability; (2) asset pricing anomalies; and (3) excess volatility and present value relations.

Leiderman, Leonardo

PD June 1991. **TI** Determinants of External Imbalances: The Role of Taxes, Government Spending and Productivity. **AU** Leiderman, Leonardo; Razin, Assaf. **AA** Tel Aviv University. **SR** National Bureau of Economic Research Working Paper: 3738; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** $3.00. **JE** E21, E22, E10, E32. **KW** Current Account. Exchange Rate. Rational Expectations. Savings.

AB This paper develops and estimates a dynamic optimizing model of the current account. The model focuses, on real factors that determine the evolution of saving and investment, and hence the external balance. Three types of shocks are the center of the analysis: productivity shocks, shocks to labor input, and tax policy shocks. While our approach is in line with the real business cycle models of the current account, the distinguishing feature of the work is the application of econometric methods to time series data for small open economy so as to directly estimate the parameters governing saving and investment under rational expectations restrictions.

Leijonhufvud, Axel

PD November 1991. **TI** High Inflations and Contemporary Monetary Theory. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 638; Department of Economics, University of California at Los Angeles, 405 Hilgard Ave., Los Angeles, CA 90024. **PG** 19. **PR** $2.50; checks payable to U.C. Regents. **JE** E31, E30. **KW** Inflation. Missing Markets. Rationality. Monetary Theory.

AB This paper discusses economic behavior under conditions of extreme monetary instability, that is, in very high inflations. The first part of the paper describes some of the salient features of high inflations. The remainder will discuss some of the issues that high inflation behavior poses for contemporary monetary theory.

Lemieux, Thomas

TI The Effects of Product Market Competition on Collective Bargaining Agreements: The Case of Foreign Competition in Canada. **AU** Abowd, John M; Lemieux, Thomas.

Letiche, John M.

PD September 1991. **TI** Restructuring Centrally-Planned Economies: The Case of China in the Long-Term. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-177; IBER, 156 Barrows Hall, University of California at Berkeley,

Berkeley, CA 94720. **PG** 55. **PR** $3.50. **JE** O53, O11, P21. **KW** Privatization. Economic Fluctuations. China. Market Reform.
AB A primary factor in the long-term development of a successful market-oriented economy is the form of agencies and institutions to which are granted the legal rights to implement the allocation of economic activities. This paper considers the restoration of economic equilibrium under neoclassical and market-transforming conditions, the timing of reforms and underlying causes of inflation in the context of China.

Levich, Richard M.

TI Essays on Banking and Monetary Economics. **AU** Cumby, Robert; Levich, Richard M.; Saunders, Anthony; Sylla, Richard; Wachtel, Paul; Walter, Ingo.

PD August 1991. **TI** The Significance of Technical Trading-Rule Profits in the Foreign Exchange Market: A Bootstrap Approach. **AU** Levich, Richard M.; Thomas, Lee R. **AA** Levich: New York University and National Bureau of Economic Research. Thomas: Investcorp. **SR** National Bureau of Economic Research Working Paper: 3818; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** G13, G15, F31. **KW** Foreign Exchange. Exchange Market. Exchange Rate. Profits. Futures Market.
AB In this paper, we present new evidence on the profitability and statistical significance of technical trading rules in the foreign exchange market. We utilize a new data base, currency futures contracts for the period 1976-1990, and we implement a new testing procedure based on bootstrap methodology. Using this approach, we generate thousands of new exchange rate series constructed by random reordering of each original series. We then measure the profitability of the technical rules for each new series. The significance of the profits in the original series is assessed by comparison to the empirical distribution of results derived from the thousands of randomly generated series. Overall, our results suggest that simple technical trading rules have very often led to profits that are highly unusual.

Levine, David K.

TI Maintaining a Reputation when Strategies are Imperfectly Observed. **AU** Fudenberg, Drew; Levine, David K.

TI Efficiency and Observability with Long-Run and Short-Run Players. **AU** Fudenberg, Drew; Levine, David K.

TI Steady State Learning and Nash Equilibrium. **AU** Fudenberg, Drew; Levine, David K.

Levine, Philip B.

PD June 1991. **TI** Expected Changes in the Workforce and Implications for Labor Markets. **AU** Levine, Philip B.; Mitchell, Olivia S. **AA** Levine: Princeton University. Mitchell: Cornell University. **SR** National Bureau of Economic Research Working Paper: 3743; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $3.00. **JE** J11, J14, J21, H55. **KW** Baby Boom. Retirement Patterns. Labor Force Participation. Demographic Shifts. Social Security.
AB This paper examines the likely effects of the aging of the baby boom on labor force attachment, unemployment, and wages. Labor market trends between now and 2020 are the focus of analysis, when the majority of the baby boom generation will confront its retirement decision. We begin by reviewing past labor force trends and discussing important limitations of existing projection methods. Key elements needed to project the consequences of the demographic shock facing the labor market are identified. The task of developing a fully specified economic model to examine the effect of the aging of the baby boom on the labor market is as yet incomplete. On the basis of the best available evidence, we suggest the following conclusions can be drawn: The trend towards earlier retirement will slow and perhaps reverse in the next few decades. Unemployment should fall among older workers and the aggregate full-employment unemployment rate should also decline as the baby boom ages.

Lewis, Jeffrey D.

TI External Shocks, Purchasing Power Parity, and the Equilibrium Real Exchange Rate. **AU** Devarajan, Shantayanan; Lewis, Jeffrey D.; Robinson, Sherman.

Lewis, Tracy R.

TI Trade Adjustment Assistance and Pareto Gains from Trade. **AU** Feenstra, Robert C.; Lewis, Tracy R.

Ley, Eduardo

PD September 1991. **TI** A Note on the Dow-Jones Index. **AU** Ley, Eduardo; Varian, Hal R. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 12; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 13. **PR** not available. **JE** G14, G12, G13. **KW** Market Efficiency. Stock Market. Forecasting.
AB The popular press attaches particular significance to certain numerical values of the Dow-Jones index. These magic numbers are referred to as "resistance levels" or "psychological barriers." We examine 38 years of closing values of this index to see if it is of any help in predicting future stock market returns.

Libecap, Gary D.

PD September 1991. **TI** The Rise of the Chicago Packers and the Origins of Meat Inspection and Antitrust. **AA** University of Arizona and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 29; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** N41, L44, K21. **KW** Economic History. Public Policy. Antitrust Policy. Regulation.
AB The Meat Inspection Act of 1891 and the Sherman Act of 1890 are shown to be closely tied. This link makes clearer Congress' intent in enacting the legislation. Both laws were products of conditions in the economy after 1880, and they reflected in part, a common concern about the Chicago packers, or Beef trust. The concerns of local slaughterhouses, which were being displaced by new, low-cost refrigerated beef, and of farmers, who sold their livestock to the large Chicago packers, were echoed elsewhere by other small businesses and farmers, who feared for their competitive positions during a time of structural change in the economy.

Lim Rogers, Diane

TI Lifetime Versus Annual Perspectives on Tax Incidence. **AU** Fullerton, Don; Lim Rogers, Diane.

Lin, Guoen

TI Labor Productivity and Market Competition in Japan. **AU** Yamada, Tetsuji; Yamada, Tadashi; Lin, Guoen.

Liu, Crocker H.

PD June 1991. **TI** The Predictability of Returns on Equity Reits and Their Co-Movement with Other Assets. **AU** Liu, Crocker H.; Mei, Jianping. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-42; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 20. **PR** $5.00. **JE** G12, G11, G14. **KW** Securities. Risk Premium. Asset Market. Asset Pricing. Excess Returns.

AB Recent evidence suggests that the variation in the expected excess returns on securities over time is not only predictable but is the result of time varying risk premiums due to changes in business conditions. This empirical result casts doubts on previous studies that deal with the investment performance of equity real estate investment trusts (EREITs) and their resemblance to stocks, since these studies assume constant risk premiums. Using a multi-factor latent variable model with time-varying risk premiums, this study breaks excess returns on stocks, bonds and EREITs into two parts: expected excess returns and unexpected excess returns. Next, this study examines what determines the movements in the expected excess returns on the three asset classes and to what extent they move together. This methodology is more robust and flexible than previous studies.

Lo, Andrew W.

TI An Ordered Probit Analysis of Transaction Stock Prices. **AU** Hausman, Jerry A.; Lo, Andrew W.; MacKinlay, A. Craig.

TI An Ordered Probit Analysis of Transaction Stock Prices. **AU** Hausman, Jerry A.; Lo, Andrew W.; MacKinlay, A. Craig.

Lown, Clara S.

TI An Indicator of Future Inflation Extracted from the Steepness of the Interest Rate Yield Curve Along its Entire Length. **AU** Frankel, Jeffrey; Lown, Clara S.

Lutz, Mark S.

TI Fiscal Impulse. **AU** Schinasi, Garry J.; Lutz, Mark S.

Lyons, Richard K.

TI Short and Long Run Externalities. **AU** Bartelsman, Eric J.; Caballero, Ricardo J.; Lyons, Richard K.

TI Short and Long Run Externalities. **AU** Bartelsman, Eric J.; Caballero, Ricardo J.; Lyons, Richard K.

PD October 1991. **TI** Private Beliefs and Information Externalities in the Foreign Exchange Market. **AA** Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3889; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** G15, G14. **KW** Foreign Exchange. Trading.

AB An information externality exists in the foreign exchange market due to the fact that traders play two partially conflicting roles: (i) each is a speculator and (ii) each is an information clearinghouse in that each intermediates own-customer orders which convey information. Profit maximization induces traders to underweight fundamental information in making their trades, reducing the degree to which prices reveal information at any given time. In the model, agents update diverse beliefs over time, with transactions-mediated tatonnement. The explicit role for transactions provides a framework for interpreting the relationship between the diversity of beliefs, trading volume, and price adjustment.

PD October 1991. **TI** Private Beliefs and Information Externalities in the Foreign Exchange Market. **AA** Columbia University and National Bureau of Economic Research. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-17; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 28. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** G15, F31. **KW** Foreign Exchange. International Markets. Trading.

AB An information externality exists in the foreign exchange market due to the fact that traders play two partially conflicting roles: (i) each is a speculator and (ii) each is an information clearing house in that each intermediates own-customer orders which convey information. Profit maximization induces traders to underweight fundamental information in making their trades, reducing the degree to which prices reveal information at any given time. In the model, agents update diverse beliefs over time, with transactions-mediated tatonnement. The explicit role for transactions provides a framework for interpreting the relationship between the diversity of beliefs, trading volume, and price adjustment.

TI External Effects in U.S. Procyclical Productivity. **AU** Caballero, Ricardo J.; Lyons, Richard K.

MacKie-Mason, Jeffrey K.

PD July 1991. **TI** Taxes and the Choice of Organizational Form. **AU** MacKie-Mason, Jeffrey K.; Gordon, Roger H. **AA** MacKie-Mason: Stanford University. Gordon: University of Michigan. **SR** National Bureau of Economic Research Working Paper: 3781; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $3.00. **JE** L22, K34, H20, H25. **KW** Corporate Taxes. Incorporation. Tax Policy. Tax Reform. Partnership. Proprietorship.

AB One of the most basic distortions created by the double taxation of corporate income is the disincentive to incorporate. In this paper, we investigate the extent to which the aggregate allocation of assets and taxable income in the U.S. between corporate vs. noncorporate forms of organization during the period 1959-86 has responded to the size of the tax distortion discouraging firms from incorporating. In theory, profitable firms should shift out of the corporate sector when the tax distortion to incorporating is larger, and conversely for firms with tax losses. Our empirical results provide strong support for these theoretical forecasts, and hold consistently across a wide variety of specifications and measures of the tax variables.

Measured effects are small, however, throwing doubt on the economic importance of tax-induced changes in organizational form.

MacKinlay, A. Craig

TI An Ordered Probit Analysis of Transaction Stock Prices. **AU** Hausman, Jerry A.; Lo, Andrew W.; MacKinlay, A. Craig.

TI An Ordered Probit Analysis of Transaction Stock Prices. **AU** Hausman, Jerry A.; Lo, Andrew W.; MacKinlay, A. Craig.

MacMillan, Ian, C.

TI Nonresponse and Delayed Response to Competitive Moves: The Roles of Competitor Dependence and Action Irreversibility. **AU** Chen, Ming-Jer; MacMillan, Ian, C.

Madsen, Ib Fredslund

PD December 1989. **TI** Explaining Commercial Bank Lending to LDC's: A Derivative Business Model under Uncertainty as to the Behavior of Other Banks. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-21; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 13. **PR** no charge. **JE** F34, G21, D81. **KW** Commercial Lending. Developing Countries. Commercial Banks.

AB An explanation of bank behavior in commercial lending to LDC's is developed in a framework of rational behavior. The basic assumption is that banks expect additional business opportunities to be derived from their primary lending. This additional business, which is termed derivative business, we first review in historical perspective and find that it has played a major role in the considerations of foreign banks to engage in Latin American loans. But the allocation of shares in derivative business made by the country is conditioned on the relative share in primary lending of the specific bank to the other participating banks.

Makowski, Louis

PD September 1991. **TI** The Margin of Appropriation and an Extension of the First Theorem of Welfare Economics. **AU** Makowski, Louis; Ostroy, Joseph M. **AA** Makowski: University of California, Davis. Ostroy: University of California, Los Angeles. **SR** University of California at Davis Economics Department Working Paper: 388; Department of Economics, University of California at Davis, Davis, California 95616-8578. **PG** 41. **PR** no charge. **JE** D51, D61. **KW** Allocative Efficiency. Decentralization. Welfare Economics.

AB The standard First Theorem of Welfare Economics rests on two assumptions, price-taking behavior and complete markets. Thus individuals have neither price-making nor market-making capacities. We offer an extension of the First Theorem to a model in which individuals have such capacities. Two noteworthy features of the extension are its emphasis on aligning private rewards with social contributions at the "individual margin" as the key to market efficiency and, relatedly, its emphasis on pecuniary externalities as an important potential source of market failure.

Mamuneas, Theofanis P.

TI The Effects of Public Infrastructure and R&D Capital on the Cost Structure and Performance of U.S. Manufacturing Industries. **AU** Nadiri, M. Ishaq; Mamuneas, Theofanis P.

Mankiw, N. Gregory

PD October 1991. **TI** The Reincarnation of Keynesian Economics. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3885; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** B31, B22, E12. **KW** Keynes. Macroeconomics. Economic Thought.

AB This paper discusses the reemergency of Keynesian Economics during the past decade. It highlights the substantial differences between new Keynesian economics and the convictions of early Keynesians. In particular, it points out that new Keynesians have adopted many views that were once considered "monetarist" or "classical." It concludes that the term "Keynesian" may have outlived its usefulness.

Marceau, Nicolas

TI Publicly Provided Unemployment Insurance and Commitment. **AU** Boadway, Robin W.; Marceau, Nicolas.

Marchand, Maurice

TI Education and the Poverty Trap. **AU** Barham, Vicky; Boadway, Robin W.; Marchand, Maurice; Pestieau, Pierre.

Margo, Robert A.

TI The Great Compression: The Wage Structure in the United States at Mid-Century. **AU** Goldin, Claudia; Margo, Robert A.

Marion, Nancy P.

PD August 1991. **TI** Empirical Evidence on European Dual Exchange Rates and its Relevance for Latin America. **AA** Dartmouth College and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3809; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** F31, E42, O57. **KW** Exchange Rate. Monetary Regimes.

AB This paper uncovers some important empirical regularities for the European dual exchange markets of the early 1970's, examines some of the stylized facts about the Latin American dual rate regimes, and assesses whether there are strong parallels between the two. It concludes that one should be cautious about applying the lessons from the European experience to the Latin American ones.

TI Policy Uncertainty, Persistence and Growth. **AU** Aizenman, Joshna; Marion, Nancy P.

TI Exchange Rate Regime Choice. **AU** Flood, Robert P.; Marion, Nancy P.

Mark, Nelson C.

TI The Equity Premium and the Risk Free Rate: Matching the Moments. **AU** Cecchetti, Stephen G.; Lam, Pok-Sang; Mark, Nelson C.

Markusen, James R.

TI Multinational Firms, Technology Diffusion and Trade. **AU** Ethier, Wilfred J.; Markusen, James R.

Matthews, Steven A.

PD August 1991. **TI** Renegotiation of Sales Contracts under Moral Hazard. **AA** Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 950; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 51. **PR** per copy: $3.00 in the U.S.A. or Canada; $5.00 via international mail. **JE** D21, D82, C72. **KW** Principal-Agent Model. Moral Hazard. Renegotiation. Incentives. Contracts.

AB Sales contracts emerge when a principal and an agent in a moral hazard environment cannot prevent themselves from renegotiating their contract. The renegotiation occurs after the agent chooses his unobservable effort, but before its consequences are realized. Unlike previous analyses, a contract is a single sharing rule of the classical variety, and the agent leads the renegotiation. A sales contract transfers the random return wholly to the agent, thereby relieving the principal of concern about his effort. Equilibria exist in which an initial sales contract is agreed upon, but subsequently, renegotiated to the (second-best) efficient contract. All equilibria satisfying a relatively weak refinement criterion are efficient in this sense; renegotiation does not reduce welfare. When the agent can finely control the probabilities of observable signals, the initial contract in every equilibrium satisfying the criterion must be a sales contract. Two applications are briefly considered, managerial compensation and the timing of new firms' security issues.

Mayer, Colin P.

PD August 1991. **TI** Stock Markets and Corporate Performance: A Comparison of Quoted and Unquoted Companies. **AU** Mayer, Colin P.; Alexander, Ian. **AA** City University Business School, London. **SR** Centre for Economic Policy Research Discussion Paper: 571; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 91. **PR** 3 pounds or $5.00. **JE** G32, M21, G11. **KW** Stock Markets. Corporate Finance. Investment.

AB This paper examines the influence of stock markets on corporate performance. It compares large private and publicly listed companies in the U.K. It finds that, controlling for size and industry, quoted firms invest more and grow more rapidly than unquoted firms. They earn higher profits and pay out a higher proportion of their earnings as dividends. They raise more equity finance but use this to purchase equity in other companies. In contrast, private companies are concentrated in low technology industries. There is therefore no evidence of adverse effects of stock markets on corporate performance. The proposition that firms are involuntarily driven to seek listings, however, cannot be rejected.

TI Financial Reform in Eastern Europe: Progress with the Wrong Model. **AU** Corbett, Jenny; Mayer, Colin P.

Mayshar, Joram

TI The Optimal Two-Bracket Linear Income Tax. **AU** Slemrod, Joel; Yitzhaki, Shlomo; Mayshar, Joram.

McAfee, R. Preston

PD October 1991. **TI** The Afternoon Effect. **AU** McAfee, R. Preston; Vincent, Daniel R. **AA** McAfee: University of Texas, Austin. Vincent: Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 961; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 13. **PR** $3.00 in the U.S or Canada; $5.00 via international mail. **JE** D44, D82, D81. **KW** Auctions. Risk Aversion.

AB Data from wine auctions indicates that identical products sold sequentially typically follow a decreasing pattern of prices, known as the afternoon effect. This is explained, for both first and second price auctions, by appealing to risk averse bidders. Earlier bids are then equal to expected later prices plus a risk premium associated with the risky future price. This logic rests on the assumption of nondecreasing absolute risk aversion, which is necessary for pure strategy equilibrium bidding functions to exist. Thus, decreasing absolute risk aversion implies ex post inefficiency with positive probability. Data from wine auctions is used to confirm the existence of the afternoon effect.

McCall, John J.

PD October 1991. **TI** Vico and de Finetti: An Economic Perspective. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 630; Department of Economics, University of California at Los Angeles, 405 Hilgard Ave., Los Angeles, CA 90024. **PG** 53. **PR** $2.50. **JE** B31, B21. **KW** Learning. Evolutionary Process. Economic Thought.

AB It may be slightly extravagant, given the perceived equivalence between evolution and Darwin, to claim that the evolution of mind and society was Vico's basic idea. Yet almost all of his seminal ideas are compatible with this assertion. These include: an adaptive theory of natural law, the proposition that comprehension of "modern" society is impossible without serious contemplation of the history of man, the emergence of a civilized society was contingent on the evolution of an institutional matrix that shielded individuals from the raw uncertainty confronting early man, the development of institutions was based on a theory of connections among individuals. These connections or relations were basic to the formation of societies.

McKelvey, Richard D.

TI Political Competition in a Model of Economic Growth: Some Theoretical Results. **AU** Boylan, Richard; Ledyard, John O.; McKelvey, Richard D.

Meade, James

PD August 1991. **TI** On the Stability of Monetary and Fiscal Policy. **AU** Meade, James; Weale, Martin. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9117; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 39. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** E63, E42, D83. **KW** Monetary Policy. Fiscal Policy. Policy Coordination. Learning.

AB It is widely argued that central banks should act independently of governments, concentrating on the use of monetary policy to control inflation and leaving the country's fiscal authorities to concern themselves with the government's budget. The object of this paper is to examine condition in which this system might lead to an unstable outcome arising from failure to coordinate policies. We consider a world of two similar countries with monetary and fiscal authorities in each country; each policy authority learns about the behavior of the others from an analysis of their past behavior. The most efficient way of doing this is by using ordinary least squares regressions and forecasts; we also consider a situation in which each agent simply assumes that the others will continue their past behavior. We combine these two assumptions about learning behavior with five policy structures ranging from independent monetary and fiscal management to full monetary and fiscal union.

Mei, Jianping

TI Do Firms "Keep up with the Joneses"? Evidence on Cross-Sectional Variation in Investment. **AU** Foresi, Silverio; Mei, Jianping.

TI The Predictability of Returns on Equity Reits and Their Co-Movement with Other Assets. **AU** Liu, Crocker H.; Mei, Jianping.

PD July 1991. **TI** Extracted Factors and Time-Varying Conditional Risk Premiums -- A New Approach to the APT. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-43; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 21. **PR** $5.00. **JE** G12, G11, G14, E32. **KW** Asset Pricing. Risk Premium. Business Cycle.

AB In this paper we develop a simple semi-autoregressive approach to extract factors from the APT model. Using the extracted factors, we perform an analysis on the relationship between factor risk premiums and business conditions. We discover that not only are the factors "priced" by the market but also that the factor premiums move over time in relation to business cycle variables. We also find that it is impossible for the "January Effect" to be associated with time variation in the factor premiums.

Meridor, Leora

TI Macroeconomic Implications of Mass Immigration to Israel. **AU** Hercowitz, Zvi; Meridor, Leora.

Merton, Robert C.

PD August 1991. **TI** Optimal Investment Strategies for University Endowment Funds. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3820; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** I22, G11. **KW** Endowments. Education. Investment. Portfolio Choice.

AB A common approach to the management of endowment is to treat it as if it were the only asset of the university. This approach leads to prescriptions for optimal investment and expenditure policies that are essentially the same across universities. Indeed, the resulting optimal portfolio strategies are focused almost exclusively on providing an efficient tradeoff between risk and expected return, a generic objective that is just as applicable to individuals and non-academic institutions as it is to universities. In contrast, the model developed here provides intertemporally optimal investment and expenditure rules for endowment that take account of the university's overall objectives and total resources.

Metcalf, Gilbert E.

TI Do Tax-Exempt Bonds Really Subsidize Municipal Capital? **AU** Gordon, Roger H.; Metcalf, Gilbert E.

PD September 1991. **TI** Tax Exporting, Federal Deductibility, and State Tax Structure. **AA** Princeton University. **SR** National Bureau of Economic Research Working Paper: 3839; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** H24, H21, H71. **KW** Taxes. Income Taxes. Sales Tax.

AB This paper studies the interaction between the federal and state tax systems during the 1980's and in particular considers how the Tax Reform Act of 1986 affected state tax structure. Using a panel data set on state governments over a nine year period, I estimate tax share equations for six categories of taxes. I find that the state personal income tax is sensitive to changes in its tax price but find a much smaller sensitivity to changes in tax prices for the general sales tax. I then consider various reasons for why the sales tax does not exhibit a sensitivity to changes in tax price and consider the implications of these results for policy-makers.

Metzger, Michael R.

PD November 1990. **TI** Estimating Producer Welfare when Input and Output Prices Change Simultaneously. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 181; Bureau of Economics, Federal Trade Commission, Washington, D.C. 20580. **PG** 7. **PR** No charge. **JE** O20, H20, O61. **KW** Producer Surplus. Vertical Industries. Tariffs. Trade Policy.

AB This paper develops a measure for the change in producer welfare when both factor and product prices are changed simultaneously. Such a measure is useful when performing economic analysis of proposed policy changes affecting two vertically-related industries. For example, in previous examinations of the social benefits to rescinding tariff and quota protection of domestic textile and apparel industries, one common approach has been to employ a comparative static analysis of the gains to trade liberalization in the two industries separately. Simply adding the gains calculated separately for trade liberalization in the two vertically related industries involves a potentially significant overestimation error. The more appropriate approach would be to analyze the gains to trade liberalization when trade restraints are removed from both industries. This necessitates estimating the net gain/loss to downstream producers as the prices of their input and product both fall as a direct result of trade liberalization.

Meyer, Bruce D.

TI A Longitudinal Analysis of Young Entrepreneurs in Australia and the United States. **AU** Blanchflower, David G.; Meyer, Bruce D.

Miller, John H.

TI Simulations and Spatial Voting Models. **AU** Page, Scott E.; Coleman, Ken; Miller, John H.

Mincer, Jacob

PD September 1991. **TI** Education and the Unemployment of Women. **AA** Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3837; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J21, J24, J63, J64. **KW** Unemployment. Labor Supply. Human Capital. Labor Force. Turnover.

AB The more education, the less unemployment of women; this relationship is as strong as it is in the male labor force. The channel through which this relation arises is also the same, namely, labor turnover, almost half of which involves unemployment. However, the relation between education and turnover is mediated largely by educational differences in on-the-job training among men, while educational differences in labor force attachment are the main source of turnover differences among women. This is because levels of educational differences in on-the-job (in-house) training are small among women, while nonparticipation in the labor market and educational differences in it are quite small among men. Educational differences in the duration of unemployment are negligible among women, however they are observable, if small, among men.

PD September 1991. **TI** Education and Unemployment. **AA** Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3838; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J24, J64, J63. **KW** Education. Unemployment. Turnover.

AB A major benefit of education is the lower risk of unemployment at higher educational levels. In PSID (Panel Study of Income Dynamics) data on the male labor force, the reduction of the incidence of unemployment is found to be far more important than the reduced duration of unemployment in creating the educational differentials in unemployment rates. In turn, the lesser unemployment incidence of the more educated workers is, in about equal measure, due to their greater attachment to the firms employing them, and to the lesser risk of becoming unemployed when separated from the firm.

Mirakhor, Abbas

TI Islamic Banking. **AU** Khan, Mohsin S.; Mirakhor, Abbas.

Mitchell, Olivia S.

TI Expected Changes in the Workforce and Implications for Labor Markets. **AU** Levine, Philip B.; Mitchell, Olivia S.

PD June 1991. **TI** Trends in Pension Benefit Formulas and Retirement Provisions. **AA** Cornell University. **SR** National Bureau of Economic Research Working Paper: 3744; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** $3.00. **JE** J32, J33, J14, H55. **KW** Retirement. Contribution Plans. Fringe Benefits. Pensions. Social Security.

AB Changes in pension plan retirement formulas and benefit provisions over the last decade are examined, drawing on data collected and tabulated by the U.S. Department of Labor's Employee Benefits Survey of medium and large firms. The evidence shows that pension provisions have changed a great deal over the last decade, among both defined benefit and defined contribution plans. In the defined benefit environment, participation and vesting rules changed substantially; early retirement became more accessible and benefits somewhat more generous; normal retirement ages declined; and pension benefits were increasingly likely to depend on final rather than career earnings. Benefit integration with social security also grew to almost two-thirds of all participants in defined benefit plans. Overall, though pension replacement rates rose slightly over time, benefit ceilings remained pervasive for work at older ages and disability benefit provisions became more stringent. Defined contribution pension plans also changed a great deal over the decade of the 1980's. Workers were increasingly likely to be covered by combinations of defined benefit and defined contribution plans, with the latter usually a savings and thrift plan permitting a lump sum distribution. Profit sharing and stock plans appear to have stagnated during the latter part of the 1980's.

Miyahara, Yoshio

TI Stochastic Aggregation and Dynamic Field Effects. **AU** Aoki, Masanao; Miyahara, Yoshio.

Modica, Salvatore

TI A Neo(2)Bayesian Foundation of the Maxmin Value for Two-Person Zero-Sum Games. **AU** Hart, Sergiu; Modica, Salvatore; Schmeidler, David.

PD August 1991. **TI** Neo-Bayesian Decision Making with Subjective Models. **AA** University of Palermo. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 30-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 31. **PR** no charge. **JE** D81, D11. **KW** Bayesian Analysis. Decision Theory.

AB The neo-Bayesian decision models considered are seen as models satisfying the identification axiom. It is contended that this identification characterizes the objectivity of the models, i.e. their being models of a "grand decision," as Savage puts it. This identification axiom is replaced by two axioms, one of agreement and one of revealed limited intelligence. The resulting models are then interpreted as subjective. By coupling these axioms with existing theories, theories are obtained which, besides separating beliefs about the events in S from preferences over consequences in X, enables us to identify an element of pessimism/optimism and an element of "trust" in one's own model.

Moore, John

TI A Theory of Debt Based on the Inalienability of Human Capital. **AU** Hart, Oliver; Moore, John.

Moore, Michael J.

PD August 1991. **TI** Financial Innovation and the Neutrality of Money. **AA** Queen's University. **SR** Centre for Economic Policy Research Discussion Paper: 569; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 32. **PR** 3 pounds or $5.00. **JE** E51, E44, E41. **KW** Innovation. Monetary Policy. Money Demand. Financial Markets.

AB It is argued that financial innovation, in so far as it affects the technology for carrying out transactions, is endogenous, discrete and irreversible. This observation is developed to provide microfoundations for a type of "liquidity" trap, and its implications are explored in an intertemporal optimizing macroeconomic model with perfect foresight. The main conclusion is that financial innovation of this kind can lead to a coordination failure in the financial sector. Consequently changes in the nominal money stock can have real effects. These results are illustrated diagrammatically using a novel form of the IS-LM apparatus. The analysis also suggests there may be a connection between instability in the demand for money and in the Phillips curve.

Morley, Samuel

TI Education, Mobility and Growth. **AU** Adelman, Irma; Morley, Samuel; Schenzler, Christoph; Vogel, Stephen.

Morrison, Catherine J.

PD September 1991. **TI** Investment in Capital Assets and Economic Performance: The U.S. Chemicals and Primary Metals Industries in Transition. **AA** Tufts University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3828; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** D24, E22, G31. **KW** Production. Business Investment. Industry. Capital Stock. Manufacturing.

AB The effects of market and technological conditions on the investment and markup behavior of firms, and their resulting impacts on economic performance, are closely interrelated and complex. In this paper determinants of and linkages among these are explored for two industries with very different performance records and development patterns over the past three decades -- the chemicals and primary metals industries. The analysis is carried out using a production theory model that permits explicit assessment of the motivations underlying firm decisions, based on BLS data from 1955-86. General capital investments are distinguished from investments in innovative or high tech capital such as office and communications equipment and technical and scientific apparatus. Investment behavior and thus capacity utilization are explicitly modeled as responses to adjustment costs for capital assets.

Motta, Massimo

PD June 1991. **TI** Sunk Costs and Trade Liberalisation. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9127; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 25. **PR** not available. **JE** F12, F41, L13, F15. **KW** Differentiated Goods. Economic Integration. Sunk Costs. Product Quality. Trade Model.

AB A model of vertical product differentiation is applied to the study of trade between two countries of differing sizes. Firms in the smaller country choose lower quality products in autarky. Were the two countries to operate under free trade ab initio, with autarky equilibrium qualities, small country's firms would not enter the market. Under these circumstances, losses from trade may arise for the small country. However, if firms already operate (i.e. have incurred sunk costs of entry) prior to the opening of trade, net gains from trade always exist for both countries.

PD June 1991. **TI** Cooperative R&D and Vertical Product Differentiation. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9128; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 30. **PR** not available. **JE** L13, O32. **KW** Differentiated Goods. Technology. Oligopoly.

AB A partial equilibrium model with vertical product differentiation, Cournot competition and quality determined by R&D expenses is analyzed. Cooperative agreements on R&D entail higher levels of R&D, quality, output, and welfare than at the noncooperative equilibrium, under well defined conditions on spillover rates. This confirms, in a new setting, a well-known outcome of models with cost reducing R&D. Further, cooperation in R&D allows a larger number of firms to operate in the industry than in the noncooperative case. Via a reduction in prices, a new source of social gains from cooperative research is identified.

Mukerjee, Swati

PD July 1991. **TI** Measurement of Output and Quality Adjustment when Hedonics Cannot be Used: An Illustration for the Day Care Industry. **AU** Mukerjee, Swati; Witte, Ann Dryden. **AA** Mukerjee: Bentley College. Witte: Wellesley College. **SR** National Bureau of Economic Research Working Paper: 3771; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $2.00. **JE** J10, J13. **KW** Product Quality. Day Care. Child Care. Subsidies.

AB In this paper, we develop time series estimates of the output and quality of output for day care centers in the U.S. for the 1970's and 1980's. As far as we are aware this is the first time that a time series for day care output and quality has been published. Our results using both physical and dollar measures of output show very rapid growth in output, particularly during the 1980's. We find that both the real price of care in centers and the staff/child ratio in day care centers declined between 1974 and 1988. These declines may reflect either improved productivity or a decline in the quality of care provided by day care centers. Clearly, these declines merit further investigation. We illustrate a method that may be used to adjust physical measures of output for changes in quality when, as is true in the case of day care, no single market clearing price is available. The method involves the estimation of cost functions and the calculation of marginal costs for producing quality.

Munro, Gordon R.

TI Coastal States and Distant Water Fishing Nations: Conflicting Views of the Future. **AU** Clarke, Francis H.; Munro, Gordon R.

Murphy, Kevin J.

TI Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence. **AU** Gibbons, Robert; Murphy, Kevin J.

Mythili, G.

PD August 1991. **TI** A Theoretical Exposition of Consumers' Response to Alternative Food Policies. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 615; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 34. **PR** $6.80. **JE** Q18, Q11, D12. **KW** Food Policy. Subsidies. Prices. Agriculture. Consumer Economics.

AB This study is an attempt to relate alternative food subsidy programs with reference to the implication for consumer theories. The Government's goal is set on raising the nutritional standard of those who are underfed rather than redistributional aspects. The rationale for such a goal assumes away consumer sovereignty. This study is focused only on the consumer sector and ignores the production sector merely to avoid complexities involved in the theoretical formulation. Although it is recognized that in most of the third world countries, where a significant proportion of the population live on farming and consume their own produce, the linkage between production and consumption decisions does influence the behavioral pattern of an individual as a consumer.

Nadiri, M. Ishaq

PD October 1991. **TI** The Effects of Public Infrastructure and R&D Capital on the Cost Structure and Performance of U.S. Manufacturing Industries. **AU** Nadiri, M. Ishaq; Mamuneas, Theofanis P. **AA** Nadiri: New York University and National Bureau of Economic Research. Mamuneas: New York University. **SR** National Bureau of Economic Research Working Paper: 3887; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** H54, L60, D24, D21. **KW** Manufacturing. Labor Productivity. Infrastructure.

AB In this paper the authors examine the effects of publicly financed infrastructure and R&D capitals on the cost structure and productivity performance of twelve two-digit U.S. manufacturing industries. The results suggest that there are significant productive effects from these two types of capital. Their effects on the cost structure vary across industries and their contributions to growth of labor productivity vary over time as well. Not only is the cost function shifted downward in each industry, generating productivity inducement, but the factor demand in each industry is also affected by the two types of public capitals, suggesting bias effects. The authors also calculate the marginal benefits of these services in each industry and estimate the "social" rates of return to these capitals for the industries in their sample.

Nakamura, Leonard I.

PD August 1991. **TI** Optimal Acceptance Policies for Journals. **AU** Nakamura, Leonard I.; Shaffer, Sherrill. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 91-15; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106-1574. **PG** 35. **PR** no charge except overseas airmail, $2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** D83, A10. **KW** Economics. Economic Journals. Private Information.

AB In the field of economics, an article goes to a journal without a history of its past acceptances or rejections. As a consequence, journals assess initial submissions by the same standards they use for articles previously rejected by other journals. Could journals screen articles more accurately if they knew the history of an article's rejections? If journals' judgements have a normal error distribution, the answer is that the number of times an individual article has been rejected in the past is irrelevant to the standards by which the article should be judged. The socially optimal practice is for journals to act as if the article had been rejected by all other journals to which it would typically be sent. If signals are not normally distributed, then it is possible that the number of past rejections of an article is valuable information.

Nason, James M.

TI Testing for Structural Breaks in Cointegrated Relationships. **AU** Gregory, Allan W.; Nason, James M.

Neary, J. Peter

PD July 1991. **TI** Cost Asymmetries in International Subsidy Games: Should Governments Help Winners or Losers? **AA** University College Dublin. **SR** Centre for Economic Policy Research Discussion Paper: 560; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 25. **PR** 3 pounds (or $5.00). **JE** F13, F12, L13. **KW** Trade Policy. Export Subsidies. Industrial Policy. Cournot Competition. Bertrand Competition. Oligopoly.

AB This paper examines the optimality of export subsidies in oligopolistic markets, when home and foreign firms have different costs and there is an opportunity cost to public funds. Subsidies are found to be optimal only for surprisingly low values of the shadow price of government funds, and if subsidies are justified they should be higher the more cost-competitive are domestic firms. These results hold under both Cournot and Bertrand competition when firms move before governments. The results suggest that recent arguments for export subsidies apply only for firms that would be highly profitable even without subsidies.

Needels, Karen

TI Skill Differentials in Canada in an Era of Rising Labor Market Inequality. **AU** Freeman, Richard B.; Needels, Karen.

Nelson, Julie A.

PD October 1991. **TI** "Independent of a Base" Equivalence Scales Estimation using United States Micro-Level Data. **AA** University of California, Davis. **SR** University of California at Davis Economics Department Working Paper: 392; Department of Economics, University of California at Davis, Davis, California 95616-8578. **PG** 20. **PR** no charge. **JE** D12, D63. **KW** Consumer Demand. Standard of Living. Consumer Economics. Households.

AB Household equivalence scales adjust measures of household income for differences in household composition. This paper describes some of the practical problems, as well as insights that can be gained, from attempting to estimate household equivalence scales using U.S. micro-level data on household demand. While it has recently become popular to argue that derivation of "true" equivalence scales from demand data is impossible, on the conceptual ground that demand patterns reveal only "conditional" preferences, that suspicion is misplaced. An abundance of other conceptual and practical problems, however, remain.

Nesetril, Jaroslav

TI Simple Tournaments and Sharply Transitive Groups. **AU** Imrich, Wilfried; Nesetril, Jaroslav.

Neumark, David

TI Unobserved Ability, Efficiency Wages, and Interindustry Wage Differentials. **AU** Blackburn, McKinley; Neumark, David.

PD October 1991. **TI** Evidence on Employment Effects of Minimum Wages and Subminimum Wage Provisions from Panel Data on State Minimum Wage Laws. **AU** Neumark, David; Wascher, William. **AA** Neumark: University of Pennsylvania. Wascher: Board of Governors of the Federal Reserve System. **SR** National Bureau of Economic Research Working Paper: 3859; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J38, J31, J23. **KW** Minimum Wage. Wages. Employment. Labor Demand.

AB We construct a panel data set on state-level minimum wage laws and economic conditions to evaluate existing evidence on minimum wage effects on employment, most of which comes from time series data. Our estimates of the elasticities of teen and young adult employment-to-population ratios fall primarily in the range -0.1 to -0.2, similar to the consensus range of estimates from time series studies. We also find evidence that youth subminimum wage provisions enacted by state legislatures have moderated the disemployment effects of minimum wages.

Newey, Whitney K.

PD July 1991. **TI** The Asymptotic Variance of Semiparametric Estimators. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 583; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 57. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** C14, C33, C23. **KW** Semiparametric Estimation. Asymptotic Theory. Nonparametric Regression. Series Estimation. Panel Data. Consumer Surplus. Average Derivative.

AB Knowledge of the asymptotic variance of an estimator is important for large sample inference, efficiency, and as a guide to the specification of regularity conditions. The purpose of this paper is the presentation of a general formula for the asymptotic variance of a semiparametric estimator. A particularly important feature of this formula is a way of accounting for the presence of nonparametric estimates of nuisance functions. The general form of an adjustment factor for nonparametric estimates is derived and analyzed. The usefulness of the formula is illustrated by deriving propositions on asymptotic equivalence for different nonparametric estimators of the same function, conditions for estimation of the nuisance functions to have no effect on the asymptotic variance, and the form of a correction term for the presence of a linear function of a conditional expectation estimator, or other projection estimator (e.g. partially linear and/or additive nonparametric projections), and for a function of a density. Specific results cover a semiparametric random effects model for binary panel data, nonparametric consumer surplus, nonparametric prediction, and average derivatives. Regularity conditions are given for many of the propositions.

PD July 1991. **TI** Consistency and Asymptotic Normality of Nonparametric Projection Estimators. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 584; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 53. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** C14. **KW** Nonparametric Regression. Interactive Models. Linear Models. Polynomials. Splines. Convergence Rates. Asymptotic Theory.

AB Least squares projections are a useful way of describing the relationship between random variables. These include conditional expectations and projections on additive functions. Sample least squares provides a convenient way of estimating such projections. This paper gives convergence rates and asymptotic normality results of least squares estimators of linear functionals of projections. General results are derived, and primitive regularity conditions given for power series and splines. Also, it is shown that mean-square continuity of linear functional is necessary for n-consistency applied to estimating the parameters of a finite dimensional component of a projection and to weighted average derivatives of projections.

Newman, Andrew F.

PD August 1991. **TI** The Capital Market, the Wealth Distribution and the Employment Relation. **AA** Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 951; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 38. **PR** per copy: $3.00 in the U.S.A. or Canada; $5.00 via international mail. **JE** D21, D23, D82. **KW** Entrepreneurship. Employment Relation. Occupational Choice. Contracts.

AB This paper offers an account of the occupational choice among wage work, self-employment and entrepreneurship which contrasts with the "Knightian" choice based on risk attitudes. As shown by example, the latter can lead to perverse results. We propose a model in which imperfect capital markets arising from costly output verification cause the cost of capital markets to decline with an agent's wealth. Employment contracts, which require costly labor monitoring are then viewed as a substitute for financial contracts. The prevalence of employment contracts (as distinguished from self-employment) then depends on (1) how effective is the labor monitoring technology as a substitute for output verification in the capital market: and (2) how unequal is the distribution of wealth.

Olson, Lars J.

TI Optimal Inventory Policies when the Demand Distribution is Not Known. **AU** Larson, C. Erik; Olson, Lars J.; Sharma, Sunil.

Olson, Mark

PD July 1991. **TI** Dominant and Nash Strategy Mechanisms for the Assignment Problem. **AA** California Institute of Technology. **SR** Caltech Social Science Working Paper: 770; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 39. **PR** No charge. **JE** C70. **KW** Mechanism Design. Implementation. Assignment Problem. Matching.

AB In this paper, I examine the problem of matching or assigning a fixed set of goods or services to a fixed set of agents. I characterize the social choice correspondences that can be implemented in dominant and Nash strategies when transfers are not allowed. This is an extension of the literature that was begun by Gibbard (1973) and Satterthwaite (1975), who independently proved that if a mechanism is nonmanipulable it is dictatorial. For the classes of mechanisms that are described in the paper, the results imply that only the mechanisms that are implementable in dominant and Nash strategies are choice mechanisms that rely only on ordinal rankings. I also describe a subclass of mechanisms that are

Pareto optimal. In addition, the results explain the modeling conventions found in the literature- that when nontransfer mechanisms are studied individuals are endowed with ordinal preferences, and when transfer mechanisms are studied individuals are endowed with cardinal preferences.

PD October 1991. **TI** An Experimental Examination of the Assignment Problem. **AU** Olson, Mark; Porter, David. **AA** California Institute of Technology. **SR** Caltech Social Science Working Paper: 775; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** not available. **PR** no charge. **JE** D44, C92, L10. **KW** Auctions. Experiments. Industrial Organization.

AB The problem of optimally assigning individuals to heterogeneous objects so that each individual is allocated at most one object (the assignment problem) has a long history. Algorithms based on ordinal preferences have been developed and several auctions using monetary transfers have been proposed. The performance of two auction mechanisms to solve the assignment problem is examined in an experimental setting. One of the auctions is a sealed-bid variant of the Vickrey auction for homogeneous objects and the other auction is an extension of the English auction. The auctions are tested in two diverse competitive environments (high and low contention). The experimental results show that the English auction generates higher revenues and efficiencies than its sealed-bid counterpart especially if there is a high level of contention. However, the efficiency gains of the English auction are at the expense of consumers' surplus. Indeed, a random assignment creates greater consumers' surplus relative to either auction outcomes in the high contention environment.

Ostroy, Joseph M.

TI The Margin of Appropriation and an Extension of the First Theorem of Welfare Economics. **AU** Makowski, Louis; Ostroy, Joseph M.

Ouliaris, Sam

TI A Reexamination of the Consumption Function using Frequency Domain Regressions. **AU** Corbae, Dean; Ouliaris, Sam; Phillips, Peter C. B.

Page, Scott E.

PD August 1991. **TI** Simulations and Spatial Voting Models. **AU** Page, Scott E.; Coleman, Ken; Miller, John H. **AA** Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 952; J.L. Kellogg Graduate School of Management, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208. **PG** 41. **PR** Per copy: $3.00 in the U.S.A. or Canada; $5.00 via international mail. **JE** D72. **KW** Social Choice. Voting Models. Adaptive Agents.

AB We develop a model of spatial elections that departs from the standard model in three important respects. Our parties' information of voters' preferences is limited to polls; our parties can be either office-seeking or ideological; and our parties are not perfect optimizers, i.e. they are modeled as boundedly rational actors. Since our imperfect parties do not necessarily find optimal positions, rather than concern ourselves with existence and location of equilibria, we trace the trajectory of winning party positions. The outcomes are subsequently evaluated with respect to a measure of social welfare, centrality. Our results suggest that in fair voting systems, two party elections lead to normatively appealing outcomes.

Paldam, Martin

PD August 1989. **TI** Politics Matters after All (1) Testing Alesina's Theory of RE Partisan Cycles on Data for 17 Countries. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-6; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 24. **PR** no charge. **JE** D72, O17, O57. **KW** Partisan Cycles. Political Economics. Elections.

AB Recently the partisan type of political business cycles has reappeared in two versions in the literature: The Hibbs non-expectations Partisan Cycle and the Alesina rational expectations Partisan Cycle. The key idea in both versions of the theory is that parties pursue their ideological interest. In the Hibbs version this generates trends in certain key variables. In the Alesina version the results are post election blips. In both cases the shifts of the party in power cause the averages of the series to remain (fairly) insensitive to the changes in orientation of the parties. As a result cycles lasting two election periods appear in certain key variables. The paper develops a nonparametric test for the Alesina cycle and applies the test on data for 17 OECD countries 1948-85.

TI An International Element in the Vote? A Comparative Study of 17 OECD Countries 1948-85. **AU** Host, Viggo; Paldam, Martin.

PD September 1989. **TI** Politics Matters after All (2) Testing Hibbs' Theory of Partisan Cycles on Data for 17 Countries. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-8; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 25. **PR** no charge. **JE** D72, O17, O57. **KW** Partisan Cycles. Elections. Political Economics.

AB Recently the partisan type of Political Business Cycles has reappeared in two versions in the literature: The Hibbs non-expectations Partisan Cycle and the Alesina rational expectations Partisan Cycle. The key idea in both versions of the theory is that parties pursue their ideological interest. In the non-RE Hibbs version this generates trends in certain key variables. In the Alesina RE theory the results are post election blips. In both cases the shifts of the party in power cause the averages of the series to remain (fairly) insensitive to the changes in orientation of the parties. As a result cycles lasting two election periods appear in certain key variables. The paper develops a nonparametric test for the Hibbs Cycle and applies the test on data for 17 OECD countries 1948-85.

PD September 1989. **TI** How Robust is the Vote Function? A Comparative Study of 197 Elections in the OECD Area 1948-85. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-12; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 20. **PR** no charge. **JE** D71, D72. **KW** Voting. Elections. Political Processes.

AB A Vote and a Popularity Function (short: V & P-function) is defined as a function explaining (the change in) the vote (or popularity) for the government by (changes in) economic conditions and other variables. The theory of the VP-function is first discussed - the main emphasis is put upon the instability of these functions. The empirical analysis covers all 197 government elections in 17 main developed democracies and hence only the V-function. It is demonstrated that no V-function generalizes across all elections - i.e. economic conditions cannot explain the voting outcome to a significant extent in the general case. The theory of the VP-function builds upon the Responsibility Hypothesis: i.e. it assumes that the voter holds the government responsible for (changes in the) economic conditions. If we limit ourselves to elections in stable two-party systems the standard responsibility pattern does show up, although it does not explain very much of the variation. In the least stable countries the reverse pattern emerges - so we speak of a stability dimension in the VP-function. The consequences of these findings for the theory of the VP-function are discussed.

PD October 1989. **TI** Wage Rises and the Balance of Payments, An Empirical Study of Reaction Lags. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-14; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 26. **PR** no charge. **JE** E24, E64, H60, O57. **KW** Balance of Payments. Wages.
AB The wage-rise/b-o-p relation is analyzed using annual data from 1949 to 1985 from 17 OECD countries. The results are interpreted in the light of an attempt to survey the many possible connections between the two pairs of series. The main findings are: (1) The rate of nominal wage rises shows a weak connection to the b-o-p; but when we adjust the wage rises for the exchange rate compensated wage rates abroad, we obtain a very significant pattern. (2) It is characterized by two peaks. The strongest peak occurring is termed the C-peak, it shows that the b-o-p deteriorates 2 to 4 years after a relatively high wage increase. This is interpreted as a competitiveness effect. There is also a very significant peak the other way, but with the reverse sign: two years after an improvement in the b-o-p there is a marked relative increase in the rate of wage rises. (3) The wage rise elasticity of the b-o-p is estimated to be between -0.1 in the larger countries to -0.4 in the smaller.

Palfrey, Thomas R.

TI Undominated Nash Implementation in Bounded Mechanisms. **AU** Jackson, Matthew; Palfrey, Thomas R.; Srivastava, Sanjay.

Palm, Franz C.

PD April 1991. **TI** To Combine or not to Combine? Issues of Combining Forecasts. **AU** Palm, Franz C.; Zellner, Arnold. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9122; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 23. **PR** not available. **JE** C11, C52. **KW** Forecasting. Bayesian Analysis.
AB This paper addresses issues such as: Does it always pay to combine individual forecasts of a variable? Should one combine an unbiased forecast with a forecast that is heavily biased? Should one use optimal weights as suggested by Bates and Granger some twenty years ago? A simple model which accounts for the main features of individual forecasts is put forward. A Bayesian analysis using non-informative and informative prior probability densities is provided which extends and generalizes results obtained by Winkler (1981). Next, non-Bayesian methods of combining forecasts relying explicitly on a statistical model for the individual forecasts are presented. It is shown that in some instances it is sensible to use a simple average of individual forecasts instead of using Bates and Granger type weights. Finally, model uncertainty is allowed for and the issue of combining different models for the individual forecasts is addressed.

Papke, Leslie E.

PD June 1991. **TI** The Asset Allocation of Private Pension Plans. **AA** Boston University. **SR** National Bureau of Economic Research Working Paper: 3745; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 16. **PR** $3.00. **JE** J32, J33, J14. **KW** Retirement. Pensions. Fringe Benefits.
AB This paper summarizes the Form 5500 data on private pension fund investment. Using Form 5500 data from 1981 to 1987, the asset allocation of single employer and multiemployer defined benefit and defined contribution plans is reported, as well as the asset mix of the following subgroups: defined benefit plans categorized by plan savings or thrift, money purchase, ESOP, and 401 (K) defined contribution plans. A brief survey of the literature on pension fund investment policy is also included; however, the focus of the paper is to describe the Form 5500 data and inform subsequent research on investment policies of private pension funds.

Parente, Stephen L.

PD June 1991. **TI** Technology Adoption and Growth. **AU** Parente, Stephen L.; Prescott, Edward C. **AA** Parente: Northeastern University. Prescott: University of Minnesota. **SR** National Bureau of Economic Research Working Paper: 3733; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** $3.00. **JE** O31, O33, O40. **KW** Technological Growth. Income Distribution. Capital Taxation.
AB Technology change is modeled as the result of decisions of individuals and groups of individuals to adopt more advanced technologies. The structure is calibrated to the U.S. and postwar Japan growth experiences. Using this calibrated structure we explore how large the disparity in the effective tax rates on the returns to adopting technologies must be to account for the huge observed disparity in per capita income across countries. We find that this disparity is not implausibly large.

Pashardes, Panos

TI Abstention and Aggregation: Demand for Tobacco in the United Kingdom. **AU** Fry, Vanessa; Pashardes, Panos.

Patel, Jayendu

TI Nonrational Actors and Financial Market Behavior. **AU** Zeckhauser, Richard; Patel, Jayendu; Hendricks, Darryll.

Perelman, S.

TI Productive Performance of the French Insurance Industry. **AU** Fecher, F.; Kessler, D.; Perelman, S.; Pestieau, Pierre.

Pesaran, M. Hashem

TI Persistence of Shocks and Their Sources in a Multisectoral Model of U.K. Output Growth. **AU** Lee, Kevin C.; Pesaran, M. Hashem; Pierse, Richard. G.

PD July 1991. **TI** An Analysis of the Determination of

Deutsche Mark/French Franc Exchange Rate in a Discrete-Time Target-Zone Model. **AU** Pesaran, M. Hashem; Samiei, S. Hossein. **AA** Pesaran: University of Cambridge and University of California, Los Angeles. Samiei: University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9114; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 27. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** F31, E42, D84. **KW** Target Zones. Expectations. Exchange Rate.

AB In this paper we provide an empirical evaluation of the role of expectations and target zones, and the implied non-linearities, in the determination of DM/FF exchange rate in the ERM. The analysis is based on the discrete time model and the estimation procedure developed in Pesaran & Samiei (1991). We also make a comparison of the theoretical properties of this model with the continuous time target zone model. In particular, we illustrate that the model implies a stochastic S-shaped relationship between the exchange rate and the fundamentals, and a deterministic one between their expected values. Our empirical findings seem to indicate the importance of a proper treatment of expectations formation within a target zone regime, and also highlight the relevance of expectations in keeping the exchange rate within the band.

Pesendorfer, Wolfgang

PD September 1991. **TI** Financial Innovation in a General Equilibrium Model. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 635S; Department of Economics, University of California at Los Angeles, 405 Hilgard Ave., Los Angeles, CA 90024. **PG** 54. **PR** $2.50; checks payable to U.C. Regents. **JE** G10. **KW** Innovation. Incomplete Markets. Finance Theory. Securities.

AB We develop a model of financial innovation, in which intermediaries can issue new financial securities against collateral in the form of standard securities. Intermediaries have to market their innovations and marketing is costly. We show that the equilibrium asset structure may exhibit redundancies as frequently observed on financial markets. We give conditions for efficiency of financial innovation and show that with small innovation costs the indeterminacy of equilibrium allocations has small utility consequences. A possible interpretation of this result is that with small innovation costs the real allocation is almost independent of the exact specification of the political and economic process determining state contingent inflation.

Pestieau, Pierre

TI Productive Performance of the French Insurance Industry. **AU** Fecher, F.; Kessler, D.; Perelman, S.; Pestieau, Pierre.

TI Education and the Poverty Trap. **AU** Barham, Vicky; Boadway, Robin W.; Marchand, Maurice; Pestieau, Pierre.

Pezzey, John

TI Should a Carbon Tax Rise or Fall over Time? **AU** Ulph, Alistair; Ulph, David; Pezzey, John.

Phillips, Peter C. B.

TI A Reexamination of the Consumption Function using Frequency Domain Regressions. **AU** Corbae, Dean; Ouliaris, Sam; Phillips, Peter C. B.

PD October 1991. **TI** The Tail Behavior of Maximum Likelihood Estimators of Cointegrating Coefficients in Error Correction Models. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 999; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 16. **PR** no charge. **JE** C22, C13, C51. **KW** Maximum Likelihood. Error Correction Model. Random Walk. Cointegration. Finite Sample.

AB This paper derives exact finite sample distributions of maximum likelihood estimators of the cointegrating coefficients in error correction models. The distributions are derived for the leading case where the variables in the system are independent random walks. But important aspects of the theory, in particular the tail behavior of the distributions, continue to apply when the system is cointegrated. The reduced rank regression estimator is shown to have a distribution with Cauchy-like tails and no finite moments of integer order. The maximum likelihood estimator of the coefficients in the triangular system representation has matrix t-distribution tails with finite integer moments to order T-n+r where T is the sample size, n is the total number of variables in the system and r is the dimension of the cointegration space. These results help to explain simulation studies where extreme outliers are found to occur more frequently for the reduced rank regression estimator than for alternative asymptotically efficient procedures that are based on the triangular representation.

PD October 1991. **TI** Unit Roots. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 998; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 11. **PR** no charge. **JE** C22, C51. **KW** Nonstationarity. Time Series.

AB Nonstationarity is certainly one of the most dominant and enduring characteristics of macroeconomic and financial time series. It therefore seems appropriate that this feature of the data be seriously addressed both in econometric methodology and in empirical practice. However, until recently this has not been the case. Before 1980, it was standard empirical practice in econometrics to treat observed trends as simple deterministic functions of time. Nelson-Plosser (1982) challenged this practice and showed that observed trends are better modeled if one allows for stochastic trends. Since their work there has been a continuing reappraisal of trend behavior in economic time series and substantial development in the econometric methods of nonstationary time series. This essay has touched only a part of this large research field and traced only the main ideas involved in unit root modeling and statistical testing.

PD October 1991. **TI** The Long-Run Australian Consumption Function Reexamined: An Empirical Exercise in Bayesian Inference. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 1000; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 28. **PR** $2.00. **JE** D12, C22, C11, C51, C52. **KW** Bayes Model. Cointegration. Consumption Function. Steady State. Unit Root. Bayesian Analysis.

AB This paper reports an empirical application of new Bayesian methodology to Australian data on consumption, income, liquid assets and inflation. The methods involve the use of objective model based reference priors and objective posterior odds test criteria. The paper provides an overview of this methodology, which is based on recent work by the author (1991) and joint work with Werner Ploberger (1991) and Eric

Zivot (1991). The empirical application involves tests of nonstationarity and cointegration in the data and various long-run model specifications are studied in detail. Bayesian empirical results are presented alongside well-known classical tests and are shown to provide especially useful evidence in cases where the classical test results are mixed. Our empirical results show that real private consumption expenditure and household disposable income are not cointegrated either in real or nominal terms. Instead we find strong empirical support for the inclusion of an inflation or relative capital loss measure in the Australian consumption function. Suitable measures of these variables are constructed and a final specification is recommended which yields a long-run cointegrating relation that is empirically compatible in real and nominal terms.

Phillips, Steven

TI The European Monetary System: Credible at Last? **AU** Frankel, Jeffrey; Phillips, Steven.

Pierse, Richard. G.

TI Persistence of Shocks and Their Sources in a Multisectoral Model of U.K. Output Growth. **AU** Lee, Kevin C.; Pesaran, M. Hashem; Pierse, Richard. G.

Pietra, Tito

PD July 1991. **TI** Existence of Equilibria in Economies with Repeated Trade of Few "Long-Lived" Assets and Endogenous Quantity Constraints on Resale Markets. **AA** Rutgers University and Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9130; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 21. **PR** not available. **JE** D51. **KW** Trade Model. Exchange Economy.

AB We consider three-period, pure exchange economies with repeated trade of few "long-lived" assets. There are no constraints on the amount of trade in the original "long-lived" assets. In the resale markets, consumers face asymmetric lower bounds on sales, whose levels are given by the net stocks of the "long-lived" assets they hold. Let N be the number of second period spots and T* be the maximum number of successors of a second period spot. If there are at least (N+T*+1) "long-lived" assets and at least (T*+2) consumers, there is an open, dense set of economies (parameterized by endowments and asset payoffs) for which there is a spanning equilibrium. Otherwise, there are open sets of economies for which no equilibrium exists.

PD July 1991. **TI** The Structure of the Set of Sunspot Equilibria in Economies with Incomplete Financial Markets. **AA** Rutgers University and Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9132; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 33. **PR** not available. **JE** D51, D52, G14. **KW** Utility Theory. Endowment. Exchange Economies. Incomplete Markets.

AB The paper considers the set of equilibria of two period, sunspot economies with N purely extrinsic states of nature in the second period and M assets with linearly independent and sunspot-contingent nominal payoffs. The span of the payoff matrix contains the vector [1,...,1] (inside money). The set of economies is described in terms of (sunspot-invariant) endowments and utility functions. If N>M>O, there is an open and dense set of economies, such that, given an appropriate vector of no arbitrage asset prices, the set of equilibrium allocations contains a smooth manifold of dimension (N-M). Such a manifold contains at least one degenerate sunspot equilibrium (and at most a finite number of degenerate equilibria).

PD July 1991. **TI** Sunspot Equilibria and Efficiency in Economies with Incomplete Financial Markets: A Remark. **AA** Rutgers University and Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9129; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 12. **PR** not available. **JE** D51, D52. **KW** Incomplete Markets. Exchange Economies.

AB We consider economies with incomplete financial markets and nominal assets. We construct an economy where some non-degenerate sunspot equilibria strictly Pareto dominate an open subset of "certainty" equilibria and are not Pareto dominated by any "certainty" equilibrium. Equilibria in the "certainty" economy are not Pareto ranked.

Pietsch, Christian

TI Characterizing Minimum Gossip Graphs on 16 Vertices. **AU** Labahn, Roger; Pietsch, Christian.

Plehn, Jurgen

PD May 1991. **TI** Uber Die Existenz und das Finden von Subgraphen. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91700-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 174. **PR** no charge. **JE** C60. **KW** Graph Theory. Graph Algorithms. Forests. Partitioning Subgraphs.

AB Paper in German.

Polemarchakis, Heraklis

TI Overlapping Generations. **AU** Geanakoplos, John; Polemarchakis, Heraklis.

Polinsky, Mitchell A.

PD June 1991. **TI** A Model of Optimal Fines for Repeat Offenders. **AU** Polinsky, Mitchell A.; Rubinfeld, Daniel L. **AA** Polinsky: Stanford University. Rubinfeld: University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 3729; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 17. **PR** $3.00. **JE** K40, K42, O60. **KW** Criminal System. Deterrence. Penalties. Punishment. Criminals. Law.

AB This paper analyzes optimal fines in a model in which individuals can commit up to two offenses. The fine for the second offense is allowed to differ from the fine for the first offense. There are four natural cases in the model, defined by assumptions about the gains to individuals from committing the offense. In the case fully analyzed it may optimal to punish repeat offenders more severely than the first-time offenders. In another case, it may be optimal to impose less severe penalties on repeat offenders. And in the two remaining cases, the optimal penalty does not change.

Poljak, Svatopluk

TI Complexity of a Max-Cut Approximation. **AU** Delorme, Charles; Poljak, Svatopluk.

PD May 1991. **TI** On the Gap between the Structural

Controllability of Time-Varying and Time-Invariant Systems. **AA** Charles University, Prague. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91701-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 15. **PR** no charge. **JE** C60. **KW** Time Invariance. Linear Algebra. Submatrices.

AB We compare structural controllability of time-invariant and time-varying systems when the input control sequences have a restricted length k. The dimension of controllable space coincide in the following three special cases. (1) The input sequences have length k=2. (2) The input sequences have length k=n where n is the size of the system (i.e. the ultimate controllability is the same in both cases). (3) For every length of input sequences, provided, that the system has a single-input only.

PD May 1991. **TI** On Existence Theorems. **AA** Charles University, Prague. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91697-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 13. **PR** no charge. **JE** C63, C61. **KW** Polynomial Algorithms. Cubic Graph. Combinatorial Optimization.

AB We discuss the question of constructive proofs, or polynomial time algorithms, for theorems which were earlier proved nonconstructively. We present a formal model for such statements, and bring a collection of examples. In greater detail, we deal with the problem of finding another Hamiltonian cycle in a cubic graph provided that one cycle is already known. A relation to combinatorial optimization is also considered.

Porter, David

TI An Experimental Examination of the Assignment Problem. **AU** Olson, Mark; Porter, David.

Poterba, James M.

TI Money, Output, and Prices: Evidence from a New Monetary Aggregate. **AU** Rotemberg, Julio J.; Driscoll, John C.; Poterba, James M.

TI Money, Output, and Prices: Evidence from a New Monetary Aggregate. **AU** Rotemberg, Julio J.; Driscoll, John C.; Poterba, James M.

TI Which Households Own Municipal Bonds? Evidence from Tax Returns. **AU** Feenberg, Daniel R.; Poterba, James M.

Pradhan, Vijay

TI The Potential Impact of the Mediterranean Fruit Fly, Ceratitis Capitata (Wied.), upon Establishment in California: An Update. **AU** Siebert, Jerome B.; Pradhan, Vijay.

Pratten, Cliff

PD July 1991. **TI** Overseas Investments, Capital Gains and the Balance of Payments. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9113; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 88. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** F32, H62, F21. **KW** Capital Gains. Balance of Payments. England. Budget Deficit. Multinational Firms. Foreign Investment.

AB During the post 1945 period the balance of payments has been an important influence on economic policy and yet one element of the balance of payments, capital gains, has been little studied. This paper provides estimates of the capital gains Britain obtains on its net overseas assets and assesses the importance of the capital gains for the balance of payments. The current account balance which is calculated in nominal terms and excludes capital gains and losses is usually taken as providing the "score" for the balance of payments. In this paper estimates are made of the market value of net direct investment overseas. In the past direct investment has been valued at book values; the valuation of direct investment at market values in this paper makes possible comprehensive estimates of capital gains on U.K. net overseas investments. Three methods are used to estimate the market value of net direct investment overseas, and all three methods indicate market values in excess of book values.

Prescott, Edward C.

TI Technology Adoption and Growth. **AU** Parente, Stephen L.; Prescott, Edward C.

Promel, Hans Jurgen

PD July 1991. **TI** Almost All Berge Graphs are Perfect. **AU** Promel, Hans Jurgen; Steger, Angelika. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91715-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 33. **PR** no charge. **JE** C60. **KW** Graph Theory. Perfect Graphs. Berge Graphs..

AB Let Per f(n) denote the set of all perfect graphs on n vertices and let Berge(n) denote the set of all Berge graphs on n vertices. The strong perfect graph conjecture states that Per f(n) = Berge(n) for all n. In this paper we prove that this conjecture is at least asymptotically true.

Pugel, Thomas A.

PD September 1991. **TI** An Investigation of the Performance of the U.S. Property-Casualty Insurance Industry. **AU** Pugel, Thomas A.; Saunders, Anthony. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-44; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 20. **PR** $5.00. **JE** G22, G28. **KW** Insurance. Insurance Reform. Market Structure.

AB This paper presents an empirical analysis of the economic performance of the U.S. property-casualty insurance industry, using estimations across 18 lines of insurance for the years 1984-1988. It adopts an industrial organization approach, focusing on loss ratios and combined ratios as (inverse) measures of pricing performance. The share of direct writers in the line and the line's seller concentration ratio are both found to be significant determinants. The results suggest shortcomings in performance in some of the lines. The paper briefly discusses two major reforms in public policy that could improve the industry's economic performance.

Punnen, Abraham P.

PD March 1991. **TI** Traveling Salesman Problem under Categorization. **AA** Universite Catholique de Louvain.

SR Universite Catholique de Louvain CORE Discussion Paper: 9118; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 11. **PR** not available. **JE** C44. **KW** Operations Research. Salesman Problem.

AB We introduce two new classes of the traveling salesman problem (TSP1 and TSP2) which subsume the classical traveling salesman problem and the bottleneck traveling salesman problem. It is shown that these problems are strongly NP-complete even on Halin graphs even though their extreme cases (i.e. traveling salesman problem and bottleneck traveling salesman problem) are solvable in polynomial time on such graphs. It is also shown that TPS2 is solvable in polynomial time on Halin graph if an associated parameter P is fixed, but TSP1 still remains NP-complete. For TSP1, a polynomial time (for fixed p) heuristic is suggested which produces a solution whose objective function value is no worse than twice that of the optimal solution whenever the underlying graph is complete, undirected and edge weights satisfy the triangle inequality.

Quigley, John M.

TI Willingness to Pay for the Quality and Intensity of Medical Care: Evidence from Low Income Households in Ghana. **AU** Lavy, Victor; Quigley, John M.

Quisumbing, Agnes R.

PD April 1991. **TI** Intergenerational Transfers in Philippine Rice Villages: Gender Differences in Traditional Inheritance Customs. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 632; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 68. **PR** $2.00 + postage. **JE** J13, Q12, Q15, O13, O18. **KW** Bargaining. Agriculture. Wealth. Bequests. Inheritance. Villages. Rural Households.

AB Traditional inheritance customs of village communities can be viewed as rules governing intergenerational wealth transfers. Parent's choices among education, land, and nonland assets as transfers to children are modeled assuming individualistic preferences of parents in an agricultural household. Empirical evidence is provided from a retrospective survey of five rice-growing villages in the Philippines. Parental gender preference in inheritance decisions is examined using family fixed effects estimates with interactions between gender of the child and parental endowments. Results indicate that, in level terms, daughters receive more education and total inheritance but less land. When family fixed effects are accounted for, however, education is gender-neutral, nonland asset transfers weekly favor daughters, and sons receive higher values of land and total inheritance.

Rabin, Matthew

PD September 1991. **TI** Focal Points in Pre-Game Communication. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-179; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 29. **PR** $3.50. **JE** C72, C78, C92. **KW** Focal Points. Pareto Efficiency. Pre-Game Communication. Negotiation. Nash Equilibrium. Noncooperative Game.

AB Rabin [1991] presents a model of players negotiating prior to the play of a two-player, complete information game, and assumes that players can reach voluntary agreements to play any Nash equilibrium in the game. In this paper, I develop a model in which players negotiate over only some focal set of Nash equilibria. For every set of equilibria in a game, I develop a solution concept under the assumption that this set is focal. I explore how such focal sets can enhance efficiency.

PD September 1991. **TI** Cognitive Dissonance and Social Change. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-180; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 27. **PR** $3.50. **JE** A12, A13. **KW** Cognitive Dissonance. Social Issues. Social Values.

AB When people behave immorally according to their own standards, they feel bad. Thus, rational people may engage in less of an immoral activity than would be in their material self-interest. Despite this fact, increasing people's pain from being immoral can increase the level of immoral activities. This can happen because people will feel pressure to convince themselves that immoral activities are in fact moral; if people's beliefs are furthermore affected by the beliefs of others, then increasing the pain from being immoral may cause members of society to convince each other that immoral activities are morally okay, and society will engage in more of such activities.

Ramachandran, Rama

TI Incomplete Appropriability of R&D and the Role of Strategies and Cultural Factors in International Trade: A Japanese Case. **AU** Sato, Ryuzo; Ramachandran, Rama; Tsutsui, Shunichi.

Ramey, Garey

PD June 1991. **TI** Technology Commitment and the Cost of Economic Fluctuations. **AU** Ramey, Garey; Ramey, Valerie A. **AA** University of California, San Diego. **SR** National Bureau of Economic Research Working Paper: 3755; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 34. **PR** $3.00. **JE** E32, E23, E22. **KW** Learning. Productivity Shocks. GNP. Volatility.

AB When firms must make technology commitments, economic fluctuations impose costs in the form of ex post inefficiency in production technology. We present a general equilibrium model in which, due to the presence of technological commitment, greater volatility of productivity shocks lead to lower mean output. When learning-by-doing is incorporated, mean output becomes permanently lower as a consequence of higher volatility. The negative and persistent relationship between mean and variance of output implied by our model is strongly verified by the data. We estimate that observed volatility has imposed a cost amounting to almost two percentage points of U.S. GNP growth.

Ramey, Valerie A.

TI Technology Commitment and the Cost of Economic Fluctuations. **AU** Ramey, Garey; Ramey, Valerie A.

PD June 1991. **TI** The Source of Fluctuations in Money: Evidence from Trade Credit. **AA** University of California, San Diego. **SR** National Bureau of Economic Research Working Paper: 3756; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 21.

PR $3.00. JE E30, E32, E51. KW Technology Shocks. Financial Shocks. Money Supply. Business Cycles.

AB This paper tests the importance of technology shocks versus financial shocks for explaining fluctuations in money. The model presented extends the theory of King and Plosser by recognizing that both money and trade credit provide transactions services. The model shows that the comovements between money and trade credit can reveal the nature of the underlying shocks. The empirical results strongly suggest that shocks to the financial system account for most of the fluctuations in money. Thus, the results cast doubt on the hypothesis that nonfinancial technology shocks are the main source of the money-income correlation.

Rao, Vijayendra

PD September 1991. **TI** The Rising Price of Husbands: A Hedonic Analysis of Dowry Increases in Rural India. **AA** University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 91-6; Economics Research Center/NORC, 1155 E. 60th St., Chicago, Illinois 60637. **PG** 35. **PR** $2.00; send requests to Librarian, NORC. **JE** J12. **KW** Marriage. Families. Urban Economics.

AB Dowries in South Asia often amount to over fifty per cent of a household's assets causing widespread destitution among families with daughters to be married. Researchers have noted that this has not always been true and that dowries have steadily risen in most regions of South Asia over the last forty years. This paper attempts to investigate the reasons behind this increase. It adapts Rosen's implicit market model to the Indian marriage market and tests predictions from the model with data from six villages in South - Central India and from the Indian census. It is found that a "marriage squeeze" caused by population growth resulting in larger younger cohorts and hence a surplus of women in the marriage market, has played an important role in the rise in dowries. Other factors influencing the magnitude of dowries include differences in the land holdings of parental households and region of residence.

Rapaczynski, Andrzej

TI Privatization and Corporate Governance in Eastern Europe: Can a Market Economy be Designed? **AU** Frydman, Roman; Rapaczynski, Andrzej.

TI Evolution and Design in the East European Transition. **AU** Frydman, Roman; Rapaczynski, Andrzej.

Rasmussen, Bo Sandemann

PD May 1989. **TI** The Permanent-Transitory Confusion and Optimal Policy in an Open Economy. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-4; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 35. **PR** no charge. **JE** E32, E13, E61, D78. **KW** Imperfect Information. Open Economy. Economic Fluctuations. Macroeconomic Policy.

AB Confusion between permanent and transitory changes is introduced into an open economy model with short-term wage stickiness and rational expectations. It is shown that the confusion only matters qualitatively for optimal policy-making under rather special conditions. Quantitatively, the confusion does matter generally, even when policy is performed optimally. Intertemporal substitution effects in the supply of labor are necessary for the confusion to matter qualitatively for optimal policy-making, and their presence magnifies the quantitative effects of the confusion.

Rauch, James E.

PD June 1991. **TI** Economic Development, Urban Underemployment, and Income Inequality. **AA** University of California, San Diego. **SR** National Bureau of Economic Research Working Paper: 3758; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $3.00. **JE** O10, O15, J60, R11. **KW** Urbanization. Inequality Indices. Urban Economics. Underemployment. Income Distribution.

AB The evolution of inequality in permanent income is investigated during the course of a less developed country's transformation from a primarily agricultural to a primarily urban-industrial economy. The source of inequality is market luck in obtaining employment in the protected urban "formal sector" versus employment in the unprotected urban informal sector." It is shown that with development the log variance measure of inequality in this country tends to follow an "inverted U": it rises when urbanization is low and consequent pressure on the land keeps rural incomes low, making agents willing to incur high risks of "underemployment" in the urban informal sector, and eventually falls after urbanization and consequently rural incomes has increased sufficiently to allow agents to make better than even bets in the industrial sector. These results in combination with new empirical evidence suggest that rather than being an unimportant artifact of the design of inequality indices, inverted-U behavior of inequality may be driven by the important social phenomenon of mass urban underemployment.

Rausser, Gordon C.

PD June 1991. **TI** Predatory Versus Productive Government: The Case of U.S. Agricultural Policies. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 613; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 36. **PR** $7.20. **JE** Q18, Q17. **KW** Agricultural Policy. Agriculture.

AB Agricultural policy is a complex web of interventions covering output markets, input markets, trade, public good investments, renewable and exhaustible natural resources, regulation of externalities, education, and the marketing and distribution of food products. At the level of the Federal government, these interventions have resulted in enormous budgetary costs, huge surpluses of farm products; major disputes with other countries; distorted international markets; and benefits to special interests that are often highly concentrated. The same programs, however, have been part of an agricultural sector whose productivity over much of the last century has been spectacular. Do these massive governmental interventions correct for market imperfections, lower transaction costs, effectively regulate externalities, and enhance productivity? or are these programs the result of manipulation by powerful commodity or agricultural interest groups actively engaged in rent seeking or directly unproductive activities?.

TI Resource Mobility, Diversification of Ownership, and Political Rent-Seeking Incentives. **AU** Gray, Richard; Foster, William E.; Rausser, Gordon C.

Ravn, Morten O.

TI Univariate Detrending of Macroeconomic Time Series. **AU** Blackburn, Keith; Ravn, Morten O.

TI Growth through Cooperation. **AU** Blackburn, Keith; Ravn, Morten O.

Razin, Assaf

TI Determinants of External Imbalances: The Role of Taxes, Government Spending and Productivity. **AU** Leiderman, Leonardo; Razin, Assaf.

PD July 1991. **TI** International Fiscal Policy Coordination and Competition: An Exposition. **AU** Razin, Assaf; Sadka, Efraim. **AA** Tel Aviv University. **SR** National Bureau of Economic Research Working Paper: 3779; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $3.00. **JE** H20, H21, E62, F41, F42. **KW** International Taxation. Capital Movements. Cournot Competition. International Trade.

AB The paper highlights key considerations necessary for the analysis of international tax harmonization. The analysis of a Nash-Cournot international tax competition is carried out for (1) competing countries that cannot exercise significant market power in the world economy when setting tax rates, (2) competing countries that incorporate the indirect effect on world prices into the tax design and (3) competing governments that are unable to commit themselves to a preannounced path of tax for the entire future. The discussion is carried out by using basic principles of international taxation under full integration of goods and capital world markets.

Rebitzer, James B.

PD October 1991. **TI** The Consequences of Minimum Wage Laws: Some New Theoretical Ideas. **AU** Rebitzer, James B.; Taylor, Lowell J. **AA** Rebitzer: Massachusetts Institute of Technology and National Bureau of Economic Research. Taylor: Carnegie Mellon University. **SR** National Bureau of Economic Research Working Paper: 3877; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** I23, J38, D21. **KW** Minimum Wage. Labor Demand. Employment.

AB Economists generally agree that the immediate and direct effect of a binding minimum wage law is to move firms backward along the demand curve for low skill workers. However, this prediction of worker displacement depends critically on a model of firm behavior that abstracts from problems of work incentives. In this paper we re-examine the theoretical basis for the consensus view of minimum wage laws. The central finding is that when firms use the threat of dismissal to elicit high levels of work effort, an increase in the minimum wage may have the immediate and direct effect of increasing the level of employment in low wage jobs. The formal logic of our model is similar to that found in the model of labor demand under monopsony. However, unlike the monopsony model, the positive employment effect of the minimum wage emerges in a labor market comprised of a larger number of firms competing for the labor services of identical workers.

PD October 1991. **TI** Do Labor Markets Provide Enough Short Hour Jobs? An Analysis of Work Hours and Work Incentives. **AU** Rebitzer, James B.; Taylor, Lowell J. **AA** Rebitzer: Massachusetts Institute of Technology and National Bureau of Economic Research. Taylor: Carnegie Mellon University. **SR** National Bureau of Economic Research Working Paper: 3883; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** J31, J41, J21. **KW** Labor Force. Labor Demand. Wages. Hours. Efficiency Wages.

AB This paper examines the role that work incentives play in the determination of work hours. Following previous research by Lang (1989), we use a conventional efficiency wage model to analyze how firms respond to worker preferences regarding wage-hours packages. We find that when workers are homogeneous, the role of worker preferences in determining work hours is similar to the simple neoclassical model of labor supply. For instance, if worker preferences shift in favor of shorter hours, firms will respond by offering jobs entailing shorter hours. When workers have heterogeneous preferences, however, employers will want to use a worker's hours preference as a signal for the responsiveness of the worker to the work incentives used by the firm, and workers in turn may not reveal their hours preferences. Our key finding in this instance is that the labor market equilibrium may be characterized by a sub-optimal number of short-hour jobs. This shortage of short-hour jobs is likely to be found in high wage labor markets.

Redish, Angela

PD January 1991. **TI** The Latin Monetary Union and the Emergence of the International Gold Standard. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 91-09; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** N23, F33. **KW** Gold Standard. Monetary Union. Financial Integration. Bimetallism.

AB In 1865 France, Switzerland, Italy and Belgium formed the Latin Monetary Union to co-ordinate their monetary systems. This paper shows that the traditional view of the LMU as a bimetallic institution is inaccurate. I show that the agreement arose because all four nations were on a de facto gold standard and silver had been driven out of circulation. Efficient management of a token coinage, to remedy the scarcity of small-denomination coins, required co-operation amongst the four countries. The LMU established the type of token, the quantities that would be issued, and the conditions for their convertibility.

Reed, Deborah

TI Growth with Fluctuations. **AU** Fei, John C. H.; Reed, Deborah.

Rees, Daniel I.

TI How would Universities Respond to Increased Federal Support for Graduate Students. **AU** Ehrenberg, Ronald G.; Rees, Daniel I.; Brewer, Dominic J.

Richardson, J. David

TI International Economic Transactions: Issues in Measurement and Empirical Research. **AU** Hooper, Peter; Richardson, J. David.

Riddell, Craig W.

PD September 1990. **TI** Evaluation of Manpower and Training Programs: The North American Experience. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-19; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** Not available. **PR** **JE** J24, I38. **KW** Program Evaluation. Manpower. Training Programs. Social Experiments. Evaluation Practices.

AB This paper reviews the North American experience in regard to the evaluation of manpower and training programs. On the basis of this review of the Canadian and U.S. experiences, the paper attempts to draw some lessons about the conditions under which evaluation studies are most usefully carried out and the form these studies should take. In short, this paper is an "evaluation of the evaluations", albeit not a comprehensive one in that it is limited to the North American experience and to manpower and training programs. The paper begins with a brief general discussion of the purpose and nature of evaluation research, emphasizing the distinction between experimental and nonexperimental evaluation studies. The evolution of evaluation research in North America and the current practices in both Canada and the United States are then described. Differences between the Canadian and American approaches to evaluation are also discussed. The remainder of the paper attempts to draw some lessons from the North American experience, concluding with a suggested procedure for determining the best approach to evaluation under various circumstances.

Rietz, Thomas A.

PD October 1991. **TI** Arbitrage, Asset Prices and Risk Allocation in Experimental Markets. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 958; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 33. **PR** $3.00 in the U.S or Canada; $5.00 via international mail. **JE** G12, C92, D52, D84, D81. **KW** Arbitrage. Asset Prices. Risk Allocation. Experimental Economics. Asset Markets. Utility Theory. Portfolio Choice.

AB I report the results of nine experimental asset market sessions. The traded assets were contingent claims on two "states" with known state probabilities and identical aggregate payoffs across states. Since subjects could diversify away all idiosyncratic risks, this results in prices predicted to equal expected values regardless of risk preferences. In addition, no-arbitrage restrictions lead to precise predictions for the sum of the individual asset prices. Thus, in these single-period asset markets, price bubbles are well defined without knowing risk preferences. Bubbles regularly form. Subjects seldom exploit the resulting arbitrage opportunity. Bubbles arise even when subjects have gained experience in 15 periods, when subjects can trade directly in the "unit portfolio" of all contingent claims and when subjects can sell claims short. However, direct portfolio trading may force subjects to recognize the assets' interdependence and price them accordingly. Expected utility maximizing models cannot explain these results. Non-expected utility models (for example, models of decision regret) may explain them.

Risager Ole

TI A Wage-Bargaining Model for Denmark. **AU** Andersen, Torben M.; Risager Ole.

Rivers, Douglas

TI Experimental Estimates of the Impact of Wage Subsidies. **AU** Dubin, Jeffrey A.; Rivers, Douglas.

Robinson, Christopher

PD August 1991. **TI** Explaining Patterns of Unionization: Canada and the United States. **AA** University of Western Ontario and University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 91-7; Economics Research Center/NORC, 1155 E. 60th St., Chicago, Illinois 60637. **PG** 35. **PR** $2.00; send requests to Librarian, NORC. **JE** J51, L60, O57. **KW** Unions. Manufacturing.

AB Canadian and U.S. unionization patterns have been quite different since the 1960's, especially in the private sector. U.S. unionization rates have been on the decline throughout the period whereas the Canadian rates rose for much of the period. In contrast to the recent literature on the U.S. decline, which emphasizes factors specific to the recent U.S. time series, this paper examines the extent to which this decline is just one facet of a wide variety of union patterns that require joint explanation, preferably by common factors. A model of union incidence applicable to both cross-section and time series patterns is estimated on annual data for a sample of Canadian manufacturing industries, 1962-1986. Evidence is presented for the importance of the size of plants, associated with costs of operating a union, in both the cross-section and time series patterns. Brief examination of aggregate manufacturing in the U.S. suggests that different time paths for the changes in size of plants may partially account for the different patterns followed by unionization rates in Canadian and U.S. manufacturing. Finally, some computations are presented on the extent to which reconciliation of the two national rates has to take into account the marked differences in the public sectors in the two countries.

Robinson, Sherman

TI Alternative Scenarios of U.S. - Mexico Integration: A Computable General Equilibrium Approach. **AU** Hinojosa-Ojeda, Raul; Robinson, Sherman.

TI External Shocks, Purchasing Power Parity, and the Equilibrium Real Exchange Rate. **AU** Devarajan, Shantayanan; Lewis, Jeffrey D.; Robinson, Sherman.

Rodrik, Dani

TI Do the Benefits of Fixed Exchange Rates Outweigh their Costs? The Franc Zone in Africa. **AU** Devarajan, Shantayanan; Rodrik, Dani.

Roemer, John E.

PD October 1991. **TI** Implementing Equality of Access to Welfare. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 391; Department of Economics, University of California at Davis, Davis, California 95616-8578. **PG** 48. **PR** no charge. **JE** D63, I21. **KW** Responsibility. Opportunity. Welfare. Education.

AB A common theme in philosophical egalitarianism is that welfare (or some other outcome) should be equalized across people in so far as they were not responsible for what brought about that welfare, and unequal in so far as they were responsible. In R. Dworkin's terminology, their resources (what they cannot be held responsible for) should be equalized, but the impact of their ambitions can bring about inequality of welfare that is morally all right. The present paper proposes a method by which a society can, using the data at hand, decompose outcomes into that part which a person cannot be held responsible for, and that part which is due to the exercise of will power, that which s/he is responsible for. The case of educational choices is studied, where a person's choice of educational level is a consequence of his preferences for education and future income, and his beliefs concerning the (income) returns to years of education.

Romer, Christina D.

PD September 1991. **TI** What Ended the Great Depression? **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3829; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E51, E32. **KW** Money Supply. Business Cycle. Economic Fluctuations.

AB This paper examines the role of aggregate demand stimulus in ending the Great Depression. A simple calculation indicates that nearly all of the observed recovery of the U.S. economy prior to 1942 was due to monetary expansion. Huge gold inflows in the mid- and late-1930's swelled the U.S. money stock and appear to have stimulated the economy by lowering real interest rates and encouraging investment spending and purchases of durable goods. The finding that monetary developments were crucial to the recovery implies that self-correction played little role in the growth of real output between 1933 and 1942.

Rotemberg, Julio J.

PD July 1991. **TI** Money, Output, and Prices: Evidence from a New Monetary Aggregate. **AU** Rotemberg, Julio J.; Driscoll, John C.; Poterba, James M. **AA** Rotemberg and Poterba: Massachusetts Institute of Technology and National Bureau of Economic Research. Driscoll: Harvard University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 585; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 39. **PR** not available. **JE** E44, E51, E32, E37. **KW** Monetary Policy. Currency. Money Supply.

AB This paper develops a new utility-based monetary aggregate which we label the currency equivalent aggregate. This aggregate equals the stock of currency that would be required for households to obtain the same liquidity services that they get from their entire collection of monetary assets. We compare the ability of the new aggregate and conventional aggregates, such as M1 and M2, and other indicators of monetary policy to forecast real activity. The currency-equivalent aggregate has more predictive power for output and prices than standard aggregates, and the time path of the estimated output response is more consistent with broad classes of theoretical models.

PD August 1991. **TI** Money, Output, and Prices: Evidence from a New Monetary Aggregate. **AU** Rotemberg, Julio J.; Driscoll, John C.; Poterba, James M. **AA** Rotemberg and Poterba: Massachusetts Institute of Technology and National Bureau of Economic Research. Driscoll: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3824; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** C43, E51. **KW** Monetary Policy. Currency.

AB This paper develops a new utility-based monetary aggregate which we label the currency-equivalent aggregate. This aggregate equals the stock of currency that would be required for households to obtain the same liquidity services that they get from their entire collection of monetary assets. We compare the ability of the new aggregate and conventional aggregates, such as M1 and M2, and other indicators of monetary policy to forecast real activity. The CE aggregate has more predictive power for output and prices than standard aggregates, and the time path of the estimated output response is more consistent with broad classes of theoretical models.

Rothschild, Michael

PD September 1991. **TI** The University in the Marketplace: Some Insights and Some Puzzles. **AU** Rothschild, Michael; White, Lawrence J. **AA** Rothschild: University of California at San Diego and National Bureau of Economic Research. White: New York University. **SR** National Bureau of Economic Research Working Paper: 3853; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** I21, I22. **KW** Education. Industrial Organization. Public Schools.

AB Higher education has many of the attributes of a competitive industry. Many enterprises compete for inputs and sell similar outputs to a great variety of buyers. The competitive perspective has not been much used in the analysis of higher education. In this paper we find such a point of view yields both insights and puzzles. The familiar "stand alone" test from industrial organization casts doubt on the claim that undergraduate education subsidizes graduate education in the large research university; since institutions that sell both graduate and undergraduate education survive in competition with institutions that sell only undergraduate education, the claim of cross subsidization is hard to maintain. We note that the analysis of the use of prices to regulate admission to universities is complex because students are both inputs and outputs of the educational process.

Roubini, Nouriel

TI Financial Intermediation and Monetary Policies in the World Economy. **AU** Grilli, Vittorio; Roubini, Nouriel.

TI Macroeconomic Policy and Elections in OECD Democracies. **AU** Alesina, Alberto; Cohen, Gerald D.; Roubini, Nouriel.

PD October 1991. **TI** Financial Development, the Trade Regime, and Economic Growth. **AU** Roubini, Nouriel; Sala-i-Martin, Xavier. **AA** Roubini: Stanford University and National Bureau of Economic Research. Sala-i-Martin: Yale University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3876; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** F14, F43. **KW** Trade Theory. Open Economies. Economic Growth.

AB We survey the literatures that study the relation between the trade regime and growth and financial development, financial repression, and growth. We analyze the relation between the trade regime, the degree of financial development, and the growth performance of a large cross-section of countries. The systematic finding is that there is a negative relation between variables that capture the degree to which the financial sector is distorted. We find that financial repression has negative consequences for growth. We also find that inflation is negatively related to growth. We interpret this relation, however, as symptomatic rather than causal.

Rubinfeld, Daniel L.

TI A Model of Optimal Fines for Repeat Offenders. **AU** Polinsky, Mitchell A.; Rubinfeld, Daniel L.

Rudebusch, Glenn D.

TI Further Evidence on Business Cycle Duration Dependence. **AU** Diebold, Francis X.; Rudebusch, Glenn D.; Sichel, Daniel E.

Russell, Robert R.

TI Social Welfare and Public Budgeting. **AU** Blackorby, Charles; Russell, Robert R.

Rustichini, Aldo

TI Social Conflict, Growth and Inequality. **AU** Benhabib, Jess; Rustichini, Aldo.

Sachs, Horst

PD July 1991. **TI** How to Calculate the Number of Perfect Matchings in Finite Sections of Certain Infinite Plane Graphs. **AA** Technische Hochschule Ilmenau. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91713-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 7. **PR** no charge. **JE** C60, C61. **KW** Graph Theory. Plane Graphs. Matching Theory.

AB This is joint work with Khaled Al-Khnaifes from Damascus who investigated relations between graph theory and linear algebra in his doctoral dissertation. One century ago, in 1891 Julius Petersen published - among other things - his renowned theorem which says that every finite cubic graph with no more than two leaves has a perfect matching. Starting from this result, matching theory - in particular, the theory of perfect matchings - has become a well-developed part of graph theory. In 1961, P.W. Kasteleyn observed that the number m of perfect matchings contained in a plane graph G on n = 2k vertices can be expressed as the Pfaffian of a (0,1,-1) skew symmetric matrix A which is an easily obtainable modification of the n x n adjacency matrix of G. In his doctoral dissertation (1988), Kh. Al-Khnaifes developed a graph theoretical method which allows the order of the determinant of a "not-too-dense" matrix to be reduced (drastically, under certain conditions). Applying this method to Kasteleyn's formula, a general algorithm for calculating the number of perfect matchings in plane graphs can be developed. This algorithm proves particularly efficient if applied to finite sections of infinite plane graphs which have a perfect matching of a special kind. There are applications to chemistry (number of kekule patterns) and crystal physics (number of dimer coverings).

Sachs, Jeffrey

TI Fiscal Federalism and Optimum Currency Areas: Evidence for Europe from the United States. **AU** Sala-i-Martin, Xavier; Sachs, Jeffrey.

TI Fiscal Federalism and Optimum Currency Areas: Evidence for Europe from the United States. **AU** Sala-i-Martin, Xavier; Sachs, Jeffrey.

Sadka, Efraim

TI International Fiscal Policy Coordination and Competition: An Exposition. **AU** Razin, Assaf; Sadka, Efraim.

Sadoulet, Elisabeth

PD July 1991. **TI** Implications of OECD Agricultural Trade Liberalization for the Low Income Countries: A General Equilibrium-Multimarket Approach. **AU** Sadoulet, Elisabeth; de Janvry, Alain. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 614; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 29. **PR** $5.80. **JE** F13, F14, F17. **KW** Trade Liberalization. Trade Policy.

AB While progress in the Uraguay Round of the general agreement on tariffs and trade (GATT) toward agricultural trade liberalization in the OECD countries is currently marred with difficulties, liberalization remains a goal for the United States and many other members of GATT. Recent studies edited by Maunder and Valdes and by Goldin and Knudsen are generally consistent in predicting that liberalization would lead to higher world market prices for cereals and animal products. Concerned with the impact that liberalization may have on the poorer countries, most of which are highly dependent on cereals imports, and on the poor within these countries, who spend a high share of their incomes on food grains, we focus on this paper on simulating the impact of liberalization on these economies and social groups.

Saffer, Henry

TI Alcohol Control Policies and Motor Vehicle Fatalities. **AU** Chaloupka, Frank J.; Saffer, Henry; Grossman, Michael.

Sala-i-Martin, Xavier

PD August 1991. **TI** Fiscal Federalism and Optimum Currency Areas: Evidence for Europe from the United States. **AU** Sala-i-Martin, Xavier; Sachs, Jeffrey. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 638; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 35. **PR** $2.00 + postage. **JE** H21, H53, D31, E62. **KW** Income Tax. Fiscal Policy. Business Cycle. Taxes. Income Distribution.

AB The main goal of this paper is to estimate to what extent the federal government of the United States insures member states against regional income shocks. We find that a one dollar reduction in a region's per capita personal income triggers a decrease in federal taxes of about 34 cents and an increase in federal transfers of about 6 cents. The much larger reaction of taxes than transfers to these regional imbalances reflects the fact that the main mechanism at work is the federal income tax system which in turn means that the stabilization process is automatic rather than specifically designed each time there is a cyclical movement in income. Under this view, Europeans who look at the United States as a role model of the future Europe should seriously consider the creation (or expansion) of a fiscal federalist system at the same time they create a European Central bank that issues unified European currency.

PD October 1991. **TI** Fiscal Federalism and Optimum Currency Areas: Evidence for Europe from the United States. **AU** Sala-i-Martin, Xavier; Sachs, Jeffrey. **AA** Sala-i-Martin: Yale University and National Bureau of Economic Research. Sachs: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3855; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** H21, H53, D31, E62. **KW** Fiscal Policy. Income Tax. Business Cycle. Taxes. Income Distribution.
AB The main goal of this paper is to estimate to what extent the federal government of the United States insures member states against regional income shocks. We find that a one dollar reduction in a region's per capita personal income triggers a decrease in federal taxes of about 34 cents and an increase in federal transfers of about 6 cents. The much larger reaction of taxes than transfers to these regional imbalances reflects the fact that the main mechanism at work is the federal income tax system which in turn means that the stabilization process is automatic rather than specifically designed each time that is a cyclical movement in income. Under this view, the creation of a European Central Bank that issues unifies European currency without the simultaneous introduction (or expansion) of a fiscal federalist system could put the project at risk.

TI Financial Development, the Trade Regime, and Economic Growth. **AU** Roubini, Nouriel; Sala-i-Martin, Xavier.

Salkever, David S.

TI Pricing, Patent Loss and the Market for Pharmaceuticals. **AU** Frank, Richard G.; Salkever, David S.

Saloner, Garth

PD April 1991. **TI** Adoption of Technologies with Network Effects: An Empirical Examination of the Adoption of Automated Teller Machines. **AU** Saloner, Garth; Shepard, Andrea. **AA** Saloner: Stanford University. Shepard: Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 577; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 29. **PR** $6.00 Domestic, $8.00 Overseas, $2.00 Student. **JE** R11, G21, M11. **KW** Technological Change. Spatial Economies. Commercial Banks.
AB The literature on networks suggests that the value of a network is positively affected by the number of geographically dispersed locations it serves (the "network effect") and the number of its users (the "production scale effect"). We show that as a result a firm's expected time until adoption of technologies with network effects declines in both users and locations. We provide empirical evidence on the adoption of automated teller machines by banks that is consistent with this prediction. Using standard duration models, we find that a bank's date of adoption is decreasing in the number of its branches (a proxy for the number of locations and hence for the network effect) and the value of its deposits (a proxy for number of users and hence for production scale economies). The network effect is the larger of the two effects.

Samiei, S. Hossein

PD April 1991. **TI** Exchange Rate Realignments with Fixed Costs. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9110; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 16. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** F31, E42, F41. **KW** Exchange Rate. Fixed Costs. Open Economy.
AB This paper discusses the joint determination of the size and duration of exchange rate realignments in a small open economy with administered exchange rates. In a setting where prices are sticky and there are fixed costs attached to exchange rate adjustments, the paper examines how policy is influenced by these costs and by government's credibility.

TI An Analysis of the Determination of Deutsche Mark/French Franc Exchange Rate in a Discrete-Time Target-Zone Model. **AU** Pesaran, M. Hashem; Samiei, S. Hossein.

Samuelson, Larry

TI Evolutionary Stability in Repeated Games Played by Finite Automata. **AU** Binmore, Ken; Samuelson, Larry.

Sato, Kazuo

TI Homogeneous Preferences and Heterogeneous Performance: International Differences in Saving and Investment Behavior. **AU** Leff, Nathaniel H.; Sato, Kazuo.

Sato, Ryuzo

PD August 1991. **TI** Incomplete Appropriability of R&D and the Role of Strategies and Cultural Factors in International Trade: A Japanese Case. **AU** Sato, Ryuzo; Ramachandran, Rama; Tsutsui, Shunichi. **AA** Center for Japan-U.S. Business and Economic Studies. **SR** National Bureau of Economic Research Working Paper: 3797; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 32. **PR** $3.00. **JE** O30, O32, F10. **KW** Technology Diffusion. Technology Policy.
AB One of the proudest achievements of classical and neoclassical economics is the derivation of the superiority of free trade. This result is obtained by assuming constant returns to scale, perfect competition and absence of externalities. The recent realization that the incomplete appropriability of R&D on national welfare is potentially subject to strategic manipulations necessitates a careful examination of these assumptions. This paper discusses R&D and diffusion of technology in international trade from two different perspectives. In section II, we consider the role of cultural, social and historical factors in the appropriation of technology by reviewing how Japan has appropriated foreign technology. In Section III, we survey three strategic trade models to obtain some insights into the role of R&D policies and diffusion of technology on the incentive to do R&D and on the outcome of trade.

Saunders, Anthony

TI Essays on Banking and Monetary Economics. **AU** Cumby, Robert; Levich, Richard M.; Saunders, Anthony; Sylla, Richard; Wachtel, Paul; Walter, Ingo.

PD June 1991. **TI** Reconfiguration of Banking and

Capital Markets in Eastern Europe. **AU** Saunders, Anthony; Walter, Ingo. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-32; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 41. **PR** $5.00. **JE** O16, O52, P34, P12, P52. **KW** Financial System. Socialism. Banking. Europe.

AB In recent years, the countries of Eastern Europe have made fundamental changes to their financial systems. The objective is to move these systems away from centrally planned economies (CPEs) towards market- oriented systems more commonly found in the West. In Section II of this paper, we briefly survey the stylized model of a financial system in a market-repressed CPE. This is then followed in Section III by comparisons with a benchmark model of a fully liberalized market-driven Western-type financial system, including the advantages and disadvantages of various paths from pre-existing financial structures to the market-driven system. Section IV reviews a number of transition issues, and surveys the available evidence on the progress made to date. Finally, our conclusions in Section V outline the design of a universal banking structure for an emerging market system.

PD July 1991. **TI** Note on the U.S. Credit Crunch: Causes and Cures. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-33; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 20. **PR** $5.00. **JE** E51, E44, E32. **KW** Credit. Recession. Borrowing.

AB In this paper I seek to examine various institutional and academic theories that may offer insights into the causes of the current credit crunch. A credit crunch may best be described, in terms of the conventional demand and supply of loans, as a shift to the left of the loan supply function that is greater than normal for a recessionary period. Thus, the supply of loans must contract by an amount greater than normally expected in a recessionary period - when there is greater uncertainty regarding borrowers' cash flows and the number of potentially positive NPV projects in the real sector may be shrinking as well (and the demand for loans is also shifting to the left). In analyzing the causes of such a shift or contraction in supply, I will first look at possible institutional reasons for the shift and then at some possible reasons suggested by the academic literature.

TI An Investigation of the Performance of the U.S. Property-Casualty Insurance Industry. **AU** Pugel, Thomas A.; Saunders, Anthony.

Scarf, Herbert E.

PD January 1991. **TI** Shortest Integer Vectors. **AU** Scarf, Herbert E.; Shallcross, David F. **AA** Scarf: Yale University. Shallcross: IBM. **SR** Yale Cowles Foundation Discussion Paper: 965; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven CT 06520. **PG** 9. **PR** $2.00. **JE** C60, C61. **KW** Indivisibilities. Integer Programming. Geometry. Numbers.

AB Let A be a fixed integer matrix of size m by n and consider all b for which the body is full dimensional. We examine the set of shortest non-zero integral vectors with respect to the family of norms. We show that the number of such shortest vectors is polynomial in the bit size of A, for fixed n. We also show the existence, for any n, of a family of matrices M for which the number of shortest vectors has as a lower bound a polynomial in the bit size of M of the same degree as the polynomial bound.

Schaffer, Mark E.

PD August 1991. **TI** A Note on the Polish State-Owned Enterprise Sector in 1990. **AA** London School of Economics. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 36; The Centre for Economic Performance, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 47. **PR** not available. **JE** O52, P31, P27. **KW** Poland. Enterprise Sector. Socialism.

AB This paper presents a preliminary analysis of the performance of the Polish state-owned enterprise sector in 1990, with particular attention to wages, output, profitability, and the contribution of enterprise taxation to the state budget. A new piece of empirical evidence presented in the paper is an index of industrial production by the state-owned sector calculated by the author using data on physical output of principal products.

Schenzler, Christoph

TI Education, Mobility and Growth. **AU** Adelman, Irma; Morley, Samuel; Schenzler, Christoph; Vogel, Stephen.

Schinasi, Garry J.

PD September 1991. **TI** Fiscal Impulse. **AU** Schinasi, Garry J.; Lutz, Mark S. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/91; International Monetary Fund, Washington, DC 20431. **PG** 8. **PR** not available. **JE** E61, E62. **KW** Fiscal Policy. Policy Analysis.

AB The concept of fiscal impulse is defined, discussed, and differentiated from measures that attempt to summarize the macroeconomic effects of fiscal policy. Two methodologies are briefly discussed and their corresponding measures presented for the G-7 countries over the ten-year period ending in 1989. Controversies about the measure are highlighted and potential improvements are also discussed.

Schmeidler, David

TI A Neo(2)Bayesian Foundation of the Maxmin Value for Two-Person Zero-Sum Games. **AU** Hart, Sergiu; Modica, Salvatore; Schmeidler, David.

Schnitzer, Monika

PD May 1991. **TI** Hostile Versus Friendly Takeovers. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-339; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 33. **PR** no charge. **JE** G34, D21, D23. **KW** Takeovers. Signaling. Corporations. Mergers.

AB Empirical evidence shows that the transaction costs caused by a hostile takeover exceed by far those of a friendly one. This paper analyzes why a raider who has the choice between both acquisition methods may prefer the less efficient hostile takeover. The central argument rests on the assumption that shareholders have less information about the value of their firm than the incumbent management. Thus the raider chooses actually between two different bargaining situations, a tender offer to uninformed shareholders and a merger negotiation with the informed management. It is shown that from the raider's point of view the hostile takeover becomes increasingly attractive the lower the transaction cost disadvantage, the higher the uncertainty about the value of the firm, the smaller the manager's shareholding and the higher the manager's preference for control.

PD May 1991. **TI** Breach of Trust in Takeovers and the Underinvestment Effect. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-334; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 37. **PR** no charge. **JE** G34, G32. **KW** Takeovers. Incomplete Contracts. Corporations. Principal Agent Model.
AB This paper analyzes the impact of takeovers on the value of a target company in a game theoretic framework that combines a principal agent setting with the incomplete contracts approach. We argue that takeovers influence the management's investment decisions. It is shown that the increase in value through a takeover may be offset by ex ante reactions of the managers who reduce their relationship specific investments and focus inefficiently much on the short-run if the possibility of a takeover is anticipated. We show how shareholders can mitigate negative side effects of takeovers through the optimal choice of a corporate charter.

Scholz, John T.
TI Do OSHA Inspections Reduce Injuries? A Panel Analysis. **AU** Gray, Wayne B.; Scholz, John T.

Schultz, T. Paul
PD August 1991. **TI** International Differences in Labor Force Participation in Families and Firms. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 634; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 62. **PR** $2.00 + postage. **JE** J21, J22. **KW** Labor Supply. Labor Force. Wages.
AB This paper analyzes labor force participation rates for women and men, and the component rates in three types of employment: unpaid work in the family, self employment, and wage and salary. The goal is to account for variation across countries in these participation rates within a microeconomic framework of individual and family optimizing behavior. Because the same male and female wage and wealth variables are likely to determine both marital status and participation, only the reduced form equation is estimated for participation in terms of women's wage opportunities, men's wage opportunities, industrial structure, and wealth. The labor force in unpaid and self employment declines relative to that employed in firms (wage and salary) with development, and increases with education and urbanization.

Schurger, Klaus
PD June 1991. **TI** Almost Subadditive Extensions of Kingman's Ergodic Theorem. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-190; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 16. **PR** no charge. **JE** C11, C10. **KW** Subadditive Processes. Ergodic Theory. Entropy. Random Graphs. Limit Theorem.
AB Based on two notions of almost subadditivity which were introduced by Derriennic and Schurger, two a.s. limit theorems are proved which both generalize Kingman's subadditive ergodic theorem. These results, being valid under weak moment conditions, are obtained by short proofs. One of these proofs is completely elementary and does not even make use of Birkoff's ergodic theorem which, instead, is obtained as a byproduct. Finally, an improvement of Liggett's a.s. limit theorem is given.

Schwarzler, Werner
PD July 1991. **TI** The Coefficients of the Tutte Polynomial are Not Unimodal. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91710-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 4. **PR** no charge. **JE** C60. **KW** Tutte Polynomial. Graph Theory. Matroid Theory.
AB W. T. Tutte conjecture that the coefficients t(i,j) of his dichromate form unimodal sequences in i and j separately. P.D. Seymour and D. J. A. Welsh conjectured more generally that the same holds for the coefficients of the Tutte polynomial of an arbitrary matroid. We show by an example, that these conjectures do not hold.

Schweizer, Martin
PD August 1991. **TI** Martingale Densities for General Asset Prices. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-194; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 18. **PR** no charge. **JE** G12. **KW** Martingale Density. CAPM. Asset Pricing. Arbitrage.
AB This paper discusses some properties of general asset prices in continuous time. We introduce the concept of a martingale density which is a generalization of an equivalent martingale measure, and we show that absence of arbitrage plus some technical conditions implies the existence of a martingale density. This is in turn already sufficient to derive a recent result of Back (1990) on local risk premia for asset returns. As an application, we obtain a simple condition, valid in arbitrary information structure, for the drift part of discounted security gains to be absolutely continuous with respect to the variance process of the martingale part.

Schworm, William
TI Implicit Separability: Characterization and Implications for Consumer Demand. **AU** Blackorby, Charles; Davidson, Russell; Schworm, William.

TI Economies with A Two-Sector Representation. **AU** Blackorby, Charles; Davidson, Russell; Schworm, William.

TI The Validity of Piecemeal Second-Best Policy. **AU** Blackorby, Charles; Davidson, Russell; Schworm, William.

Shaffer, Sherrill
PD June 1991. **TI** Forecast Announcements and Locally Persistent Bias. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 91-10; Working Papers, Department of Research,

Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 11. **PR** No charge except overseas airmail, $2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** E17, E27. **KW** Bias. Forecast Error. Announcement Effect. Information.

AB Economic forecasts may influence realizations of the predicted variable through their effect on expectations and actions. The result is a bias in the raw forecast. If the bias is locally persistent, then some agents may benefit by netting it out of the raw forecast. Empirical evidence is presented here that even simple forms of such adjustment can often reduce out-of-sample prediction error. Existence of a fixed point in the announcement/adjustment process remains an open question, but is unlikely since unbiased raw forecasts might be expected if a fixed point exists. In the absence of a fixed point, a Grossman-Stiglitz dilemma arises. This paper embodies the views of the author and does not necessarily represent the views of the Federal Reserve System or of the Federal Reserve Bank of Philadelphia.

PD July 1991. **TI** Efficient Two-Part Tariffs with Uncertainty and Interdependent Demand. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 91-14; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106-1574. **PG** 32. **PR** no charge except overseas airmail, $2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** F13, D43, D81. **KW** Tariff. Prices. Uncertainty.

AB This paper shows that demand interdependence in the presence of a two-part tariff may render marginal cost unit pricing inferior from the consumers' standpoint, in contrast to previous analysis of efficient two-part tariffs, even though a different two-part tariff can still dominate a uniform price. In addition, the sensitivity of the consumer's maximized utility level to changes in income or production costs is shown to be generally nonneutral with respect to the lump sum component of a two-part tariff, although the direction of effect is ambiguous in most cases; this analysis extends the sparse prior work on two-part tariffs under uncertainty. Finally, it is shown that a two-part tariff does not necessarily dominate a uniform price in general equilibrium; this result contrasts with the limited prior analysis of general equilibrium two-part tariffs.

TI Optimal Acceptance Policies for Journals. **AU** Nakamura, Leonard I.; Shaffer, Sherrill.

Shallcross, David F.

TI Shortest Integer Vectors. **AU** Scarf, Herbert E.; Shallcross, David F.

Sharma, Sunil

TI Optimal Inventory Policies when the Demand Distribution is Not Known. **AU** Larson, C. Erik; Olson, Lars J.; Sharma, Sunil.

Sharpe, Steven A.

TI Debt Maturity and the Back-to-the-Wall Theory of Corporate Finance. **AU** Fenn, George; Sharpe, Steven A.

PD October 1991. **TI** Debt and Employment Volatility over the Business Cycle. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 172; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 36. **PR** no charge. **JE** E24, E32, E44, G32. **KW** Debt. Labor Hoarding. Financing Policy. Leverage. Capital Structure. Employment.

AB The sensitivity of employment to temporary changes in demand is compared across firms whose capital structures display varying degrees of financial leverage. Macroeconomic variables are used as instruments for demand in order to both avoid endogeneity problems as well as highlight the effects of shifts in aggregate demand and credit supply. Employment at firms with higher leverage is found to be substantially and significantly more sensitive to demand induced fluctuations in sales than employment at firms with lower leverage.

Shavell, Steven

TI Optimal Law Enforcement with Self-Reporting of Behavior. **AU** Kaplow, Louis; Shavell, Steven.

TI Private versus Socially Optimal Provision of Ex Ante Legal Advice. **AU** Kaplow, Louis; Shavell, Steven.

Shepard, Andrea

TI Adoption of Technologies with Network Effects: An Empirical Examination of the Adoption of Automated Teller Machines. **AU** Saloner, Garth; Shepard, Andrea.

Shleifer, Andrei

PD July 1991. **TI** Pervasive Shortages under Socialism. **AU** Shleifer, Andrei; Vishny, Robert W. **AA** Shleifer: Harvard University. Vishny: University of Chicago. **SR** National Bureau of Economic Research Working Paper: 3791; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 15. **PR** $3.00. **JE** P20, P21, P27. **KW** Market Socialism. Central Planning. Profits. Bribes. Shortages.

AB We present a new theory of pervasive shortages under socialism, based on the assumption that the planners are self-interested. Because the planners - meaning bureaucrats in the ministries and managers of firms- cannot keep the official profits that firms earn, it is in their interest to create shortages of output and to collect bribes from the rationed consumers. Unlike official profits, bribes are not turned over to the state, and so shortages enable the key decision makers who collect them to profit personally. The theory suggests that an increase in the official price of a good might reduce output. The theory also suggests that market socialism is bound to fail even without computational complexities facing the planners.

TI Do Institutional Investors Destabilize Stock Prices? Evidence on Herding and Feedback Trading. **AU** Lakonishok, Josef; Shleifer, Andrei; Vishny, Robert W.

Shoven, John B.

PD June 1991. **TI** Real Interest Rates and the Savings and Loan Crisis: The Moral Hazard Premium. **AU** Shoven, John B.; Smart, Scott B.; Waldfogel, Joel. **AA** Shoven: Stanford University. Smart: Indiana University. Waldfogel: Yale University. **SR** National Bureau of Economic Research Working Paper: 3754; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** $3.00. **JE** G21, G28. **KW** Deposit Insurance. Treasury Securities. Budget Deficit. Banking. Government

Spending.
AB Real interest rates rose to historically high levels in 1980 and remained high throughout the decade. Macroeconomists attribute this phenomenon to a combination of tight monetary policy, fiscal deficits, and variable inflation rates. This paper presents preliminary evidence for an additional explanation of high real rates that is related to the decade-long crisis in the savings and loan industry. Deposit insurance moral hazard, and regulatory forbearance provide the incentives and the means for insolvent thrifts to issue liabilities that compete with Treasury securities in the market for funds. Thus, as the magnitude of the thrift crisis grew during the 1990's, so did pressure on Treasury yields. Even if the effect of the S&L crisis on interest rates is small, the increased cost of financing the public debt adds significantly to the total costs associated with the savings and loan fiasco.

Shubik, M.
TI Classification of Two-Person Ordinal Bimatrix Games. **AU** Barany, I.; Lee, J.; Shubik, M.

Shy, Oz
PD October 1991. **TI** International Standardization and Protection. **AA** Tel Aviv University. **SR** Tel Aviv Sackler Institute of Economic Studies Working Paper: 11-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 23. **PR** no charge. **JE** O31, L15, F13, F11. **KW** Product Quality. Overlapping Generations Model. Government Policy.
AB The paper develops a two country overlapping generations model of product improvement innovation to analyze the evolution of incompatible standards among countries. The paper emphasizes the welfare trade-off between international standardization of products and the frequency of product improvement innovations. The paper classifies and evaluates various government standardization policies according to their objectives.

Sichel, Daniel E.
TI Further Evidence on Business Cycle Duration Dependence. **AU** Diebold, Francis X.; Rudebusch, Glenn D.; Sichel, Daniel E.

Siebert, Jerome B.
PD September 1991. **TI** The Potential Impact of the Mediterranean Fruit Fly, Ceratitis Capitata (Wied.), upon Establishment in California: An Update. **AU** Siebert, Jerome B.; Pradhan, Vijay. **AA** University of California, Berkeley. **SR** University of California at Berkeley Department of Agricultural and Resource Economics (CUDARE) Working Paper: 547Rev.; Department of Agricultural and Resource Economics, 207 Giannini Hall, University of California, Berkeley, Berkeley, CA 94704. **PG** 44. **PR** $8.80. **JE** Q11, Q12, Q13. **KW** Commodities. Agriculture. Medfly.
AB This study updates a 1981 study that was conducted on the economic impact of establishment of the Medfly in California. Many of the same assumptions that went into that study were used in this one. Additionally, some assumptions were updated based on information and data that has been developed and reported since 1981. This study considered many of the same crops as the 1981 study as suitable for Medfly hosts. A total of 22 different commodities were included: Apples, Apricots, Avocados, Bell Peppers, Cherries, Dates, Figs, Grapes, Grapefruit, Kiwis, Limes, Mandarin Oranges, Nectarines, Olives, Peaches, Pears, Persimmons, Plums, Prunes, and Tomatoes. These commodities represent nearly 1.6 million acres of irrigated crop land and over $4.2 billion in value of farm production. The farm value of exports amounted to $559 million with a substantial amount going to Japan and other Asian countries.

Simar, Leopold
TI On the Inconsistency of Bootstrap Distribution Estimators. **AU** Hall, Peter; Hardle, Wolfgang; Simar, Leopold.

TI *Iterated Bootstrap with Applications to Frontier Models.* **AU** Hall, Peter; Hardle, Wolfgang; Simar, Leopold.

PD May 1991. **TI** Estimating Efficiencies from Frontier Models with Panel Data: A Comparison of Parametric, Non-parametric and Semi-parametric Methods with Bootstrapping. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9126; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 34. **PR** not available. **JE** C14, C63, C51. **KW** Efficiency Analysis. Frontier Estimation. Panel Data. Bootstrapping.
AB The aim of the paper is first to review how the standard econometric methods for panel data may be adapted to the problem of estimating frontier models and (in)efficiencies. The aim is to clarify the difference between the fixed and random effect model and to stress the advantages of the latter. Then a semiparametric method is proposed (using a nonparametric method as a first step), the message being that in order to estimate frontier models and (in)efficiencies with panel data, it is an appealing method. Since analytic sampling distributions of efficiencies are not available, a bootstrap method is presented in this framework. This provides a tool allowing us to assess the statistical significance of the obtained estimators. All the methods are illustrated in the problem of estimating the inefficiencies of 19 railway companies observed over a period of 14 years (1970-1983).

Simpson, John D.
PD June 1991. **TI** Bondholder Reaction to Increases in Leverage. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 191; Bureau of Economics, Federal Trade Commission, Washington, D.C. 20580. **PG** 15. **PR** no charge. **JE** G31, G32, G34. **KW** Leverage. Convertible Debt. Reputation.
AB This paper finds that firms that have substantially increased leverage are more likely to issue convertible debt than firms that have only slightly increased leverage. Also, firms that have substantially decreased leverage are more likely to issue convertible debt than firms that have only slightly decreased leverage. Since only firms that had been highly leveraged in the past can substantially decrease leverage, this second result suggests that bondholders also demand greater protection from firms that either increased leverage in the past or began highly leveraged. Together, these results suggest that a firm's past behavior is important to bondholders.

Sindelar, Jody
PD June 1991. **TI** Measurement of Child Health: Maternal Response Bias. **AU** Sindelar, Jody; Thomas,

Duncan. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 633; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 27. **PR** $2.00 + postage. **JE** I12, J13. **KW** Child Health. Health Care. Children.

AB Researchers are increasingly relying on health interview data to assess the health of individuals in developing countries. We take advantage of an opportunity to compare alternative types of indicators of child health in a single survey to learn about the relative merits of different types of measures. Some measures, such as anthropometries, are objective, but others, such as maternal reports of illness, are subjective and thus likely to be contaminated by response error. Focusing on the correlation between maternal education and indicators of child healthiness, we demonstrate that the correlation is positive for more objective indicators and those morbidities which are easily detected. For some illnesses, however, the reverse is true: children of better educated mothers are more likely to be reported as having respiratory diseases. We argue this reflects response error and suggest, therefore, that health interview survey data should be interpreted with considerable care.

Siniscalco, Domenico

TI Strategies for the International Protection of the Environment. **AU** Carraro, Carlo; Siniscalco, Domenico.

Sitharam, Meera

TI The Total Variation of the Tensor Product Bernstein-Bezier Operator. **AU** Cavaretta, A. S.; Sitharam, Meera.

Skinner, Jonathan

PD October 1991. **TI** Housing and Saving in the United States. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3874; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** R31, E21, R21. **KW** Housing. Wealth. Savings.

AB During the 1970's, the share of housing wealth in total household wealth grew from roughly 20 percent to 30 percent, delivering a windfall of $700 billion to homeowners. How might this fundamental shift affect aggregate capital accumulation? I first survey the growing literature on life cycle housing choices to shed light on this question. The literature suggests that the housing wealth shift will have minimal impact on capital accumulation. Second, how might an unexpected increase in housing prices affect short-term saving by homeowners? There is mixed evidence; some studies suggest that homeowners are saving their windfalls, other suggest a moderate degree of depletion.

Skott, Peter

PD August 1989. **TI** Imperfect Competition and the Theory of the Falling Rate of Profit. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-18; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 22. **PR** no charge. **JE** D43, O33, E25, E11. **KW** Profits. Imperfect Competition. Technology.

AB According to the Okishio theorem, profit maximizing firms will not introduce new techniques which, when adopted by all firms, reduce the rate of profit but this conclusion need not hold under imperfect competition. Pressures for increased real wages are excluded - the supply of labor is infinitely elastic at a given money wage rate - and it is assumed that firms aim to maximize profits. It is shown that if the economy starts from an initial position with a low organic composition then the organic composition will rise and the rate of profit fall. The analysis is confronted closely to the predictions of the model.

PD August 1989. **TI** Kaldor's Laws Cumulative Causation and Regional Development. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-19; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 30. **PR** no charge. **JE** E12, O17, R11. **KW** Economic Growth. Income Distribution. Regional Economics.

AB Contrary to the suggestion of most orthodox theories of growth and international trade, per capita incomes show no tendency to convergence. Kaldor's work on increasing returns and sectoral differences offers one possible explanation for the lack of convergence. Kaldor has outlined some features of a two sector model in several papers but he never developed a definitive, formalized version of the theory. Most of the subsequent debate on his ideas has therefore focused on the empirical regularities known as "Kaldor's Growth Laws." This paper discusses the connection between the growth laws and the underlying theoretical argument. Two possible interpretations of Kaldor's views are examined and it is shown that the connection with the growth laws is tenuous, at best. Empirical evidence with respect to the growth laws thus is largely irrelevant to the evaluation of Kaldor's explanation of nonconvergence.

PD November 1989. **TI** Inflation, Unemployment and the Distribution of Income. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1989-20; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 25. **PR** no charge. **JE** E11, E12, E24, E31. **KW** Inflation. Unemployment. Unions. Economic Fluctuations.

AB This paper examines some Keynesian and Marxian views on inflation and unemployment. It is shown (i) that Keynes' relative wage argument implies a generalized Phillips curve in which the expected average wage increase influences actual changes in the nominal wage rate and (ii) that the unemployment term in this Phillips curve may represent both frictional factors and the effects of distributional conflict. The policy implications of this theory are analyzed and it is shown how endogenous changes in workers' militancy and distributional conflict may explain cyclical fluctuations in unemployment with a periodicity of 20-30 years.

Slade, Margaret E.

PD September 1990. **TI** Product Rivalry with Multiple Strategic Weapons: An Empirical Analysis of Price and Advertising Competition. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-20; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 22. **PR** **JE** L10, L21, M30, L81. **KW** Price Competition. Advertising. Strategic Substitutes. Complements. State-Space Games. Feedback Equilibria. Panel Data.

AB A dynamic model of product rivalry is developed for a

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market in which firms choose price and advertising intensity. The model, a state-space game, is implemented using data which consist of weekly price, sales, and promotional activity for four brands of saltine crackers sold by four chains of grocery stores in a small town. A number of questions can be asked of this data. First, where is the competition - - is the principal rivalry between grocery store chains or between manufacturers of products? Second, is advertising predatory (merely changing market shares) or cooperative (shifting out market demand)? Third, are price and advertising own and cross-strategic complements or substitutes? And finally, do investments in stock of goodwill and in price reductions make firms tough and aggressive or soft and accommodating?.

PD October 1990. **TI** Evolutionary Equilibrium in Market Supergames. **AU** Slade, Margaret E.; Eaton, Curtis B. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-30; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 24. **PR** **JE** C70, L10. **KW** Evolutionary Equilibria. Prisoner's Dilemma. Repeated Games. Learning. Algorithms. Rationality. Collective Stability.

AB The concept of an evolutionary equilibrium, which first appeared in evolutionary biology, has received considerable attention in economics in recent years. Much of this interest stems from the theoretical work and computer simulations performed by Axelrod (1984). Axelrod showed that simple strategies such as tit for tat were collectively stable and could thus sustain cooperation in the finitely repeated Prisoner's Dilemma. In this paper we show that small deviations from the Axelrod setup break the link that makes cooperation possible. In particular, allowing players to change strategies without announcing this change to rivals implies a very different concept of history. Under what we feel are more plausible assumptions for many economic interactions, we demonstrate that the unique evolutionary equilibrium of the infinitely repeated Prisoner's Dilemma without discounting is observationally equivalent to infinite repetition of the Nash equilibrium of the one-shot game.

PD January 1991. **TI** Equilibrium Solution Concepts in Dynamic Games. An Empirical Analysis of Price and Advertising Competition. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 91-02; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 31. **PR** **JE** L10, L21, L81. **KW** Oligopoly. Advertising. Price Competition. Differential Games. Feedback Equilibria.

AB Economists frequently resort to simplifying assumptions to make dynamic- game-theoretic models tractable. Rarely, however, are these restrictions tested. In this paper, two classes of simplifications are assessed. The first is strategic independence of choice variables. In other words, when firms choose several controls per period, is there much loss of information if we restrict attention to one? And the second is the memoryless property of the information used in making strategic choices (Markov perfection). In other words, do firms use information that is payoff irrelevant in a strategic fashion? The model, a discrete-time analogue of a differential game, is implemented using highly disaggregate data sampled at frequent intervals. The data consist of weekly price, sales, and promotional activity for four brands of saltine crackers sold by four chains of grocery stores in a small U.S. town.

Slemrod, Joel

PD September 1991. **TI** The Optimal Two-Bracket Linear Income Tax. **AU** Slemrod, Joel; Yitzhaki, Shlomo; Mayshar, Joram. **AA** Slemrod: University of Michigan and National Bureau of Economic Research. Yitzhaki and Mayshar: Hebrew University. **SR** National Bureau of Economic Research Working Paper: 3847; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** H24, H21. **KW** Income Tax. Taxes. Taxation.

AB We investigate the optimal rate structure of an income tax system that is constrained to have only two brackets, plus a demogrant. We find that, in a two-class economy, Pareto-efficient tax schedules feature at least one marginal tax rate equal to zero, and that the marginal tax rate may be increasing or declining. We next use numerical optimization techniques to study the optimal structure of such a tax system in a multi-person model that is a stylized version of an actual economy. We discover that in all cases the tax rate in the second (higher) bracket is less than the tax rate that applies to the first bracket but that progressivity, in the sense of a uniformly rising average tax rate, generally obtains. Compared to the optimal one-bracket (linear) tax system, both the highest and lowest income individuals are better off, while a middle range of taxpayers is worse off.

Smart, Scott B.

TI Real Interest Rates and the Savings and Loan Crisis: The Moral Hazard Premium. **AU** Shoven, John B.; Smart, Scott B.; Waldfogel, Joel.

Smeers, Yves

TI The Simplex Algorithm Extended to Piecewise Linearly Constrained Problems I: The Method and an Implementation. **AU** Wolf, Daniel De; de Bisthoven, Olivier Janssens; Smeers, Yves.

Smith, Gregor W.

TI Calibration in Macroeconomics. **AU** Gregory, Allan W.; Smith, Gregor W.

TI International Risk Sharing and Economic Growth. **AU** Devereux, Michael B.; Smith, Gregor W.

Smith, Ken G.

TI Action Characteristics as Predictors of Competitive Responses. **AU** Chen, Ming-Jer; Smith, Ken G.; Grimm, Curtis M.

Sokoloff, Kenneth L.

PD July 1991. **TI** The Market for Manufacturing Workers during Early Industrialization: The American Northeast, 1820 to 1860. **AU** Sokoloff, Kenneth L.; Villaflor, Georgia C. **AA** Sokoloff: University of California. Villaflor: San Diego State University. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long Run Growth: 28; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** 27. **PR** $3.00. **JE** N31, N11. **KW** Price Indexes. Wage Trends. Sectoral Fluctuations. Economic History. Industrialization.

AB This paper studies how well labor markets operated, and industrial workers fared, during early American industrialization. The principal bodies of evidence examined are four cross-sections of manufacturing firm data from 1820 to 1860, and newly-constructed price indexes for classes of products in different locales. The central findings are that real wages rose substantially over time for all segments of the manufacturing labor force. Workers responded flexibly to changing circumstances, and benefited almost immediately from the rapid expansion of the 1820's. Impressive growth in compensation was maintained until the late 1840's or early 1850's, when progress was slowed by heavy immigration and the mechanization of a number of previously labor intensive industries.

TI Agricultural Seasonality and the Organization of Manufacturing during Early Industrialization: The Contrast between Britain and the United States. **AU** Dollar, David; Sokoloff, Kenneth L.

Srivastava, Sanjay

TI Implementing Social Choice Functions: A New Look at Some Impossibility Results. **AU** Jackson, Matthew; Srivastava, Sanjay.

TI Undominated Nash Implementation in Bounded Mechanisms. **AU** Jackson, Matthew; Palfrey, Thomas R.; Srivastava, Sanjay.

Steerneman, Ton

TI The Correlation of Durations in Multivariate Hazard Rate Models. **AU** van den Berg, Gerard J.; Steerneman, Ton.

Steger, Angelika

PD May 1991. **TI** A Note on Induced Matchings. **AU** Steger, Angelika; Yu, Min-li. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91694-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 5. **PR** no charge. **JE** C60. **KW** Graph Theory. Induced Matchings. Bipartite Graph.

AB Let q*(G) denote the minimum integer t for which E(G) can be partitioned is into t induced matchings of G. Faudree et al. conjectured that q*(G) less than or equal to d squared, if G is a bipartite graph and d is the maximum degree of G. In this note, we give an affirmative answer for the first non-trivial case of this conjecture.

TI Almost All Berge Graphs are Perfect. **AU** Promel, Hans Jurgen; Steger, Angelika.

Sundaresan, Suresh

PD May 1991. **TI** Valuation, Optimal Asset Allocation and Retirement Incentives of Pension Plans. **AU** Sundaresan, Suresh; Zapatero, Fernando. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-16; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 33. **PR** $5.00 academics and non-profit institution; $6.00 corporations (add $1.00 outside U.S., Canada and Puerto Rico). **JE** J32, G23, J14. **KW** Pensions. Retirement. Elderly. Fringe Benefits.

AB In this paper we integrate the labor economist's view of pensions (in terms of their incentive effects) with the financial economist's view of pensions (their valuation, funding and asset allocation policies). The bridge linking these two strands of research is the value of pension liabilities which simultaneously determine the asset allocation policies and funding policies on the one hand and the optimal retirement policies of the worker on the other. We take up the following specific questions for analysis. What is the value of pension obligations under a default-free defined benefits plan? What asset allocation policies will sustain such a plan under full funding? Under what conditions will money managers pursue precisely such asset allocation policies? What considerations determine the optimal retirement date of worker? How is this decision affected by the structure of pension plans? We provide answers to these questions in the context of a complete market.

Svensson, Lars E. O.

PD July 1991. **TI** Assessing Target Zone Credibility: Mean Reversion and Devaluation Expectations in the EMS. **AA** Stockholm University. **SR** National Bureau of Economic Research Working Paper: 3795; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 19. **PR** $3.00. **JE** F30, F31, F41. **KW** Interest Rate. Random Walk. Depreciation. Exchange Rate.

AB The paper presents estimates of devaluation expectations for six EMS currencies relative to the Deutschemark, for the period March 1979- May 1990. The estimation method is simple and operational, and consistently generates sensible results. The estimates are constructed by adjusting interest rate differentials by subtracting estimated expected rates of depreciation within the exchange rate band. The adjustment is nontrivial because exchange rates within ERM bands display mean reversion rather than random walk (unit root) behavior. The adjustment is essential since expected rates of depreciation within the band are usually of about the same magnitude as interest rate differentials.

Sylla, Richard

TI Essays on Banking and Monetary Economics. **AU** Cumby, Robert; Levich, Richard M.; Saunders, Anthony; Sylla, Richard; Wachtel, Paul; Walter, Ingo.

TI Essays on Banking and Monetary Economics. **AU** Cumby, Robert; Levich, Richard M.; Saunders, Anthony; Sylla, Richard; Wachtel, Paul; Walter, Ingo.

Tabellini, Guido

TI The Optimality of Nominal Contracts. **AU** Freeman, Scott; Tabellini, Guido.

Taylor, Lowell J.

TI The Consequences of Minimum Wage Laws: Some New Theoretical Ideas. **AU** Rebitzer, James B.; Taylor, Lowell J.

TI Do Labor Markets Provide Enough Short Hour Jobs? An Analysis of Work Hours and Work Incentives. **AU** Rebitzer, James B.; Taylor, Lowell J.

Terlizzese, Daniele

TI Why is Italy's Savings Rate so High? **AU** Guiso, Luigi; Jappelli, Tullio; Terlizzese, Daniele.

Thomas, Duncan

TI Measurement of Child Health: Maternal Response Bias.

https://doi.org/10.1017/S0951007900002497 Published online by Cambridge University Press

AU Sindelar, Jody; Thomas, Duncan.

Thomas, Lee R.

TI The Significance of Technical Trading-Rule Profits in the Foreign Exchange Market: A Bootstrap Approach. **AU** Levich, Richard M.; Thomas, Lee R.

Thursby, Marie

PD October 1991. **TI** Patent Prices, Product Standards, and International Competition. **AU** Thursby, Marie; Jensen, Richard. **AA** Thursby: Purdue University and National Bureau of Economic Research. Jensen: University of Kentucky. **SR** National Bureau of Economic Research Working Paper: 3870; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** O32, F14. **KW** Patents. International Trade. Technological Change.

AB We examine anticipatory product standards intended to improve the strategic position of firms in an international patent race where firms do R&D to develop products that are close substitutes. The effects of a standard are shown to depend on the way the standard is specified, which firm develops which product, and on the order in which products are discovered. Simple standards are, in general, time inconsistent because of consumer losses that occur when products ruled out by the standard are discovered before the product set as the standard. A state contingent standard is shown to be time consistent when compulsory licensing by the foreign firm is introduced.

Tobin, James

TI On the Internationalization of Portfolios. **AU** Brainard, William C.; Tobin, James.

PD October 1991. **TI** Commentary on Irving Fisher,"The Nature of Capital and Income" (1906). **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 992; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 11. **PR** $2.00. **JE** B31, B21, D50. **KW** General Equilibrium. Economic Thought.

AB Schumpeter regarded "The Nature of Capital and Income" as one of the three of Fisher's contributions to general theory generally recognized, at the time Schumpeter was writing, as "of first-class importance and originality." The other two were Fisher's "Mathematical Investigations" (1892) and his statistical method for measuring the marginal utility of income (1927). Nature is the bridge, both in sequence and in logic, between the other two great works, the timeless general equilibrium theory of the 1892 dissertation and the extension of that theory to intertemporal choices in production and consumption in the theory of interest.

PD October 1991. **TI** International Currency Regimes, Capital Mobility, and Macroeconomic Policy. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 993; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 20. **PR** $2.00. **JE** F33, F36, F31. **KW** International Monetary System. Exchange Rate. Currency.

AB The structure of the international monetary system is once again a topic of great interest and controversy, -- among economists, business managers, financiers, and government leaders. Many members of all these groups are acutely dissatisfied with the floating exchange rate regime that succeeded the Bretton Woods system two decades ago. Within the European Community, the Exchange Rate Mechanism has re-established a regime of "adjustable pegs." After 1992 financial markets and institutions will cover the entire Community. The further step of issuing a common European currency is under serious consideration, and beyond that the more drastic step of replacing national currencies with a single European currency. These measures would still leave exchange rates among Japan, America, and the European Community free to float in currency markets.

PD October 1991. **TI** Price Flexibility and Output Stability: An Old Keynesian View. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 994; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 32. **PR** $2.00. **JE** B22, B31, E12. **KW** Keynes. Economic Thought. Macroeconomics.

AB In this symposium I shall play the role in which I was cast, the unreconstructed old Keynesian. Time was when I resisted labels and schools, naively hoping that our fledgling science was outgrowing them. I had, to be sure, been drawn into economics when "The General Theory" was an exciting revelation for students hungry for explanation and remedy of the Great Depression. At the same time, I was uncomfortable with several aspects of Keynes' theory, and I sought to improve what would now be called the microfoundations of his macroeconomic relations.

PD October 1991. **TI** Preface to Eduard Marz,"Schumpeter," English Translation, Yale University Press, 1991. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 995; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 8. **PR** $2.00. **JE** B31. **KW** Economic Thought. Schumpeter.

AB Eduard Marz's book was first published in German in 1983. I have read only his English translation, which he had completed with preliminary revisions, though not alas with final polishing, before his death in 1987. The book illuminates for us who knew him in America the intellectual and personal background of this fascinating immigrant. And not just for us, of course. World events and intellectual developments over the past two decades have heightened interest in Schumpeter not only among economists, but also among other social scientists and political philosophers. Indeed many people of all ages and all walks of life have discovered Schumpeter and think that his ideas can help them understand the world they live in.

Tsiddon, Daniel

TI Leapfrogging: A Theory of Cycles in National Technological Leadership. **AU** Brezis, Elise; Krugman, Paul R.; Tsiddon, Daniel.

Tsutsui, Shunichi

TI Incomplete Appropriability of R&D and the Role of Strategies and Cultural Factors in International Trade: A Japanese Case. **AU** Sato, Ryuzo; Ramachandran, Rama; Tsutsui, Shunichi.

Tuma, Elias H.

PD October 1991. **TI** Economics and Cultural Diversity: The Principles Course Enhanced. **AU** Tuma, Elias H.; Haworth, Barry. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 390; Department of Economics, University of

California at Davis, Davis, California 95616-8578. **PG** 48. **PR** no charge. **JE** A22, Z10, J71, J78. **KW** Cultural Diversity. Economic Teaching. Discrimination.

AB Cultural diversity can be a significant variable in designing and implementing economic and business policies. Given evident behavioral differences according to cultural, ethnic, racial, and gender affiliation, economic policy would be more effective if differentially targeted to deal with problems of the specific groups and localities. Such targeting may be especially effective in dealing with saving and investment, and in combating unemployment, poverty, the underclass, and economic discrimination. Each of these topics is treated briefly, with illustrative data, specification of the relevant economic principles, and policy implications.

Udry, Christopher

PD July 1991. **TI** Risk, Insurance and Default in a Rural Credit Market: An Empirical Investigation in Northern Nigeria. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 636; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 54. **PR** $2.00 + postage. **JE** O18, O13, O11. **KW** Agriculture. Villages. Rural Households. Credit.

AB This paper examines the role played by credit transactions in permitting households to cope with risk in an environment characterized by incomplete markets and imperfect information. Within small communities in northern Nigeria, credit transactions play a direct role in pooling risk between households through the use of contracts which make owed repayments depend on the realization of random shocks by both borrowers and lenders. The aim of the paper is to consider the institutional and informational context which permits state-contingent loan contracts to be made and enforced. The paper presents a model of a bilateral credit relationship which can accommodate a wide range of informational environments and which explicitly incorporates the contractual enforcement mechanisms available in these villages.

Ulph, Alistair

PD November 1991. **TI** Should a Carbon Tax Rise or Fall over Time? **AU** Ulph, Alistair; Ulph, David; Pezzey, John. **AA** Ulph, A.: University of Southampton. Ulph, D. and Pezzey: University of Bristol. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 9115; Department of Economics, University of Southampton, Southampton S09 5NH, ENGLAND. **PG** 27. **PR** no charge. **JE** Q32, Q38. **KW** Carbon Tax. Exhaustible Resources. Pollution. Taxation.

AB In this paper we consider how a tax on a stock externality, such as a carbon tax, should vary over time when the externality is related to the use of an exhaustible resource. The "conventional wisdom" is that, in the absence of the exhaustibility problem, a pollution tax (considered as a specific tax) should rise over time if the initial stock of the pollutant is below its steady-state value. This has been challenged by Sinclair who argues that if the stock externality is related to the use of an exhaustible resource then, in steady-state, the ad valorem pollution tax should be falling. We show that Sinclair's argument for this result is wrong, and that the model he uses to derive his result has very special features - notably non-convex damage costs and an assumption that the proportionate growth of the pollutant is related to the proportionate reduction in the stock of the exhaustible resource. We characterize the path of both the specific and ad valorem taxes. In the absence of the exhaustibility constraint the conventional wisdom holds as long as damage costs are convex. With the exhaustibility constraint, there will be no steady-state, in general, and out of steady-state there are no robust results about how either the specific or ad valorem taxes should vary over time.

PD November 1991. **TI** Labor Markets and Strategic Innovation: Long-Term vs. Short-Term Contracts. **AU** Ulph, Alistair; Ulph, David. **AA** Ulph, A.: University of Southampton. Ulph, D.: University of Bristol. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 9116; Department of Economics, University of Southampton, Southampton S09 5NH, ENGLAND. **PG** 47. **PR** no charge. **JE** J51, L14, O31, O32. **KW** Unions. Collective Bargaining. Innovation. Technology.

AB The conventional wisdom is that the inability of unions and firms to enter into a long-term relationship (contract), is detrimental to investment (including R&D), and can damage both firms and unions. Theoretical support for this view is contained in the work of Grout (1984) in the context of a model in which (a) there is a single firm bargaining with a single union, and (b) the union operates an internal unemployment insurance scheme. In this paper we show that both these elements are crucial to our understanding of the impact of unions and bargaining structures on innovation, and that, in their absence, little of the conventional wisdom survives. We develop a model of two firms who are in a race to introduce some new, more productive technology. Each bargains with a single but separate union. Because of R&D's strategic importance, if labor markets are perfectly competitive, both firms over-invest in R&D. If now there are unions, but both unions operate internal unemployment insurance schemes, then with short-term contracts, R&D spending will be lower than with long-term contracts, which will be the same as under competitive markets. However this reduction in R&D competition is beneficial, and short-term contracts Pareto-dominate long-term contracts.

Ulph, David

TI Should a Carbon Tax Rise or Fall over Time? **AU** Ulph, Alistair; Ulph, David; Pezzey, John.

TI Labor Markets and Strategic Innovation: Long-Term vs. Short-Term Contracts. **AU** Ulph, Alistair; Ulph, David.

van den Berg, Gerard J.

PD October 1991. **TI** The Correlation of Durations in Multivariate Hazard Rate Models. **AU** van den Berg, Gerard J.; Steerneman, Ton. **AA** van den Berg: Groningen University and Northwestern University. Steerneman: Groningen University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 960; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 24. **PR** $3.00 in the U.S or Canada; $5.00 via international mail. **JE** C41, C51, C52. **KW** Hazard Models. Competing Risks. Proportional Hazards.

AB The empirical analysis of multiple durations using multivariate mixed proportional hazard rate models is widespread. In such models, the duration variables are dependent if their unobserved determinants are dependent on each other. In this paper it is shown that these models restrict the magnitude of the correlation of the duration variables. For example, if the baseline hazards are constant, then this correlation necessarily lies between - 1/3 and 1/2. Similar results hold for general models. The usefulness for empirical analysis is twofold. First, the results can be used to assess the ability of the model to describe certain phenomena, relative to the models that impose less restrictions on the values the correlation can attain. Secondly, they suggest that, in parametric analyses, it is important to take a family of heterogeneity distributions that is flexible in the sense that it does not further restrict the values the correlation can attain. We show that some frequently used parametric families are much more restrictive than others.

Varian, Hal R.

PD September 1991. **TI** A Solution to the Problem of Externalities when Agents are Well-Informed. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 10; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 26. **PR** not available. **JE** H41, D62, D61. **KW** Externalities. Public Goods. Sequential Games. Lindahl Allocations. Subgame Perfect Equilibrium.

AB I consider economic environments involving general forms of externalities where agents have full information but the regulator does not. For these environments I present a class of simple two-stage games whose subgame perfect equilibria are efficient allocations. These games typically involve compensation for the party upon whom the externality is inflicted. In the case of public goods, the equilibria are Lindahl allocations.

PD September 1991. **TI** The Economics of User Interfaces. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 11; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 18. **PR** not available. **JE** L21, M11, O31, L12. **KW** Software. Industrial Organization. Monopoly.

AB I examine the incentives for software providers to design appropriate user interfaces. There are two sorts of costs involved when one uses software: the fixed cost of learning to use a piece of software and the variable cost of operating the software. For example menu driven software is easy to learn, but tedious to operate. I show that a monopoly provider of software generally invests the "right" amount of resources in making the software easy to learn, but too little in making it easy to operate. In some extreme cases a monopolist may even make the software too easy to learn.

TI A Note on the Dow-Jones Index. **AU** Ley, Eduardo; Varian, Hal R.

PD September 1991. **TI** Goodness of Fit for Revealed Preference Tests. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 13; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 11. **PR** not available. **JE** D11, D12. **KW** Demand Analysis. Revealed Preference. Utility Theory. Consumer Behavior.

AB I describe a goodness-of-fit measure for revealed preference tests. This index can be used to measure the degree to which an economic agent violates the model of utility maximization. I calculate the violation indices for 38 consumers and find that the observed choice behavior is very close to optimizing behavior.

PD September 1991. **TI** Sequential Provision of Public Goods. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 14; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 32. **PR** not available. **JE** D61, D62, D11. **KW** Public Goods. Sequential Games. Stackelberg Equilibrium. Nash Equilibrium.

AB I consider the private provision of public goods when agents are able to make sequential contributions. In the case of two agents with quasilinear utility, a quite complete analysis is possible. If the agent who likes the public good least gets to move first, the amount of the public good supplied will be the same as in the Nash equilibrium, but if the agent who likes the public good most moves first, less of the public good may be supplied. If the agents bid for the right to move first, the agent who values the public good least will outbid the other agent. In general, each agent would prefer to subsidize the other agent's contributions. If each agent chooses the rate at which he subsidizes the other agent, the subsidies that support the Lindahl allocation are the unique equilibrium subsidies. For general utility functions, I show that the subgame perfect equilibrium always results in less of the public good being supplied than does the Nash equilibrium.

Vasil'ev, Valery A.

PD May 1991. **TI** Lindahlian Type Equilibria and the Core in Exchange Models with Externalities. **AA** Siberian Branch of SAS. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-337; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 15. **PR** no charge. **JE** D51, D62, D58. **KW** Exchange Economies. Equivalence Theorem. Externalities.

AB The main result of this paper is a core equivalence theorem for the Lindahlian-type equilibria in exchange models with externalities. In development of the previous work of Makarov and the author (1984) we introduce a more tractable concept of blocking in replicas of such models and give a characterization of so-called information equilibria both in terms of the fuzzy domination and in asymptotic form.

Vetter, Henrik

PD November 1990. **TI** Wage Bargaining in Sequential Equilibrium. Deviations from the First Best and Welfare Improving Taxes. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-31; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 29. **PR** no charge. **JE** J51, J23, D82, H21. **KW** Wages. Asymmetric Information. Taxation. Unions. Collective Bargaining. Taxes.

AB By means of an example, we analyze the consequences for employment when the wage is set by a bargain between a union and a firm and when we assume that the firm is better informed about the product price. In an incentive compatible solution, employment is lower compared to the case of symmetric information. Unemployment is an increasing function of the bargaining strength of the union. Furthermore, we argue that a simple wage tax will support full employment. Other taxes can also achieve this but they are, however, more complicated.

Villaflor, Georgia C.

TI The Market for Manufacturing Workers during Early Industrialization: The American Northeast, 1820 to 1860. **AU** Sokoloff, Kenneth L.; Villaflor, Georgia C.

Vincent, Daniel R.

TI The Afternoon Effect. **AU** McAfee, R. Preston; Vincent, Daniel R.

Vind, Karl

PD July 1991. **TI** Figure 4 Manuscript for Lecture Festkolloquium for Gerard Debreu. **AA** University of Copenhagen. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-341; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 12. **PR** no charge. **JE** D51, D50. **KW** Additive Utility. Subjective Probability. Expected Utility. Bayesian Statistics. General Equilibrium.

AB The title of my lecture could have been "What is the real importance of Gerard Debreu?" It could have been "Where did the real numbers come from?", but as mathematical economists we should prefer answers to questions, and the answer to the two questions is "Figure 4." The "Figure 4" I am talking about is figure 4 in "Topological Methods in Cardinal Utility Theory" (1960). It obviously only requires knowledge of the natural numbers to realize that figure 4 could not be the only contribution of Gerard Debreu, but I hope to show that figure 4 and its importance illustrates very neatly the real importance of Gerard Debreu for Economics.

Vishny, Robert W.

TI Pervasive Shortages under Socialism. **AU** Shleifer, Andrei; Vishny, Robert W.

TI Do Institutional Investors Destabilize Stock Prices? Evidence on Herding and Feedback Trading. **AU** Lakonishok, Josef; Shleifer, Andrei; Vishny, Robert W.

Vogel, Stephen

TI Education, Mobility and Growth. **AU** Adelman, Irma; Morley, Samuel; Schenzler, Christoph; Vogel, Stephen.

Voith, Richard

TI The Effects of Exchange Rate and Productivity Changes on U.S. Industrial Output at the State Level. **AU** Carlino, Gerald; Voith, Richard; Cody, Brian.

Wagner, Joachim

TI More on the International Similarity of Interindustry Wage Differentials: Evidence from the Federal Republic of Germany and the United States. **AU** Helwege, Jean; Wagner, Joachim.

Waldfogel, Joel

TI Real Interest Rates and the Savings and Loan Crisis: The Moral Hazard Premium. **AU** Shoven, John B.; Smart, Scott B.; Waldfogel, Joel.

Walter, Ingo

TI Reconfiguration of Banking and Capital Markets in Eastern Europe. **AU** Saunders, Anthony; Walter, Ingo.

Warshawsky, Mark J.

PD September 1991. **TI** Projections of Health Care Expenditures as a Share of GNP: Actuarial and Economic Approaches. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 170; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 55. **PR** no charge. **JE** I11, I18, J11, E20. **KW** Health Care. Medicare.

AB Numerous projections of health care expenditures as a share of GNP, using various assumptions and methodological approaches, are done in this paper. The projections are unanimous in predicting a continued increase in the ratio of health care expenditures to GNP. Even the most conservative approaches, which assume either robust economic growth, improved demographic trends, or some moderation in health care price inflation, foresee the health care sector consuming at least a quarter of national output by 2065. Moreover, if current relative price trends continue, economic growth falters, demographic trends continue or worsen, or the health care sector becomes a major consumer of capital, both actuarial and economic approaches predict that health care expenditures will comprise between a third to a half of a national output. In such scenarios, the institutional and economic underpinnings of even the most efficient and beneficial sectors would need rethinking. In the case of the health care sector, where discontent is already high and even greater problems with major public programs loom in the near future, serious and immediate structural reform is critical.

Wascher, William

TI Evidence on Employment Effects of Minimum Wages and Subminimum Wage Provisions from Panel Data on State Minimum Wage Laws. **AU** Neumark, David; Wascher, William.

Weale, Martin

TI On the Stability of Monetary and Fiscal Policy. **AU** Meade, James; Weale, Martin.

Weiss, Yoram

TI Social Status, Culture and Economic Performance. **AU** Fershtman, Chaim; Weiss, Yoram.

PD September 1991. **TI** On the Stability of Occupational Rankings. **AU** Weiss, Yoram; Fershtman, Chaim. **AA** Tel Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 33-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 20. **PR** no charge. **JE** J24, J21. **KW** Occupations. Occupational Choice. Social Status.

AB A major puzzle for sociologists is how can it be that societies that differ vastly in their culture and economic circumstances maintain a similar ranking of occupations' status? The purpose of this paper is to provide an economic explanation for the stability of the status structure.

Welsh, D. J. A.

PD May 1991. **TI** On the Number of Knots and Links. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91688-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 5.

PR no charge. **JE** C60. **KW** Prime Knots. Prime Links. Knot Theory.
AB Ernst and Sumners have shown that if k(n) is the number of prime knots with crossing number n then k(n) grows exponentially with n. They give lower bounds for k(n). Here we obtain an upper bound of the same order for the number of prime links, and hence a fortiori for the number of prime knots. We also obtain new lower bounds.

PD July 1991. **TI** The Computational Complexity of Knot and Matroid Polynomials. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91696-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 25. **PR** no charge. **JE** C63, C60. **KW** Matroid Polynomials. Tutte Plane. Planar Graphs. Knot Polynomials.
AB In this paper I survey the computational complexity of the Tutte plane. For example, except for a finite set of 9 points and two special curves, evaluating the Tutte polynomial is #P-hard even for planar graphs. One of these special curves is the trivial hyperbola (x-1)(y-1)=1, the other is where the Tutte Polynomial specializes to the Ising partition function. Corresponding results for knot polynomials and other classes of matroids are given.

West, Kenneth D.

PD July 1991. **TI** A Comparison of the Behavior of Japanese and U.S. Inventories. **AA** University of Wisconsin, Madison. **SR** National Bureau of Economic Research Working Paper: 3762; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 10. **PR** $3.00. **JE** E20, E22, E32. **KW** Production Smoothing. Inventory-Sales Ratio. Inventory. Production.
AB This paper compares the cyclical and secular behavior of Japanese and U.S. inventories at the aggregate and sectoral level, 1967-1987. While, as is well known, U.S. inventories are sharply procyclical, Japanese inventories are only mildly procyclical. In neither country do inventory and sales move together in the long-run, in the sense that the two series do not seem to be cointegrated. In Japan, but not in the U.S., there is a secular decline in the inventory-sales ratio.

PD July 1991. **TI** Sources of Cycles in Japan, 1975-1987. **AA** University of Wisconsin, Madison. **SR** National Bureau of Economic Research Working Paper: 3763; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** $3.00. **JE** E30, E32, E22. **KW** Inventories. Cost Shocks. Demand Shocks. Business Cycles.
AB A simple real model is used to decompose movements of aggregate inventories and output in Japan during 1975 to 1987 to three components, one due to cost shocks, one due to demand shocks. and one due to shocks from abroad. Cost shocks are estimated to account for about one tenth of the movement in GNP, one half of the movement in inventories. Most of the remaining movement in GNP is due to demand shocks, in inventories to shocks from abroad. Confidence intervals around these point estimates are, however, very large.

PD August 1991. **TI** An Aggregate Demand - Aggregate Supply Analysis of Japanese Monetary Policy, 1973-1990. **AA** University of Wisconsin, Madison and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3823; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E52. **KW** Monetary Policy. Japan. Money Supply.
AB An aggregate demand - aggregate supply framework is used to analyze the effects of Japanese monetary policy, 1973:1-1990:8. It is found that money supply shocks contribute relatively little to output variability over the sample as a whole. Nor do these shocks seem to be particularly marked during business cycle contractions. The effects of monetary policy on prices and output appear to be quite similar to those of a constant money growth rule.

Weymark, John A.

PD October 1990. **TI** Harsanyi's Social Aggregation Theorem with Alternative Pareto Principles. **AA** University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 90-28; Department of Economics, University of British Columbia 997-1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 28. **PR** **JE** D60, O71. **KW** Aggregation. Social Choice. Uncertainty. Pareto Indifference.
AB Harsanyi's Social Aggregation Theorem is concerned with the relationship between individual and social preferences defined on the set of lotteries generated from a finite set of basic prospects. Harsanyi assumes that these preferences satisfy the expected utility hypotheses and are represented by von Neumann-Morgenstern utility functions. Harsanyi's Theorem shows that the social utility function is an affine combination of the individual utility functions if Pareto Indifference is satisfied. Alternative versions of Harsanyi's Theorem are obtained by substituting Semistrong Pareto or Strong Pareto for Pareto Indifference. In the former case the weights on each person's utility function in the affine combination can be chosen to be nonnegative and in the latter case they can be chosen to be positive. This article provides accessible proofs, using a common proof technique, of these results.

White, Lawrence J.

TI The University in the Marketplace: Some Insights and Some Puzzles. **AU** Rothschild, Michael; White, Lawrence J.

Wilcox, David W.

TI Does Consumer Sentiment Affect Household Spending? If So, Why? **AU** Carroll, Christopher D.; Fuhrer, Jeffrey C.; Wilcox, David W.

Wise, David A.

TI Changing Social Security Survivorship Benefits and the Poverty of Widows. **AU** Hurd, Michael D.; Wise, David A.

Witte, Ann Dryden

TI Measurement of Output and Quality Adjustment when Hedonics Cannot be Used: An Illustration for the Day Care Industry. **AU** Mukerjee, Swati; Witte, Ann Dryden.

Woglom, Geoffrey

TI Market-Based Fiscal Discipline in Monetary Unions: Evidence from the U.S. Municipal Bond Market. **AU** Goldstein, Morris; Woglom, Geoffrey.

Wolf, Daniel De

PD April 1991. **TI** The Simplex Algorithm Extended to

Piecewise Linearly Constrained Problems I: The Method and an Implementation. **AU** Wolf, Daniel De; de Bisthoven, Olivier Janssens; Smeers, Yves. **AA** Universite Catholique de Louvain. **SR** Universite Catholique de Louvain CORE Discussion Paper: 9119; Universite Catholique de Louvain, Voie du Roman Pays, 34, B-1348 Louvain-la-Nueve, BELGIUM. **PG** 30. **PR** not available. **JE** C61, C63, C67. **KW** Simplex Method. Linear Programming.

AB We present an extension of the simplex method for problems with piecewise linear constraints. This work generalizes the previous work of Fourer who efficiently solves the problem of minimizing a piecewise linear function subject to linear constraints. Our approach closely follows the one of Fourer. The notion of non-basic variable is extended to a variable fixed at a breakpoint. However the problem is more involved due to the fact that the nonlinearities appear in the constraints and not only in the objective function. This new algorithm was implemented through an original extension of the XMP library and was successfully applied to an industrial problem.

Wolinsky, Asher

PD September 1991. **TI** Competition in a Market for Informed Experts' Services. **AA** Northwestern University. **SR** Northwestern Center for Mathematical Studies in Economics and Management Science Working Paper: 959; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 43. **PR** $3.00 in the U.S or Canada; $5.00 via international mail. **JE** D43, D83, L16, L11. **KW** Asymmetric Information. Service Sector. Industrial Organization.

AB Many important services share the feature that the seller is also the expert who determines how much of the service is needed. Even when the outcomes of such service are observable, it might be difficult for the customer to determine what the expert actually did and whether it was needed. This paper presents a simple model of a market of this type and investigates how the information asymmetries characteristic of such markets might affect their organization. The main insights of this paper are as follows. The asymmetry of information special to these markets may induce vertical specialization. When experts are liable to make diagnosis errors, there is a negative search externality present in such markets which tends to raise prices.

Wooton, Ian

TI Market Integration, Competition and Welfare.
AU Haaland, Jan I.; Wooton, Ian.

Wright, Randall

TI A Dynamic Equilibrium Model of Search, Production and Exchange. **AU** Boldrin, Michele; Kiyotaki, Nobuhiro; Wright, Randall.

Xue, Jinjun

PD May 1991. **TI** Can the Export-Led Growth Model be Applied to Large Developing Countries? China's Case. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 637; Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520. **PG** 43. **PR** $2.00 + postage. **JE** O53, O11, O41. **KW** Developing Countries. China. Growth Model. Exports. Economic Development.

AB The export-led growth model (EGM) has been so successful in new industrialized countries and areas (NICs) that some economists suggest all less-developed countries (LDCs) emulate it. But other economists disagree with them and against applying the EGM to large developing countries. Can the export-led growth model be applied to most developing countries, especially large developing countries? According to my study about China, the answer is "yes," since China is the largest developing country and has been successful in getting rapid economic development by economic reform and export promotion.

Yamada, Tadashi

TI Labor Productivity and Market Competition in Japan.
AU Yamada, Tetsuji; Yamada, Tadashi; Lin, Guoen.

PD August 1991. **TI** Crime Rates Versus Labor Market Conditions: Theory and Time Series Evidence. **AU** Yamada, Tadashi; Yamada, Tetsuji; Kang, Johan M. **AA** Yamada, Tadashi and Kang: University of Tsukuba. Yamada, Tetsuji: Ritsumeikan University. **SR** National Bureau of Economic Research Working Paper: 3801; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** J11, K42, E32. **KW** Crime. Unemployment. Labor Market.

AB The aim of this paper is to examine the impact of labor market conditions, represented by male civilian unemployment rates, on seven major categories of crime. We propose a theoretical model from which the positive macro relationship between the unemployment rate and the crime rate is explicitly derived. The solution of the proposed model shows the concurrent counter-cyclical movements of the unemployment and crime rates, which is found to be consistent with the U.S. time series data from the first quarter of 1970 to the fourth quarter of 1983. Thus, we propose a view that an increase in the unemployment rate triggers a subsequent increase in the crime rate. Further, we find that the unemployment rate is statistically exogenous in the VAR model.

Yamada, Tetsuji

PD August 1991. **TI** Labor Productivity and Market Competition in Japan. **AU** Yamada, Tetsuji; Yamada, Tadashi; Lin, Guoen. **AA** Yamada, Tetsuji: Ritsumeikan University. Yamada, Tadashi: University of Tsukuba. Lin: The City University of New York. **SR** National Bureau of Economic Research Working Paper: 3800; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $2.00. **JE** J24, L60, F14, D24. **KW** Productivity. Manufacturing. Japan. Technology.

AB The study focuses on the influence of labor, capital, R&D, technological knowledge, and other factors influencing labor productivity in different manufacturing industries. The study also examines the competitiveness of these manufacturing industries in the Japanese market. The results indicate that labor productivity is high relative to capital productivity in most of the Japanese manufacturing industries. Our results show that the quality of capital (e.g. advanced technology) is generally more important to increasing productivity than the quantity of capital. The results of this study also show that R&D in Japan is significantly important for aiming not only at the improvement of product technology in the food, spinning, textile, paper products, electrical machinery and equipment, and communication equipment industries, but also at that of process technology in the chemicals, drugs and medicines, petroleum products, machinery, motor vehicles, and transportation equipment industries.

TI Crime Rates Versus Labor Market Conditions: Theory and Time Series Evidence. **AU** Yamada, Tadashi; Yamada, Tetsuji; Kang, Johan M.

Yitzhaki, Shlomo

TI The Optimal Two-Bracket Linear Income Tax. **AU** Slemrod, Joel; Yitzhaki, Shlomo; Mayshar, Joram.

Yu, Min-li

TI A Note on Induced Matchings. **AU** Steger, Angelika; Yu, Min-li.

Zapatero, Fernando

TI Valuation, Optimal Asset Allocation and Retirement Incentives of Pension Plans. **AU** Sundaresan, Suresh; Zapatero, Fernando.

Zarnowitz, Victor

PD October 1991. **TI** What is a Business Cycle? **AA** University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3863; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E32, N10. **KW** Business Cycles. Economic Fluctuations.

AB This paper considers the question in its title from several angles. Part 1 looks at economic history and the development of thinking about business cycles - the popular meaning and economists' definitions and ideas. Part 2 reviews the lessons from business cycle chronologies and duration data, the concepts of periodicity of bubbles and phases, and the apparent moderation of macroeconomic fluctuations in the second half of the 20th century. Part 3 compares the recent business cycles and growth cycles for several major industrialized, market-oriented countries. Part 4 discusses the role of endogenous cyclical variables, the outside shocks of various types, the systematic timing sequences, and the regularities of cyclical comovements and amplitudes. Understanding business cycles is aided by each of these models of analysis.

PD October 1991. **TI** Has Macro-Forecasting Failed? **AA** University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3867; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $3.00. **JE** E17, E27, B22. **KW** Forecasting. Macroeconomics.

AB The answer to this question depends on the treatment of logically and empirically prior questions about (1) what the forecasts are and why they are needed, and (2) what can reasonably be expected of them. Further, what forecasters can and should do cannot be established without studying the record and assessing the probable future of their endeavors. Accordingly, the basic approach taken in this paper is to ask of the assembled data what professional standards have economists engaged in macro-forecasting been able to attain and maintain in competing with each other and alternative methods.

Zeckhauser, Richard

PD June 1991. **TI** Nonrational Actors and Financial Market Behavior. **AU** Zeckhauser, Richard; Patel, Jayendu; Hendricks, Darryll. **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 3731; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 24. **PR** $3.00. **JE** G10, G14. **KW** Efficient Markets. Status Quo. Rationality. Financial Markets.

AB The insights of descriptive decision theorists and psychologists, we believe, have much to contribute to our understanding of financial market macro-phenomena. We propose an analytic agenda that distinguishes those individual idiosyncrasies that prove consequential at the macro-level from those that are neutralized by market processes such as poaching. We discuss five behavioral traits - barn-door closing, expert/reliance effects, status quo bias, framing, and herding - that we employ in explaining financial flows. Patterns in flows to mutual funds, to new equities, across national boundaries, as well as movements in debt-equity ratios are shown to be consistent with deviations from rationality.

TI Information Handling and Firm Performance: Evidence from Reverse LBOs. **AU** Degeorge, Francois; Zeckhauser, Richard.

Zellner, Arnold

TI To Combine or not to Combine? Issues of Combining Forecasts. **AU** Palm, Franz C.; Zellner, Arnold.

Ziskind, Ross

TI On the Empirical Biases of the Black and Scholes Model. **AU** Kim, In Joon; Kim, Keun Chong; Ziskind, Ross.